



**European  
Society of  
Hypertension**



**1989-2019**

Edited by

**Konstantinos Tsioufis**

**Reinhold Kreutz**

**Krzysztof Narkiewicz**

**Giuseppe Mancia**





# European Society of Hypertension



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**Konstantinos Tsioufis**

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Athens, June 2019





In the year 2019, the European Society of Hypertension (ESH) is celebrating its 30th Anniversary since its foundation in 1989. The Society is built on the dreams of the one and only pioneer, Professor Alberto Zanchetti, who was followed by great past Presidents that brought us where we are now. Over the years, the ESH has enjoyed a rising number of delegates, increasingly good feedback and extensive academic achievements, representing the voice of the scientists dealing with the management of hypertension within and also outside Europe reaching a global audience. During these years, ESH has gained a leading role being at the forefront of shaping the appropriate and efficient strategies for the reduction of the blood pressure related burden of cardiovascular and renal disease. Nowadays, ESH is well known and respected around the world as a dynamic organization, integrating clinical and basic science in the pursuit of excellence in hypertension management. ESH with over 1800 members, 900 specialists, 42 Affiliated national societies and 200 ESH Centers of Excellence, represents a true active network of hypertension professionals from diverse medical specialties related to hypertension, including Cardiology, Internal Medicine, General Practice, Nephrology, etc.



Driven by enthusiasm, a sense of great responsibility and a desire to celebrate the 30 years of ESH history we took the initiative of assembling information on the growing activities of the society and its aspirations for the future. At this point I would like to express my deepest gratitude for the time and effort of everyone who assisted in the completion of this book. The previous edition of the booklet “European Society of Hypertension, Past, Present and Future” edited by A. Zanchetti, R. Cifková, G. Parati and K. Narkiewicz in 2011 served as an excellent basis for the current album. Special thanks to the ESH Council members, to the Chairmen of the ESH Working Groups and all those who contributed in the production of the current edition.

Although we have seen great and important developments during these exciting three decades, there is still an enormous amount of work ahead of us. Given that almost 50% of hypertensive patients remain uncontrolled in Europe and worldwide, the key is to use new tools and methodologies to recognize high blood pressure, stratify overall risk and provide the best available therapies. Only by integrating experience, addressing common scientific needs, hard work and breakthrough initiatives the ESH could further promote hypertension excellence, improve blood pressure control and reduce the global burden of cardiovascular disease.

Our vision is to push the frontiers of scientific knowledge and its implementation in clinical practice, laying down the groundwork for the achievements of our successors, the new generation of hypertension professionals.

  
**Konstantinos Tsioufis**  
President of the European Society of Hypertension  
2017-2019



## “In Memoriam: Alberto Zanchetti

(Parma July 27, 1926 – Milan March 24, 2018)

**Giuseppe Mancia, Fabio Magrini, Alberto Morganti, Andrea Stella, Peter J Schwartz, Cesare Cuspidi, Cristina Giannattasio, Guido Grassi and Gianfranco Parati, on behalf of all of Alberto Zanchetti's pupils.**

Professor Alberto Zanchetti passed away on March 24, 2018 at the age of almost 92 years. He had been in an excellent physical and brilliant mental shape until a month before. Unfortunately, soon after returning from a lecture tour in Latin America, he accidentally fell and suffered a brain trauma from which he did not recover.



Alberto Zanchetti was born on July 27, 1926 in Parma. He graduated in Medicine at the Parma Medical School in 1950 and immediately moved to Pisa to work under the guidance of Professor Giuseppe Moruzzi, a renowned neurophysiologist worldwide who had made the Physiology Institute of the Pisa University perhaps the most famous international center for neurophysiological research in the world.

Despite his young age, Alberto Zanchetti soon became one of the forefront scientists in this highly qualified group, to which he contributed with a large number of important studies on the anatomical connections and functional relationships of cortical and subcortical centers, using the most sophisticated electrophysiological approaches that were available at those times. A gem of this period was a monography on the *Brain Stem Reticular Formation* which won him the Marzotto Prize, the most prestigious Italian Award for Medicine at that time.

After a period of six years (which included an internship in Portland, US) Alberto Zanchetti left Pisa and moved to Siena to join the clinical and research group of Professor Cesare Bartorelli, then Chief of the Institute of Internal Medicine of the local University. There he assembled a group of young and bright scientists (all to go on to a brilliant academic and research carrier in Italy or abroad) with whom he began to work on the neural basis of blood pressure control using sleep and emotional behaviors of the cat as the main experimental models. The results substantially expanded previous knowledge and gave Alberto Zanchetti well deserved international fame in the cardiovascular world, which was enhanced in the hypertension area by his authorship of a pioneer paper on the use of thiazide diuretics for the treatment of hypertension, an approach that drastically improved the then ominous prognosis of this condition. His fame further grew after 1966 when he and most of his group moved to the University of Milan where Professor Bartorelli had been called as chair of Internal Medicine. The subsequent research continued to discover new important aspects of cardiovascular regulation, such as the reno-renal reflexes, the neural control of renin release, the pressor responses to sympathetic afferent stimulation and the interaction between baroreceptor and chemoreceptor reflexes on blood pressure

control. There was, however, also a substantial expansion to human research, which provided novel observations on central, reflex and humoral cardiovascular control in normotensive and hypertensive human beings as well as the clinical aspects and pathophysiological background of sudden death. There was also intense clinical research on hypertension, which made Alberto Zanchetti's group a major contributor to the amazing progress of antihypertensive treatment that took place from the late sixties to the late eighties of the past century. In these years he also launched research on intra-arterial and later noninvasive automatic ambulatory blood pressure monitoring, which provided pioneer studies on cardiovascular control mechanisms in daily life and prepared the field for the use of the 24-hour ambulatory blood pressure monitoring approach in current medicine. All this he promoted and supervised as Professor of Internal Medicine and Director of the Center of Clinical Physiology and Hypertension, a position which he was called to by the University of Milan in 1975, and that he continued to honor with its research, teaching and clinical responsibilities, until his retirement in 2001. Retirement, however, by no means ended or slowed down his research, which continued until the end of his life as Director for Research at the Istituto Auxologico Italiano.

Alberto Zanchetti's scientific activity has few if any comparisons worldwide, also because it spanned from basic to physiological, pathophysiological and clinical research, the last involving the design, conduction and interpretation of many important clinical trials as well as, in the very recent years, the publication of trial meta-analyses that are highly quoted and appreciated by hypertension experts. Nevertheless, limiting his achievements to research would not make justice to his multiform personality. Alberto Zanchetti was instrumental in the setting and growth of the International Society of Hypertension (ISH) and the European Society of Hypertension (ESH), for which he served as President. He was the originator and organizer of many very successful ISH and ESH meetings at the University Campus of Milan. He was the driving force behind the early WHO/ISH Hypertension Guidelines (among the first to be published in the history of hypertension) as well as of all the ESH/European Society of Cardiology (ESC) guidelines which he first inspired in 2003 and then managed to substantially

contribute to later, including the most recent ESC/ESH guidelines which will be published in this year. Finally, he served as the Chief Editor of the Journal of Hypertension from 1995 to his death. To this task he offered an impressively wide medical culture and an extraordinary dedication going through all the papers submitted to the Journal, it was not rare that he personally edited those he thought were scientifically interesting but somewhat deficient in style. This emphasizes another aspect of Alberto Zanchetti's personality. That he was a great mentor for many younger investigators around him. This involved not only those who had the privilege of working with him on a daily basis, but also the foreign investigators who over the years joined his Institute for an internship and all young investigators from Italy and the rest of the world who turned to him for advice. From this perspective, his "School" was much larger than the formal one in Siena and Milan.

For his achievements Alberto Zanchetti received an innumerable number of prestigious Awards, including the dedication in his name of the ESH Award for Lifetime Achievements in Hypertension. This was remembered in a meeting in Barcelona in his honor held a few months before his death. Yet, reflecting the title of this meeting ("Alberto Zanchetti the Man, the Scientist, the Friend"), on a personal level he remained a man with whom it was pleasant to relate to for his genuine interest in other people and his amazing historical, artistic and musical culture (favoured by a prodigious memory), which made him inspiring company. He enjoyed good food and wine, had a good sense of humor and loved to talk about sport, football in particular. His personality inevitably established a demanding level for his staff, but he was far from having a rigid attitude and was ready to discuss and resolve individual problems. For those who have known him, Alberto Zanchetti will remain in their memory as a great scientist and a great man. His pupils will always remember him with gratitude for what he has done for their working life, above all by his example of high professionalism and the approach to clinical research, which he thought should always benefit of the mechanistic attitude derived from experience in basic research. Our thoughts go to his daughter Silvia and his sons Mario and Giorgio as well as to his beloved grandchildren. He will be sorely missed.

*Journal of Hypertension* 2018; 36(7):1608–1609 DOI: 10.1097/HJH.0000000000001792

*High Blood Pressure & Cardiovascular Prevention*. 2018; 25:343–344 doi.org/10.1007/s40292-018-0274-z

*Journal of Clinical Hypertension J Clin Hypertens*. 2018; 20:826–827. DOI: 10.1111/jch.13315

## Remembering Alberto Zanchetti Remarks on behalf of the Journal of Clinical Hypertension and the World Hypertension League

**Michael A. Weber MD Editor-in-Chief, The Journal of Clinical Hypertension and Daniel Lackland Dr P.H. President, The World Hypertension League and Deputy Editor-in-Chief, The Journal of Clinical Hypertension.**

### European Heart Journal

Cardio Pulse contact: Andros Tofield, Managing Editor. Email: docandros@bluewin.ch

doi:10.1093/eurheartj/ehy290

#### ***In Memoriam***

### **Alberto Zanchetti (27 July 1926)**

**Hypertension sadly lost one of its giants on 24 March 2018**



**Alberto Zanchetti (27 July 1926).**

**Mancia G, Magrini F, Morganti A, Stella A, Schwartz PJ, Cuspidi C, Giannattasio C, Grassi G, Parati G; all Alberto Zanchetti's pupils.**

Eur Heart J. 2018 Jul 1;39(25):2344-2345

**Final Farewell to Alberto Zanchetti MD.**

**Kjeldsen SE, Narkiewicz K, Burnier M, Oparil S.**

Eur Heart J. 2018 Jul 21;39(28):2616-2617.

# Table of Contents

<b>Chapter 1</b>	<b>13</b>
<b>Brief history of the society-30 years of ESH (1989-2019)</b>	<b>14</b>
- About ESH	14
- ESH Committee Structure	15
<b>Chapter 2</b>	<b>17</b>
<b>ESH by laws</b>	<b>18</b>
<b>Chapter 3</b>	<b>21</b>
<b>ESH Scientific Councils</b>	<b>22</b>
<b>Chapter 4</b>	<b>33</b>
<b>ESH Educational Activities</b>	<b>34</b>
4.1 Annual Meeting on Hypertension and Cardiovascular Protection	34
4.2 Master Classes	46
4.3 Pre-or Post- ESH Meeting Satellite Symposia	56
4.4 ESH Advanced Courses on Hypertension	60
4.5 ESH portal and e-Learning	61
<b>Chapter 5</b>	<b>63</b>
<b>ESH Editions</b>	<b>64</b>
5.1 ESH/ESC guidelines for the management of arterial hypertension	64
5.2 ESH Books	68
- The ESH Manual of Hypertension	68
- ESH endorsed books	68
5.3 ESH Scientific Newsletters	69
5.4 ESH Journal(s)	73
- Journal of Hypertension	73
- Journal of Blood Pressure	74
<b>Chapter 6</b>	<b>77</b>
<b>ESH Working Groups</b>	<b>78</b>

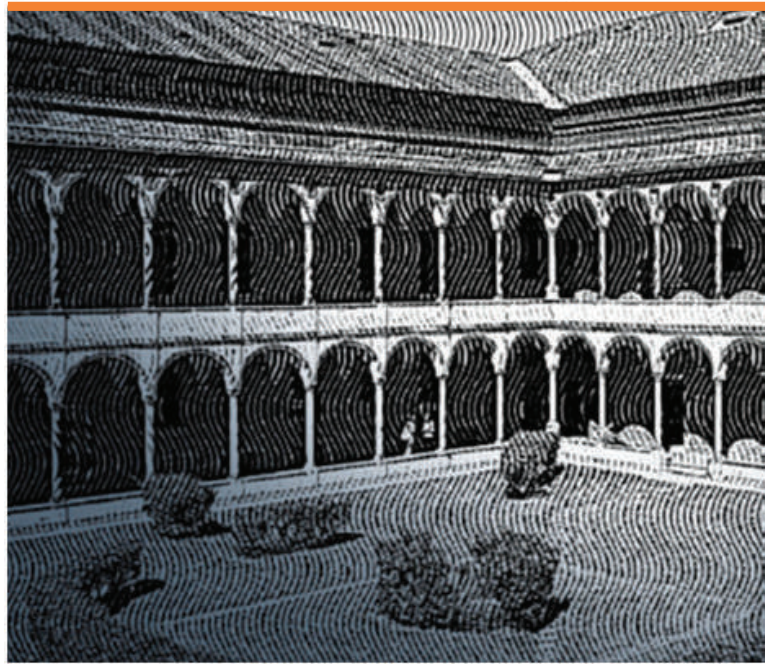
<b>Chapter 7</b>	<b>89</b>
ESH Centers of Excellence in Hypertension	90
<b>Chapter 8</b>	<b>101</b>
ESH Hypertension Specialist Programme	102
<b>Chapter 9</b>	<b>111</b>
ESH Affiliated National Societies	112
<b>Chapter 10</b>	<b>119</b>
ESH Research projects and ESH grants	120
<b>Chapter 11</b>	<b>129</b>
ESH Summer Schools	130
<b>Chapter 12</b>	<b>139</b>
Honorary members and awardees	140
<b>Chapter 13</b>	<b>145</b>
The ESH Foundation	146
<b>Chapter 14</b>	<b>149</b>
Current status of ESH and Looking into the Future	150



# European Society of Hypertension

**PAST, PRESENT AND FUTURE**

Edited by  
Alberto Zanchetti, Cífková, Gianfranco Parati and Krzysztof Narkiewicz



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The editorial team is grateful to the editors of the above edition.  
Their work was valuable for the current album of ESH history.



[ Chapter 1 ]

# A brief history of the society

30 years of ESH (1989-2019)

## A BRIEF HISTORY OF THE SOCIETY 30 YEARS OF ESH (1989-2019)

**T**he European Society of Hypertension (ESH) is the leading European platform for scientific research, education and clinical practice in hypertension and cardiovascular prevention with an aim to reduce hypertension-induced morbidity and mortality.

The history of the ESH spans more than three decades and its coming of age has coincided with the great progress in research and clinical management of the complex entity that hypertension has proven to be. The first “seeds” of the ESH were planted in the 1980s. At that time, the International Society of Hypertension (ISH) encouraged the development of parallel activities in Europe. It was a group of inspired hypertension experts led by Alberto Zanchetti and Giuseppe Mancia who coordinated the European Hypertension Meetings in Milan (the so-called “Milan Meetings”) in the years that the ISH did not hold its biennial meetings. The first historical meeting took place in the University of Milan 29th -1st June 1983. The meeting was met with enthusiasm, evident from the large number of abstracts received and the impressive number of international experts from 40 countries. The two meetings that followed (in 1985 and 1987) established the success of this European-based initiative to exchange knowledge in clinical hypertension research. And this was the trigger that led to the official European organization in hypertension, the ESH.

The official birthdate of the ESH was the 24th of February 1989. It was then that European hypertension experts established the initiation of the organization, with Professor Willem Birkenhäger (1927-2013) being the first ESH president. The 4th European Hypertension Meeting held in Milan 18th-21st June 1989 was the first to be organized under the auspices of the ESH.

The ESH was regarded as the young sibling of the ISH. The regulations and aim are similar, European members of the ISH were also members of the ESH, and the two societies would share at yet different times same experts in their respective scientific boards. Notably, the Journal of Hypertension is the official journal of both the ESH and ISH. During the 1990s, it became clear that the ESH was an ever-growing society. The biennial meetings had an increasing number of received abstracts and participants with the latter reaching the impressive number 4340 in 1999. Attendees were from all around Europe as well as the Americas, Asia, the Middle-East and north Africa, thus the ESH meeting was perceived as a global one. This year, it was decided that the meeting would be held annually and in larger premises than the dazzling but with relatively not enough space University of Milan; meetings were subsequently to be held in other European cities (starting with Göteborg in the year 2000) and in Milan every second year.

In its thirtieth anniversary year in 2019, the ESH has grown to be a large network with a well-defined infrastructure. The latter includes the ESH Scientific Council, several Executive Committees; multiple Working Groups dedicated to specific research areas, Hypertension Excellence Centres all over Europe, cooperation with European National Hypertension Societies, as well as with several affiliated National Hypertension Societies in other continents.



## SCIENTIFIC COUNCIL

### ELECTED MEMBERS

#### ■ OFFICE BEARERS

- President
- Vice-President
- Immediate-Past President
- Secretary
- Treasurer
- Officer at Large

### EX-OFFICIO MEMBERS

### EXECUTIVE OFFICERS



## EXECUTIVE COMMITTEES

**ESH  
Awards  
Committee**

**Board of  
Management  
Members -  
Journal of  
Hypertension**

**ESH  
Centres  
of  
Excellence**

**ESH  
Educational  
Activities  
Committee**

**ESH  
Hypertension  
Specialist  
Programme**

**ESH  
Liason  
with  
National  
Societies**

**ESH  
Summer  
Schools**

**ESH  
Working  
Groups**

**ESH  
Young  
Investigators  
Forum**



[ Chapter 2 ]

# ESH By-laws

## ESH BY-LAWS

The first by-laws of the ESH were developed in parallel to the establishment of ESH in 1989. The document was formulated according to the model of the International Society of Hypertension (ISH).

The society was subsequently registered with the by-laws in Switzerland, Canton of Zug. Since the official language in Zug is German, the ESH by-laws must be issued in English and German language. A revision of the by-laws was presented in Prague and subsequently registered in 2002 by the ESH president Prof. Rodicio and the ESH secretary Prof. Cifkova (Figure 1).

Prague, March 1, 2002

The President:

*Prof. J.L. Rodicio*  
Prof. J.L. Rodicio

For the minutes:

*Dr. R. Cifkova*  
Dr. R. Cifkova

Prag, 1. März 2002

Der Präsident:

*Prof. J.L. Rodicio*  
Prof. J.L. Rodicio

Die Protokollführerin:

*Dr. R. Cifkova*  
Dr. R. Cifkova

Figure 1. Signatures for the 2002 update of the ESH by-laws (English and German version)

The latest revision of the ESH by-laws was developed from 2017 to 2018. This process started at the ESH Council meeting in September 30, 2017 in Glasgow, where a by-laws committee including Prof. Lurbe (Vice-President), Prof. Agabiti Rosei (Immediate-Past President), Prof. Bochud (Treasurer), Prof. Mancina (Executive Officer), and Prof. Kreutz (Secretary) was established. This committee developed a draft version and adapted the text after further discussions during ESH council meetings in 2018.

The final version of the updated by-laws 2018 was presented during the General Assembly and approved on June 10, during the 2018 Annual ESH Meeting in Barcelona. The document was finally signed and presented for registration in Zug, Switzerland, by the ESH President Prof. Tsioufis and ESH Secretary Prof. Kreutz (Figure 2).

Barcelona, 10. June 2018

*K. Tsioufis*  
K. Tsioufis  
ESH President

*R. Kreutz*  
R. Kreutz  
ESH Secretary

Barcelona, 10. Juni 2018

*K. Tsioufis*  
K. Tsioufis  
ESH Präsident

*R. Kreutz*  
R. Kreutz  
ESH Sekretär

Figure 2. Signatures for the 2018 update of the ESH by-laws (English and German version)

Some important and necessary changes have been made to the new 2018 update of the ESH by-laws. These include, but are not limited to:

- The mention of the ESH foundation (FESH) and its duties in relation to ESH.
- The FESH will be represented by one ESH member in the ESH Scientific Council by an Ex-Officio member.
- Membership in the ESH is open to physicians and any health care professionals worldwide.
- Applications are done only online at the website of the ESH (<https://www.eshonline.org/>) and letters of endorsement are not required.
- An Award Committee for the awards and prizes to be awarded at the annual meetings has been established.

The 2018 update of the ESH by-laws have been published online at the ESH website (<https://www.eshonline.org/>) and thus distributed among the ESH members.





[ Chapter 3 ]

# ESH Scientific Councils

## ESH SCIENTIFIC COUNCILS

**T**he ESH Scientific Council has the duty of supervising all affairs of the Society. The ESH Scientific Council is formed by eleven elected members (including office bearers), by non-voting Ex-Officio members and by non-voting Executive Officers nominated by the Council for specific matters. ESH Scientific Council members shall be elected at the time of the General Assembly during the Annual Meeting of the ESH. Members of the Scientific Council may serve not more than two consecutive four-year terms.

Office bearers of the ESH Council Society are: the President, the Vice-President, the Secretary, the Treasurer and the Officer-at-Large. They are elected by the Society from the elected members of the ESH Scientific Council. Office bearers are elected at the time of the General Assembly during the Annual Meeting, giving due consideration to the recommendations of the ESH Scientific Council. The President shall serve for a two-year term and shall subsequently remain in the ESH Scientific Council for two more years as immediate Past-President. The Vice-President shall normally serve for two years.

Ex-Officio non-voting members of the Scientific ESH Council are: one ESH member designated by the International Society of Hypertension; one ESH member representing the Foundation of ESH (FESH); and one ESH member representing National Hypertension Societies. The Ex-Officio members shall serve for a two-year term with the option to renew the appointment for two more years. In addition, the ESH Scientific Council appoints Executive Officers with specific responsibilities. These areas include but are not limited to: Clinical hypertension specialist activities; ESH excellence centres; coordination of working group activities; ESH summer schools; educational/research activities of the Society; liaison with other national hypertension societies and World Hypertension League.

ESH Council members and office bearers of the 1989-2019 ESH Scientific Councils are listed below.



**1989-1991**  
**President**  
**W.B. Birkenhäger**  
**(The Netherlands)**

Vice-President: **J.L. Reid** (UK)  
 Secretary: **L.H. Lindholm** (Sweden)  
 Treasurer: **H.R. Brunner** (Switzerland)  
 Officer-at-large: **A. Zanchetti** (Italy)  
 Members:  
     **A. Amery** (Belgium)  
     **L. Hansson** (Sweden)  
     **A.J. Man in 't Veld**  
         (The Netherlands)  
     **P. Meyer** (France)  
     **Y. Postnov** (USSR)  
     **L.M. Ruilope** (Spain)  
     **T. Unger** (Germany)  
 Ex-Officio:  
     **G. Mancia** (Italy)  
         for the ISH  
     **J.I.S. Robertson** (Belgium)  
         for the ESC



**1991-1993**  
**President**  
**J.L. Reid**  
**(United Kingdom)**

Vice-President: **A. Zanchetti** (Italy)  
 Secretary: **L.H. Lindholm** (Sweden)  
 Treasurer: **A.J. Man in 't Veld**  
         (The Netherlands)  
 Officer-at-large: **L. Hansson** (Sweden)  
**Immediate**  
 Past President: **W.B. Birkenhäger**  
         (The Netherlands)  
 Members:  
     **A. Amery** (Belgium)  
     **P. Meyer** (France)  
     **Y. Postnov** (USSR)  
     **L.M. Ruilope** (Spain)  
     **T. Unger** (Germany)  
     **B. Waeber** (Switzerland)  
 Ex-Officio:  
     **G. Mancia** (Italy)  
         for the ISH  
     **P. Sleight** (UK)  
         for the ESC



**1993-1995**  
**President**  
**A. Zanchetti**  
**(Italy)**

Vice-President: **L. Hansson** (Sweden)  
Secretary: **L.H. Lindholm** (Sweden)  
Treasurer: **A.J. Man in 't Veld**  
(The Netherlands)  
Officer-at-large: **L.M. Ruilope** (Spain)

**Immediate**

Past President: **J.L. Reid** (UK)  
Members: **P. Meyer** (France)  
**Y. Postnov** (Russia)  
**P. Sleight** (UK)  
**J. Staessen** (Belgium)  
**T. Unger** (Germany)  
**B. Waeber** (Switzerland)

Ex-Officio: **P.A. van Zwieten**  
(The Netherlands) for the ISH  
**G. Mancia** (Italy)  
for the ESC



**1995-1997**  
**President**  
**L. Hansson**  
**(Sweden)**

Vice-President: **P.A. van Zwieten**  
(The Netherlands)  
Secretary: **L.H. Lindholm** (Sweden)  
Treasurer: **A.J. Man in 't Veld**  
(The Netherlands)  
Officer-at-large: **L.M. Ruilope** (Spain)

**Immediate**

Past President: **A. Zanchetti** (Italy)  
Members: **G. Mancia** (Italy)  
**P. Meyer** (France)  
**Y. Postnov** (Russia)  
**P. Sleight** (UK)  
**J. Staessen** (Belgium)  
**T. Unger** (Germany)  
**B. Waeber** (Switzerland)

Ex-Officio: **K.H. Rahn** (Germany)  
for the ISH  
**P. Lund Johansen** (Norway)  
for the ESC



**1997-1999**  
**President**  
**P.A. van Zwieten**  
**(The Netherlands)**

Vice-President: **G. Mancia** (Italy)  
 Secretary: **T. Hedner** (Sweden)  
 Treasurer: **B. Waeber** (Switzerland)

**Immediate**

Past President: **L. Hansson** (Sweden)  
 Members: **R. Cífková** (Czech Republic)  
**D.L. Clement** (Belgium)  
**C. Farsang** (Hungary)  
**H. Haller** (Germany)  
**A. Heagerty** (UK)  
**J.M. Mallion** (France)  
**J.L. Rodicio** (Spain)  
**P. Sleight** (UK)  
 Ex-Officio: **K.H. Rahn** (Germany)  
 for the ISH  
**E. Agabiti Rosei** (Italy)  
 for the ESC



**1999-2000**  
**President**  
**P.A. van Zwieten**  
**(The Netherlands)**

Vice-President: **G. Mancia** (Italy)  
 Secretary: **T. Hedner** (Sweden)  
 Treasurer: **B. Waeber** (Switzerland)

**Immediate**

Past President: **L. Hansson** (Sweden)  
 Members: **R. Cífková** (Czech Republic)  
**D.L. Clement** (Belgium)  
**C. Farsang** (Hungary)  
**H. Haller** (Germany)  
**A. Heagerty** (UK)  
**J.M. Mallion** (France)  
**J.L. Rodicio** (Spain)  
**P. Sleight** (UK)  
 Ex-Officio: **K.H. Rahn** (Germany)  
 for the ISH  
**E. Agabiti Rosei** (Italy)  
 for the ESC



**2001-2003**  
**President**  
**J.L. Rodicio**  
**(Spain)**

Vice-President: **J.M. Mallion** (France)  
 Secretary: **R. Cífková** (Czech Republic)  
 Treasurer: **W. Kiowski** (Switzerland)  
 Officer-at-large: **A.M. Heagerty** (UK)

**Immediate**

Past President: **G. Mancia** (Italy)  
 Members: **D.L. Clement** (Belgium)  
**S. Erdine** (Turkey)  
**C. Farsang** (Hungary)  
**H. Haller** (Germany)  
**T. Hedner** (Sweden)  
**S.E. Kjeldsen** (Norway)

Ex-Officio: **A. Mimran** (France)  
 for the ISH  
**P.A. van Zwieten**  
 (The Netherlands)  
 for the ESC



