EHRA

ACTIVITY REPORT





EHRA European Heart Rhythm Association

www.escardio.org/EHRA •

President's Introduction



On behalf of the EHRA Board 2020-2022, I am honoured and pleased to present the 2022 activity report of the European Heart Rhythm Association (EHRA) of the European Society of Cardiology (ESC).

We would like to sincerely thank all the volunteers and staff who invest so much time and energy participating in the life of EHRA.

EHRA is a strong community of electrophysiologists (EPs) and allied professionals from Europe and beyond.

In 2022 we went back to a 'more normal' life with the possibility of face-to-face meetings with strong networking and interaction between healthcare professionals involved in the field of EP and cardiac implantable devices.

One of the most important events for EHRA was its congress in Copenhagen with an onsite and online format. This hybrid congress was an amazing success with a wonderful ambiance and very happy attendees. We are very grateful for the work carried out by the EHRA Congress Scientific Programme Committee which built a wonderful programme of 123 sessions held over three days. The congress was attended by 4,870 participants from 96 countries - 3,753 of them onsite. Thank you for your active participation at that meeting. We were happy and proud to offer nearly 400 EHRA Educational Grants to attend the congress.

As always, our Education Committee was very active. We had very successful courses on cardiac devices and EP with more than 300 participants among physicians and allied professionals. EHRA also organised 17 webinars with 6,650 attendees throughout the year covering the full spectrum of innovations in EP.

The Stroke Prevention and Rhythm Control Therapy (STEEER-AF) Project is currently active in six countries to determine whether a comprehensive educational programme will improve guidelineadherent treatment for stroke prevention and rhythm control, compared with no structured education.

The widely recognised EHRA Cardiac Pacing and Electrophysiology Exams for physicians and EPs were successfully delivered online for the second year, as was the second edition of the EHRA EP Exam in Spanish in collaboration with the Latin American Heart Rhythm Society.

EHRA is involved in different EU-funded projects, ESCAPE-NET, PROFID, AFFECT-EU, as well as the EHRA-PATHS Project coordinated by EHRA.

The EHRA Digital Committee has put substantial effort into the digital health area with the presentation of many sessions during the congress, as well as the development of a practical guide on the use of digital devices which are now present in our daily activities.

EHRA collaborated very closely with the ESC Patient Forum and was proud to launch in February, 2022 its new patient website dedicated to patients with an implanted cardiac device: www.myrhthmdevice.org - now already available in Spanish. EHRA also worked throughout the year on updating its patient website, www.afibmatters.org, with the addition of new features (patient tools, video testimonials, etc.) and the release of a new version in Greek.

The e-Communication Committee has intensified our communication through social media, as well as with the creation of EHRA podcasts featuring key opinion leaders.

You have received many surveys from the EHRA Scientific Initiatives Committee and we thank you for your regular and active participation. The results of all these surveys are published in *EP Europace*.

The EHRA Scientific Documents Committee was active with the publication of very important manuscripts in *EP Europace* about genetics, digital devices, leadless pacemakers, as well as extravascular implantable cardioverter defibrillators and mitral valve prolapse.

The EHRA Board took an important decision that *EP Europace* was to become an open-access journal as of 1 January, 2023. We would also like to congratulate Prof. Gerhard Hindricks for his

outstanding contribution as Editor-in-Chief during the past five years. A new Editor-in Chief was appointed, Prof. Angelo Auricchio, who has important new projects for our journal.

Last but not least, we are very proud to announce that in 2022 EHRA had one of the highest membership figures over the past years with 4,145 paying members – a testament to the vitality of our association. A new and simpler membership scheme was launched in 2022 with one membership level. We were also delighted to award 13 EHRA Members with the Fellow of EHRA (FEHRA) title.

Finally, in 2022 the EHRA elections nominated Prof. Helmut Pürerfellner as President-Elect, Prof. Isabelle Van Gelder as Treasurer, and Prof. Haran Burri as Secretary. A new nominating committee was also elected with Prof. Laurent Fauchier, Dr. Ali Hussam, Dr. Georges H. Mairesse, Dr. Angel Moya Mitjans, and Dr. Michael Spartalis.

At the end of August 2022, I handed the presidency over to Prof. Jose Luis Merino. I am sure that under his leadership EHRA will continue to grow and develop more activities. EHRA is in good hands with Jose Luis Merino as President.

All these activities and many others are possible only with the involvement and wonderful work of volunteers and EHRA Board Members, as well as the support of our community.

We must also thank our EHRA staff members and the European Heart House staff for their valuable commitment, as well as the ESC leadership for its support of EHRA. We hope you will appreciate the results of these contributions and that this report will reinforce your willingness to be an EHRA contributor or to become one of our active members - if you are not yet involved in these activities.