**2003-2005**  
**President**  
**A.M. Heagerty**  
**(United Kingdom)**

Vice-President: **J.M. Mallion** (France)  
 Secretary: **R. Cífková** (Czech Republic)  
 Treasurer: **W. Kiowski** (Switzerland)  
 Officer-at-large: **S.E. Kjeldsen** (Norway)

**Immediate**

Past President: **J.L. Rodicio** (Spain)  
 Members: **S. Erdine** (Turkey)  
**C. Farsang** (Hungary)  
**H. Haller** (Germany)  
**T. Hedner** (Sweden)  
**A.J. Manolis** (Greece)  
**K. Narkiewicz** (Poland)  
**H.A.J. Struijker Boudier**  
 (The Netherlands)

Ex-Officio: **A. Dominiczak** (UK) for the ISH  
**D.L. Clement** (Belgium) for the ESC

Exec. Officers: **E. Agabiti Rosei**, Coordinator  
 of Working Group activities  
**G. Mancia**, Chairman of the  
 ESH Educational Committee



**2005-2007**  
**President**  
**S.E. Kjeldsen**  
(Norway)

Vice-President: **S. Erdine** (Turkey)  
Secretary: **K. Narkiewicz** (Poland)  
Treasurer: **W. Kiowski** (Switzerland)  
Officer-at-large: **H.A.J. Struijker Boudier**  
(The Netherlands)

**Immediate**

Past President: **A.M. Heagerty** (UK)  
Members: **E. Ambrosioni** (Italy)  
**A. Dominiczak** (UK) from 2006  
**S. Laurent** (France)  
**A.J. Manolis** (Greece)  
**P. Nilsson** (Sweden) from 2006  
**J. Redon** (Spain)  
**R.E. Schmieder** (Germany)  
from 2006

**M. Viigimaa** (Estonia)  
Ex-Officio: **L.H. Lindholm** (Sweden)  
for the ISH

**G. Grassi** (Italy) for the ESC  
Exec. Officers: **E. Agabiti Rosei**, Coordinator  
of Working Group activities  
**G. Mancina**, Chairman of the  
ESH Educational Committee  
**R. Cífková**, (Czech Republic),  
Secretary of the ESH  
Educational Committee



**2007-2009**  
**President**  
**S. Laurent**  
(France)

Vice-President: **H.A.J. Struijker Boudier**  
(The Netherlands)  
Secretary: **K. Narkiewicz** (Poland)  
Treasurer: **M. Burnier** (Switzerland)  
Officer-at-large: **J. Redon** (Spain)

**Immediate**

Past President: **S.E. Kjeldsen** (Norway)  
Members: **E. Ambrosioni** (Italy)  
**A. Coca** (Spain)  
**A. Dominiczak** (UK)  
**M.H. Olsen** (Denmark)  
**A.J. Manolis** (Greece)  
**P. Nilsson** (Sweden)  
**R.E. Schmieder** (Germany)  
**M. Viigimaa** (Estonia)

Ex-Officio: **L.H. Lindholm** (Sweden)  
for the ISH

**R. Fagard** (Italy) for the ESC  
Exec. Officers: **E. Agabiti Rosei**, Coordinator  
of Working Group activities  
**G. Mancina**, Chairman of the  
ESH Educational Committee  
**R. Cífková**, (Czech Republic),  
Secretary of the ESH  
Educational Committee



**2009-2011**  
**President**  
**K. Narkiewicz**  
**(Poland)**

Vice-President: **J. Redon** (Spain)  
Secretary: **P. Nilsson** (Sweden)  
Treasurer: **M. Burnier** (Switzerland)  
Officer-at-large: **A. Dominiczak** (UK)

**Immediate**

Past President: **S. Laurent** (France)  
Members:  
**E. Ambrosioni** (Italy)  
**M. Caulfield** (UK)  
**A. Coca** (Spain)  
**M.H. Olsen** (Denmark)  
**A.J. Manolis** (Greece)  
**R.E. Schmieder** (Germany)  
**H.A.J. Struijker Boudier** (The Netherlands)  
**M. Viigimaa** (Estonia)  
Ex-Officio:  
**L.H. Lindholm** (Sweden) for the ISH from 2009 to 2010  
**A.M. Heagerty** (UK) for the ISH from 2010  
**S. Erdine** (Turkey) for the ESC  
Exec. Officers:  
**E. Agabiti Rosei**, Coordinator of Working Group activities  
**G. Mancia**, Chairman of the ESH Educational Committee  
**R. Cifková**, (Czech Republic), Secretary of the ESH Educational Committee  
**D. Clement**, (Belgium), ESH representative for contacts with the EU officers



**2011-2013**  
**President**  
**J. Redon**  
**(Spain)**

Vice-President: **A. Dominiczak** (UK)  
Secretary: **P. Nilsson** (Sweden)  
Treasurer: **M. Burnier** (Switzerland)  
Officer-at-large: **M. Viigimaa** (Estonia)

**Immediate**

Past President: **K. Narkiewicz** (Poland)  
Members:  
**E. Ambrosioni** (Italy)  
**M. Caulfield** (UK)  
**A. Coca** (Spain)  
**M.H. Olsen** (Denmark)  
**S. Laurent** (France)  
**R.E. Schmieder** (Germany)  
**C. Tsioufis** (Greece)  
**P. van de Borne** (Belgium)  
Ex-Officio:  
**A.M. Heagerty** (UK) for the ISH  
**A.J. Manolis** (Greece) for the ESC  
Exec. Officers:  
**G. Parati** (Italy), Coordinator of Working Group activities  
**G. Mancia** (Italy), Chairman of the ESH Educational Committee  
**R. Cifková** (Czech Republic), Secretary of the ESH Educational Committee  
**S. Erdine** (Turkey), Secretary of the ESH Clinical Hypertension Specialist Committee  
**D. Clement** (Belgium), ESH representative for contacts with the EU officer





**2013-2015**  
**President**  
**A. Dominiczak**  
**(U.K.)**

Vice-President: **R.E. Schmieder** (Germany)  
Secretary: **K. Tsioufis** (Greece)  
Treasurer: **M. Burnier** (Switzerland)  
Officer-at-large: **A. Coca** (Spain)

**Immediate**

Past President: **J. Redon** (Spain)  
Members:  
**E. Agabiti Rosei** (Italy)  
**M. Azizi** (France)  
**M. Caulfield** (U.K.)  
**R. Cifkova** (Czech Republic)  
**G. Grassi** (Italy)  
**B. Jelakovic** (Croatia)  
**P. Nilsson** (Sweden)  
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Exec. Officers: **G. Parati** (Italy), Coordinator  
of Working Group activities  
**G. Mancia** (Italy), Chairman of  
the ESH Educational Committee  
**T. Cífková** (Czech Republic),  
Secretary of the ESH  
Educational Committee  
**D. Clement** (Belgium),  
ESH representative for  
contacts with the EU officers



**2015-2017**  
**President**  
**E. Agabiti Rosei**  
**(Italy)**

Vice-President: **M. Azizi** (France)  
Secretary: **K. Tsioufis** (Greece)  
Treasurer: **M. Burnier** (Switzerland)  
Officer at large: **B. Jelakovic** (Croatia)

**Immediate**

Past President: **A. Dominiczak** (U.K.)  
Members:  
**I. Chazova** (Russia)  
**G. Grassi** (Italy)  
**T. Kahan** (Sweden)  
**R. Kreutz** (Germany)  
**P. Van de Borne** (Belgium)  
**B. Williams** (U.K.)  
Ex-Officio: **C. Borghi** (Italy),  
ISH Representative  
**D. Lovic** (Serbia), Representative  
Presidents ESH Affiliated Societies  
Exec. Officers: **G. Mancia** (Italy), Chairman of  
the ESH Educational Committee  
**G. Parati** (Italy), Coordinator  
of Working Group activities  
**D. Clement** (Belgium),  
Representative Contacts  
with EU Officers  
**A. Coca** (Spain), Representative  
for Latin America Relations



**2017-2019**

**President**

**K. Tsioufis**  
**(Greece)**

Vice-President: **E. Lurbe** (Spain)  
Secretary: **R. Kreutz** (Germany)  
Treasurer: **M. Bochud** (Switzerland)  
Office at large: **B. Jelakovic** (Croatia)

**Immediate**

Past President: **E. Agabiti Rosei** (Italy)  
Members: **M. Azizi** (France)  
**A. Januszewicz** (Poland)  
**T. Kahan** (Sweden)  
**J. Polonia** (Portugal)  
**P. Van de Borne** (Belgium)  
**B. Williams** (U.K.)

Ex-Officio: **C. Borghi** (Italy), ISH Representative  
**D. Lovic** (Serbia), Representative  
Presidents ESH Affiliated Societies

Exec. Officers: **G. Mancina** (Italy), Chairman of  
the ESH Educational Committee  
**G. Parati** (Italy), Coordinator of  
Working Group activities  
**D. Clement** (Belgium),  
Representative Contacts  
with EU Officers  
**A. Coca** (Spain), Representative  
for Latin America Relations  
**A. Manolis** (Greece),  
Representative for Middle East  
Relations

## COUNCIL MEETING BOLOGNA, NOVEMBER 2018



E. Lurbe, K. Tsioufis, E. Agabiti-Rosei (*first raw*)  
G. Mancia, R. Kretuz, D. Clement, C. Borghi (*second raw*)  
A. Coca, J. Polonia, M. Azizi, D. Lovic (*third raw*)  
B. Jelakovic, T. Kahan, A. Januszewicz (*fourth raw*)

(B. Williams, M. Bochud, M. Azizi and A. Manolis had not attend this council meeting)



A. Coca, D. Lovic, P. Van de Born, C. Borghi, T. Kahan, D. Clement, R. Kretuz,  
K. Tsioufis, E. Agabiti-Rosei, E. Lurbe, G. Mancia, G. Parati, A. Januszewicz,  
J. Polonia and B. Jelakovic



Prof. Tsioufis and Prof. Mancia



Prof. Tsioufis, Prof. Kretuz and the administrative secretary Robyn Lynch



Prof. Tsioufis, Prof. Kretuz and a team of the AIM group



[ Chapter 4 ]

# ESH Educational Activities

## 4.1 ANNUAL MEETING ON HYPERTENSION AND CARDIOVASCULAR PROTECTION

Until 1999 the meetings of the ESH were held on a regular biennial basis at the University of Milan, with an ever-expanding attendance.

ESH meetings organized on biennial basis in Milan.

Meeting	Date	Abstracts received	Participants	Countries
Fourth	18th-21st June 1989	943	2500	51
Fifth	7th-10th June 1991	787	2600	68
Sixth	4th-9th June 1993	845	2700	70
Seventh	9th-12th June 1995	942	2750	76
Eighth	9th-12th June 1997	878	3705	74
Ninth	11th-15th June 1999	1160	4340	78

Because of the continuously growing level of interest in the ESH meetings, with attendees coming from all countries of Europe (including – especially since 1989 – a large participation of experts from Eastern European countries) as well as from North Africa and the Middle East, the Asian-Pacific countries and the Americas, in 1999 the ESH decided to hold annual meetings rather than biennial. Since then, the annual meeting is held in Milan every second year (in odd-numbered years) and in other European cities on alternate (even-numbered) years. However, if an ISH meeting is to be held in Europe, the ISH and the ESH meetings are arranged jointly for that year.

The annual meetings have continued to demonstrate the mounting popularity of the ESH and the strength of European research on hypertension. Increasing attendance forced the Milan meetings to leave the beautiful, but mostly limited space at the University of Milan for the wider premises of the Milan City Fair. Dates, locations, abstracts received, and attendance to each meeting since 2000 are listed below.

ESH meetings organized on annual basis.

Meeting	Date	Abstracts	Participants	Countries
Tenth	Göteborg, 29th May – 3rd June 2000	1180	3275	69
Eleventh	Milan, 15th – 18th June 2001	1200	5003	65
Twelfth (with ISH)	Prague, 23rd – 27th June 2002	1920	7680	86
Thirteenth	Milan, 20th – 24th June 2003	1253	4530	78
Fourteenth	Paris, 13th – 16th June 2004	1564	8029	116
Fifteenth	Milan, 17th – 21st June 2005	1474	7241	93
Sixteenth	Madrid, 12th – 16th June 2006	1613	5722	95
Seventeenth	Milan, 15th – 19th June 2007	1538	5580	89
Eighteenth (with ISH)	Berlin, 14th – 19th June 2008	2620	8624	96
Nineteenth	Milan, 12th – 16th June 2009	1734	5169	99
Twentieth	Oslo, 18th – 21st June 2010	1890	5771	97
Twenty first	Milan, 17th – 20th June 2011	1883	6400	
Twenty second	London, 26th – 29th April 2012	2102	5400	
Twenty third	Milan, 14th – 17th June 2013	1789	4400	
Twenty fourth (with ISH)	Athens, 13th – 16th June 2014			
Twenty fifth	Milan, 12th – 15th June 2015	1827	3506	
Twenty sixth	Paris, 10th – 13th June 2016	1434	2712	
Twenty seventh	Milan, 16th – 19th June 2017	1484	2627	
Twenty eighth	Barcelona, 8th – 11th June 2018	1136	2648	
Twenty ninth	Milan, 21st – 24th June 2019			



**European Society of Hypertension**

**ESH 1989 - 2019**  
**30 YEARS**

**29<sup>th</sup> european meeting**  
**on hypertension**  
**and cardiovascular**  
**protection**

**JUNE 21-24, 2019 - MILAN, ITALY**

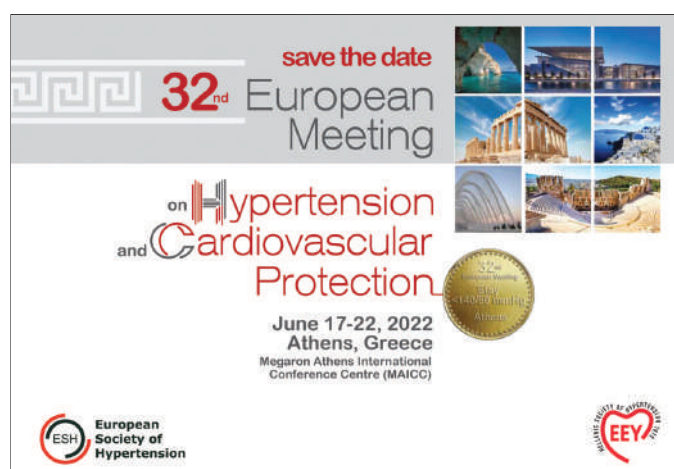
**Save your Life**  
**Hypertension first!**  
**Stay below 140/90**

all updates available on [www.esh2019.eu](http://www.esh2019.eu)



Future ESH annual meetings:

Meeting	Date
Thirtieth	Glasgow, 29th May - 1st June 2020 (Joint ESH/ISH meeting)
Thirty first	Milan, 18th - 21st June 2021
Thirty second	Athens, 17th June - 22nd June 2022



Members of the ESH committee for the bid decision of the Annual ESH meeting 2022 with the Greek hypertension team after the announcement that Athens was the winner (Barcelona 2018)



## ESH ANNUAL MEETINGS



1st European Meeting on Hypertension (Milan, 1983): Alberto Zanchetti at the Opening Ceremony



2nd European Meeting on Hypertension (Milan, 1985)



2nd European Meeting on Hypertension (Milan, 1985): Dinner in the courtyard of Palazzo del Senato



4th European Meeting on Hypertension (Milan, 1989):  
First ESH President W. Birkenhager



7th European Meeting on Hypertension (Milan, 1995):  
G. Mancia, P. A. van Zwieten and Alberto Zanchetti



Joint ISH/ESH meeting (Prague, 2002):  
Lennart Hansson presenting the SCOPE study



Joint ISH/ESH meeting (Prague, 2002):  
Michel Safar and Stevo Julus



17th European Meeting on Hypertension (Milan, 2007):  
Presentation of the 2007 ESH/ESC Guidelines for the management of arterial hypertension





19th European Meeting on Hypertension (Milan, 2009): Jose Rodico and Peter van Zwieten receiving ESH Honorary Membership



20th European Meeting on Hypertension (Oslo, 2010): Closing ceremony. The Chairman of the meeting, S. Kjeldsen on the podium



21st European Meeting on Hypertension and Cardiovascular Prevention (Milan, 2011): Opening Ceremony



21st European Meeting on Hypertension and Cardiovascular Prevention (Milan, 2011): Aula Magna



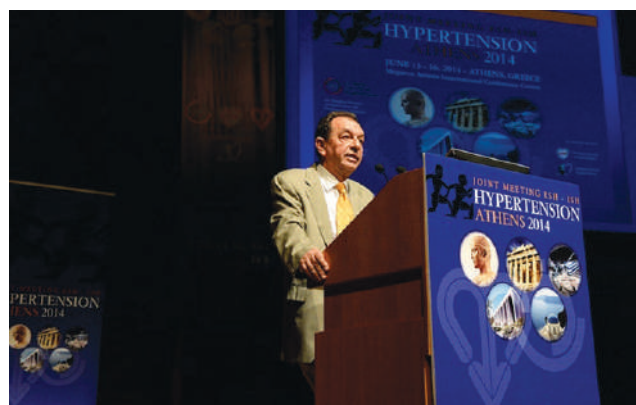
23rd European Meeting on Hypertension and Cardiovascular Protection (Milan, 2013):  
Presentation of 2013 ESH/ESC Guidelines for the management of arterial hypertension. J. Redon and G. Mancia on the podium



24th Joint meeting  
ESH-ISH Hypertension  
(Megaron Concert Hall,  
Athens, 2014).  
Opening ceremony



Prof. K. Tsioufis, Prof. A. Dominiczak and Prof. M. Burnier



24th Joint meeting ESH-ISH Hypertension (Megaron Concert Hall, Athens, 2014):  
Athanasios J. Manolis, the chairman of the meeting, on the podium



## 25<sup>TH</sup> EUROPEAN MEETING ON HYPERTENSION AND CARDIOVASCULAR PROTECTION

(Milan, 2015)



Prof. A. Zanchetti and Prof. G. Mancia



Opening Ceremony



Prof. Peter Nilsson and Prof. Stevo Julius on the left. Prof. Stephane Laurent and Prof. Denis Clement on the right



P. Nilsson, B. Jelakovic, C. Messa



President of ESH  
Prof. Anna Dominiczak in the center, V. Morris (Servier, France)  
on the right and L. Alliot (France)



D. Clement, H.A. Boudier



Audience. Cocktail



A. Zanchetti and Peter Sleigh



Csaba Farsang, K. Tsioufis, E. Agabiti Rosei



Prof. J. Redon at the Opening Ceremony





Opening ceremony:  
Prof. G. Mancia, Prof. A. Zanchetti, Prof. E. Agabiti Rosei and Prof. G. Parati



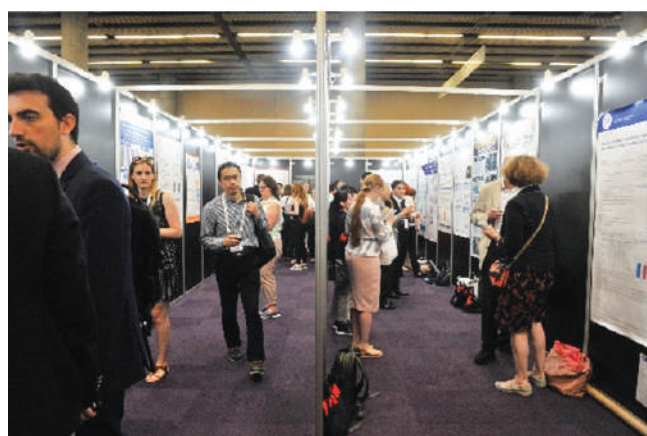
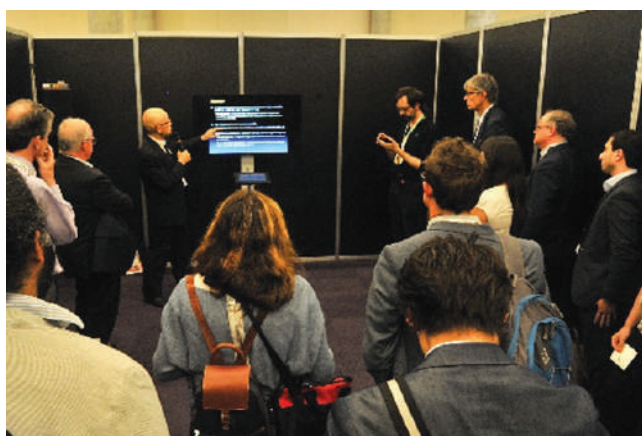
Prof. G. Parati, Prof. G. Mancia and Prof. E. Agabiti Rosei



Opening ceremony



Presentation of 2018 ESC/ESH Guidelines for the management of arterial hypertension in a full auditorium



Posters presentations by young research and interaction with ESH experts



R. Zigliman, S. Julius, E. Agabiti Rosei



doi:10.1093/eurheartj/ehy667

## ESH Annual Meeting 2018

**Reinhold Kreutz reports on the 28<sup>th</sup> European Meeting on Hypertension and Cardiovascular Protection that took place in Barcelona, Spain, 8–11 June**



Josep Redon

Antonio Coca

Konstantinos Tsioufis



Prof. E. Lurbe on the podium, Barcelona 2018

## 4.2 MASTER CLASSES

Apart from the main Annual Scientific Meeting, in 2001 ESH started to organize a number of Master Courses in different areas of Europe including the Eastern countries mainly in the Gulf area-Middle East, Africa, China, India, Latin America, and in countries of the Asia-Pacific region. In these meetings the ESH faculty, along with local speakers, discussed the most recent progress on diagnosis and treatment of hypertension as well as on prevention of cardiovascular risk. In each meeting the ESH Faculty reviewed trials that have formed the basis for the Guidelines recommendations, whereas national leaders provide their feed-back and discuss how these recommendations can fit to local clinical practice, thus helping in their implementation. National leaders also present and discuss the current situation of their country as far cardiovascular research and prevention strategies are concerned. All faculty members finally discuss a number of clinical cases to exemplify theoretical concepts presented at the meeting.

It is worth noting that this important activity of the ESH Teaching Faculty was initiated by Professor Csaba Farsang in Hungary in September 2001. The ESH was represented by its then current President Jose Rodicio, Vice President Jean-Michel Mallion, and Secretary Renata Cífková. **So far, more than thirty master courses have been organized by the ESH with more than 6,000 participants.**

### Selected educational Master Courses of the European Society of Hypertension

Date	Abstracts	Countries
May 12 - 13, 2006	Sofia	Bulgaria
June 2003, 2006	Poiana Brasov	Romania
September 22 - 23, 2006	Budapest	Hungary
October 6 - 7, 2006	Tallinn	Estonia
October 20 - 21, 2006	Vilnius	Lithuania
November 24 - 25, 2006	Prague	Czech Republic
May 9 - 10, 2007	Balatonfured	Hungary
May 11 - 12, 2007	Sofia	Bulgaria
September 12 - 13, 2007	Moscow	Russia
September 21 - 22, 2007	Moravske Toplice	Slovenia
October 5 - 6, 2007	Helsinki	Finland
October 12 - 13, 2007	Sinaia	Romania
October 19 - 20, 2007	Riga	Latvia
October 26 - 27, 2007	Prague	Czech Republic
November 9 - 10, 2007	Plovdiv	Bulgaria
November 23 - 24, 2007	Tirana	Albania

Date	Abstracts	Countries
November 7 – 8, 2008	Bucharest	Romania
November 19 – 20, 2008	Plovdiv	Bulgaria
November 21 – 22, 2008	Prague	Czech Republic
November 21 – 22, 2008	Copenhagen	Denmark
November 25, 2008	Tirana	Albania
November 28 – 29, 2008	Minsk	Belarus
December 2 – 3, 2008	Budapest	Hungary
February 28 – March 1, 2009	Fès	Morocco
November 20 – 21, 2009	Prague	Czech Republic
November 20 – 21, 2009	Minsk	Belarus
April 21 – 22, 2010	Žilina	Slovakia
October 15 – 16, 2010	Damascus	Syria
November 19 – 20, 2010	Algiers	Algeria
May 13 – 14, 2011	Bucharest	Romania
May 20 – 21, 2011	Prague	Czech Republic
February 2 – 3, 2012	Vienna	Austria
May 11 – 12, 2012	Tunis	Tunisia
September 7 – 8, 2012	Beirut	Lebanon
September 7, 2013	Vienna	Austria
September 24, 2013	Saint Petersburg	Russia
November 15 – 16, 2013	Nairobi	Kenya
November 21 – 22, 2014	Nairobi	Kenya
October 30 – 31, 2015	Almaty	Kazakhstan
May 20 – 21, 2016	Saint Petersburg	Russia
September 30 – October 1, 2016	Marrakech	Maroc
October 14 – 15, 2016	Cairo	Egypt
September 8 – 9, 2017	Varna	Bulgaria
September 14 – 15, 2018	Belgrade	Serbia

**A number of Master Classes endorsed by ESH have been organized not only in Europe, but also in the Gulf area, in China, India and Latin America.**

## POSTERS FROM VARIOUS ESH MASTER CLASSES



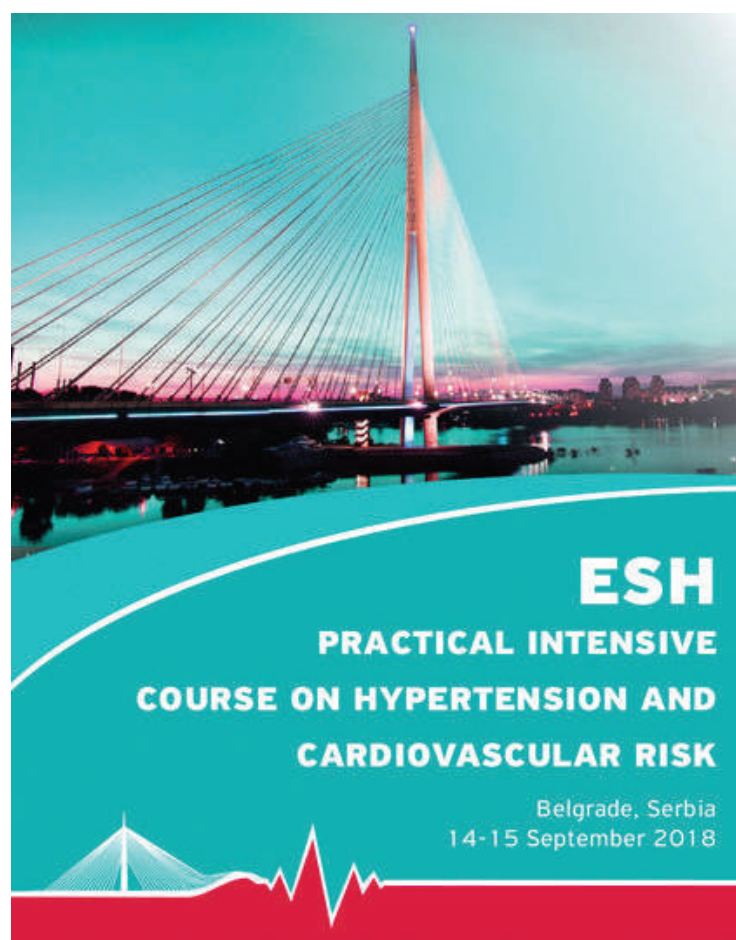




## ESH Practical Intensive Course on Hypertension and Cardiovascular Risk

Varna, Bulgaria 8-9 September 2017





## PHOTOS FROM MASTER CLASSES ORGANISED BY ESH THROUGH THE YEARS



ESH Master Class (Guatemala, May 2013)



ESH Master Class (Costa Rica, May 2014)





ESH Save Meeting, Advanced Course on Hypertension (Istanbul, 2018)





## PHOTOS FROM PRE - OR POST- ESH MEETING SATELLITE SYMPOSIA ORGANISED BY ESH THROUGH THE YEARS



ESH Master Class (China, 2016)



Many ESH representatives in a Meeting organized by Fondazione Internazionale Menarini

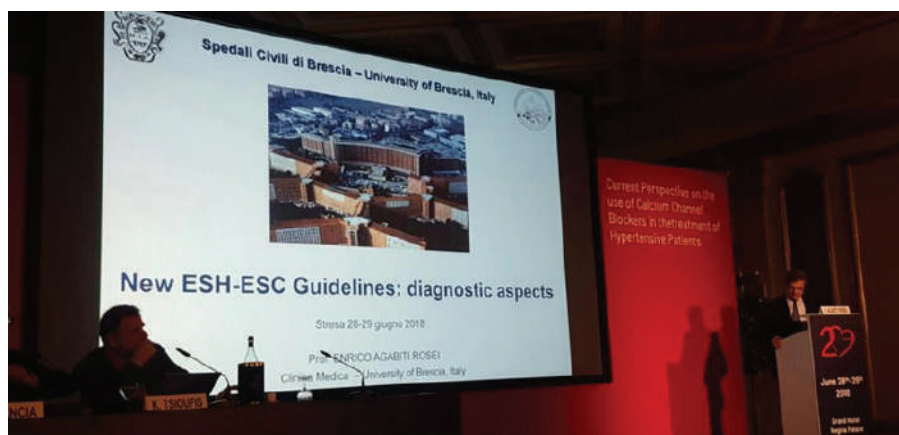


2017 ESH in China, Faculty Members



ESH in China 2017





ESH Master Class (Italy, 2018)



Adapt Workshop (Kuwait, 2018)



BPCON (Chennai, 2018)



ESH Postgraduate Course in Management of Hypertension (Mumbai, India, 2018)



ESH Postgraduate Course in Management of Hypertension (Mumbai, India, 2018)  
Professors K. Tsiofuis, G. Mancia and V. Ram during the award ceremony





Adapt Workshop (Bahrain, 2019)

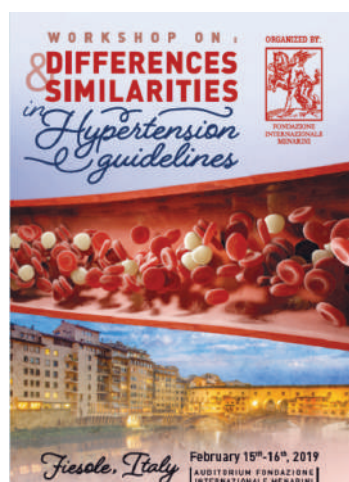
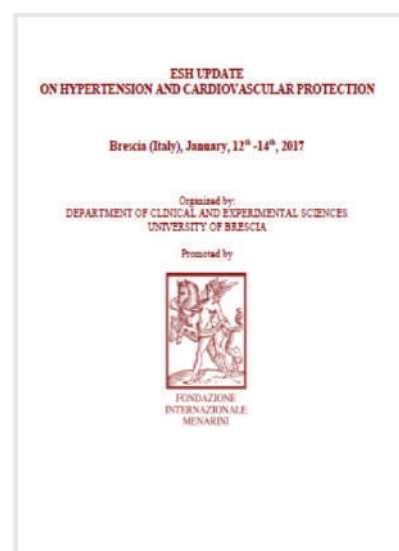
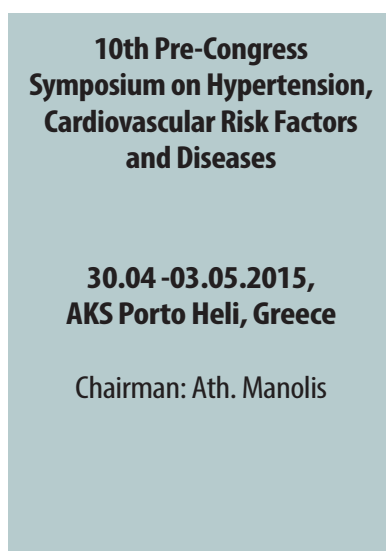


Many ESH representatives in a Meeting organized by Fondazione Internazionale Menarini (Barcelona 2017)

## 4.3 PRE - OR POST- ESH MEETING SATELLITE SYMPOSIA

The ESH Meeting Satellite Symposia are held prior to and following the Annual meeting. These ancillary events are offered in conjunction with the Annual Meeting to the hypertension community and aim to provide forums of exchange in current knowledge and to sharing clinical experience for the management of hypertension.

### POSTERS FROM VARIOUS PRE - OR POST - ESH MEETING SATELLITE SYMPOSIA



## MEETING DEDICATED TO THE PRESIDENTS OF ESH AFFILIATED NATIONAL HYPERTENSION SOCIETIES

K.Narkiewicz, past president of ESH took the initiative in 2015 to organize in Gdansk-Gdynia, (Poland) an annual meeting entitled “Hypertension Forum” dedicated to the Presidents of ESH Affiliated National Societies



### 5<sup>TH</sup> EUROPEAN FORUM ON HYPERTENSION (Gdansk, 2019)



K. Narkiewicz on the podium



M. Burnier on the podium



G. Mancia on the podium



## MEETING DEDICATED TO ESH WG AND ESH EXCELLENCE CENTERS



**Saturday, March 30, 2019**

18:00-20:30	SESSION DEDICATED TO ESH RESEARCH PROJECTS*: Connecting the dots between ESH Working Groups and ESH Excellence Centres research activities
18:00-18:05	Brief introduction: C. Tsioufis (GR)
18:04-18:10	1st ESH RESEARCH PROJECT: BLOOD PRESSURE CONTROL IN EUROPE Chairmen: G. Mancia (IT), E. Agabiti-Rosei (IT), B. Jellakovic (HR), C. Tsioufis (GR)
18:11-18:15	Current status: B. Jellakovic (HR)
18:16-18:20	The Greek experience: A. Triantafyllou (GR)
18:21-18:30	Discussion: All the leaders of the ESH WGs* and the ESH Excellence Centres**
18:31-18:35	2nd ESH RESEARCH PROJECT: EMERGENCY HYPERTENSION Chairmen: M. Azizi (FR), K. Narkiewicz (PL), C. Tsioufis (GR)
18:36-18:40	Emergency hypertension. What are the missing data? M.L. Mulesan (IT)
18:41-18:45	The French experience: R. Bouletreau (FR), M. Azizi (FR)
18:46-18:50	The Greek experience: K. Dimitriadis (GR), C. Fragoulis (GR)
18:51-18:55	Discussion: All the leaders of the ESH WGs* and the ESH Excellence Centres**
18:56-19:00	3rd ESH RESEARCH PROJECT: ESH APP Chairmen: R. Kreutz (DE), G. Parati (IT), C. Tsioufis (GR)
19:01-19:05	Current status: G. Parati (IT)
19:06-19:10	The Greek experience: D. Konstantinidis (GR), D. Seouls (GR), T. Papaioannou (GR)
19:11-19:15	Discussion: All the leaders of the ESH WGs* and the ESH Excellence Centres**

\* This Session is supported by a non restricted educational grant by Servier

In the setting of the annual pre ESH meeting that took place in Athens in the end of March, in 2019 sessions dedicated to the ESH Research program started being presented.





## 4.4 ESH ADVANCED COURSES ON HYPERTENSION

The first ESH Advanced Course on Hypertension was organized in 2004 by Giuseppe Mancia and Renata Cifková. The aim was to provide teaching courses for certified European Hypertension Specialists who wished to improve their knowledge in clinical hypertension and become ESH Hypertension Specialists.

The Advanced Courses featured regular lectures, “How to” sessions and Case presentations. These last two provided the opportunity for interaction between the faculty and the fellows.

The Advanced Courses were held from 2004 to 2011 in ski resorts in the Italian and Swiss alps and were also known as the “Winter School” courses. The daily programmes were designed to allow time for outdoor activities.



## 4.5 ESH PORTAL AND E-LEARNING PROGRAMME

The European Society of Hypertension (ESH) web site was planned within the ESH Council in 2000 to not only support the activities of the ESH in general, but also to find a way to easily spread information about activities, working groups, meetings, and other activities. Subsequently, the official ESH website [www.eshonline.org](http://www.eshonline.org) was launched and presented at the ESH Annual Meeting held in Milan in June 2001. The website provided information on ESH, Membership, Annual Meetings and Guidelines, links to hypertension-related journals, and other hypertension and cardiovascular societies. Thomas Hedner was nominated Web-Editor from 2001 through 2002. In 2002, the website was updated and new features and new educational activities were added such as webcasts of large clinical trials, teaching seminars, interactive web-courses including and tests with multiple choice questions.

From 2003 through 2006, Anthony Heagerty collaborated as the Web-Editor. The website made great progress in these three years under his direction and supervision, becoming a unique website and educational resource for hypertension specialists, not only within Europe but also in many parts of the world. Krzysztof Narkiewicz and Peter M. Nilsson took over from Anthony Heagerty as Web-Editors in June 2006, and continued to do a dedicated job, including writing editorials and introducing poll questions. The hit rate of visitors on a monthly basis more than doubled under their joint editorship.

### THE NEW ONLINE ESH PORTAL IN 2009

In March 2007, [www.eshonline.org](http://www.eshonline.org) changed its appearance. New graphics and structures were implemented and registration on the website was necessary to access the ESH 2007 Meeting Highlights, Guidelines, and Teaching Seminars. In the same year the transition from a website to a Portal with additional intranet options was implemented. Two years later in 2009, the new ESH online Portal was launched at the ESH 2009 Annual Meeting in Milan. The new Portal replaced the former website. The Portal had a new design and architecture, as well as improved search options. Application for Membership, Hypertension Specialist status and Excellence Centres were now available online. This also applied for information and applications to the annual ESH Summer School and ESH Advance Course. In October 2010, Mark Caulfield was nominated Co-Editor of the Portal together with Peter M. Nilsson. In 2013 Konstantinos Tsioufis took over as Editor of the Portal. He introduced the “Editor’s Page” publishing monthly “The ESH Guide through Publications”. Starting from 2017 Reinhold Kreutz is the Portal coordinator. Currently, the number of registered users on [www.eshonline.org](http://www.eshonline.org) has increased over the years from 3175 users in 2005 to almost 21,000 users in 2019. The ESH members have increased from 821 in 2008 to over 1900 in 2019. There are now 870 ESH Clinical Hypertension Specialists and 196 ESH Excellence Centres worldwide. The ESH is overall affiliated with 42 National Hypertension Societies including 37 Societies from European and 5 Societies from non-European countries.

### THE ESH E-LEARNING PROGRAM

Michael H. Olsen was responsible for the development of the new elearning program and its successful launch and implementation into the ESH portal in 2010. In 2017, Reinhold Kreutz took on the role of managing the eLearning program. The platform provides access to various materials such as a new Hypertension Basics Teaching Module that will be continuously expanded. These are supplemented with access to ESH Congress Webcasts, Teaching Seminars, Practice Newsletters and Guidelines on Hypertension Management. An optional self-assessment test based on the content of the new program will be implemented.



[ Chapter 5 ]

# ESH Editions

## 5.1 ESH/ESC GUIDELINES FOR THE MANAGEMENT OF ARTERIAL HYPERTENSION

Until 2003, ESH did not issue its own guidelines on hypertension, although it contributed significantly, with some of its members, to guidelines reported by the World Health Organization (WHO) and the International Society of Hypertension (ISH) between 1980 and 1999 [1]. After the 1999 WHO/ISH guidelines appeared, however, it was felt that there were reasons for issuing separate European guidelines on the diagnosis and treatment of hypertension. This was because the WHO/ISH guidelines had progressively evolved to meet the needs of a global audience consisting of countries that varied widely in both health care provisions and resources. On the other hand, Europe was a much more homogeneous community characterized by relatively well-developed health care systems, which could utilize diagnostic and therapeutic approaches much more difficult for developing countries to implement.

### 2003 ESH/ESC HYPERTENSION GUIDELINES

The decision to write European guidelines was made in 2002 because from the 1999 WHO/ISH guidelines new information on patho-physiology, epidemiology, diagnosis and treatment of hypertension had been collected; another factor was the publication of several important outcome trials and large-scale observational studies. To meet this goal the ESH Scientific Council appointed a Guidelines Committee and invited ESC to join, based on the importance of the cardiological aspects of hypertension. The ESH/ESC guidelines were officially presented at the annual ESH meeting in Milan (2003) and published the same year in the *Journal of Hypertension* [2], *Blood Pressure*, and other scientific journals. The *Journal of Hypertension* also published a simplified guidelines version [3] and the ESH granted permission to translate either the more comprehensive or the simplified version into national languages to favour penetration of the guidelines into clinical practice. The reception from the scientific and medical communities was extremely favourable. In the following two years the ESH/ESC guidelines were the most widely-quoted biomedical article in scientific literature, and number five in general.

### 2003 European Society of Hypertension–European Society of Cardiology guidelines for the management of arterial hypertension\*

Guidelines Committee\*\*

*Journal of Hypertension* 2003, 21:1011–1053

Conflict of interest disclosures are given in the Appendix.

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Accepted 4 April 2003

\* The editorial team would like to thank Sverre E. Kjeldsen for his great contribution in Chapter 5.

## 2007 ESH/ESC HYPERTENSION GUIDELINES

The publication of additional important studies made it necessary to produce an update of the 2003 guidelines only a few years later. ESH and ESC again agreed to cooperate and formed a guidelines Committee. The guidelines were presented at the annual 2007 ESH meeting in Milan, at the annual 2007 ESC meeting, and thereafter, at the most important scientific events worldwide. They were published in the *Journal of Hypertension*, the *European Heart Journal*, and *Blood Pressure*, and translated under the responsibility of national Hypertension and Cardiology Societies, into several national languages. The 2007 guidelines were adopted either as a whole or in parts by other societies outside Europe, often serving as a basis for the elaboration of extra-European guidelines.

### Guidelines

#### 2007 Guidelines for the Management of Arterial Hypertension

#### The Task Force for the Management of Arterial Hypertension of the European Society of Hypertension (ESH) and of the European Society of Cardiology (ESC)

**Authors/Task Force Members:** Giuseppe Mancia, Co-Chairperson (Italy), Guy De Backer, Co-Chairperson (Belgium), Anna Dominiczak (UK), Renata Cifkova (Czech Republic), Robert Fagard (Belgium), Giuseppe Gennaro (Italy), Guido Grassi (Italy), Anthony M. Heagerty (UK), Sverre E. Kjeldsen (Norway), Stephane Laurent (France), Krzysztof Narkiewicz (Poland), Luis Ruilope (Spain), Andrzej Rynkiewicz (Poland), Roland E. Schmieder (Germany), Harry A.J. Struijker Boudier (Netherlands), Alberto Zanchetti (Italy)

**ESC Committee for Practice Guidelines (CPG):** Alec Vahanian, Chairperson (France), John Camm (United Kingdom), Raffaele De Caterina (Italy), Veronica Dean (France), Kenneth Dickstein (Norway), Gerasimos Filippatos (Greece), Christian Funck-Brentano (France), Irene Hellemans (Netherlands), Steen Dalby Kristensen (Denmark), Keith McGregor (France), Udo Sechtem (Germany), Sigmund Silber (Germany), Michal Tendera (Poland), Petr Widimsky (Czech Republic), José Luis Zamorano (Spain)

**ESH Scientific Council:** Sverre E. Kjeldsen, President (Norway), Serap Erdine, Vice-President (Turkey), Krzysztof Narkiewicz, Secretary (Poland), Wolfgang Kiowski, Treasurer (Switzerland), Enrico Agabiti-Rosei (Italy), Ettore Ambrosioni (Italy), Renata Cifkova (Czech Republic), Anna Dominiczak (United Kingdom), Robert Fagard (Belgium), Anthony M. Heagerty, Stephane Laurent (France), Lars H. Lindholm (Sweden), Giuseppe Mancia (Italy), Athanasios Manolis (Greece), Peter M. Nilsson (Sweden), Josep Redon (Spain), Roland E. Schmieder (Germany), Harry A.J. Struijker-Boudier (The Netherlands), Margus Viigimaa (Estonia)

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*Journal of Hypertension* 2007, 25:1105–1187

## 2009 ESH REAPPRAISAL OF HYPERTENSION GUIDELINES

By 2007 it became progressively clearer that on several important hypertension issues available evidence was by no means straightforward. This led to the ESH decision to publish a reappraisal of the 2007 ESH/ESC guidelines, which focused on the evidential basis of a number of previous guidelines recommendations; among these were assessment of cardiovascular risk, identification of sub-clinical organ damage, blood pressure values at which to start treatment, and blood pressure targets for treatment. The aim was not only to facilitate future guidelines updates, but also to promote the planning of trials in areas in which data were absent or interpretation of previous trials was controversial. Although not being formally called new guidelines, the 2009 ESH document was received with great interest and a popularity comparable to that of the previous guidelines. The document has been translated into several European languages and also quoted as extra-European guidelines.

### Reappraisal of European guidelines on hypertension management: a European Society of Hypertension Task Force document

Giuseppe Mancia<sup>a</sup>, Stéphane Laurent<sup>b</sup>, Enrico Agabiti-Rosei<sup>c</sup>, Ettore Ambrosioni<sup>d</sup>, Michel Burnier<sup>e</sup>, Mark J. Caulfield<sup>f</sup>, Renata Cifkova<sup>g</sup>, Denis Clément<sup>h</sup>, Antonio Coca<sup>i</sup>, Anna Dominiczak<sup>j</sup>, Serap Erdine<sup>k</sup>, Robert Fagard<sup>l</sup>, Csaba Farsang<sup>m</sup>, Guido Grassi<sup>n</sup>, Hermann Haller<sup>o</sup>, Anthony Heagerty<sup>p</sup>, Sverre E. Kjeldsen<sup>q</sup>, Wolfgang Kiowski<sup>r</sup>, Jean Michel Mallion<sup>s</sup>, Athanasios Manolis<sup>t</sup>, Krzysztof Narkiewicz<sup>u</sup>, Peter Nilsson<sup>v</sup>, Michael H. Olsen<sup>w</sup>, Karl Heinz Rahr<sup>x</sup>, Josep Redon<sup>y</sup>, José Rodicio<sup>z</sup>, Luis Ruilope<sup>a1</sup>, Roland E. Schmieder<sup>a2</sup>, Harry A.J. Struijker-Boudier<sup>a3</sup>, Pieter A. van Zwieten<sup>a4</sup>, Margus Viigimaa<sup>a5</sup> and Alberto Zanchetti<sup>a6</sup>

Journal of Hypertension 2009, 27:2121–2158

## 2013 ESH/ESC HYPERTENSION GUIDELINES

Following the successful publication of the 2013 Guidelines, the 2017 Guidelines were generated again in close cooperation between the ESH and the ESC. As expected, the 2013 guidelines were widely quoted (more than 8,500 citations) in the medical literature of subsequent years.

### 2013 ESH/ESC Guidelines for the management of arterial hypertension

*The Task Force for the management of arterial hypertension of the European Society of Hypertension (ESH) and of the European Society of Cardiology (ESC)*

List of authors/Task Force Members: Giuseppe Mancia (Chairperson) (Italy)\*, Robert Fagard (Chairperson) (Belgium)\*, Krzysztof Narkiewicz (Section co-ordinator) (Poland), Josep Redon (Section co-ordinator) (Spain), Alberto Zanchetti (Section co-ordinator) (Italy), Michael Böhm (Germany), Thierry Christiaens (Belgium), Renata Cifkova (Czech Republic), Guy De Backer (Belgium), Anna Dominiczak (UK), Maurizio Galderisi (Italy), Diederick E. Grobbee (Netherlands), Tiny Jaarsma (Sweden), Paulus Kirchhof (Germany/UK), Sverre E. Kjeldsen (Norway), Stéphane Laurent (France), Athanasios J. Manolis (Greece), Peter M. Nilsson (Sweden), Luis Miguel Ruilope (Spain), Roland E. Schmieder (Germany), Per Anton Sirnes (Norway), Peter Sleight (UK), Margus Viigimaa (Estonia), Bernard Waeber (Switzerland), and Faiez Zannad (France)

Journal of Hypertension 2013, 31:1281–1357



## 2018 ESC/ESH HYPERTENSION GUIDELINES

When it was time for an update of the 2013 Guidelines, ESH and ESC again agreed to cooperate and formed a guidelines Committee, which worked diligently to produce a comprehensive text that underwent an extensive review process by experts from ESC National Cardiac Societies as well as ESH National Hypertension Societies Representatives. The 2018 ESC/ESH Hypertension Guidelines were officially presented in the Annual 2018 ESH Meeting in Barcelona and the annual 2018 ESC Meeting in Munich. Giuseppe Mancia was the Co-chairman of the Guidelines on behalf of ESH while Bryan Williams the Co-chairman of the Guidelines on behalf of ESC. Practice and pocket guidelines versions were also generated in addition to translations into national languages, under the responsibility of national hypertension or cardiology societies.

### 2018 ESC/ESH Guidelines for the management of arterial hypertension

*The Task Force for the management of arterial hypertension of the European Society of Cardiology and the European Society of Hypertension*

**Authors/Task Force Members:** Bryan Williams (ESC Chairperson) (UK)\*, Giuseppe Mancia (ESH Chairperson) (Italy)\*, Wilko Spiering (The Netherlands), Enrico Agabiti Rosei (Italy), Michel Aziz (France), Michel Burnier (Switzerland), Denis L. Clement (Belgium), Antonio Coca (Spain), Giovanni de Simone (Italy), Anna Dominiczak (UK), Thomas Kahan (Sweden), Felix Mahfoud (Germany), Josep Redon (Spain), Luis Ruilope (Spain), Alberto Zanchetti (Italy)<sup>†</sup>, Mary Kerins (Ireland), Sverre E. Kjeldsen (Norway), Reinhold Kreutz (Germany), Stephane Laurent (France), Gregory Y.H. Lip (UK), Richard McManus (UK), Krzysztof Narkiewicz (Poland), Frank Ruschitzka (Switzerland), Roland E. Schmieder (Germany), Evgeny Shlyakhto (Russia), Costas Tsioufis (Greece), Victor Aboyans (France), and Ileana Desormais (France)

Journal of Hypertension 2018, 36:1953–2041

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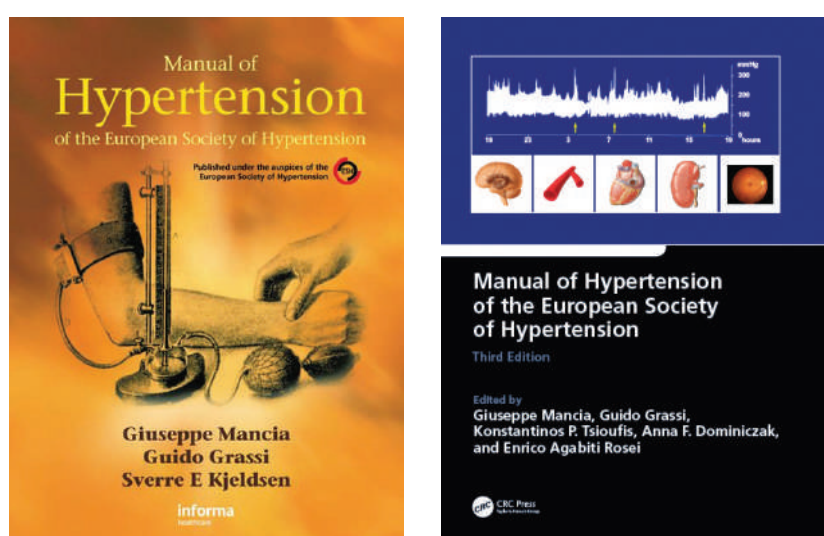
**ESH National Hypertension Societies** actively involved in the review process of the 2018 ESC/ESH Guidelines for the management of arterial hypertension: **Austria:** Austrian Society of Hypertension, Thomas Weber; **Belarus:** Belarusian Hypertension League, Inna Lazareva; **Belgium:** Belgian Hypertension Committee, Tine De Backer; **Bosnia and Herzegovina:** Bosnia and Herzegovina Society of Hypertension, Sekib Sokolovic; **Croatia:** Croatian Society of Hypertension, Bojan Jelakovic; **Czech Republic:** Czech Society of Hypertension, Jiri Widimsky; **Estonia:** Estonian Society of Hypertension, Margus Vigi; **Finland:** Finnish Hypertension Society, Ilkka Pörsti; **France:** French Society of Hypertension, Thierry Denolle; **Germany:** German Hypertension Society, Bernhard K. Krämer; **Greece:** Hellenic Society of Hypertension, George S. Stergiou; **Italy:** Italian Society of Hypertension, Gianfranco Parati; **Latvia:** Latvian Society of Hypertension and Atherosclerosis, Karlis Truškis; **Lithuania:** Lithuanian Hypertension Society, Marius Miglinas; **Norway:** Norwegian Society of Hypertension, Eva Gerds; **Poland:** Polish Society of Hypertension, Andrzej Tykarski; **Portugal:** Portuguese Society of Hypertension, Manuel de Carvalho Rodrigues; **Romania:** Romanian Society of Hypertension, Maria Dorobantu; **Russian Federation:** Russian Society of Hypertension, Inna Chazova; **Serbia:** Serbian Society of Hypertension, Dragan Lovic; **Slovakia:** Slovak Society of Hypertension, Slavomir Filipova; **Slovenia:** Slovenian Hypertension Society, Jana Brguljan; **Spain:** Spanish Society of Hypertension, Julian Segura; **Sweden:** Swedish Society of Hypertension, Stroke and Vascular Medicine, Anders Gottsäter; **Switzerland:** Swiss Society of Hypertension, Antoinette Pechère-Bertschi; **Turkey:** Turkish Society of Hypertension and Atherosclerosis, Serap Erdine; **Ukraine:** Ukrainian Antihypertensive Society, Yuriy Sirenko; **United Kingdom:** British and Irish Hypertension Society, Adrian Brady.

## 5.2 ESH BOOKS

A major goal of the ESH is to disseminate the latest information regarding optimal approaches for diagnosis, treatment and management of hypertension.

### ESH MANUAL OF HYPERTENSION

The aim of this manual was not only to offer a full and detailed report on the several pathogenetic and pathophysiological data collected in recent years, but rather to focus on emerging new concepts that could affect the diagnostic and therapeutic approach of the disease.



The Manual of Hypertension of the European Society of Hypertension was first published in 2008 and is now in its 3rd edition.

The ESH has also endorsed or co-endorse international scientific books related to hypertension and cardiovascular prevention and therapy edited by distinguished member of the society. In these books, topics such as preclinical organ damage, brain damage and interventional therapies of hypertension have been separately covered.



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## 5.3 ESH SCIENTIFIC NEWSLETTERS

The European Society of Hypertension issues on a regular basis Scientific Newsletters: Update on Hypertension Management on the latest news and research. Seventy-two newsletters have been published between 2000 and 2019.

Over the years, the ESH Newsletters were distributed as single-page documents at the ESH annual meetings and are available in PDF format on the ESH website.

In 2011 all the previous issues were revised and collated with new material in one single volume.