Feel free to contact the EHRA Board and <u>staff</u>. We need all of you – Young EPs and more senior EPs – with your energy and your projects. Join the EHRA family!

EHRA is yours! Christophe Leclercq, EHRA President Sept 2020 - Aug 2022

Highlights 2022

Our mission:

"Improving the quality of life and reducing sudden cardiac death by limiting the impact of heart rhythm disturbances." Over 6,500 healthcare professionals participated in our webinars

4,780 registrations for EHRA 2022

> **13 languages** are available on <u>Afibmatters.org</u>

> > New patient website

4,145 EHRA Members

> 27 educational events (courses, webinars and exams)

4 EU-funded projects with EHRA involvement

EHRA Board 2020-2022

Executive Board Members

President Prof. Christophe Leclercq FESC, FEHRA

Past-President

President-Elect

Prof. Haran Burri

FESC, FEHRA

FESC, FEHRA

Treasurer

FEHRA

Prof. Hein Heidbuchel

Prof. Jose Luis Merino







Secretary Prof. Kristina Hermann Haugaa FESC, FEHRA



Ex-Officio: Appointed Member

Prof. Gerhard Hindricks Editor-in-Chief of *EP Europace* Journal FESC, FEHRA



Ex-Officio: Working Group Representatives

Dr. Polychronis Dilaveris Rep. of the ESC Working Group on e-Cardiology FESC

Prof. Michael Gatzoulis Rep. of the ESC WG on Adult Congenital Heart Disease FESC

Assoc. Prof. Carol Ann Remme Rep. of the ESC Working Group on Cardiac Cellular Electrophysiology FESC

Prof. Elijah Behr Rep. of the European Cardiac Arrhythmia Genetic Group FESC











EHRA Board members at EHRA 2022, Copenhagen (Denmark)

EHRA Board 2020-2022

CONGRESS PILLAR

Pillar Chairperson

& Congress Scientific Programme Committee Chairperson Prof. Isabelle C. van Gelder



Seducation Pillar

Pillar Chairpersons

& Certification Committee Chairperson Dr. Stylianos Tzeis



& Education Committee Prof. Jan Steffel



& Selection Committee Chairperson Dr. Giovanni Luca Botto FESC. FEHRA



ADVOCACY PILLAR

Pillar Chairperson

& Digital Committee Chairperson Dr. Emma Svennberg FESC



mHealth, Health Economics and PROM Coordinator Prof. Giuseppe Boriani FESC, FEHRA



Patient Coordinator Prof. Jean-Claude Deharo FESC



e-Communication **Committee Chairperson** Dr. David Duncker FESC, FEHRA



🛃 RESEARCH PILLAR

& Scientific Documents Committee Chairperson



Scientific Initiatives Committee Chairperson Assoc. Prof. Serge Boveda FESC, FEHRA



MEMBERSHIP PILLAR

Pillar Chairperson

& International Affairs Coordinator Prof. Helmut Pürerfellner FESC



National Cardiac Societies Committee Chairperson Assist. Prof. Sime Manola FESC



Young EP Committee Chairperson Dr. Kasia Malaczynska-Rajpold



🐵 | Congress Pillar

SONGRESS PILLAR

🛓 Pillar Chairperson

& Congress Scientific Programme Committee Chairperson Prof. Isabelle C. van Gelder FESC, FEHRA

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Congress Scientific Programme Committee Co-Chairperson Dr. Tom De Potter



<u>EHRA congress</u> is the annual highlight of the association. It is also the leading European EP conference, providing participants with the latest in science and education in the field of cardiac rhythm disorders.

Following the sudden COVID-19 pandemic and the resulting impact on scientific meetings in 2020-2021, we were extremely excited to be able to lead the way in designing and implementing a hybrid format for the EHRA 2022 congress - a first within the ESC family.

The goal of cementing the newly discovered benefits of online participation - in particular the engagement of a new, younger and more diverse audience - while again leveraging the strengths of an onsite meeting with networking and unconstrained ideation was clearly met as indicated by the very strong participation, both in the online as well as in the onsite cohorts. Faculty from 36 different countries provided the content that drives our congress, and selected portions of this live content was broadcasted on two channels every day for the online audience to benefit from. We hope you enjoyed attending the meeting as much as we enjoyed building it.