### TREATMENT OF HYPERTENSION IN PATIENTS WITH TYPE 2 DIABETES MELLITUS

*Peter M. Nilsson, Renata Cifková, Sverre E. Kjeldsen*



### HYPERTENSION IN PREGNANCY: RECOMMENDATIONS FOR DIAGNOSIS AND TREATMENT

*Renata Cifková*



### HOW WELL IS HYPERTENSION CONTROLLED IN EUROPE?

*Serap Erdine*



### HYPERTENSION IN CHRONIC RENAL FAILURE

*Jose L. Rodicio, Jose M. Alcazar*



### HOW TO HANDLE RENOVASCULAR HYPERTENSION

*Jose M. Alcazar, Jose L. Rodicio*



### ISOLATED SYSTOLIC HYPERTENSION: Cardiovascular risk and treatment benefits

*Csaba Farsang, Peter Sleight*



### PATIENT ADHERENCE AND THE PHARMACOLOGICAL TREATMENT OF ARTERIAL HYPERTENSION

*Menno Pruijm, Marie-Paule Schneider, Michel Burnier*



### CYCLOSPORIN-INDUCED HYPERTENSION

*Renata Cifková, Hermann Haller*



### 1999 WHO/ISH HYPERTENSION GUIDELINES — HIGHLIGHTS & ESH UPDATE

*Sverre E. Kjeldsen, Serap Erdine, Csaba Farsang, Peter Sleight, Giuseppe Mancia*



### HYPERTENSION AND LEFT VENTRICULAR HYPERTROPHY

*Enrico Agabiti Rosei, Maria Lorenza Muiesan*



### ASSESSMENT OF PRECLINICAL TARGET ORGAN DAMAGE IN HYPERTENSION CAROTIDINTIMA-MEDIA THICKNESS AND PLAQUE

*Enrico Agabiti Rosei, Maria Lorenza Muiesan*



### HOME BLOOD PRESSURE MONITORING

*Gianfranco Parati, Grzegorz Bilo, Sverre E. Kjeldsen, Giuseppe Mancia*



### HYPERTENSION IN CHILDREN AND ADOLESCENTS

*Gianfranco Parati, Grzegorz Bilo, Sverre E. Kjeldsen, Giuseppe Mancia*

### HYPERTENSION IN CHILDREN AND ADOLESCENTS

*J-ean-Philippe Baguet, Jean-Michel Mallion*



### HYPERTENSION AND CORONARY HEART DISEASE

*J-ean-Philippe Baguet, Jean-Michel Mallion*



**European Society of Hypertension Scientific Newsletter:**  
Update on Hypertension Management

2011; 12 No. 15  
revised version

# **RESISTANT HYPERTENSION**

*Serap Erdine*



**European Society of Hypertension Scientific Newsletter:**  
Update on Hypertension Management

2011; 12 No. 16  
revised version

# **MICROALBUMINURIA IN TYPE-1 DIABETES MELLITUS**

*Josep Redon*



**European Society of Hypertension Scientific Newsletter:**  
Update on Hypertension Management

2011; 12 No. 17  
revised version

# **INTERACTIONS BETWEEN ANTIHYPERTENSIVE AGENTS AND OTHER DRUGS**

*Peter A. van Zwieten, Csaba Farsang*



**European Society of Hypertension Scientific Newsletter:**  
Update on Hypertension Management

2011; 12 No. 18  
revised version

# **BENEFICIAL COMBINATIONS OF TWO OR MORE ANTIHYPERTENSIVE AGENTS**

*Peter A. van Zwieten, Csaba Farsang*



**European Society of Hypertension Scientific Newsletter:**  
Update on Hypertension Management

2011; 12 No. 19R  
revised version

# **CLINICAL VALUE OF AMBULATORY BLOOD PRESSURE MONITORING**

*Jean-Michel Mallion, Jean-Philippe Baguet, Giuseppe Mancia*



**European Society of Hypertension Scientific Newsletter:**  
Update on Hypertension Management

2011; 12 No. 20  
revised version

# **HIGH BLOOD PRESSURE, SMOKING AND CARDIOVASCULAR RISK**

*Helios Pardell, José L. Rodicio*



**European Society of Hypertension Scientific Newsletter:**  
Update on Hypertension Management

2011; 12 No. 21  
revised version

# **TREATMENT OF HYPERTENSION IN DIALYSED PATIENTS**

*István Kiss, Csaba Farsang, Jose L. Rodicio*



**European Society of Hypertension Scientific Newsletter:**  
Update on Hypertension Management

2011; 12 No. 22  
revised version

# **HIGH BLOOD PRESSURE, ALCOHOL AND CARDIOVASCULAR RISK**

*Ramon Estruch, Antonio Coca*



**European Society of Hypertension Scientific Newsletter:**  
Update on Hypertension Management

2011; 12 No. 23  
revised version

# **EXERCISE AND HYPERTENSION**

*Athanasios J. Manolis*



**European Society of Hypertension Scientific Newsletter:**  
Update on Hypertension Management

2011; 12 No. 24  
revised version

# **HYPERTENSION AND ARRHYTHMIA**

*Jean-Philippe Baguet, Serap Erdine, Jean-Michel Mallion*



**European Society of Hypertension Scientific Newsletter:**  
Update on Hypertension Management

2011; 12 No. 25  
revised version

# **OBSTRUCTIVE SLEEP APNEA AND HYPERTENSION**

*Jean-Philippe Baguet, Krzysztof Narkiewicz, Jean-Michel Mallion*



**European Society of Hypertension Scientific Newsletter:**  
Update on Hypertension Management

2011; 12 No. 26  
revised version

# **CONTROL OF HYPERTENSION IN PATIENTS WITH PERIPHERAL ARTERY DISEASE**

*Denis L. Clement*



**European Society of Hypertension Scientific Newsletter:**  
Update on Hypertension Management

2011; 12 No. 27  
revised version

# **PREVENTION OF TYPE 2 DIABETES MELLITUS WITH ANTIHYPERTENSIVE DRUGS**

*Peter M. Nilsson, Renata Cifková, Sverre E. Kjeldsen, Giuseppe Mancia*



**European Society of Hypertension Scientific Newsletter:**  
Update on Hypertension Management

2011; 12 No. 28  
revised version

# **TREATMENT OF HYPERTENSIVE URGENCIES AND EMERGENCIES**

*Enrico Agabiti Rosei, Massimo Salvetti*



**European Society of Hypertension Scientific Newsletter:**  
Update on Hypertension Management

2011; 12 No. 29  
revised version

# **TREATMENT OF HIGH BLOOD PRESSURE IN THE ELDERLY**

*Sverre E. Kjeldsen, Aud-E. Stenehjem, Ingrid Os, Thomas Hedner, Gordon T. McInnes*



**European Society of Hypertension Scientific Newsletter:**  
Update on Hypertension Management

2011; 12 No. 30  
revised version

# **HYPERTENSION AND HEART FAILURE**

*Enrico Agabiti Rosei, Maria Lorenza Muiesan, Wolfgang Kiowski*



**European Society of Hypertension Scientific Newsletter:**  
Update on Hypertension Management

2011; 12 No. 31  
revised version

# **HYPERTENSION AND MACROVASCULAR DISEASE**

*Stéphane Laurent*



**European Society of Hypertension Scientific Newsletter:**  
Update on Hypertension Management

2011; 12 No. 32  
revised version

# **HYPERTENSION AND SEXUAL DYSFUNCTION**

*Athanasios J. Manolis, Michael Doumas, Margus Viigimaa, Krzysztof Narkiewicz*



**European Society of Hypertension Scientific Newsletter:**  
Update on Hypertension Management

2011; 12 No. 33  
revised version

#### DISCOVERING THE GENETIC DETERMINANTS OF HYPERTENSION

Sandosh Padmanabhan, Olle Melander, Claire Hastie, Christian Delles,  
Anna F. Dominiczak



**European Society of Hypertension Scientific Newsletter:**  
Update on Hypertension Management

2011; 12 No. 34  
revised version

#### THE MICROCIRCULATION AND THE HAEMODYNAMICS OF HYPERTENSION

Harry A.J. Struijker-Boudier, Enrico Agabiti Rosei



**European Society of Hypertension Scientific Newsletter:**  
Update on Hypertension Management

2011; 12 No. 35  
revised version

#### STATINS AND HYPERTENSION

Renata Cifková, Peter M. Nilsson



**European Society of Hypertension Scientific Newsletter:**  
Update on Hypertension Management

2011; 12 No. 36  
revised version

#### MICROALBUMINURIA IN ESSENTIAL HYPERTENSION

Josep Redon, Fernando Martinez, Jose M. Pascual



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Roland E. Schmieder



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Christophe Tzourio, Peter M. Nilsson, Angelo Scuteri, Stéphane Laurent



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Athanasios J. Manolis, Serap Erdine, Claudio Borghi, Kostas Tsioufis



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#### CARDIOVASCULAR RISK PROFILE AND ANTIHYPERTENSIVE TREATMENT

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Adel E. Berbari



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#### TREATMENT OF HYPERTENSION IN PATIENTS WITH CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD)

Csaba Farsang, István Kiss, Andrezej Tykarski, Krzysztof Narkiewicz





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# **RENAL DENERVATION: AN INTERVENTIONAL THERAPY OF TREATMENT RESISTANT HYPERTENSION**

*Roland E. Schmieder, Josep Redon, Costas Tsioufis*



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# **AIRBORNE POLLUTION AND HYPERTENSION**

*Philippe van de Borne, Aurelien Wauters, Gianfranco Parati, Jean-François Argacha*



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# **HOW TO IDENTIFY CORONARY ARTERY DISEASE IN AN ASYMPTOMATIC HYPERTENSIVE PATIENT?**

*Costas Tsioufis, Kyriakos Dimitriadis, Costas Thomopoulos, Athanasios J. Manolis, Enrico Agabiti-Rosei*



**European Society of Hypertension Scientific Newsletter:**  
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# **BLOOD PRESSURE TARGETS FOR PATIENTS WITH CHRONIC KIDNEY DISEASE**

*Pantelis A. Sarafidis, Luis M. Ruilope*



**European Society of Hypertension Scientific Newsletter:**  
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# **RENIN-ANGIOTENSIN-ALDOSTERONE SYSTEM BLOCKADE IN HYPERTENSIVE PATIENTS WITH CHRONIC KIDNEY DISEASE**

*Pantelis A. Sarafidis, Luis M. Ruilope*



**European Society of Hypertension Scientific Newsletter:**  
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# **TREATMENT OF HYPERTENSION IN PATIENTS WITH RHEUMATIC DISEASE**

*Dénes Páll, Antónia Szántó, Csaba Farsang*



**Scientific Newsletter**  
Update on Hypertension Management 2014; 15 No. 58

# **DEVICE BASED STRATEGIES FOR THE MANAGEMENT OF RESISTANT HYPERTENSION: ROLE OF CAROTID BARORECEPTOR STIMULATION AND CONTINUOUS POSITIVE AIR PRESSURE VENTILATION**

*Gianfranco Parati, Juan Eugenio Ochoa, Carolina Lombardi*



**Scientific Newsletter**  
Update on Hypertension Management 2014; 15 No. 59

# **EVALUATION OF EARLY TARGET DAMAGE DURING ANTIHYPERTENSIVE TREATMENT**

*Josep Redon, Enrico Agabiti-Rosei, Michael Hecht Olsen*



**Scientific Newsletter**  
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# **HYPERTENSION AND STROKE SUBTYPES: A CAUSATIVE ROLE OR SIMPLE ASSOCIATION?**

*Dagmara Hering, Antonio Coca, Pedro Cunha, Dariusz Gasecki, Dragan Lovic, Cristina Sierra, Augusto Zaninelli*



**Scientific Newsletter**  
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# **TREATMENT OF HYPERTENSION IN PATIENTS WITH CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD)**

*Csaba Farsang, István Kiss, Andrzej Tykarski, Krzysztof Narkiewicz*



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# **TREATMENT OF HIGH BLOOD PRESSURE IN ELDERLY AND OCTOGENARIANS**

*Sverre E. Kjeldsen, Aud-E. Stenehjem, Ingrid Os, Philippe Van de Borne*



**Scientific Newsletter**  
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# **BLOOD PRESSURE TARGETS IN ACUTE INTRACEREBRAL HEMORRHAGE**

*Efstathios Manios, Dariusz Gasecki, Antonio Coca, Pedro Cunha, Dagmara Hering, Dragan Lovic, Cristina Sierra, Augusto Zaninelli*



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# **UPDATE ON DEVICE THERAPIES FOR RESISTANT HYPERTENSION**

*Costas Tsioufis, Peter de Leeuw, Kyriakos Dimitriadis, Alex Kasiakogias, Abraham Kroon, Carolina Lombardi, Gianfranco Parati*



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# **HYPERTENSION AND LEFT VENTRICULAR HYPERTROPHY**

*Enrico Agabiti Rosei, Maria Lorenza Muesan*



**Scientific Newsletter**  
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# **ENDOTHELIAL FACTORS IN THE PATHOGENESIS AND TREATMENT OF CHRONIC KIDNEY DISEASE**

*Gian Paolo Rossi, Terasa M. Seccia, Matthias Barton, AH Jan Danser, Peter W. de Leeuw, Neeraj Dhaun, Damiano Rizzoni, Patrick Rossignol, Luis-Miguel Ruilope, Anton H. van den Meiracker, David J. Webb*



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# **HYPERTENSION AND CORONARY HEART DISEASE**

*Leonidas E. Poulimenos, Manolis S. Kallistratos, Giuseppe Mancina, Athanasios J. Manolis*



**Scientific Newsletter**  
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# **URIC ACID AND HYPERTENSION: AN UPDATE**

*B. De Becker, Claudio Borghi, Michel Burnier, Philippe van de Borne*

## 5.4 ESH SCIENTIFIC JOURNALS

### THE JOURNAL OF HYPERTENSION

The Journal of Hypertension was first published in England in 1983 by John Swales, a professor of medicine at the University of Leicester and Editor-in-Chief for the first five years. It was then edited by John Reid, Regius Professor of Medicine at the University of Glasgow until the end of 1994. From 1995 to 2018, the Editor-in-Chief has been Alberto Zanchetti, Emeritus Professor at the University of Milan. Since 2018 Giuseppe Mancina, Emeritus Professor at the University of Milano-Bicocca and former President of ISH and ESH is the new Editor-in-Chief



In 1984, the Journal of Hypertension became the official journal of the International Society of Hypertension (ISH). After the founding of the European Society of Hypertension it became the official journal of both societies. The ESH had considered forming its own journal but it was decided that it was better to consolidate forces and have a journal with both societies collaborating together.

The Board of Management decides on the Journal's policies and is comprised of representatives of the ISH, ESH, the publisher, and the Editor-in-Chief, under the chairmanship for almost 25 years of Professor Lewis Landsberg (Chicago University). The current Editor-in-Chief has a team of international Associate Editors located in different parts of the world. The Journal can also count on a large Editorial Board of renowned hypertension experts from Europe, Australia, North America, Asia, Latin America and Africa.

The everyday running of the Journal is done in Milan where the Editor-in-Chief is assisted by five Executive Editors (Professors G. Grassi, A. Morganti, G. Parati, A. Stella and C. Cuspidi). When a paper is submitted, it is dealt with by the Editor-in-Chief himself or allocated to another member of the Team. The members of the Team select the reviewers and correspond with them and the authors. After the reviews are completed, the Editor and the Team take the decision about whether to accept or reject the paper or whether to ask for major or minor revisions.

The Journal of Hypertension is published monthly and contains more than 200 pages per issue. In 2018, it received 1170 manuscripts with an acceptance rate for original research papers of 30%. In 2018 about 39% of these papers originated from Europe, 12% from the US and Canada, 40% from Asia and the remainder from Australia, Latin America and other countries.

The Journal is devoted to both basic and clinical research papers in hypertension, but, even though hypertension is a broad topic, it also publishes papers on subjects of more general interest, such as those on cardiac, vascular, renal and metabolic diseases. Hypertension guidelines issued by the ISH and the ESH are regularly published in the Journal. The ISH guidelines were published, in three instances together with WHO, in 1993, 1999, 2003 and 2014. Joint guidelines between ESH and the European Society of Cardiology were published first in 2003 and again in 2007, 2013 and 2018, their citation in scientific journals ranking among the highest in the world. The Journal also publishes hypertension guidelines from other scientific Societies (e.g. Latin America), guidelines for management of high blood pressure in children and adolescents, out-of-office blood pressure monitoring or other pathophysiological,

diagnostic and therapeutic aspects of hypertension. This is complemented by the peer-reviewed publication of consensus documents and position papers on specific hypertension, cardiovascular-, metabolic or renal topics, often by ESH and ISH Working Groups. It is also complemented by peer-reviewed reviews of topics of current interest, sometimes invited but other times spontaneously submitted to the Journal. While acknowledging the value of Reviews for a Journal and its citations, the Editors hold the view that publication of valid original research remains the most important goal of a scientific Journal. More than 80% of the space of the Journal of Hypertension is devoted to original research. The readership of the Journal is broad and includes people working in cardiology and internal medicine as well as nephrologists, endocrinologists, epidemiologists, pharmacologists, physiologists, molecular biologists and geneticists.

In 1995, the impact factor of the Journal was 2.318 whereas in 2017 it was 4.092. This classifies the Journal of Hypertension as 11th out of 65 peripheral vascular disease journals, 2nd (after Hypertension) in the hypertension area. More than 10 years ago, long before other cardiovascular journals adopted a similar practice, the Journal of Hypertension introduced editorial commentaries of the articles of the issue dealing with controversial aspects of hypertension or with an especially novel value, and a more general interest. These commentaries (which are usually written by reviewers of the articles) have become popular with readers, and sometimes are read more than the original paper.

The Editor Team rejects 10-15% of submissions upfront and sends the remaining papers to Reviewers. The time to a first decision is usually less than one month. The final decision time depends on the complexity of the revision as well as on the swiftness of the author. After acceptance, papers are published electronically while appearing in the hard copy a couple of months later. The Editors continue to place a major effort into the shortening of the time between submission and final publication, being well aware that capturing the best hypertension papers requires a swift turnaround of the manuscripts.

## BLOOD PRESSURE: A JOURNAL DEVOTED TO THE PUBLISHING OF CLINICAL HYPERTENSION RESEARCH

### Raising Blood Pressure

From its start in 1992, Blood Pressure has been a journal dedicated to clinical hypertension research, with a focus on outcome research and large clinical trials. Already in the first editorial, the vision and mission of the young journal was laid out by its founders, Lennart Hansson, Thomas Hedner and Sverker Jern: "As editors of a new journal we are well aware of the potential difficulties that lie ahead, particularly since our ambition is to make Blood Pressure a journal that meets the highest scientific standards". However, having summarized the support we enjoyed from the start from the international scientific community, we concluded "... [that] we will perhaps be excused for beginning to feel slightly optimistic". From its introduction, the journal enjoyed the full support and endorsement of the European Society of Hypertension (ESH). In 2000, at the Göteborg ESH meeting, Blood Pressure celebrated its 10-year anniversary, and in 2010 came the time to celebrate the 20th anniversary at the 20th ESH jubilation meeting in Oslo. Initially, Blood Pressure was published by the Scandinavian University Press. Today after a consolidation within the scientific publishing sector, Taylor & Francis Ltd is the publisher of Blood Pressure on license from the Scandinavian Foundation for Cardiovascular Research, a foundation dedicated to the support of Nordic hypertension research.



<sup>†</sup> The editorial team thanks Prof. S. Kjeldsen and G. Mancia for their great contribution in chapter 5.4

After the early death of Lennart Hansson in 2002, the board of Editors of Blood Pressure was renewed in order to provide a European and US editorial leadership, with Sverre Kjeldsen joining the Board of Editors of the journal in 2003, Krzysztof Narkiewicz in 2005, Suzanne Oparil in 2006 and Michel Burnier in 2017 when Thomas Hedner retired from active medical work.

The extensive clinical hypertension expert panel, serving on the Editorial Board of Blood Pressure, represents the leaders of global clinical hypertension research. Over the years, all ESH council members have served on the Blood Pressure Editorial Board. Today the journal enjoys the support of 150 hypertension experts from all over the world, serving on the Editorial Board. During its history, three of the Blood Pressure editors, Lennart Hansson, Sverre Kjeldsen and Krzysztof Narkiewicz, have served as presidents of the European Society of Hypertension.

### **Blood Pressure development**

In terms of science metrics, Blood Pressure (Journal ISSN 0803-7051) has witnessed an increasing popularity as a publisher of high-impact clinical research, which is reflected by a steadily rising impact factor since the early 1990s. In more recent years, the impact of the journal has grown and published papers have been increasingly cited. The 2008 impact factor was 1.625 (45 articles, 918 citations). In 2009, the impact factor had further increased to 1.773 (45 articles 916 citations) and in 2017 it was 2.163 with approximately 60 full original research papers published yearly divided into 6 issues, each accompanied by an editorial written by the editors. Papers which are accepted and finished by the production department appear as early online publications with DOI no. and fully quotable when waiting for assignment to an issue.

One extensively cited original paper published in Blood Pressure was the first description of the PROBE (Prospective Randomized Open Blinded Endpoint) design for large clinical outcome trials. This paper outlined the new PROBE technique for prospective randomized open-blinded outcome trials with “hard” endpoints, and the method became instantly adopted for use in several large clinical morbidity and mortality outcome studies, such as the STOP-2, CAPPP, NORDIL, ANBP 2, SCOPE, HYVET, COPE, FEVER, MIRACLE to name a few. Long-term clinical outcome research generally has had a major impact on the way medicine is practiced worldwide. However, estimations indicate that only a fraction, or some 10-20 per cent of all medical interventions, are documented to have an appropriate effect in controlled clinical trials (US office of technology assessment). Therefore, pragmatic practices simplifying and increasing such evaluations and efforts in relevant patient populations should be encouraged by medical publishers and other scientific stakeholders.

### **Blood Pressure future vision and mission**

Within the area of clinical hypertension research, the focus on hypertension in a global health perspective will increase. Blood Pressure will, therefore, in the future remain an important channel for dedicated researchers in hypertension outcome research. There is also an ambition to publish important scientific articles in the area of hypertension pathophysiology and risk assessment as well as management of hypertension in high-risk patients, as well as on a population basis.

Blood Pressure will continue to increasingly focus on publishing high-quality clinical hypertension research, research that matters for patients, and that enjoys a high reputation among hypertension specialists and practicing physicians. By doing that we hope to enjoy a continuing support among our readers, supporters, patients, the general public, and other policy makers. With that mission and future strategy in mind, we will keep a focus on publishing clinically-related high-quality papers related to blood pressure and hypertension research, and enjoy continued endorsement from the European Society of Hypertension.

Finally, it should be mentioned that Blood Pressure has regularly published European Hypertension Guidelines whenever they have been revised; this also includes the 2018 version of the European Hypertension Practice Guidelines.





## [ Chapter 6 ]

# ESH Working Groups

## ESH WORKING GROUPS

Several Working Groups (WGs) have been created for the study of specific topics in the fields of experimental and clinical hypertension after discussion within and approval by the ESH Scientific Council. The WGs provide an important backbone of ESH and contribute significantly to the activities of the Society. They propose subjects mainly for scientific research, and by initiating studies requiring the cooperation of several academic and non-academic institutions and centres in Europe. The functions of WGs are 1) to gather and exchange scientific information, 2) to promote and organise research in the subject, and 3) to establish appropriate recommendations for the ESH and other similar organizations. Currently, the following twelve WGs are established within the ESH:

### WG on Hypertension in Children and Adolescents

**Steering committee**

**Chairman:** Empar Lurbe

**Vice Chairman:** Serap Erdine

**Secretary:** Denes Pall

The Working Group on Blood Pressure in Children and Adolescents was founded in 2009, and the first chairperson was Empar Lurbe, the vice-chair Serap Erdine, and the secretary Dennis Pall.

The Working Group was the core of the team which developed the Guidelines entitled “Management of High Blood Pressure in Children and Adolescents: Recommendation of the ESH” in 2009. The Guidelines were translated and published in different languages and countries in Europe and South America. They have been published in the most important journals in the field of pediatrics and primary care. The Scientific Council and the Working Group on Hypertension in Children and Adolescents of the ESH recognized the need for an update of the 2009 Guidelines because over the 7 years elapsed from their publication, a large body of new knowledge had been acquired, making modifications and expansion of the previous recommendations necessary. The “2016 European Society of Hypertension Guidelines for the Management of High Blood Pressure in Children and Adolescents” are a logical consequence of the on-going engagement of the Working Group.

Areas requiring urgent increase in knowledge have been identified and scientific projects have been developed and some of them submitted to the European Union for financial support. Among others those related to obtain robust reference values for office, home and ambulatory blood pressure based on a European pediatric population; to collect information about early organ damage so as to refine risk stratification and use the information to set intermediate objectives during treatment; to conduct large, long-term randomized therapeutic trials using onset of organ damage and to obtain information about when to initiate antihypertensive drug treatment and to decide which blood pressure goals to achieve.

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<sup>†</sup> The editorial team would like to thank Enrico Agabiti Rosei, Pierre Boutouyrie, Pedro Guimarães Cunha, Vasilios Kostis, Empar Lurbe, Pietro Amedeo Modesti, Paolo Mulatero, Alexandre Persu, Gianpaolo Rossi, Ronald Schmieder, George Stergiou and Margus Viigimaa for their great contribution in Chapter 6. Specific thanks to the coordinator of ESH Working Groups, Giafranco Parati.

The WG has been organizing specific sessions at the ESH annual meetings devoted to cover the most important issues in this field, receiving more and more abstract submissions from healthcare professionals every year. Members of the working group also participate in the ESH Hypertension Summer Schools. The Working group was involved in the organisation of the 1st International Congress in Hypertension in Children and adolescents endorsed by the ESH, held in Valencia in February 2018.

## WG on BP Monitoring and Cardiovascular Variability

### **Steering committee**

**Chairman:** George Stergiou

**Secretary:** Paolo Palatini

The ESH Working Group (WG) on Blood Pressure Monitoring was founded in 1997, with Professor Eoin O'Brien as its first Chairman. Succeeding chairpersons were Jan Staessen, Roland Asmar, Gianfranco Parati and George Stergiou. The broad objectives of the WG were to advance knowledge relating to all aspects of blood pressure measurement with a view to advancing the technology available for hypertension research and to improve the clinical management of hypertension. These objectives were achieved in a number of ways including (i) production of Guidelines for the clinical application of office, home and ambulatory blood pressure; (ii) establishment of clinical validation protocols for blood pressure measuring devices; (iii) organisation of meetings for communications and discussions, or lectures on blood pressure monitoring; (iv) involvement of the manufacturing and engineering industries, the standards institutions, the nursing profession and other groups as seemed appropriate to the future development of techniques of measurement. The WG has a truly international composition with 20 nucleus members who are distinguished blood pressure measurement experts from Europe, Japan, China, Canada, Australia and the US. In 2011 the WG was merged with the 'Working Group on BP and Heart rate Variability' and was re-named the 'Working Group on BP Monitoring and Cardiovascular Variability'.

During the last 20 years the WG has had outstanding and sustained success in fulfilling all its objectives. First, more than 100 papers have been published by the group, including many official statements, Guideline papers and Consensus statements on several aspects of blood pressure measurement. Second, the WG developed the International Protocol for the clinical validation of blood pressure measuring devices, which has been the most widely used validation protocol around the world with >200 published validations. Third, the WG has organised multiple educational meetings on blood pressure monitoring and published the proceedings of these meetings. Recently, the WG collaborated with the US AAMI and the ISO organisation for the development of a Universal Standard for the clinical validation of blood pressure measuring devices (AAMI/ESH/ISO).

## WG on Endocrine Hypertension

**Chairman:** Paolo Mulatero

The Working Group (WG) on Endocrine Hypertension began its activities under the auspices of the ESH in 2004 at the 14th European Meeting on Hypertension in Paris. The WG was originally coordinated by Jacques Lenders (The Netherlands) and Karel Pacak (Czech Republic/US). The rationale for establishing an ESH WG on Endocrine Hypertension was the understanding that the perception of the real prevalence of endocrine causes of hypertension was largely underestimated and the importance to share the most recent developments on genetics, pathophysiology, diagnosis and therapy of the most common endocrine forms of hypertension. The most important achievement of the WG was the progress toward establishing standardized techniques for the diagnosis and management of the different forms of endocrine

hypertension; the initiation of multicentre studies in the field of genetics, diagnosis and therapeutics in endocrine hypertension (this is important in view of the relative low prevalence of several forms of endocrine hypertension); exchange of scientific developments in endocrine hypertension, both in the preclinical and clinical areas. Since 2004, a total of 15 meetings have been held. In all occasions the most recent discoveries in the field have been discussed and proposals of new multicentre studies have been presented. Special care was devoted to the stimulation of young scientists to present studies and participate in discussions. The WG is currently chaired by Paolo Mulatero (Italy) who carried the torch from Jiri Widimsky (Czech Republic) at the beginning of 2019. Future challenges for the WG will be the preparation and release of position papers for the management of primary aldosteronism, pheochromocytoma and Cushing's syndrome.

## WG on Endothelins and Endothelial Factors

**Chairman:** Gian Paolo Rossi

**Secretary (Vice Chairman):** Teresa M. Seccia

The Working Group (WG) on Endothelins and Endothelial Factors was established in 2004 at a time when research in this field was particularly active within the ESH owing to the discovery of Endothelins in 1988 and the enormous amount of research generated on Nitric oxide and related pathways. In the following years the WG group prepared two consensus documents that were published in the *Journal of Hypertension* and with over 650 citations have become some of the most quoted papers in the field of endothelial function and dysfunction in arterial hypertension and cardiovascular diseases.<sup>(1,2)</sup>

In the next decade the WG has held regular meetings on the occasion of the ESH and ESH/ISH congresses. At such meetings ample networking opportunities for investigators in the field were provided.

In 2014, on the occasion of one such meeting, the idea came up to prepare two additional consensus documents focused on the role of endothelial factors in the pathogenesis of chronic kidney disease. After long preparatory works these manuscripts were written and reviewed, in a carousel manner, by all experts in the field.

On advice of the late Professor Alberto Zanchetti, experts of the Japanese Society of Hypertension were also involved in this endeavor.

The manuscripts were finalized and eventually submitted and published in the *Journal of Hypertension* as two separate Papers in 2018.<sup>(3,4)</sup>

The future plan for 2019 is to prepare a further document on the methodology to assess endothelial function and dysfunction in CKD patients which obviously poses special problems and challenges that are largely neglected in the literature. To this end the WG will gather together on the occasion of the ESH Milan Meeting in June 2019.

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## WG on Hypertension and the Brain

**Chairman:** Pedro Guimarães Cunha

**Vice Chairman:** Cristina Sierra

**Secretary:** Dagmara Hering

In 2012 Professor Stéphane Laurent (Paris, France) proposed to start a new Working Group (WG) within the ESH, i.e. the Working Group on Hypertension and the Brain.

The activity of this ESH WG would have as purpose a coordinated effort to improve results on the fight against stroke and cognitive decline, through the lowering of high blood pressure in primary prevention, as well as in more interaction between hypertension specialists and neurologists in blood pressure management after stroke.

**The chairman of the WG are listed below:**

- 2012 Stéphane Laurent (Paris, France)
- 2014 António Coca (Barcelona, Spain)
- 2016 Dariusz Gasecki (Gdansk, Poland)
- 2018 Pedro Guimarães Cunha (Guimarães, Portugal).

The new WG planned to connect ESH Excellence Centers and national Societies of Hypertension. All members of ESH Excellence Centers were asked to contact neurologists of their hospital, or nearby hospitals, and sensitize them to the objectives of the WG, thus creating an informal network of hypertension specialists and neurologists in numerous centers and countries.

The ESH Working Group aims to develop and implement collaborative recommendations and promote scientific meetings or joint sessions with the purpose of debating and disseminating knowledge in the field. The WG contributed to guidelines, position papers, ESH Newsletters and presented recommendations to writing committee of the 2013 ESH-ESC Guidelines.

The WG conducted regularly sessions at the Annual ESH meetings, and in addition contributed to joint sessions with the ESC (European Stroke Conference n 2018), the Portuguese Society of Hypertension (2016, 2017), the Polish Society of Hypertension (2016), and the Portuguese Society of Internal Medicine (2019).

The WG has recently decided to promote joint multicentric research projects and is currently developing two research protocols in different domains: Cognitive decline in hypertensives and central hemodynamic profile in subjects with stroke. Currently, the WG includes 94 members from 25 countries in 4 continents.

The following recent publications were generated by the WG:

### Book

1. Hypertension and the Brain Damage. Coca A. (ed), Springer 2016

### ESH - Newsletters

1. Hypertension and stroke subtypes: A causative role or simply association? (2016)
2. Blood pressure targets in acute intracerebral hemorrhage. 2017
3. Effects of antihypertensive treatment in Cognitive Decline (in preparation, 2019)

### ESH - Position Papers

- Blood pressure in acute ischemic stroke: challenges in trial interpretation and clinical management: position of the ESH Working Group on Hypertension and the Brain
- J. Hypertension 2018, 36:1212-1221



## WG on Hypertension and Cardiovascular Risk assessment in subjects living in or emigrating from Low Resource Settings

**Chairman:** Pietro Amedeo Modesti

**Vice Chairman:** Gianfranco Parati

**Secretary:** Mohamed Bamoshmoosh

In 2011 a group of researchers with different skills (cardiology, diabetology, nephrology, public health, epidemiology, and economy) and experience on epidemiological studies in low-middle income countries or in the development of sustainable technologies for cardiovascular risk assessment, proposed to the ESH Council the creation of a new working group (WG) that would address an issue that was affecting Europe. Accumulating evidence were indeed indicating that in several European countries socio-economic inequality and cultural factors played a role in stroke incidence and risk factors prevalence among ethnic minorities. Stroke mortality is an indicator of the mean arterial pressure of a population and the increasing presence in European countries of people born or coming from non-European countries created the need to develop strategies to improve the diagnosis, treatment and control of hypertension among ethnic minorities. Importantly, knowledge on this subject in Europe was limited.

### The WG has three main objectives:

1. Definition of sustainable strategies for cardiovascular risk assessment;
  2. Collection of cardiovascular risk data among cohorts of minority groups in Europe;
  3. Development of new strategies for cardiovascular risk control in minority groups.
- Implications of using a restricted set of risk factors for the conduction of cardiovascular risk assessment in screening programs at population level were reviewed in a first WG consensus document (*J Hypertens* 2014;32:951-60).

Data on cardiovascular risk factors among ethnic minorities living in Europe were then reviewed in different meta-analysis (*PLoS One* 2016;11:e0147601; *Intern Emerg Med.* 2016;11: 327-40), and directly collected in different cohorts of different ethnic groups created in different countries. Progress in WG activities have been regularly presented at annual ESH meeting. The WG recently produced an in-depth analysis of potential ethnic-group-specific drivers of global cardiovascular risk (*Springer* ISBN 978-3-319-93148-7) providing a useful basis for guiding EU health systems decisions.

Migration is now at the center of the political agendas of many European countries. In the years to come, the follow-up of created cohorts will offer the possibility to develop specific tools for the cardiovascular risk assessment and to evaluate the effectiveness of intervention strategies.

## WG on Hypertension and the Kidney

**Chairman:** Alexandre Persu

**Secretary:** Gregor Wuerzner

The Working Group (WG) Hypertension and the Kidney was founded in 1998. It was chaired by Prof. Jose Rodicio (1998-2003), Peter W. de Leeuw (2003-2015) and Alexandre Persu (2015-2019). From 2003 onwards, under the leadership of Peter W. de Leeuw, the WG has organized workshops during the annual ESH meetings. Topics included between others renal damage, renal hemodynamics or the kidney in pre-hypertension. At that time, the WG had four Core Members: Peter de Leeuw, Albert Mimran, Luis Ruilope and Michel Burnier. *Ad hoc* members were asked in relation to specific themes. A formal constitution became effective in 2011.

**From 2015 to 2019 the following actions have been taken:**

- Establishment of a formal list of members (48 members from 15 countries as of March 2019) and official statutes
- Strengthening of the relations with the EURECA-m (EUropean RENal and CArdiovascular Medicine) working group of ERA/EDTA and the (US) Society for Vascular Medicine (SVM)
- Launching of the European/International Fibromuscular Dysplasia (FMD) registry and initiative (December 2015) > inclusion of 1000 patients in March 2019
- Contribution to a consensus paper on Hypertension in dialysis patients (Sarafidis et al., J. Hypertens. 2017;35:657-676; Nephrol Dial Transplant. 2017;32:620-640), a call to action on Hypertension in transplanted patients (Halimi et al., J Hypertens. 2017;35:2335-2338; Nephrol Dial Transplant. 2017;32:1959-1962.), both in collaboration with EURECA-m and coordination of the First international consensus on Fibromuscular Dysplasia (Gornik\*, Persu\* et al., J Hypertens. 2019;37:229-252; Vasc Med. 2019 Jan 16) in collaboration with the Society for Vascular Medicine
- European survey on Blood Pressure Measurement in Dialysis (lead G. Wuerzner, ms. In preparation)
- First Hands-on Workshop on Renal Ultrasound in Hypertension (lead: G. Wuerzner 2018)
- First online anonymous vote for the new Chair and Secretary (Prof. Pantelis Sarafidis and Jean-Michel Halimi, elected January 2019).

## WG on Hypertension and Sexual Dysfunction

**Chairman:** Margus Viigimaa

Sexual dysfunction is highly prevalent, greatly affects the life quality of affected patients and their sexual partners and is currently considered of vascular origin in the majority of cases. The ESH acknowledged the importance of sexual dysfunction in hypertensive patients and in autumn 2009, a Working Group (WG) on Sexual Dysfunction was founded within the ESH, chaired by Margus Viigimaa (Tallinn, Estonia) and co-chaired by Michael Doumas (Thessaloniki, Greece), with the support of Athanasios Manolis, Krzysztof Narkiewicz, Giuseppe Mancina and Alberto Zanchetti among other members of the society.

The inaugural session of this Group was held in Oslo at June 2010. Thereafter, relevant round tables have taken place in each annual ESH meeting, with constantly increasing number of participants; the 'hands-on' session in the last meeting in Barcelona was very successful and acquired substantial attention by Congress attendees. In parallel, numerous lectures in International and National meetings of Hypertension, Cardiology, and other Societies were conducted by members of the WG.

During this decade, the WG performed a lot of activities along with its presence at the annual ESH meetings:

- A position paper on this topic was published and an update is under publication
- A book regarding erectile dysfunction and cardiovascular disease was published
- A network of WG members has been established, aiming to exchange experiences and perform the first investigator-initiated multi-center trials in this field

Overall, we wish to cordially thank the members of the WG (>80) for their constant active participation, with special gratitude to Charalambos Vlachopoulos, as well as Jacek Wolf, Dragan Lovic, and Vesna Stojanov for their invaluable contribution to the success of the WG. We truly hope that the WG will keep on and intensify its activities in the years to come.

## WG on Hypertension and the Heart

**Chairman:** Enrico Agabiti Rosei

The Working Group on Hypertension and the Heart was initially a Working Group of the European Society of Cardiology (ESC) and it was decided that the Chairman of this WG would be a member of the ESH Scientific Council. Several ESH members chaired this Working Group, including JIS Robertson, P Sleight, G Mancia, P Lund-Johansen, E Agabiti Rosei, P Van Zwieten, D Clement, G Grassi, R Fagard, S Erdine, A Manolis, A Coca. This WG has organized scientific Symposia at Meetings of both the ESH and ESC and has published a few ESH newsletters and documents on several topics related to cardiovascular complications of hypertension. From 2014 the ESC has decided to establish a Council on Hypertension and as a consequence the ESC Working Group on Hypertension and the Heart was cancelled. During the same time the ESH decided to establish a new Working Group on Hypertension, Arrhythmias and Thrombosis, which was chaired initially by A. Manolis and thereafter by E Agabiti Rosei. This WG regularly organized scientific Symposia during the annual ESH Meetings and published several documents, particularly on the primary role of hypertension in the development of atrial fibrillation. This WG has also organized a large survey conducted in few ESH Excellence Centres on the clinical characteristics of patients with hypertension and atrial fibrillation evaluated in clinics dedicated to the management of hypertension.

In 2018 the ESH Scientific Council has decided to reestablish its own WG on Hypertension and the Heart, which also included the activities of the WG on Arrhythmias and Thrombosis. So far, a total number of 75 ESH members have expressed their willingness to participate in the activities of this WG and the first scientific and administrative meeting will be held during the ESH Meeting on Hypertension and Cardiovascular Protection in Milan, June 2019.

## WG on Interventional Treatment of Hypertension

**Chairman:** Roland Schmieder

**Vice Chairman:** Felix Mahfoud

**Secretary:** Kyriakos Dimitriadis

In the last decade a new pillar of antihypertensive treatment emerged as a treatment option for patients with arterial hypertension. Beside lifestyle changes and antihypertensive drug therapy, interventional treatment enriched the armamentarium of treating elevated blood pressure in patients with primary and secondary hypertension. Due to this exciting development clinical researchers and scientists founded a new Working Group on "Interventional Treatment of Hypertension" and the working group was accredited as official Working Group of the European Society Hypertension (ESH).

The goal of this ESH Working Group is first to stimulate and coordinate research projects on interventional treatment of hypertension, second to transfer new knowledge of interventional therapy into clinical practice, and third to build a bridge between interventionalists and hypertension specialists. In particular, the interdisciplinary approach is a key stone of introducing interventional techniques into clinical medicine. Interventional strategies comprise endovascular catheter based renal denervation, baroreceptor stimulation, and creation of a central arteriovenous anastomosis among others. Regular workshop meetings during the ESH Annual Scientific Meeting focused on this area. Our Working Group also stimulated discussions beyond interventional treatment strategies, such as highlighting the critical importance of adherence and patient preference as pivotal determinants of successful antihypertensive treatment management.

Young investigators were encouraged to present their view on this topic, and together with senior scientists, produced the ESH position paper on renal denervation published shortly after the release of the 2018 ESC/ESH Guidelines. This ESH position paper is ancillary to the 2018 ESC/ESH Guidelines, that could not incorporate the latest evidence in our field. The expectation is that in 1-2 years interventional therapy will be offered to patients in clinical practice and the ESH Working Group aims at accompanying this process with workshops, symposia and further position papers.

## WG on Obesity, Diabetes and the High-Risk Patients

**Chairman:** Vasilios Kotsis

**Steering committee:** Guido Grassi, Jens Jordan, Peter M. Nilsson, Markus Schlaich

This Working Group (WG) was established by merging three former separate WGs including the WG on Hypertension in Diabetes (Chairs Peter M Nilsson, Renata Cifkova), the WG on the High Risk Patient (Chair Luis Ruiloppe) and the WG on Obesity (Chair Jens Jordan)). The first chairman of the new WG was Jens Jordan and in 2016 he was followed by Vasilios Kotsis.

The WG has published several consensus documents and practice guidelines with the most recent to be the following:

1. Obesity and cardiovascular risk: a call for action from the European Society of Hypertension Working Group of Obesity, Diabetes and the High-risk Patient and European Association for the Study of Obesity: part A: mechanisms of obesity induced hypertension, diabetes and dyslipidemia and practice guidelines for treatment. Kotsis V, et al. *J Hypertens*. 2018 Jul;36(7):1427-1440.
2. Obesity and cardiovascular risk: a call for action from the European Society of Hypertension Working Group of Obesity, Diabetes and the High-risk Patient and European Association for the Study of Obesity: part B: obesity-induced cardiovascular disease, early prevention strategies and future research directions. Kotsis V, et al *J Hypertens*. 2018 Jul;36(7):1441-1455.
3. New developments in the pathogenesis of obesity-induced hypertension. Kotsis V, et al; WG on Obesity, Diabetes, the High Risk Patient, European Society of Hypertension. *J Hypertens*. 2015 Aug;33(8):1499-508
4. Joint statement of the European Association for the Study of Obesity and the European Society of Hypertension: obesity and heart failure. Jordan J, et al. *J Hypertens*. 2016 Sep;34(9):1678-88.

The WG has organized joint sessions with the European Atherosclerosis Society (EAS) and European Association for the study of Obesity (EASO) during the ESH meetings and has organized several Satellite Symposia of the ESH Annual meeting. Currently more young people are active members of the WG.

## WG on Vascular Structure and Function

**Chairman:** Pierre Boutouyrie

**Vice Chairman:** Pedro Guimarães Cunha

**Secretary:** Bart Spronck

The Working Group on Vascular Structure and Function was created at the beginning of the 2000s and chaired successively by Michel Safar, Harry Struijker-Boudier, Luc Van Bortel, Phil Chowienczyk, and Pierre Boutouyrie. The first physical meeting was held during the 14th ESH meeting in Paris in 2004. Its aim was to set up a consensus document summarizing 30 years of development concerning large artery investigations. This was done by a writing group coordinated by Stephane Laurent, Luc van Bortel, John Cockcroft and Pierre Boutouyrie. This document has been extremely useful because it set up the nomenclature of

terms used to describe arterial properties, briefly exposed the concepts, and proposed clinical and research applications. This usefulness can be measured by the huge number of quotations (>3200)<sup>1</sup>. A reappraisal was proposed by Luc van Bortel in 2012, on behalf of the WG and gathered 620 citations<sup>2</sup>. One of the most prominent roles of the WG is to gather isolated groups and promote a more global approach. Under the auspices of the WG, we could set-up large collaborative studies for establishing reference values for the most important arterial variables<sup>(2 to 6)</sup>, such as carotid-femoral pulse wave velocity, carotid intima media thickness, carotid stiffness, and central blood pressure. One very important concept which emerged among members of the WG is early vascular aging -EVA, measured through arterial stiffness<sup>7</sup>. This concept is extremely successful and has impregnated the reflection about the future of hypertension<sup>8</sup>.

Future issues for the WG on Vascular Structure and Function are to increase its visibility and tackle new themes. We are currently preparing a review paper on inflammation and large arteries. We are also organizing collaborations on promotion of vascular health in younger persons including children and teenagers. We have also to manage efficiently the relations between partially overlapping WG within the ESH/ESC, and with dedicated learned societies such as ARTERY societies (European, North America and Latin America) and Pulse or Asia in order to improve our global efficacy. An important aim is also to promote interventional studies.

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## Organising Working Groups

- Further WGs can be proposed to the ESH Council by any ESH member on the basis of a clear scientific background. WG are not permanent, they may be cancelled or merged with other WGs, if appropriate.
- Each WG has a chairman (in charge for 2 years) and may have a vice-chairman, secretary and select members according to their competence in the field of interest of the WG. The chairman, vice-chairman and secretary are elected by members of WGs every 2 years.
- New WGs should have at least 10 founding members, from different countries. Application for membership should be accompanied by the demonstration of scientific interest in the field (scientific publications) and recommendations by 2 members. Requests should be sent to the chairman of the WG.
- From October 2002 WGs have been represented on the ESH Council by an Executive officer as a coordinator of the WGs. Professor Gianfranco Parati (Milan, Italy) currently holds this position.



## Perspectives for ESH Working Groups

There is a general agreement that working groups should represent the backbone of a scientific society, including young investigators together with experienced scientists, all interacting and cooperating with the common goal of advancing scientific knowledge in specific fields and to be whenever possible, of translating it into clinical implications.

Against such a background, working groups should remain active and should guarantee quantifiable outputs of their activities. These include generation of databases and/or registries, development and implementation of collaborative research projects, publication of joint scientific papers in peer review journals, preparation and publication of position papers, and proposing recommendations and guidelines in the specific topics where they are active. Whenever this does not occur, an inactive working group can be terminated by the ESH Council.

In the future development of ESH WG activities, it is also advisable that those working groups, which include a limited number of scientists and focus on similar topics, consider the possibility of merging, with the possible benefit of a fruitful synergy in their efforts leading to better outcomes.



[ Chapter 7 ]

# ESH Centres of Excellence in Hypertension

## ESH CENTRES OF EXCELLENCE IN HYPERTENSION

In 2005 the ESH launched an initiative to create a unique Pan-European network of Hypertension Excellence Centres. The main purpose of this network is to provide a stable and organised European platform for the advancement of hypertension prevention and control. ESH Centres of Excellence consist of teams of ESH hypertension specialists based on tertiary institutions (hospitals) and are identified by their high-quality expert scientific activity in research and clinical management, including facilities to diagnose secondary hypertension. Multidisciplinary services must be secured.

This network was established to provide the highest level of both inpatient and outpatient hypertension care, including surgical and vascular interventions and assessment of global cardio-vascular risk.

Specific tasks for ESH Hypertension Excellence centres are: (a) to provide the best possible clinical management of patients with high blood pressure (BP); (b) to set standards in the diagnostics and treatment of hypertension in regions of service; (c) to evaluate and improve BP control for primary care, specialists and hypertension centres in regions of service; (d) to offer continuing medical education opportunities focusing on teaching primary-care physicians in the region of service; (e) to carry out research (experimental/clinical/epidemiological) represented by papers in peer-reviewed international as well as local scientific journals; (f) to cooperate with other ESH Hypertension Excellence Centres to increase understanding of the importance of hypertension as a major health risk in Europe.

Beside these goals, global tasks for ESH Centres of Excellence should remain active and cooperation with the ESH Scientific Council should continue to elaborate new hypertension control strategies in Europe. They should establish BP clinic(s) and encourage members to become ESH Hypertension Specialists and to participate in the ESH Working Groups. They shall engage in networks with other Excellence Centres and support the Young Investigators Forum. In addition, ESH Centres of Excellence should participate in patients' record organisation (e.g. registry of fibromuscular dysplasia, athero-sclerotic renovascular hypertension, adrenal tumours, obstructive sleep apnoea syndrome, renal denervation and other interventions, and more recently the important BP-control study). One task of great importance is to work closely with general practitioners.

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<sup>1</sup> The editorial team would like to thank Bojan Jelakovic for his great contribution in Chapter 7.

After the launch of the ESH ESH Centres of Excellence in Hypertension in 2005 this important ESH activity was announced in a corresponding publication in the Journal of Hypertension shown below.

ESH Announcement 787

## Hypertension Excellence Centres of the European Society of Hypertension

Csaba Farsang, Krzysztof Narkiewicz, Wolfgang Kiowski, Ettore Ambrosioni and Margus Viigimaa for the ESH Council

**Centre of Excellence**  
By definition, it is an *institution* providing the highest level of *both* inpatient and outpatient *hypertension* care, including surgical and vascular interventions, and assessment of global cardiovascular risk.

The institution should have:

- In-house access to multi-disciplinary services, such as those provided by Cardiology, Nephrology, Endocrinology, Angiology, Gynaecology, Ophthalmology, Neurology, Urology, Intensive Care, Surgery, Vascular Surgery, Radiology (access to Computed Tomography, Magnetic Resonance Imaging, Ultrasound, Isotope), Angiography (+ Percutaneous Transluminal Angioplasty with stenting);
- Clinical chemistry (including special tests for diagnosis of secondary forms of hypertension);
- Library with important international journals;
- Internet access.

In addition to the list of requirements above, **applicants** should provide:

- The number of hypertension-related hospitalizations and outpatient visits per year;
- The number of hypertension-related procedures per year;
- The list of papers, seminars, conference lectures on hypertension and hypertension-related issues written/given by members in the centre.

The applications should be sent to:

Dr Margus Viigimaa  
Centre of Cardiology  
North Estonia Medical Centre  
Sütiste St. 19  
Tallin 13419  
Estonia  
E-mail: [margus.viigimaa@regionaalhaigla.ee](mailto:margus.viigimaa@regionaalhaigla.ee)

Currently, the total number of approved ESH Centres of Excellence is 196 (15 are associated centres coming from countries out-of-Europe). The Centres of Excellence are located in 33 European countries and the associated centres in 8 non-European countries (Argentina, Australia, Bahrain, Brazil, Israel, Lebanon, People's Republic of China and Venezuela).

The ESH Council has decided to approve applications twice a year at ESH Council meetings. The ESH is making continuous efforts to manage the burden of hypertension in Europe by stimulating scientific exchange related to knowledge about hypertension and supporting and building organisations committed to work for the control of hypertension.



## ESH CENTRES OF EXCELLENCE

### **ALBANIA: 1**

**Service of Internal Medicine and Hypertension,  
UHC Mother Teresa, Tirana**  
Mihal Tase

### **Argentina: 1 (Associated Centre)**

**Centro de Hipertensión Arterial del Hospital  
Univesitario (Austral), Buenos Aires**  
Carol Kotliar de Delia

### **ARMENIA: 1**

**Center of Preventive Cardiology, Yerevan**  
Parounak Zelveian

### **AUSTRALIA: 2 (Associated Centres)**

**Alfred & Baker Hypertension Network,  
Melbourne**  
Markus Schlaich

### **Dobney Hypertension Centre, Perth**

Markus Schlaich, Dagmara Hering

### **AUSTRIA: 2**

**Cardiology Department Klinikum  
Wels-Rieskirchen, Wels**  
Bernd Christian Eber

### **University Klinikum LKH/Cardiology, Graz**

Robert Zweiker

### **BAHRAIN: 1 (Associated Centre)**

**Bahrain Specialist Hospital, Manama**  
Jafar Al-Said

### **BELARUS: 2**

**Grodno State Medical University, Grodno**  
Liudmila Yakubova

### **Republican Scientific and Practice Centre**

**“Cardiology”, Minsk**  
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### **BELGIUM: 8**

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thérapeutique de l’hypertension artérielle CHU,  
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### **UZ Gent Hypertension Excellence Centre, Ghent**

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### **BOSNIA and HERZEGOVINA: 1**

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### **BRAZIL: 3 (Associated Centres)**

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**ESTONIA: 1**

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[ Chapter 8 ]

# ESH Hypertension Specialist Programme



## ESH HYPERTENSION SPECIALIST PROGRAMME

The Hypertension Specialist Programme was organized by the ESH in 2000 to identify hypertension specialists in European countries. This programme aims to contribute to the training of these specialists through teaching courses especially during the sessions of the Annual ESH meetings and ESH summer schools. In addition, the programme organizes a strong network of autonomous and highly trained specialized physicians working at ESH Excellence Centres and associated BP clinics to improve detection of severe, resistant and secondary forms of hypertension and the treatment of hypertension in Europe (currently effective in a low number of patients) by conveying and applying in the recommendations of the ESH to achieve better prevention of cardiovascular disease in Europe, as well as in other parts of the world. This network plays also an important role in participating to collaborative scientific work.

Physicians intending to be a hypertension specialist should obtain a written endorsement and recognition from their National Hypertension Society, or in special circumstances, directly from the ESH. The online application form is sent to the Steering Committee for European Hypertension Specialist of the ESH. This committee makes the final decision about the nomination.

ESH requires that all Hypertension Specialists should be Members of the European Society of Hypertension in good standing.

Previously certified Specialists who are not ESH members, in order to undergo re-accreditation and to maintain their status, must apply for membership.

New candidates must apply for and be granted ESH membership before submitting the Specialist application. To be recognized as a Hypertension Specialist of the ESH, an applicant must meet the following criteria:

- Clinical experience in hypertension with particular reference to referral of patients with difficult hypertension.
- Training in a medical specialty germane to hypertension (including but not restricted to Nephrology, Cardiology, Endocrinology, Internal Medicine, or Primary care).
- A certain degree of scientific activity (e.g. publications on clinical hypertension, participation in clinical trials).
- Continuing interest and updating in hypertension as shown by participation in scientific meetings and membership in hypertension related scientific societies.
- Recognition by peers at national level.