Facts and Figures

4,780 participants (3,753 delegates onsite)1,015 exhibitors

96 countries represented





262 faculty

20 satellite symposia







20 years of EHRA to celebrate and showcase innovations Join us in Barcelona or online from wherever you are in the world



🐵 | Congress Pillar

EHRA 2022 featured six joint sessions with sister societies

Society	Торіс	Session title	Chairs	Faculty
APHRS	Rhythm Control, Catheter Ablation	The future of atrial fibrillation (AF) ablation around the world	C. Leclercq W. Shimizu	H. Pak H. Purerfellner M. Stiles R. Tilz
CHRS	Supraventricular Tachycardia (Non-Atrial Fibrillation)	Modern approaches to the management of supraventricular tachycardias	JL. Merino L. Sterns	E. Arbelo CH. Heeger G.M. Nair F.R. Quinn
CSPE	Treatment	News on supraventricular tachycardia	H. Heidbuchel D. Huang	M. Chen H. Crijns P. Lambiase W. Zulu
HRS	Left Atrial Appendage Closure	Role of atrial appendage closure in stroke prevention	C. Albert C. Blomstrom- Lundqvist	L. Boersma L. Di Biase J. Healy B. Schmidt
JHRS	Syncope and Bradycardia	Clinical impact of a syncope	C. Leclercq K. Satomi	M. Brignole P. Debruyne H. Minamiguchi Y. Yazaki
LAHRS	Arrhythmias, General	Your worst nightmares in the lab: what to do and what not to repeat?	M. Figueiredo C. Leclercq	A. Auricchio A. Cuesta Holgado JL. Merino L.C. Saenz Morales

| Education Pillar

EDUCATION PILLAR

Pillar Chairpersons

& Certification Committee Chairperson Dr. Stylianos Tzeis



& Education Committee Chairperson Prof. Jan Steffel FESC, FEHRA

& Selection Committee Chairperson Dr. Giovanni Luca Botto FESC, FEHRA



With high-quality educational courses and webinars year-round, as well as certification and professional training and grants, education remains the most attractive benefit of being an EHRA Member. EHRA is very active in maintaining a strong connection within the community and has adapted the two EHRA courses to a hybrid format.



ESC eLearning

All the current knowledge has been transferred to the new platform, launched in January 2023. EHRA will continue delivering a series of training modules as well as coordinating cardiovascular training for the various subspecialties.

EHRA Key Reference Library

The Key Reference Library is based on the EHRA Core Curriculum for the heart rhythm specialist and provides a guide for both electrophysiologists in training, those who plan to sit the EHRA Certification Exams, as well as experienced specialists wanting to update their knowledge. It includes more than 400 references from all fields of invasive electrophysiology and cardiac devices.

The Key Reference Library is a dynamic online document that EHRA Members may suggest correcting, adding or replacing content and/or references.



📀 | Education Pillar

EHRA Educational Courses

Every year, EHRA designs and provides the latest educational training programmes to help maintain professional excellence among cardiologists specialising in cardiac devices and electrophysiology. EHRA delivered five courses.

Date	Торіс	Location	Course Director	Attendees
May	EHRA Interventional EP and Examination Preparatory Course (EPC)	Onsite Paris, France	M. Earley M. Hemels	48
June	EHRA Course on Cardiac Pacing, ICD and Cardiac Resynchronisation	Onsite Vienna, Austria	J.C. Nielsen C. Steinwender	95
Sept.	EHRA course on Interventional Electrophysiology and Examination Preparatory for Allied Professionals	Online	A.Sultan J. Vögler	28
Oct.	EHRA Course on Advanced EP, with Focus on AF Ablation	Barcelona studio for faculty Online audience	T. De Potter L. Mont	132
Nov.	EHRA Course on Advanced EP, with Focus on VT Ablation	Barcelona studio for faculty Online audience	T. Deneke M. Saba	87

EHRA Collaborative Courses

EHRA in Kazakhstan

The third edition of the EHRA collaborative course in Kazakhstan took place online and onsite (Astana, Kazakhstan) on 7 & 8 October 2022. This course titled 'Cardiac arrhythmia management and cardiac electrophysiology for cardiologists' was organised by the Kazakh Society of Arrhythmologists with the participation of EHRA faculty; Helmut Pürerfellner.





23 speakers

5 live cases

7 master classes



Webinars

EHRA organised a total of 17 webinars, as shown in the table below.

In line with its decision to focus on its community during the pandemic, EHRA provided broad access to most of its webinars. As a result, EHRA conducted seven webinars exclusive to EHRA Members and 10 open-access webinars (available to all). Furthermore, EHRA delivers quarterly "Fundamentals in arrhythmias" webinars which address general cardiologists, cardiology fellows in training (young EHRA Members, Cardiologists of Tomorrow (COT)) and cardiologists wishing to update their scientific knowledge on the topic. One of these fundamental webinars was made accessible to all.