There are currently 870 approved ESH Hypertension Specialists in 2019. Over 500 are both ESH Members and Hypertension Specialists of the ESH and 201 Hypertension Specialists have been recertified since 2012.

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Tikkanen T. H.

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Ormezzano O.  
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Ribstein  
Rossignol P.  
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Siche J.P.  
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Tsinamdzgvrishvili B.

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Grotz W.

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 Stafylas P.  
 Stergiou G.S.  
 Thomopoulos C.

Triantafyllidi H.  
 Triantafyllou A.  
 Tsioufis C.  
 Vagropoulos I.  
 Varsamis E.  
 Vlahakos D.  
 Votteas V.  
 Voyaki S.  
 Zacharopoulou I.  
 Zamboulis C.  
 Zarifis J. EHS®  
 Zebekakis P.

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**HUNGARY: 22**

Ábrahám G.  
 Danos P.  
 de Chatel R.  
 Farkas K.  
 Frasang C.  
 Finta P.E.  
 Jarai Z.  
 Kiss I.  
 Kolossvary E.  
 Kurta G.  
 Légrády P.  
 Nagy J.  
 Pall D.  
 Paulin F.  
 Reusz G.S.  
 Rigó J.  
 Sonkodi S.  
 Sulyok E.  
 Székács B.  
 Tisler A.  
 Tulassay T.  
 Turi S.  
 ICELAND: 1  
 Gudbrandsson T.

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**IRELAND: 3**

Duggan J.  
 Feely J.  
 O'Brien E.

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**ISRAEL: 17**

A. Burstein  
 Bursztyn M.

Farah R.  
Grossman E.  
Leiba A.  
Leshem Y.  
Paran E.  
Podjarny E.  
Rosenthal T.  
Sharabi Y.  
Stern N.  
Viskoper R.J.  
Weissgarten J.  
Yagil Y.  
Yodfat Y.  
Yosefy C.  
Zimlichman R.

#### ITALY: 122

Agabiti-Rosei E.  
Ambrosio G.B.  
Ambrosioni E.  
Armanini D.  
Barbagallo M.  
Bellini G.  
Bianchi G.  
Bilo G.  
Bonfanti F.  
Borghi C.  
Boscaro M.  
Calò L.  
Campanacci L.  
Cardellino G.  
Carretta R.  
Carugo S.  
Casiglia E.  
Castellano M.  
Catena C.  
Cavaliere G.  
Cerasola G.  
Chiarappa R.  
Cicconetti P.  
Colussi, G.L.  
Cosenzi A.  
Costa F.V.  
Cottone S.  
Cusi D.M.  
Cuspidi C.  
De Cesaris R.

De Divitiis O.  
De Luca N.  
de Simone G.  
Del Giudice A.  
Dessi-Fulgheri P.  
Fabris B.  
Fallo F. EHS®  
Fava C.  
Ferri C.  
Ferrucci A.  
Filigheddu F.  
Fogari R.  
Galletti F.  
Garavelli G.  
Gasbarrone L.  
Gaudio G.  
Germanò G.I.W.  
Ghiadoni L.  
Giannattasio C.  
Glorioso N.  
Grassi G.  
Greco E.  
Guasti L.  
Guidi E.  
Lechi A.  
Lembo G.  
Leonetti G.  
Limone P.P.  
Madeddu P.  
Magrini F.  
Maisaidi, M.  
Malatino L.  
Malini P.  
Mallamaci F.  
Mancia G.  
Manfellotto D.  
Mantero F.  
Manunta P.  
Marotta T.  
Mazza A.  
Meazza, R.  
Minuz P.  
Morganti A.  
Muiesan L.  
Mulatero P.  
Mulè G.  
Nami R.

Nazzaro P.  
Palumbo G.A.  
Parati G.  
Pauletto P.  
Pontremoli R.  
Porcellati-Pazzaglia C.  
Portaluppi F.  
Rabbia F.  
Rappelli A.  
Rizzoni D.  
Rosiello G.  
Rossi E.  
Rossi G.P.  
Salveti A.  
Salveti M.  
Sarzani R.  
Scanferla F.  
Schirosi G.  
Scuteri A.  
Seccia T.  
Sechi L.  
Semplicini A.  
Seravalle G.L.  
Sonino N.  
Stagni B.  
Stornello M.  
Strazzullo P.  
Strocchi E.  
Taddei S.  
Tocci G.  
Trimarco B.  
Vaccarella A.  
Vailati S.  
Valvo E.  
Veglio F.  
Venco A.  
Verdecchia P.  
Vescovo G.  
Viazi F.  
Virdis A.  
Volpe M.  
Vulpis V.  
Zamboni S.  
Zaninelli A.  
Zoccali C.

#### JAPAN: 1

Hirano J.

**LATVIA: 2**

Lejnieks A.  
Mintale I.

**LEBANON: 5**

Asmar R.  
Berbari A.E.  
Kabalan S.  
Nasr E.  
Tanios B.

**LITHUANIA: 10**

Babarskiene M.R.  
Grigaleviciene A.  
Laucevicius A.  
Maksvytis A.  
Marciulioniene N.  
Miglinas M.  
Milvidaite I.  
Sutkiene V.D.  
Sutkus J.  
Zvinkliene G.

**LUXEMBOURG: 1**

Braun C.

**MALAYSIA: 1**

Chia YC.

**NETHERLANDS: 18**

Barendregt J.N.M.  
Breed J.G.S.  
De Leeuw P.  
Deinum J.  
Doorenbos C.J.  
Hoogma R.P.L.M.  
Koomans H.  
Lambert J.  
Lenders J.W.M.  
Ligtenberg G.  
Postma C.T.  
Smilde J.G.  
Smit A.J.  
Spiering W.  
Stehouwer C.  
van den Meiracker. A.  
van Jaarsveld B.  
Vos P.F.

**NORWAY: 10**

Agewall S.  
Fossum E.  
Gerdtts E.  
Gerhardsen G.  
Kjeldsen S.  
Lund-Johansen P.  
Mo R.  
Omvik P.  
Soma J.  
Svilaas A.

**PEOPLE'S REPUBLIC of CHINA: 1**

Wu Z.

**POLAND: 30**

Bieniaszowski L.  
Czarnecka D.  
Czekalski S.  
Gaciong Z.  
Gasowski J.G.  
Grodzicki T.  
Gryglewska B.  
Januszewicz A.  
Kawecka-Jaszcz K.  
Klocek M.  
Kokot F.  
Kosicka T.M.  
Krupa-Wojciechowska B.  
Lapinska-Knypl K.  
Malyszko J.  
Malyszko J.S.  
Manitius J.  
Marczewski K.  
Narkiewicz K.  
Nowicki M.  
Olszanecka A.  
Posadzy-Malacznska A.  
Prejbisz A.  
Pruszczyk P.  
Pupek-Musialik D.  
Rynkiewicz A.  
Stolarz-Skrzypek K.  
Suchecka-Rachan K.  
Waclawek-Maczowska J.  
Widecka K.

**PORTUGAL: 37**

Alcântara C.  
Alcantara P.  
Bastos J.  
Braz-Nogueira J.M.  
Carvalho M.  
Correia L.C.  
Costa F.  
Cotter J.  
Cunha P.  
De Macedo M.  
Dias V.  
dos Reis Martins L.F.  
Ferreira M.  
Fonseca T.  
Gonçalves F.  
Lima J.J.  
Maldonado J.  
Martins Rodrigues T.  
Meireles-Brandao J.  
Mendes da Costa Carneiro F.  
Monteiro A.  
Moreira C.  
Moreira L.  
Nazare J.  
Neves P.L.  
Nunes J.P.  
Pereira da Silva Oliveira A.  
Pessanha P.  
Pinto F.  
Polonia J.  
Ribeiro Castro B.  
Rocha E.C.  
Santos de Sousa Romano H.  
Silva J.  
Silva P.  
Sousa M.  
Tavares F.

**ROMANIA: 16**

Arsenescu Georgescu C.  
Aursulesei V.  
Badila E.  
Bartos D.  
Cornel-Cezar T.  
Craiu E.  
Darabont R.



Dorobantu M.  
Gavrila A.  
Ginghina C.  
Homencovschi C.S.  
Mako K.  
Mihailescu C.  
Muraru M.  
Petrescu V.  
Serban M.C.

**RUSSIA: 3**

Chazova I.  
Vereschagina Y.  
Yakhontov D.

**SAUDI ARABIA: 3**

Albassam T.  
Alfurayh O.  
Almustafa B.

**SERBIA: 11**

Bastac D.  
Brankovic Z.  
Djordjevic D.  
Kocijancica A.  
Krotin M.  
Lovic B.  
Lovic D.  
Stojanov V.  
Stojanovic M.  
Zdravkovic M.  
Zivkovic R.

**SINGAPORE: 1**

Sule A.

**SLOVAK REPUBLIC: 1**

Filipova S.

**SLOVENIA: 7**

Accetto R.  
Brguljan J.  
Dobovisek J.  
Dolenc P.  
Kolsek B.  
Pirc Cercek O.  
Salobir B.

**SPAIN: 90**

Aleman J.  
Aranda Lara P.  
Armario P.  
Arrieta J.  
Avila Sanches-Torija M.  
Barrios V.  
Botey A.  
Bueno J.  
Cabrera R.  
Calvo C.  
Carmelo Diaz C.A.  
Cases-Amenós A.  
Castellarnau E.  
Coca A.  
Cubero G.  
de la Figuera von Wichmann M.  
De la Sierra A.  
de Mora Martin M.  
del Arco Galán C.  
Diez J.  
Felip Benach A.  
Fernandez-Cruz A.  
Fernández-Fernández F.J.  
Fernandez-Llama P.  
Fernandez-Pinilla C.  
Fernandez-Vega F.  
Frías Vargas M.  
Garcia Robles R.  
Garcia-Acuna J.M.  
Garcia-Donaire J.  
Garcia-Gallego F.  
Garcia-Polo I.  
Garcia-Puig J.  
Gil Extremera B.  
Gonzalez Gomez L.E.  
Gonzalez-Juanatey J.R.  
Gorostidi M. EHS®  
Hermida Ameijeiras A.  
Hernandes del Rey R.  
Honorato J.  
Jaén Águila F.  
Jaraby N.S.  
Jarillo D.  
Linares J.  
López Paz J.  
Lurbe E.

Ma-Pascal J.  
Madrigal Vilata J.  
Marcias-Nunez J.  
Marin R.  
Martell-Claros N.  
Martí-Canales J.  
Martin Jimenez J.  
Martinez Amenós A.  
Mediavilla Garcia J.D.  
Melero-Pita A.P.  
Michan A.  
Morillas P.  
Motero J.  
Nieto J.  
Ocon-Pujadas J.  
Oliveras Serrano A.  
Orte L.  
Otero A.  
Pallares-Carratala V.  
Palma-Gamiz J.  
Perez de Juan M.A.  
Plana J.  
Poch E.  
Pose-Reino A.  
Prieto Diaz M.A.  
Puras Telleache A.J.  
Redon J. EHS®  
Robles Perez-Monteoliva N. R.  
Roca-Cusachs A.  
Rodilla Sala E.  
Rodriguez-Perez J.C.  
Romero Gonzales R.  
Ruilopec L.M.  
Sancho-Rof J.  
Santamaria R.  
Segura J.  
Sierra C.  
Sobrinho J.  
Suarez-Fernandes C.  
Tamargo J.  
Toril Lopez J.  
Torro M.I.  
Vergara Martin J.  
Villar J.

**SWEDEN: 17**

Andersson O.K.

Carlberg B.  
 Dalhöf B.  
 de Faire U.  
 Gottsäter A.  
 Hansson B.G.  
 Hedner T.  
 Herlitz H.  
 Himmelmann A.  
 Kahan T.  
 Lindholm L.H.  
 Lindstedt I.  
 Ljungman S.  
 Nilsson P.  
 Ottosson A.M.  
 Samuelsson O.  
 Wall U.

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**SWITZERLAND: 27**

Battegay E.  
 Bianchetti M.  
 Brenner R.  
 Burkard T.  
 Burnier M.  
 Dieterle T.  
 Erne P.  
 Evequoz D.  
 Ferrari P.  
 Greminger P.  
 Lava S.  
 Lüscher T.F.  
 Marmy A.  
 Meier P.  
 Muggli F.  
 Noll G.  
 Pechère-Bertschi A.  
 Ruschitzka F.  
 Schoenenberger A.  
 Suter P.M.  
 Venzin R.  
 Vischer A.  
 Vogt B.  
 Wuerzner G.  
 Zimmerli L.  
 Zisimopoulou SN.

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**TUNISIA: 1**

Jarraya F.

**TURKEY: 14**

Aksu M.  
 Arici M.  
 Aydin L.  
 Cavusoglu Y.  
 Erdine S.  
 Eryonucu B.  
 Kabakci G.  
 Koylan N.  
 Nalbantgil I.  
 Oguz A.  
 Sagliker Y.  
 Sönmez H.  
 Tezcan H.  
 Yalçın F.

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**UKRAINE: 2**

Radchenko G.  
 Sirenko Y.

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**UNITED ARAB EMIRATES: 1**

Ahmed A.

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**UNITED KINGDOM: 41**

Antonios T.  
 Atkinson A.B.  
 Bakhai A.  
 Bath P.  
 Brady A.J.  
 Brown M.  
 Cappuccio F.  
 Casadei B.  
 Caulfield M.  
 Chapman N.  
 Cruickshank J.K.  
 Dasgupta I.  
 Dominiczak A.  
 Ekpo E.B.  
 Elliot H.  
 Ferro A.  
 George J.  
 Heagerty A.  
 Iqbal P.  
 Kapil V.  
 Khong T.  
 Krentz A.J.  
 Lewis P.

Lobo M.  
 MacDonald T.  
 McVeigh G.  
 Potter J.F.  
 Poulter N.  
 Rajkumar C.  
 Russell G.I.  
 Saxena M.  
 Sever P.S.  
 Shakespeare C.  
 Sharma P.  
 Sleight P.  
 Thomas M.  
 Thurston H.  
 Venkat-Raman G.  
 Williams B.  
 Woywodt A.

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**UNITED STATES OF AMERICA: 8**

Duprez D.  
 Ejaz A.A.  
 Ferrario C.M.  
 Kanawati R.  
 Levy P.  
 Smith R.D.  
 Voiculescu A.  
 Wasiluk A.



[ Chapter 9 ]

# ESH Affiliated National Societies

## ESH AFFILIATED NATIONAL SOCIETIES

Ever since the ESH was founded formally in 1989, the relationship with national societies of hypertension, both inside and outside of Europe, has been a main priority. The ESH initiated and maintained a commitment to establish a stable and organised European platform for scientific exchange in hypertension aiming to improve not only the quality of research, but also to increase knowledge of hypertension and vascular risk all over Europe. Advances in the knowledge of hypertension and cardiovascular care, as well as improvements in prevention and clinical care, contribute to the reduction of hypertension-associated morbidity and mortality across Europe.

During the 30-year existence of the ESH, the list of national societies of hypertension which cooperate with the ESH has grown. Currently, a total of 37 European societies and 5 non-European societies are affiliated or associated with the ESH in 2019, while many others collaborate with ESH with informal links.

Irina Chazova (Russia) was the first elected ex-officio ESH Council member as representative of the Presidents of ESH Affiliated National Hypertension Societies and Dragan Lovic (Serbia) was the second one. In the June Milan meeting 2019 the results of the election for the new representative of the Presidents of the National Societies will be announced in the General Assembly.

### AFFILIATED NATIONAL HYPERTENSION SOCIETIES (European countries)

#### ALBANIAN SOCIETY OF HYPERTENSION

#### ARMENIA SOCIETY OF HYPERTENSION

President: Prof. Zelveian Parounak

#### AUSTRIAN SOCIETY OF HYPERTENSION

President – Prof. Sabine Perl

#### BELGIAN HYPERTENSION COMMITTEE

President – Prof. Tine De Backer

#### BOSNIA AND HERZEGOVINA SOCIETY OF HYPERTENSION

President: Šekib Sololović

#### BRITISH AND IRISH HYPERTENSION SOCIETY

President: Prof. Francesco Cappuccio

#### BULGARIAN SOCIETY OF HYPERTENSION

President: Prof. Svetla Torbova

#### BYELORUSSIAN HYPERTENSION LEAGUE

President: Prof. Irina Lazareva

#### CROATION SOCIETY OF HYPERTENSION

President: Prof. Bojan Jelakovic

#### CYPRUS SOCIETY OF HYPERTENSION

President: Dr. Philippos Stylianou

#### CZECH SOCIETY OF HYPERTENSION

President: Prof. Jiri Widimsky

#### DANISH SOCIETY OF HYPERTENSION

President: Prof. Jørgen Jeppesen

#### DUTCH SOCIETY OF HYPERTENSION

President: Dr. Wilko Spiering

#### ESTONIAN SOCIETY OF HYPERTENSION

President: Dr. Signe Alliksoo

#### FINNISH HYPERTENSION SOCIETY

President: Prof. Ilkka Pörsti

#### FRENCH SOCIETY OF HYPERTENSION

President: Jean-Pierre Fauvel

<sup>†</sup> The editorial team would like to thank Dragan Lovic for his great contribution in Chapter 9.

**GEORGIAN HYPERTENSION STUDY SOCIETY**

President: Prof. Bejan Tsinamdzgvrishvili

**GERMAN HYPERTENSION SOCIETY**

President: Prof. Bernhard Krämer

**HELLENIC SOCIETY OF HYPERTENSION**

President: Prof. Pantelis Zebekakis

**HUNGARIAN SOCIETY OF HYPERTENSION**

President: Prof. Járαι Zoltán

**ITALIAN SOCIETY OF HYPERTENSION**

President: Prof. Claudio Ferri

**KAZAKH ASSOCIATION OF SPECIALISTS  
OF HYPERTENSION AND CARDIOVASCULAR  
PREVENTION**

President: Prof. Gulnara Junusbekova

**LATVIAN SOCIETY OF HYPERTENSION  
AND ATHEROSCLEROSIS**

President: Prof. Kārlis Trušinskis

**LITHUANIAN HYPERTENSION SOCIETY**

President: Prof. Marius Miglinas

**NORWEGIAN SOCIETY OF HYPERTENSION**

President: Prof. Hans-Peter Marti

**POLISH SOCIETY OF HYPERTENSION**

President: Prof. Krzysztof Filipiak

**PORTUGUESE SOCIETY OF HYPERTENSION**

President: Prof. Manuel de Carvalho Rodrigues

**ROMANIAN SOCIETY OF HYPERTENSION**

President: Prof. Maria Dorobantu

**THE RUSSIAN SOCIETY OF HYPERTENSION**

President: Prof. Irina Chazova

**SERBIAN SOCIETY OF HYPERTENSION**

President: Prof. Dragan Lovic

**SLOVAK SOCIETY OF HYPERTENSION**

President: Prof. Slavomíra Filipová

**SLOVENIAN HYPERTENSION SOCIETY**

President: Prof. Jana Brguljan

**SPANISH SOCIETY OF HYPERTENSION**

President: Prof. José Antonio García-Donaire

**SWEDISH SOCIETY OF HYPERTENSION,  
STROKE AND VASCULAR MEDICINE**

President: Prof. Jonas Spaak

**SWISS SOCIETY OF HYPERTENSION**

President: Prof. Isabella Sudano

**TURKISH SOCIETY OF HYPERTENSION  
AND ATHEROSCLEROSIS**

President: Prof. Serap Erdine

**UKRAINE ANTIHYPERTENSIVE SOCIETY**

President: Yuriy Sirenko

**ASSOCIATED HYPERTENSION SOCIETIES (Non-European countries)**

**CHINESE HYPERTENSION LEAGUE**

President: Prof. Jiguang Wang

**ISRAELI HYPERTENSION SOCIETY**

President: Prof. Adi Leiba

**LATIN AMERICAN SOCIETY  
OF HYPERTENSION**

President: Prof. Eduardo Barbosa

**LEBANESE HYPERTENSION LEAGUE**

President: Dr. Adel Berbari

**SAUDI HYPERTENSION MANAGEMENT  
SOCIETY**

President: Dr. Osman Alfurayh



## ESH STRONGLY SUPPORTS THE NATIONAL HYPERTENSION MEETINGS

ESH Affiliation is an official recognition to the National Societies of the European Region which would like to be part of and participate in the regular activities of the ESH. It is the purpose of the affiliation to promote the interests of science through definite and formal cooperation with all scientific societies. Further details and requirements are available at <https://www.eshonline.org/>.

The activities of the National Societies of hypertension are of the greatest interest to the ESH. As the map of Europe has changed considerably during the last 30 years, new possibilities have developed for better contacts with a growing number of new Societies, especially in Eastern Europe and the Balkans. The new strategy from the ESH is to offer association status for European Societies of hypertension and affiliation status from non-European Societies. This will strengthen the ties between the ESH and the National Societies in different countries.



ESH Course in Croatia, 2017



Portuguese Society of Hypertension, 2018





## SEPHAR III survey results communication



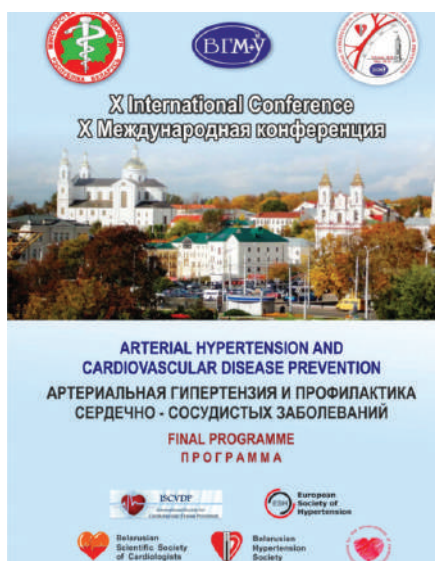
ESH representatives in the Romanian Society of Hypertension National Congress, 2018



National Meeting of Serbian Society of Hypertension in Belgrade, 2018



Annual Meeting of Hellenic Society of Hypertension, 2018



Belarusian Hypertension Society, Belarus, May 30-31 2019

## ESH CELEBRATES WORLD HYPERTENSION DAY WITH NATIONAL SOCIETIES



World Hypertension Day – May 17th 2019



**ESH and the 37 National Hypertension EU societies  
and the 5 Associated Hypertension societies**

#### AFFILIATED NATIONAL HYPERTENSION SOCIETIES

<p> <a href="#">Hellenic Society of Hypertension</a>  <a href="#">Albanian Society of Hypertension</a>  <a href="#">Armenian Society of Hypertension</a>  <a href="#">Austrian Society of Hypertension</a>  <a href="#">Azerbaijani Hypertension Committee</a>  <a href="#">Bosnia &amp; Herzegovina Society of Hypertension</a>  <a href="#">Bulgarian and Czech Hypertension Society</a>  <a href="#">Bulgarian Society of Hypertension</a>  <a href="#">Byelorussian Hypertension League</a>  <a href="#">Croatian Society of Hypertension</a>  <a href="#">Cypriot Society of Hypertension</a>  <a href="#">Czech Society of Hypertension</a>  <a href="#">Danish Society of Hypertension</a>  <a href="#">Dutch Society of Hypertension</a>  <a href="#">Estonian Society of Hypertension</a>  <a href="#">Finnish Hypertension Society</a>  <a href="#">French Society of Hypertension</a>  <a href="#">Georgian Hypertension Study Society</a>  <a href="#">German Hypertension Society</a> </p>	<p> <a href="#">Hungarian Society of Hypertension</a>  <a href="#">Italian Society of Hypertension</a>  <a href="#">Kazakh Association of Specialists of Hypertension and Cardiovascular Prevention</a>  <a href="#">Latvian Society of Hypertension and Atherosclerosis</a>  <a href="#">Lithuanian Hypertension Specialists' League</a>  <a href="#">Norwegian Society of Hypertension</a>  <a href="#">Polish Society of Hypertension</a>  <a href="#">Portuguese Society of Hypertension</a>  <a href="#">Romanian Society of Hypertension</a>  <a href="#">The Russian Society of Hypertension</a>  <a href="#">Serbian Society of Hypertension</a>  <a href="#">Slovak Society of Hypertension</a>  <a href="#">Slovenian Hypertension Society</a>  <a href="#">Spanish Society of Hypertension</a>  <a href="#">Swedish Society of Hypertension, Stroke and Vascular Medicine</a>  <a href="#">Swiss Society of Hypertension</a>  <a href="#">Turkish Society of Hypertension</a>  <a href="#">Ukrainian Antihypertensive Society</a> </p>
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## ASSOCIATED NATIONAL HYPERTENSION SOCIETIES

Chinese Hypertension League  
Israel Hypertension Society  
Latin American Society of Hypertension  
Lebanese Hypertension League  
Saudi Hypertension Management Society



ESH, with the aim of strengthening its links with National Societies, has developed an Affiliation and Association programme which outlines ways to establish more formal links of Affiliation with National Societies from European countries. The relationship between ESH and the National Hypertension Societies has developed positively over the years and members of the ESH Affiliated Societies are encouraged to participate in ESH activities.

The activities may expand further and some of the relationships may become more formalized.

## ESH and the 191 Excellence Centres



The 191 ESH Excellence Centres contribute to the continuous efforts of ESH to manage the burden of hypertension in Europe by stimulating scientific exchange related to knowledge about hypertension, and supporting and building organizations committed to work for the control of hypertension.



[ Chapter 10 ]

# ESH Research projects



## ESH RESEARCH PROJECTS

**T**he ESH is continuously initiating or supporting research projects in the field of hypertension, blood pressure control and associated diseases. A brief summary of selected recent and/or ongoing research projects is presented in this chapter.

HIGHCare  
STROKE registry  
AF  
FMD  
BP Control Study  
HTN emergency  
ESH APP Pilot Study  
MASTER  
ESH CHL SHOT Study

### HIGHCare

**By Giafranco Parati (Milan, Italy) on behalf of the investigators**

Acute exposure to high-altitude hypoxia induces important changes in cardiovascular regulation, including an increase in sympathetic activity which might affect blood pressure (BP) and heart rate (HR). Investigating such changes is important, given that millions of subjects travel for relatively short periods of time to high altitude either for work or for leisure, including many affected by hypertension or cardiovascular diseases, in whom the cardiovascular effects of high altitude may be relevant. Also, the cardiovascular effects of chronic exposure to altitude needs to be better investigated, given that a large number of people in Asia, Latin America and Africa live permanently at altitudes higher than 2500 m. Systematic new information on these issues has been provided by the ESH-endorsed HIGHCARE (HIGH altitude Cardiovascular Research) Projects. The HIGHCARE studies, focusing on the cardiovascular effects of acute exposure to high altitude hypobaric hypoxia either in normotensive or in hypertensive subjects, have clearly demonstrated a BP rise proportional to the altitude reached. This altitude-induced BP increase can be counterbalanced by a number of pharmacological and non-pharmacological interventions, including acetazolamide, CCB/ARB combination, beta-1 selective vasodilating beta blockers, CPAP application and paced slow breathing. The HIGHCARE studies investigating the effects of chronic exposure to hypobaric hypoxia at altitude aim at better understanding the mechanisms responsible for adaptation and maladaptation to hypoxia, the latter associated with chronic mountain sickness. These studies have a strong translational impact, as their results are relevant also for patients affected by chronic conditions associated with hypoxemia at sea level.

The HIGHCARE studies have led to the first clinical recommendations ever yielded by a panel of International Scientific Societies for safe exposure to altitude of patients with cardiovascular conditions. The HIGHCARE projects have so far resulted in 33 publications by the end of 2018.

## ESH Stroke Survey

By Renata Cifkova (Prague, Czech Republic) on behalf of the investigators

The ESH Stroke Survey was an observational study with the objectives:

1. To determine, in patients after their first-ever ischemic stroke, whether the European recommendations on cardiovascular and cerebrovascular disease secondary prevention are being implemented.
2. To detect potential differences in the secondary prevention of patients with ischemic stroke among European countries.

The survey was conducted in the following centers:

### Czech Republic

- Thomayer University Hospital, Prague
- Charles University Medical and University Hospital, Pilsen

### Poland

- Medical University of Gdansk

### Hungary

- Semmelweis University, Budapest

### Croatia

- University Hospital Center Rebro, Zagreb

### United Kingdom

- University of Glasgow

### Spain

- Clinical Hospital of Valencia
- University of Barcelona

### Italy

- University of Brescia
- University Hospital Bologna

### Greece

- Asklepeion General Hospital, Athens
- Hippokration Hospital, Athens
- Sotiria Hospital, Athens
- Alexandra Hospital, Athens
- Second Propedeutic Department of Internal Medicine, Aristotelian University of Thessaloniki
- First Propedeutic Department of Internal Medicine, Aristotle University of Thessaloniki

### Conclusions:

- We found a high prevalence of major cardiovascular risk factors in patients surviving their first-ever ischemic stroke, with hypertension being the most prevalent one and **affecting more than 80% of the study population.**
- Despite the fact that almost 90% of the hypertensive patients report taking antihypertensive medication, a **BP < 140/90 mmHg is achieved only by 44%.**
- Statins are taken by 60% of post-stroke patients, but **LDL-cholesterol < 2.5 mmol/l is achieved by less than 50%.**
- Our results indicate failure of lifestyle measures:
  - **one third** of post-stroke patients continue smoking
  - **obesity** affects about **40%** of post-stroke survivors
- Data on use of antiplatelets and anticoagulants are relatively satisfactory.
- Overall, our findings are consistent with poor implementation of guidelines for **secondary prevention in clinical practice.**
- Most of post-stroke patients are treated by GPs, our results highlight the need for specifically addressing the GPs to recall the importance of hypertension control and other secondary preventive measures.

## ESH Atrial Fibrillation Research Project

By Enrico Agabiti-Rosei (Brescia, Italy) on behalf of the investigators

This Research Project has been organized as a Survey in patients, referred to ESH Excellence Centres, in whom hypertension is accompanied by atrial fibrillation.

### Main aims of this Research Project are:

- assessment of prevailing BP levels in patients with hypertension and atrial fibrillation followed in accredited official ESH Hypertension Centres
- assessment of how much these values may change when a different number of readings (from 1 to 4) is considered
- assessment of the correspondence between auscultatory and oscillometric BP values in the office
- collection of information on risk factors and target organ damage in these patients
- collection of information on their treatment strategies, including use of anticoagulants

Centres from European countries (Albania, Belgium, Croatia, Greece, Italy, Lithuania, Poland, Romania, Spain) have participated and data are being collected from a total number of about one thousand patients.

Analysis of data is ongoing, and preliminary results on 2/3 of patients can be summarized as follows:

- patients are usually at high CV risk, as demonstrated by the frequent presence of comorbidities and the high mean CHA<sub>2</sub>DS<sub>2</sub>-VASC score (above 3)
- adequate BP control is observed in about 60% of patients
- frequent use of antihypertensive combination therapy (in more than 80%), with the use of three or more drugs in about 50% of patients
- similar prevalence of controlled BP using measurements with either auscultatory or oscillometric method.

These data may be useful in order to improve the management of patients with atrial fibrillation, considering that hypertension may account for more cases of atrial fibrillation than any other risk factor.

## FMD

### Brief History and Aims of The European Fibromuscular Dysplasia registry and initiative

By Alexandre Persu (Brussels, Belgium)

The European Fibromuscular Dysplasia Registry and Initiative (coordinated by Alexandre Persu) was launched in December 2015 on the occasion of the First Brussels Meeting on Fibromuscular Dysplasia (FMD) and subsequently endorsed by the ESH. The European FMD registry has been adapted from the French FMD Registry (coordinated by P.-F. Plouin), created in 2010 to merge existing local FMD databases. From December 2015 to March 2019, more than 1000 patients from 17 countries have been enrolled. With inclusion of patients from Argentina, China, Japan and Tunisia, it is progressively becoming international. The registry provides an ideal framework for projects devoted to epidemiology, natural history and genetics of FMD, as well as for validation of novel biomarkers. Other aims of the European FMD initiative include standardization of diagnosis and management of FMD, development of a network of expert centres and a patient association across Europe and beyond. Besides partnership with preexisting initiatives such as the French NOMADE and Polish ARCADIA-POL registries, the European FMD initiative has developed extensive collaborations with the US FMD registry leadership, leading to organization of an International Symposium on FMD in Brussels (22-24th February 2019) and publication of the first International FMD consensus (J Hypertens. 2019;37:229-252; Vasc Med. 2019 Jan 16) co-chaired by A. Persu (Brussels) and H. Gornik (Cleveland).



International Symposium on FMD, Royal Academy of Medicine, Brussels, 22-24th February 2019

## BP Control Study

By Bojan Jelakovic (Zagreb, Croatia) on behalf of the investigators

**Blood Pressure Control Study (BP-CON-ESH) - Study of the European Society of Hypertension on Blood Pressure Control in ESH Excellence Centres- dedicated to Professor Alberto Zanchetti**

**Scientific Steering Committee:** B. Jelakovic, K. Tsioufis, E. Agabiti Rosei, G. Manica, R. Kreutz, J. Polonia, A. Januszewicz

**Safety Committee:** E. Lurbe, A. Coca, D. Lovic

The most important task of the ESH is to improve blood pressure treatment and increase blood pressure control, thus decreasing cardiovascular risk, premature cardiovascular and renal morbidity and mortality, with in addition a reduction of health-care costs. More than a decade ago, the ESH established a network of Excellence Centres. Those centres are leading institutions for the diagnosis and treatment of hypertension and thus are front runners of good clinical practice in hypertension management in their countries. An important task of the Excellence Centres is also to be active in research, particularly in projects conducted by the ESH. The ongoing BP-CON-ESH project on the rate of blood pressure control in hypertensive patients addresses the most elementary, but at the same time the most important aspect in hypertension management, because the observed low rates of blood pressure control is the reason why hypertension is still today the leading cause of death worldwide. Ninety-two centers from 28 countries agreed to participate; members of the scientific steering committee are: B. Jelakovic, K. Tsioufis, E. Agabiti Rosei, G. Mancina, R. Kreutz, J. Polonia, A. Januszewicz; members of the safety committee are: Empar Lurbe, A. Coca, D. Lovic. The project is supported by the ESH Robyn Lynch in the ESH secretary and by Branimir Krtalic who is serving as a liaison officer. Coordinating Excellence center is University Hospital Center Zagreb, Croatia. The pilot study was organized in 14 Excellence centers in Croatia, Greece, Italy, Romania, Serbia and Slovenia.

In the BP-CON-ESH study we are going to include and analyze treated hypertensive patients seen consecutively by the ESH Excellence Centres. Blood pressure will be measured as usually done in the office, but care will be adopted to make measurements highly standardized in all Centres. In addition, blood pressure will be measured in the unattended setting to obtain data of such values in real-life across Europe.

The primary goals will be to determine the global, regional and country rates of hypertension control in Europe. Other goals will be to identify global and regional factors associated with blood pressure control in different European regions. It is well known that the overall control of hypertension in Europe is still insufficient. However, the problem is not the same across Europe. Differences in healthcare systems exist among European countries, and in some countries government healthcare system only partially reimburse costs of antihypertensive therapy. There are also differences in gross national product, educational levels, salt consumption, prevalence of obesity and other aspects. These could cause dissimilarities in hypertension prevalence, achieved blood pressure control rates and cardiovascular mortality among European regions.

The results obtained in the BP-CON-ESH project will be used to refine treatment strategies for improvement of blood pressure control and will serve as a basis for assessing future changes and trends in Europe.

## HTN emergency

### ESH registry of hypertensive URGencies and EMergencies (ESH-URGEM) and The HAMA registry

By Konstantinos Tsioufis, Kyriakos Dimitriadis, Christos Fragoulis, Romain Boulestreau and Michel Azizi on behalf of investigators

**Background:** Hypertension emergencies are heterogenous disorders in which severe grade 3 hypertension is associated with acute organ damage, which is potentially life threatening and requires immediate and careful lowering of blood pressure (BP), usually with intravenous (i.v.) therapy. The term hypertensive urgencies is used to describe severe hypertension with lack of acute organ damage. Whereas hypertension treatment strategies are well defined by international guidelines, few evidence-based recommendations are available on acute severe hypertension. Epidemiological data on prevalence and clinical features of patients referred to the emergency departments are limited along with diagnostic and management algorithms in spite of their relevance from a public health perspective. Based on the above the European Society of Hypertension (ESH) plans to develop a comprehensive research effort called the ESH registry of hypertensive URGencies and EMergencies (ESH-URGEM).

**OBJECTIVES:** The aim of this registry of patients with hypertensive emergencies and urgencies who report to the emergency departments of “ESH Excellence Centers” affiliated hospital during a period of 12 months is to investigate:

1. The prevalence of hypertensive emergencies and urgencies
2. The main causes of acute severe BP increase and the clinical characteristics of patients
3. The management of these patients in the emergency department
4. The medical instructions at discharge

**METHODS:** The study will be conducted in the emergency department of each “ESH-Excellence Center” affiliated hospital. In each participating study center the investigators should record all cases presented at the emergency department during 1 working day for at least 12 consecutive hours. Moreover, each center should record cases at least 1 day per week for a total period of 12 months. Enrollment will continue until all centers have completed the 12-month data collecting time frame.

**CLINICAL IMPLICATIONS:** The results of the ESH-URGEM registry will contribute to record the current prevalence of hypertensive urgencies and emergencies, the phenotype of patients, the causes of acute BP rise, as well as the current treatment and overall management trends in the diverse ESH centers. The findings will contribute to better comprehend the current status of the clinical problem and to design integrated ESH strategies for both prevention and treatment of hypertensive urgencies and emergencies.

The ESH-URGEM will be potentially associated with the below described HAMA registry that is planned to take place initially in centers in France and Greece.

#### **The HAMA registry**

“A New Breath for Malignant Hypertension: Implementation of the HAMA Cohort (HAMA)”

HAMA registry will be the first prospective multicentre cohort on malignant hypertension. It aims to modernize our understanding of this disease and our management. It will focus on the pathophysiology, definition, diagnostic criteria of the disease. The prognosis of these patients will be revised, the target organ damage described with modern tools, and the therapeutic aspects scientifically evaluated.

## **ESH APP Pilot Study**

**BP control with the ESH CARE app: A pilot study in 6 European countries**

**By Konstantinos Tsioufis, Dimitris Konstantinidis, Dimitris Soulis and Giafranco Parati on behalf of the investigators**

**Rationale:** The proven efficacy of telemonitoring hypertensive patients therefore led the AHA/ACC 2017 and ESH/ESC 2018 guidelines to dedicate a separate paragraph to the telemonitoring systems, recommending them to improve the BP control levels (IIa, A). However, the clinical application of these systems is hindered by the increased cost of the telemonitoring special devices. To solve this problem, a new mobile phone application has been developed under the auspices of the European Society of Hypertension (ESH) to manage BP control. This application is the first to be developed by a scientific society, ensuring the accuracy, validation and continuous updating of the content, according to the published guidelines. ESH itself has approved the use of the application for the remote monitoring of hypertensive patients. It was originally named "Eurohypertension," and was renamed "ESH CARE" in its latest and most updated version.

The ESH CARE application is available in 10 languages and allows the user to save BP and heart rate measurements, along with information regarding medication and possible side effects. Moreover, there are reminders for receiving the medication. There is a special section that provides information on HTN, cardiovascular risk and possible complications such as atrial fibrillation. Stored values are displayed in graphical format and allow the saved data to be sent to a special webpage where the results are organized and analyzed by a specific patient management system. The patient states the e-mail of the attending physician and the system sends the physician codes to access patient data, allowing to assess the control of the BP, the level of cardiovascular risk, accurately titrate the antihypertensive drugs, with the subsequent possibility of accurate and continuous monitoring of patients' progress.

The application was tested in a pilot study in North Italy. After 6 months, the application improved significantly the BP control rate, supporting the efficacy of this method in managing hypertensive patients by offering the physician a powerful tool for assessing HBP measurements.

**Methods-study population:** Driven by the need for more effective strategies for BP control and the positive results of the pilot study, the ESH has organized a new study in order to investigate whether an innovative management strategy of HTN based on the combination of standard care plus telemonitoring using the ESH CARE App, compared to standard care, improves BP control. The study will be conducted in at least 12 ESH



Excellence Centers in 6 countries (Greece, Germany, Serbia, Belgium, Croatia and Poland). The primary endpoint will be the differences in office and ambulatory BP control rates at 6 months in the 2 groups, while secondary outcomes will be differences in: 1) office and ambulatory systolic and diastolic BP reduction, 2) adverse events because of treatment, 3) body weight changes, 4) number of unscheduled office visits, 5) number of prescribed antihypertensive drugs.

**Application Assisted Strategy (AAS):** Patients are provided with the ESH CARE mobile phone application to communicate HBPM to a referral center, where antihypertensive treatment is titrated when HBP  $\geq 135/85$  mmHg.

**Standard care:** Regular office visits at the referral center and titration of antihypertensive treatment when office BP is  $\geq 140/90$  mmHg.

Patients included in the study will be hypertensive patients, with or without treatment and office BP  $\geq 140/90$  mmHg and 24-hour ABPM  $\geq 130/80$  mmHg at baseline visit. In all patients there will be given lifestyle recommendations and titration of the antihypertensive treatment at the discretion of the physician. Patients will be randomized in the two follow-up groups. A new evaluation will be performed at 1 and 3 months (in the ASS by the BP values sent by the application, in the standard care by the office BP measurements) and a new drug titration (with up-dosing or adding new drugs) will be done if BP exceeds the BP limits. In this case, patients will have an unscheduled reassessment one month later (2 or 4 months). At the end of the follow-up, at 6 months, all patients are evaluated at an office visit, with office BP measurements and ABPM.

The ESH has already developed an extension platform of the application which serves as an eCRF and moreover facilitates the follow up of the ASS group patients providing automated personalized messages to patients and doctors in different scenarios.

## MASTER

By Gianfranco Parati (Milan, Italy) on behalf of the investigators

### **MASKed-unconTrolled hyperTension management based on office BP or on ambulatory Blood Pressure measurement (MASTER) Study. A randomised controlled trial.**

Masked uncontrolled hypertension (MUCH) carries an increased risk of cardiovascular complications and can be identified through combined use of office and ambulatory blood pressure (ABP) monitoring (M) in treated patients. However, it is still debated whether the information carried by ABPM should be preferred to office (O)BP for MUCH management. Aim of MASTER study is to assess the impact on outcome of MUCH management based on OBP measurements as compared to a management based on ABPM. MASTER is a 4-year prospective, randomized, open-label, blinded-endpoint investigation. A total of 1240 treated hypertensive patients from about 40 secondary care clinical centers worldwide will be included upon confirming presence of MUCH (repeated on treatment OBP  $\geq 140/90$  mmHg, and at least one of the following: daytime ABP  $\geq 135/85$  mmHg; nighttime ABP  $\geq 120/70$  mmHg; 24h ABP  $\geq 130/80$  mmHg) and will be randomized to a management strategy based on OBP measurements (Group1) or on ABPM (Group2). Patients in Group1 will have OBP measured at 0, 3, 6, 12, 18, 24, 30, 36, 42, 48 months and taken as a guide for treatment; ABPM will be performed at randomization and at 12, 24, 36, 48 months but will not be used to take treatment decisions. Patients randomized to Group2 will have ABPM performed at randomization and at all scheduled visits as a guide to antihypertensive treatment. The effects of MUCH management strategy based on ABPM or on OBP measurements on cardiovascular and renal intermediate outcomes (changing left ventricular mass and microalbuminuria, co-primary outcomes) at one year and on cardiovascular events at 4 years, as well as on changes in BP-related variables, will be assessed. The MASTER study protocol has received approval by the Ethical

Review Board of Istituto Auxologico Italiano as well as by the ethics committees of participating Institutions. The procedures set out in this protocol, are in accordance with principles of Declaration of Helsinki and Good Clinical Practice Guidelines. Results will be published in accordance with the CONSORT statement in a peer-reviewed scientific journal.

## **ESH CHL SHOT study**

**By Giuseppe Mancina (Milan, Italy) on behalf of investigators**

The ESH-CHL-SHOT trial is a randomized trial on Chinese and European hypertensive patients with a previous cerebrovascular event whose aims are 1) to determine the achieved systolic blood pressure values that minimize stroke recurrence and 2) to test whether stroke recurrence differs when higher vs lower doses of statin are used to reduce the LDL-cholesterol values. The trial, devised on behalf of ESH and the Chinese Hypertension League by the late Professor Alberto Zanchetti (University of Milan) and Professor Lisheng Liu (Beijing Hypertension League Institute) has so far recruited more than 3000 patients, mainly in China. Recruitment and follow-up continue in order to achieve the number of stroke recurrences required by the protocol. Professor Giuseppe Mancina (University of Milano-Bicocca) has replaced Professor Zanchetti as co-Chairman of the trial while Professor Gianfranco Parati, Scientific Director of the Istituto Auxologico Italiano (the European sponsor of the trial) is the General Coordinator. A most important aspect of the trial is that patients are randomized to the achievement of three on-treatment systolic blood pressure ranges, i.e. 135-144 mmHg, 125-134 mmHg and < 125 mmHg. This will allow to determine more precisely the optimal blood pressure target for secondary stroke prevention. It will also allow to prove or disprove the existence of a J curve, an unachievable goal by previous trials with only two groups of randomized patients.



[ Chapter 11 ]

# ESH Summer Schools

## ESH SUMMER SCHOOLS

This year marks the 20th anniversary for Renata Cifková as Head of the ESH Summer Schools. Over the last 20 years Renata has sustained the Summer Schools with dedication.

Behind her modest exterior she relishes in the opportunity to support and encourage young fellows from the hypertension community. We take this opportunity to thank her for her tireless commitment to the ESH and to the Summer Schools.

The first official ESH Summer School was organized by Professor Luis Ruilope in El Escorial, Spain in 1995. However, its history goes back to 1991 when the German Institute for High Blood Pressure Research decided to organize a summer school for young fellows interested in hypertension. This event was the predecessor for several following Hypertension Summer Schools and eventually the ESH Summer Schools. The Summer School was initiated by Professor Detlev Ganten (Heidelberg, Germany) and Professor Joel Menard (Paris, France). It was conducted under the leadership of Professor Ganten and Professor Thomas Unger (Heidelberg, Germany) at Heinsheim Castle near Heidelberg in the scenic Neckar River Valley.



An original Diploma for a student (i.e. Reinhold Kreutz, who became a member of the ESH Scientific Council in 2015 and ESH Secretary in 2017) who participated in the first Hypertension Summer School in 1991 is shown.

Summer Schools near Paris (1992) and Glasgow (1993) followed in subsequent years, organized by Joel Menard and John Reid, respectively. In 1994, Thomas Unger was again in charge of the Summer School held at Lago di Garda. In 1995 it was agreed that ESH was to take responsibility for the Summer School, which thus became an official activity of ESH. Consequently, ESH Summer Schools were held at El Escorial (Spain) in 1995 (organized by Luis Ruilope), at Les Diablerets (Switzerland) in September 1996 (organized by Bernard Waeber), in Paris (France) in September 1997 (organized by Joel Ménard), and in Schloss Salzaun near Kiel (Germany) in October 1998 (organized by Thomas Unger).

In 1998, Renata Cifkova, then a new and young member of the ESH Scientific Council, was appointed to be responsible for the ESH Summer Schools. Since 1999, she has been also involved as a faculty member.

In 1999, the Summer School was organized by Hermann Haller at the newly reconstructed university campus in Berlin-Buch. The fellows stayed within the campus and had the opportunity to visit the research laboratories several times during the course. An unforgettable event was the cycling tour organized by Fred Luft, a former professional cyclist, losing half of the participants on their way through forests surrounding Berlin and its lakes.

In 2000, Renata Cifkova organized the Summer School in Senohraby, a recreational area near Prague. The participants and the faculty stayed in a comfortable yet isolated hotel difficult to escape from. Nevertheless, a guided tour to Prague was arranged during the course.

In the year 2001, just five days before the event, the world was shocked by the terrorist attacks on September 11. In that particular year, the school was scheduled to be held in Gdansk, Poland, and organized by Krzysztof



<sup>†</sup> The editorial team would like to thank Renata Cifkova for her great contribution in Chapter 10. Also, thanks to E. Agapiti-Rosei and A. Coca for their contribution.

Narkiewicz. Despite some initial uncertainty whether to go ahead with the course, Renata Cifkova decided to run the course and it later turned out that only one participant cancelled his trip. A specific feature of this Summer School was that the participants had to take a boat to attend the lectures held in a museum across a canal.

The 2002 ESH Summer School was hosted by Anna Dominiczak in Glasgow. The fellows and faculty stayed in a dormitory located outside the university campus. During the course, a visit to the university research laboratories and the Glasgow Infirmary Stroke Unit was arranged. While the Loch Ness Monster failed to emerge, the participants were able to enjoy the beauty of Scotland's landscape flavored by Scotch whisky.

In 2003, Peter Nilsson was in charge of the ESH Summer School held in Ystad, Sweden, in a hotel (formerly a salt bath) on the shores of the cold Baltic Sea. Several sightseeing tours took the participants to various places in southern Sweden including the summer house of former UN Secretary General Dag Hammarskjöld and an apple farm serving meals and drinks made exclusively from their own apples.

In 2004, Enrico Agabiti-Rosei selected an absolutely unique place for the ESH Summer School: a pastoral center within a monastery in Brescia, Italy, located directly in the city center.

In the year 2005, the ESH Summer School moved for the third time to Central Europe. Csaba Farsang organized the course in Visegrad, Hungary, in a hotel on a hill over the Danube River.

In 2006, the venue of the course was a hotel situated in the center of Valencia, Spain. This was a unique opportunity for the fellows to admire both the old and modern architecture of Valencia including the farewell dinner in the Aquarium.

In 2007, the ESH Summer School was organized by Athanasios Manolis in a resort in Olympic Riviera in Greece. A tour to ancient Olympia was offered during the course.

Jean-Michel Mallion was appointed to organize the course in 2008. He selected, for the venue, an old elegant hotel belonging previously to the Russian Tsar family in Annecy, France.

In 2009, the ESH Summer School was held in Smolenice Castle, Slovakia, at the foothills of the Little Carpathian near Bratislava, with Slavomira Filipova as the course director. The castle currently serves as an educational center of the Slovak Academy of Sciences. The fellows were taken to see not only the capital of Slovakia but, also, some castles and manors in the countryside and enjoyed a lot of tasty local food and wine.

So far, the most difficult place to reach but an absolutely gorgeous one was Rovinj, Croatia. The Summer School in 2010 was held in a convenient hotel on a small island accessible only by boat. Bojan Jelakovic, the course director, arranged a number of trips to various places including the Island of Brioni, a former summer residence of Josip-Broz Tito.

The 2011 ESH Summer School was hosted by the city of Barcelona and organized in an amazing way by Antonio Coca. The venue was a lovely hotel near the coast, so the participants could enjoy a brief swim at noon breaks. The program included – for the first time – original presentations by fellows introducing their own research.

Alice Stanton was appointed to run the ESH Summer School in 2012. She selected for the venue a nice centrally located hotel in Dublin. On one day in the morning, the fellows had the chance to get involved in “hands-on sessions” at Beaumont Hospital in Dublin. An extraordinary leisure time activity was swimming at the 40 foot, Sandycove, followed by dinner at Royal St. George Yacht Club.

The 2013 ESH Summer School was organized by Fernando Pinto in Porto, Portugal, in a hotel directly on shore. A unique event was dinner under the bridge designed by Gustave Eiffel.

Yoto Yotov from Varna, Bulgaria, was in charge of the Summer School in 2014. The venue was a hotel on the Black Sea coast. Another great event was the Summer School in 2015, organized by Bruno Watschinger in Hernstein, a castle close to Vienna, once a hunting lodge of the Habsburgs.



In 2016, the ESH Summer School was organized for the second time by Enrico Agabiti-Rosei, this time on the Garda Lake. In 2017, Maria Dorobantu selected Snagov, a remote place near Bucharest. This was the last summer school we had Prof. Alberto Zanchetti, a life legend of hypertension, with us. He was 91 years old, presenting two brilliant lectures and enjoying discussions with our young fellows. His comments were critical but expressed in a considerate, subtle, yet stimulating way.

The most recent Summer School was organized by Michel Burnier in Les Diablerets, a beautiful place in the Swiss Alps. One afternoon, the participants had a unique opportunity to visit a glacier at 3000 m, where some of the fellows got involved in simple experiments at high altitude, such as blood pressure and heart rate measurements. There is a growing interest in attending the ESH Summer School, with the number of participants being around 60 in recent years, and with approximately equal representation of Eastern and Western Europe.

There is also a growing interest in hosting the event, with locations and persons in charge approved by the ESH Scientific Council already until 2020.

The general information on ESH Summer Schools including information for applicants is available online at <https://www.eshonline.org/>.

#### History and future of ESH Summer Schools

Year	Country	City	Organizer
1995	Spain	El Escorial	Luis Ruilope
1996	Switzerland	Les Diablerets	Bernard Waeber
1997	France	Paris	Joel Menard
1998	Germany	Schloss Salza (nr Kiel)	Thomas Unger
1999	Germany	Berlin	Hermann Haller
2000	Czech Republic	Senohraby (nr Prague)	Renata Cifkova
2001	Poland	Gdansk	Krzysztof Narkiewicz
2002	United Kingdom	Glasgow	Anna Dominiczak
2003	Sweden	Ystad	Peter Nilsson
2004	Italy	Brescia	Enrico Agabiti Rosei
2005	Hungary	Visegrad	Csaba Farsang
2006	Spain	Valencia	Josep Redon
2007	Greece	Olympia	Athanasios Manolis
2008	France	Annecy	Jean-Michel Mallion
2009	Slovakia	Smolenice	Slavomira Filiova
2010	Croatia	Rovinj	Bojan Jelakovic
2011	Spain	Barcelona	Antonio Coca
2012	Ireland	Dublin	Alice Stanton
2013	Portugal	Porto	Fernando Pinto
2014	Bulgaria	Varna	Yoto Yotov
2015	Austria	Schloss Hernstein (nr Vienna)	Bruno Watschinger
2016	Italy	Desenzano del Garda	Enrico Agabiti Rosei
2017	Romania	Snagov (nr Bucharest)	Maria Dorobantu
2018	Switzerland	Les Diablerets	Michel Burnier
2019	Greece	Brauron (Attica)	Konstantinos Tsioufis
2020	Serbia	Sremski Karlovci	Dragan Lovic

## SELECTED PHOTOS FROM RECENT ESH SUMMER SCHOOLS



2006 ESH Summer School, Valencia (Spain) with the 3 Spanish faculty members in the center of the photo (from left to right: Jose Rodicio, Joseph Redon, and Antonio Coca), and Stephane Laurinet (the second standing person from the left)



2009 ESH Summer School, Smolenice Castle, Slovakia



2010 ESH Summer School. A trip to the island of Brioni, a residence of former President Josip-Broz Tito. Peter Sleight in the first row of the car, and Bojan Jelakovic, the local organizer of the event, in the third row



2011 ESH Summer School in Barcelona, Spain, with the faculty in the first row (from left to right): Lina Badimon, Gianfranco Parati, Renata Cífková, Antonio Coca, Josep Redon, Empar Lurbe and Peter Sleight



2012 ESH Summer School in Dublin, Ireland; fellows near the Beaumont Hospital; Peter Sleight, in the back in the middle (wearing red sweater)



2013 ESH Summer School in Porto, Portugal; Peter Sleight in the middle of the first row; Renata Cífková next to him on his right; followed by Fernando Pinto, local organizer of the course





2014 ESH Summer School in Varna, Bulgaria; in front of the venue on the shore of the Black Sea



2015 ESH Summer School, Hernstein Castle near Vienna, Austria;  
photo taken in the courtyard, with Alberto Zanchetti in the first row (sixth from left),  
Gianfranco Parati (next to him on his right), Enrico Agabiti-Rosei (next to him on his right),  
and Bruno Watschinger, local organizer of the course



2016 ESH Summer School, Desenzano del Garda, Italy; with Enrico Agabiti-Rosei  
in the middle of the first row and Konstantinos Tsioufis next to him on his left



2017 ESH Summer School, Snagov, Romania; Renata Cifková in the middle of the first row, Giuseppe Mancina (on her left), followed by Anna Dominiczak, Maria Dorobantu (local organizer), Alberto Zanchetti, Enrico Agabiti-Rosei, Empar Lurbe, Peter Nilsson and Krzysztof Narkiewicz



2017 ESH Summer School, Snagov, Romania; Alberto Zanchetti fully engaged in his lecture, in excellent shape for his age (91 years)



2018 ESH Summer School, Les Diablerets, Switzerland; fellows returning to the hotel from the conference center



Thomas Kahan in les Diablerets ESH Summer School 2018. Science and adventure combined

**2019 ESH Summer Schools**  
**Vravrona, Athens, Greece**  
**14-20/9/2019**  
Course Director: K. Tsioufis



**2020 — ESH SUMMER SCHOOL**  
**12-18 September, 2020**  
**Sremski Karlovci (Serbia)**  
Director: D. Lovic





## ESH SUMMER SCHOOL IN LATIN AMERICA IN CLOSE COOPERATION WITH AMERICAN SOCIETY OF LATIN AMERICA (LASH): AN ALWAYS SUCCESSFUL EVENT

An initiative leading by A. Coca

This project continues its successful course and every year a summer school is organized in a different country of Latin America. Below are some photos from summer schools organized recently.



2016 ESH Summer School Guatemala, Latin America, Faculty members



2016 ESH Summer School Guatemala, Latin America, Faculty members



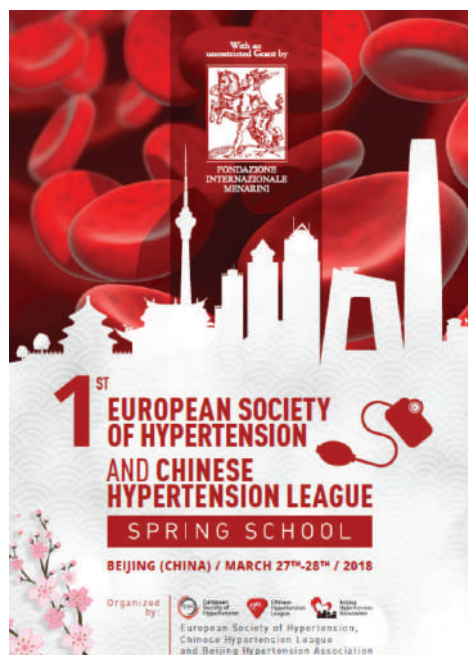
2019 ESH LATAM Summer School, Santo Domingo, Latin America:  
A. Coca on the podium.



2019 ESH LATAM Summer School,  
Santo Domingo, Latin America

## ESH SPRING SCHOOLS IN CHINA IN COOPERATION WITH CHL:

A Promising Project initiated by E. Agabiti - Rosei



2018 ESH Spring School in China.  
Representatives of ESH and CHL



2018 ESH Spring School in China.  
Prof. Liu among ESH and CHL faculty members



European  
Society of  
Hypertension



Chinese  
Hypertension  
League



Beijing  
Hypertension  
Association

**ESH/CHL SPRING SCHOOL ON HYPERTENSION**

**June 4th- 5th, 2019**

**SHANGHAI (CHINA)**





[ Chapter 12 ]

# Honorary members and awardees

## HONORARY MEMBERS AND AWARDEES

The ESH has established a number of awards listed below. Furthermore, it gives honorary membership to scientists who have made extraordinary contributions to research in hypertension or who have given exceptionally important support to the activities of the Society.

### Björn Folkow Award and Lecture

Established by the ESH with the generous collaboration of Astra Zeneca in 1989, it continues to be awarded to a person who has carried out original research in physiology that has contributed to our understanding of the pathogenesis of hypertension.

1989	James Conway (Oxford, United Kingdom)
1991	Martin A.D.H. Schalekamp (Rotterdam, The Netherlands)
1993	Michael J. Mulvany (Aarhus, Denmark)
1995	Paul I. Korner (Woolwich, Australia)
1997	Giuseppe Mancia (Milan, Italy)
1999	Thomas Unger (Berlin, Germany)
2000	Michael O'Rourke (Darlinghurst, Australia)
2001	Thomas F. Lüscher (Zurich, Switzerland)
2003	Friedrich C. Luft (Berlin, Germany)
2004	Robert Fagard (Leuven, Belgium)
2005	Hermann Haller (Hannover, Germany)
2006	Anthony M. Heagerty (Manchester, United Kingdom)
2007	Carl Erik Mogensen (Aarhus, Denmark)
2008	Anna F. Dominiczak (Glasgow, United Kingdom)
2009	Guido Grassi (Milan, Italy)
2010	Ernesto Schiffrin (Montreal, Canada)
2011	Peter M. de Leeuw (Maastricht, The Netherlands)
2012	Murray D. Esler (Melbourne, Australia)
2013	Stéphane Laurent (Paris, France)
2014	Garry L. Jennings (Melbourne, Australia)
2015	Gianfranco Parati (Milan, Italy)
2016	Mark J. Caulfield (London, United Kingdom)
2017	Xavier Jeunemaitre (Paris, France)
2018	Dominik N. Müller (Berlin, Germany)

### Alberto Zanchetti Lifetime Achievement Award

Established by the ESH in 1995; presented to a scientist with life-long high-quality scientific research in the field of hypertension.

- 1995 Yuri V. Postnov (Moscow, Russia)
- 1997 Hans R. Brunner (Lausanne, Switzerland)
- 1999 Michel Safar (Paris, France)
- 2001 Peter A. van Zwieten (Amsterdam, The Netherlands)
- 2003 Anthony F. Lever (Glasgow, United Kingdom)
- 2004 Wilhelm H. Birkenhager (Rotterdam, The Netherlands)
- 2005 Peter Sleight (Oxford, UK)
- 2006 Eberhard Ritz (Heidelberg, Germany)
- 2007 Karl Heinz Rahn (Münster, Germany)
- 2008 John Chalmers (Sydney, Australia)
- 2009 Pierre Corvol (Paris, France)
- 2010 Stevo Julius (Ann Arbor, USA)
- 2011 Allyn L. Mark (Iowa City, IA, USA)
- 2012 Robert H. Fagard (Leuven, Belgium)
- 2013 W. Januszewicz (Warsaw, Poland)
- 2014 Eberhard Ritz (Heidelberg, Germany)
- 2015 Franz Messerli (New York, USA)
- 2016 Joel Menard (Paris, France)
- 2018 Sverre E. Kjeldsen (Oslo, Norway)

## ESH Honorary Membership

Established by the ESH in 2001, to be given to a scientist who has made extraordinary contributions to research in hypertension or who has given exceptionally important support to the activities of the Society.

- 2001 Peter Sleight (Oxford, UK)
- 2005 Stevo Julius (Ann Arbor, USA), B.N.C. Prichard (London, UK)
- 2006 Alberto Zanchetti (Milan, Italy)
- 2007 Per Lund-Johansen (Bergen, Norway), Jir'í Widimský Sr. (Prague, Czech Republic)
- 2008 Liu Lisheng (Beijing, China)
- 2009 Jose L. Rodicio (Madrid, Spain), Peter van Zwieten (Amsterdam, The Netherlands)
- 2010 Detlev Ganten (Berlin, Germany)
- 2011 Denis L. Clement (Gent, Belgium)
- 2012 Giuseppe Mancina (Monza, Italy)
- 2013 Toshiro Fujita (Tokyo, Japan)
- 2014 Csaba Farsang (Budapest, Hungary)
- 2016 Josep Redon (Valencia, Spain)
- 2018 Patricio López-Jaramillo (Bucaramanga, Colombia)

## Lennart Hansson Memorial Lecture

Established by the ESH in 2003, to be conferred upon a scientist who has obtained important results in the field of clinical hypertension and trials.

- 2003 Stevo Julius (Ann Arbor, MI, USA)
- 2005 Per Omvik (Bergen, Norway)
- 2006 Dick De Zeeuw (The Netherlands)

- 2007 Denis Clement (Gent, Belgium)
- 2008 Sverre E. Kjeldsen (Oslo, Norway)
- 2009 Bernard Waeber (Lausanne and Fribourg, Switzerland)
- 2010 Thomas Hedner (Goteborg, Sweden)
- 2011 Luis M. Ruilope (Madrid, Spain)
- 2012 Neil R. Poulter (London, United Kingdom)
- 2015 Krzysztof Narkiewicz (Gdansk, Poland)
- 2016 Roland E. Schmieder (Erlangen, Germany)

## Paul Milliez Award

The venue of the ESH meeting offers a special opportunity to attribute an award to a French scientist acknowledged for his accomplishments in the field of hypertension.

- 2004 Michel Safar (Paris, France)
- 2005 Joel Ménard (Paris, France)
- 2006 Pierre Corvol (Paris, France)
- 2007 Albert Mimran (Montpellier, France)
- 2008 Bernard I. Levy (Paris, France)
- 2009 Jean-Michel Mallion (Grenoble, France)
- 2010 Gérard London (Fleury-Mérogis, France)
- 2011 Pierre François Plouin (Paris, France)
- 2012 Stéphane Laurent (Paris, France)
- 2013 Faiez Zannad (Nancy, France)
- 2017 Michel Azizi (Paris, France)
- 2018 Michel Beaufrils (Paris, France)

## Jiří Widimský Sr. Award

Presented to three distinguished young European investigators (no older than 40 years) who have conducted promising research in the field of clinical or experimental hypertension and presented at the ESH meetings.

- 2002 Jana Loukotova (Prague, Czech Republic), Mikołaj Winnicki (Padova, Italy and Gdansk, Poland), Zoltan Lako-Futo (Budapest, Hungary)
- 2004 Dagmara Hering (Gdansk, Poland), Tatiana Kuznetsova (Leuven, Belgium), Maciej Tomaszewski (Glasgow, UK)
- 2005 Jitka Kuceroval (Plzen, Czech Republic and Leuven, Belgium), Katarzyna Stolarz (Cracow, Poland), Branislav Strauch (Czech Republic)
- 2006 Otto Mayer Jr (Plzen, Czech Republic), Ludovit Paulis (Bratislava, Slovak Republic), Grzegorz Bilo (Cracow, Poland)
- 2007 Katarzyna Styczkiewicz (Milan, Italy and Cracow, Poland), Martin Mraz (Kosice, Slovakia), Zivka Dika (Zagreb, Croatia)
- 2008 Pantelis Sarafidis (Thessaloniki, Greece), Piotr Jankowski (Cracow, Poland), Katia Bürgi (Sao Paulo, Brazil), Maria Alejandra Lopez Verrilli (Buenos Aires, Argentina)
- 2009 Ivan Pecin (Zagreb, Croatia), Jacek Wolf (Gdansk, Poland), Ondrej Petrak (Prague, Czech Republic)

- 2010 Denisa Celovska (Bratislava, Slovak Republic), Jan Rosa (Prague, Czech Republic), Marcin Adamczak (Katowice, Poland)
- 2011 Zuzana Somloova (Prague, Czech Republic), Agnieszka Rojek (Gdansk, Poland), Peter Studinger (Budapest, Hungary)
- 2012 Ludwina Szczepaniak-Chicheł (Poznan, Poland), Peter A. van Zwieten (Amsterdam, The Netherlands), Alena Krajcoviechová (Prague, Czech Republic)

## Peter Sleight Award

Established in 2008 with a research grant made available by Boehringer Ingelheim. Conferred upon an investigator who has made an outstanding contribution to research, education, and leadership in the fields of hypertension and cardiovascular protection. One important award criterion is the number of citations received within the last 12 months.

- 2009 Renata Cifková (Prague, Czech Republic)
- 2010 Olle Melander (Lund, Sweden) and George Stergiou (Athens, Greece)
- 2011 Enrico Agabiti Rosei (Brescia, Italy)
- 2012 Javier Díez (Pamplona, Spain)
- 2013 Jens Jordan (Hannover, Germany)
- 2014 Bryan Williams (London, United Kingdom)

## Servier SNS Research Award of ESH (2003-2007)

Established in 2003 and consisting of a research grant made available by Servier. It has been given biannually by Servier to an investigator presenting a high quality research project on the role of sympathetic nervous system in cardiovascular disease.

- 2003 Markus Schlaich (Erlangen, Germany)
- 2005 Krzysztof Narkiewicz (Gdansk, Poland) 2
- 2007 Gino Seravalle (Milan, Italy)

## Servier Research Grant in Hypertension

The newly-instituted Servier Research Grant in Hypertension is awarded every 2 years for a European research proposal in the field of hypertension and related diseases with a focus on end organ damage, surrogate markers, and biomarkers. The selection is made by a committee appointed by ESH.

- 2011 Kostantin E. Kotliar (Munich, Germany)
- 2013 Stefano Masi (London, United Kingdom)
- 2015 Sebastien Foulquier (Maastricht, The Netherlands)
- 2017 Dagmara Hering (Gdansk, Poland)
- 2019 *to be announced in ESH Milan meeting 2019*

## Talal Zein Award

The Talal Zein Foundation has established the Talal Zein Award to be presented annually to a distinguished scientist originating from a Mediterranean country, in recognition of outstanding work related to the basic science, epidemiology, pathophysiology or therapy of hypertension and other cardiovascular diseases.



- 2011 Empar Lurbe (Valencia, Spain)
- 2012 George Bakris (Chicago, USA)
- 2013 Athanasios Manolis (Athens, Greece)
- 2017 Guido Grassi (Milan, Italy)
- 2018 Costas Thomopoulos (Athens, Greece)

## Peter A. van Zwieten Award

Established in 2011 this award is dedicated to the late Prof. Peter A. van Zwieten in recognition of his exceptionally important support to the activities of the Society.

- 2011 Michel Azizi (Paris, France)
- 2013 Michel Burnier (Lausanne, Switzerland)
- 2015 A.H. Jan Danser (Rotterdam, The Netherlands)
- 2017 Thomas Unger (Maastricht, The Netherlands)

## AIM Research Award in the name of Professor Alberto Zanchetti

Established in 2018 this award is presented to young researches in memory of the late Prof. Alberto Zanchetti.

[ Chapter 13 ]

# The Foundation of the European Society of Hypertension

## THE FOUNDATION OF THE EUROPEAN SOCIETY OF HYPERTENSION

The Foundation of the European Society of Hypertension (FESH) has been officially created on March 11, 2004 as a Swiss Foundation. The objectives of the Foundation are to stimulate and support educational and research activities in the area of hypertension and cardiovascular prevention, in agreement and coordination with the European Society of Hypertension.

**More specifically, the activities declared in the Foundation statute are:**

1. The promotion and support of national and international scientific activities and research projects;
2. The promotion and support of advance education projects for physicians and students
3. The promotion and support of exchange visits for researchers, teachers, graduates and students
4. The promotion and support of the training of researchers and students

The first president of the Foundation was Prof. Wolfgang Kiowski from Zurich, Switzerland and members were Prof. José Rodicio from Madrid, Spain, Prof. Anthony Heagerty from Winslow, UK, Prof Renata Cifkova from Prague, Tchequia, and Mr Beat Steimen from Switzerland.

**Today, the composition of the Foundation members is the following:**

- Prof. G. Mancia, Milan, President
- Prof. M. Burnier, Lausanne, Treasurer
- Prof. A. Dominiczak, Glasgow, Member
- Prof. J. Redon, Valencia, Member
- Prof. R. Cifkova, Prague, Member
- Mr Beat Steimen, Switzerland, Member

A main task of the Foundation is to promote educational activities throughout Europe, the main event being the yearly ESH Hypertension Summer School and Masters Courses on diagnosis and management of hypertension in European countries. In the last few years these Master Courses have also been organized in extra-European countries, such as China, India, north Africa, the Middle East area and Latin America. From 2006 to 2014, the Foundation also supported an ESH Advanced Course on Hypertension or Winter School, involving predominantly presidents of European national Hypertension Societies.

The Foundation is also supporting financially research projects developed by members of the ESH. Thus, projects on the epidemiology of hypertension and cardiovascular risk factors in Europe such as the Target Organ Damage in a Prospective Intervention Cohort (TOPIC), Importance of Genes and Interactions of Risk Factors for Target Organ Damage and Prognosis in Hypertension (HyperGIROD); and the study on hypertension and stroke management in Europe have been funded by the ESH Foundation. Together with ESH, FESH is also involved in the research project that will determine the level of hypertension awareness, treatment and control in Europe.

The Foundation of the European Society of Hypertension remains heavily involved in supporting educational and research activities in the field of hypertension and associated diseases.

Prof. G. Mancia, president

Prof. M. Burnier, treasurer



[ Chapter 14 ]

# Current status of ESH and looking into the future



## CURRENT STATUS OF ESH AND LOOKING INTO THE FUTURE

**T**he history of the European Society of Hypertension (ESH) starts back in 1983 when the first meeting was held in the Ospedale Maggiore in the surroundings of the Milan University. From this moment the ESH has evolved and gained the recognition from the medical community globally. Throughout the last 30 years the ESH enhanced its contribution and influence on the modern approach to arterial hypertension therapy and reduction of overall cardiovascular risk.

Based on the principles of its foundation the most important task of the ESH is to improve blood pressure treatment and increase blood pressure control, thus decreasing cardiovascular risk, premature cardiovascular and renal morbidity and mortality, in addition to reducing health-care costs. The other complementary objective of the ESH is to promote, endorse and organize activities involved with the continuing medical education in the field of hypertension and associated cardiovascular diseases.

As we are approaching the 3rd decade of the 21st century, the question is how to stay true to the ESH founding principles, while remaining relevant in a changing and uncertain landscape. This is highly important since the dogmas of the past and the certainties are inadequate for the everchanging future. The ESH, the members and the governance must rise to the occasion, thus we must think anew and act anew. In this sense the current status of the ESH is the basis for the evolution and only by setting clear goals and envisioning the priorities, the needed strategic planning can be outlined.

The demographic changes with the ageing of the population being a modern clinical therapeutic problem, the advancements in the technology (big data, continuous monitoring, use of applications etc.), the globalization of the information and the stringest regulatory environment clearly alter the way a modern scientific society such as the ESH should guide its path during the next years. Looking into the future, ESH should maintain and reinforce its position as a leader in education and research in the field of hypertension. In order to achieve the above, actions should be taken in order to improve scientific knowledge exchange and professional development, facilitate research efforts and innovations, promote patient care in Europe and globally, as well as becoming a Society with authority to support policies for cardiovascular health.

The ESH can base its evolution and address future challenges on the following 3 important **“innovation pillars”**: **Education, Research and Networking**

### 1. Education

#### A. Meetings

Starting with education, it is essential for physicians interested in hypertension to be updated in a structured manner by the ESH during their lifetime in their area of special interest. Nowadays, this can be achieved by both participation in scientific events and in online educational platforms and material. The ESH provides these opportunities by the Annual European Hypertension Meeting which is the flagship event of the ESH that offers the highest quality scientific programs related to research in Basic and Clinic areas in Hypertension with State-of-the-Art Lectures, Satellite Symposia, Teaching Sessions and credits for qualifying as Hypertension Specialists of the ESH. This year the 30 years of the Society are celebrated in Milan (Italy) and the following Annual Congresses are already scheduled for 2020 – May 29-June 1, Glasgow (U.K.) Joint ESH/ISH meeting, 2021 – June, Milan (Italy) and 2022 – June, Athens (Greece).

An innovation that should be more evolved is the online transmission of sessions from these meetings, because not all members of the ESH could attend onsite and this material can be accessed whenever the registered attendee wishes. Due to the fast-paced life of doctors, this availability of information is of outmost importance.

Organization of Summer Schools dates back to 1999 with the first summer School taking place in Berlin (Germany). This once-in-a-lifetime event is attended by participants nominated by their National Society of Hypertension and also serves as a network of young experts who can in the future become essential contributors in the ESH activities and vision. The concept of Summer Schools should be evolved in the years to come to foster the new generation of hypertension experts by also organizing dedicated sessions for research and educational projects by the young members. Posting on the web part of the proceedings could provide an additional educational tool specifically designed for the young.

Towards the scope of improving education and care in hypertension, the **ESH Satellite Symposia** take place each year with increasing attendance and impact in the hypertension community. These highly specific and focused meetings are key gatherings for connecting specialists and form the propositions for scientific collaborations, since the participants and the faculty share common concepts and research goals. Moreover, these meetings endorsed by the ESH help younger colleagues to be involved and make their first but important “steps”. Finally, there are other related meetings that are not necessarily sponsored and/or endorsed by the ESH but are associated with the activities of the Society and enrich its audience and community impact. One of the potential axes of innovation is the selection of the events in which the ESH could more actively contribute by providing organizational planning and participate more actively reinforcing the connections with other societies and groups of physicians.

### The “reconstructing innovation” of Meetings

Changes in the format and goals of future ESH Meetings are needed due to the fact that the attendees have different opinions, ideas, scientific background and interests. Using informative applications available onsite the participants can organize their own program of the ESH event leading to an “individualized event”. Most importantly, in order to address the needs of diverse and new audience the scaffold of the ESH Meetings program can change and adopt to current trends. Online surveys before the meetings gathering information on what interests the most the today’s physician is essential.

The Meetings are excellent mediators of public advice and setting the rules for improving lifestyle and adherence to medical management. A stronger connection of patient groups and their interests with the organizational committees is obligatory in order to enhance the social visibility and impact of the ESH activities. Campaigns for amelioration of hypertension control and awareness during the annual Congress or during other ESH meetings in multiple sites (via the network of the Excellence Centers and National Societies) can direct the ESH to a wider, stronger and more influential audience.

In other words, the ESH aims to provide better hypertension care and education **by the doctors and for the doctors, from the society and to the society**. Finally, another major point is the connection of hypertension topics to other important clinical ones of cardiovascular medicine underlying the fundamental role of hypertension management. By the abovementioned actions the “reconstruction and innovation” of Meetings can alter the ESH positioning in the “mind and heart” of cardiovascular physicians and also of the society.

## B. The Online Education activities

For the scope of continuous medical education, the use of online material and resources is a current reality. Towards this end, the ESH provides the Annual Meeting Highlights incorporating a mix of sessions, interviews and teaching seminars. These are important sources of education and further organization of the material in order to improve access is needed. Recordings from sessions during the annual Summer Schools are also posted in the dedicated ESH site, rendering some part of this important educational initiative of the society accessible to viewers.

The main initiative that reflects the innovation in online educational approach is the **ESH e-Learning**. This platform offers selected educational resources to both ESH-members and non-members. The goal is to support and serve the needs of physicians and health care professionals who are engaged in hypertension management providing access to various materials such as a new Hypertension Basics Teaching Module that will be continuously expanded. These are supplemented with access to ESH Congress Webcasts, Teaching Seminars, Practice Newsletters and Guidelines on Hypertension Management. Moreover, there are optional tests for self-assessment and amelioration of knowledge. A further categorization of learning objectives and the interactive nature of the modules can improve the use and accessibility of the visiting physicians. The ESH e-Learning module can be effectively be the tool to be evolved in the scaffold of online hypertension education in the years to come by designing specific areas of specialization in hypertension and related cardiovascular diseases.

## 2. Research

There are many actions by the ESH promoting research and collaboration between physicians and centers. The main driver are the registries (the real-life data) that can be extended, communicated and result in participation of more researchers for a more global data collection that would lead to easy to generalize conclusions. Such projects are focusing on secondary forms of hypertension, emergency and malignant hypertension, as well as blood pressure measurements, atrial fibrillation, stroke etc. A broadening of research goals targeting diverse pathologies in the context of hypertension related cardiovascular disorders will enhance the positioning of the ESH in the field of overall cardiovascular medicine.

Towards these ends dedicated groups of specific research interests can be created based on the form of the Working Groups but also can act as links between the latter if appropriate. Selection of priorities of research to be conducted, coordination and access to the decision makers in the European Union and more globally if possible. This is of major importance since in the modern era there is a need from scientific societies who wish to lead like the ESH to participate in the decision making of health policies. Given that hypertension is one of the most important cardiovascular risk factors, ESH can influence the directions of public health care as well as research and economical support via funding from industry, organizations, individual countries, European Union programs and beyond. Scholarships can be further promoted between members of the ESH and younger physicians. A list of ESH Excellence Centers and related Clinics that can organize these fellowships programs for a varying period from 3 months to 1 year (along with detailed description of the specific knowledge and expertise a fellow can get in each institution) can really facilitate the exchange of experience and foster the next generation of hypertension experts and researchers. This **“reconstructing innovation”** of Research (experimental and streamline) can make the ESH a society that incubates and manages state-of-the-art cardiovascular-related programs that can change and ameliorate the clinical practice and lives of millions of patients.

### 3. Networking

A live and thriving scientific society is the one that is based primarily in its members. Innovation of membership of the ESH can have two main directions: The one is the members' benefits in terms of education, research opportunities, access to online material and a more "personalized" information policy by the ESH. The second direction can be evolution and enhancement of the sub-specialty communities of members mainly in the current form of the WGs that can effectively organize more joined actions and events. Being a member of the ESH can be equal to being updated on the best available clinical practice, advance research and participate with peers in an environment of excellence and continuous medical education.

The use of online ESH resources from members, as well as proper utilization of the social media can improve the feeling of a homogeneity in practicing hypertension care by the rules and values of the ESH. Formation of a stronger network can make the ESH empowered because it is the energy, the knowledge, the experience and the efforts not only of the ESH governance but also of each individual member and participant in the ESH events that can pave the way to the future of the Society.

Concluding, as the Greek philosopher Heraclitus said: "Everything changes" and this is also true for science, medical profession and public health needs and policies. For the ESH to address the modern challenges it needs to adapt the best way possible, by reconstructing and innovating the actions and available resources while staying faithful to the founding principles and visions of the pioneers. So, let's "think anew and act anew" and lead the ESH to an even brighter future for the physicians, the patients and the society.

**Konstantinos Tsioufis**

President of the European Society of Hypertension (2017 - 19)

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the 1990s, the number of people in the UK who are employed in the public sector has increased by 1.5 million, from 2.5 million in 1980 to 4 million in 1999. The public sector has grown from 10% of the economy to 15% of the economy.

There are a number of reasons for this increase. One of the main reasons is the increasing demand for public services. The population of the UK is increasing, and the demand for public services is increasing. This is particularly true of the health service, which is facing a major challenge in the 21st century. The demand for public services is also increasing because of the increasing demand for social services. The population of the UK is ageing, and the demand for social services is increasing.

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