All webinar recordings are available here.

Date	Торіс	Presenter	Moderator	Attendees
Jan.	Inherited cardiomyopathies: genetics and treatment*	C. R. Bezzina	C. A. Remme	511
Jan	Which patients benefit from leadless pacemakers?	C. de Asmundis & A. Sultan	J. Steffel	567
Feb	Meet the Editors: How to read, review, write and enjoy a research paper*	G. Hindricks	J. Steffel	110
Feb	The 12-lead ECG in the differential diagnosis of bradyarrhythmias -FUNDAMENTAL	J. Farré	K. Ellenbogen	879
March	The role of arrhythmia nurses and allied professionals in AFIB management: easy as ABC? - EHRA/ACNAP joint webinar*	J. Hendricks	C. Watkins	44
Apr	EHRA expert consensus statement on arrhythmic mitral valve prolapse and mitral annular disjunction complex*	A. Sabbag	K. Haugaa	145
Мау	EHRA/HRS/APHRS/LAHRS consensus document on the state of genetic testing in cardiovascular disease*	P. Charron	A. Wilde	89
Мау	Basic pacemaker programming - FUNDAMENTAL	J.C. Nielsen	D. Keene	776
June	Arrhythmias and metabolic pathways: New mechanisms, new opportunities*	R. Rainbow & G. Baris	R. Proietti	53
Jul	New tools and technologies to improve outcome of AF ablation	V. Reddy & H. Pürerfellner	J. Kautzner	294
Jul	Innovation in the cloud: See what artificial intelligence can do for ICMs	R. Providencia & G. Molon	G. Hindricks	219
Sept	Patient selection and device optimization for leadless pacemakers	L. Mont & S. Boveda	T. Reichlin	288
Oct	Differential diagnosis of narrow QRS complex tachycardias - FUNDAMENTAL	J. Steffel	R. Proietti	1,460
Oct	Innovations in ICD therapy: The Extravascular ICD	L. Boersma & M. Sterlinski	JL. Merino	374
Oct	EHRA position paper on management of arrhythmias in elderly and frailty syndrome	S. Fumagalli & I. Savelieva	S. Harrison	337
Νον	Shining through: New frontiers for temperature controlled RF ablation	D. Shah & C. Martin	L. Boersma	201
Dec	Novel insights on sudden cardiac arrest - lessons from the ESCAPE-NET project*	J. Tfelt-Hansen & J.P. Empana	H.L. Tan	302

* Exclusive access for EHRA Members.

📀 | Education Pillar



STEER-AF

The Stroke prevention & rhythm control Therapy (STEEER-AF) project consists in the evaluation of an educational programme of the European Society of Cardiology, in an unblinded cluster-randomised controlled trial, in patients with atrial fibrillation. This is a two-armed, parallel-design, international multicentre trial (3 phase project).

In 2014, EHRA, together with the ESC and the ESC Council on Stroke, performed a needs assessment (Phase 1 - completed) to understand the educational needs of cardiologists, neurologists and GPs/ FPs in six countries (Germany, France, Italy, Spain, UK and Poland) in the following areas:

- 1. Current treatment and management of AF
- 2. Utilisation of optimal stroke prevention strategies with AF patients
- 3. Other potential issues and barriers in the management of AF

This study also included the design and the deployment of accredited educational activities allowing participants to gain up to 11 CME points (Phase 2 - in progress).

A quantitative study to assess outcome using a pragmatic cluster-randomised trial will be conducted in those six ESC countries and will be led by investigators from those countries, with 10 to 15 sites per country (Phase 3 - in progress). The primary objective of the trial will be to determine whether a comprehensive education programme for healthcare professionals who treat patients with AF will improve guideline-adherent treatment for stroke prevention and rhythm control, compared with no structured education.

The follow-up of the study is ongoing.

- All centres have been activated in the six participating countries (70 sites). 64 centres met their inclusion target of 25 patients (91,4%)
- The randomisation of the centres started in May 2022 and is already effective for 74.3% of them
- The educational programme has started and will continue until the first quarter of 2023

📀 | Education Pillar

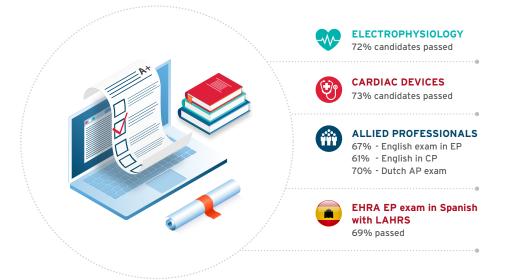
Certification

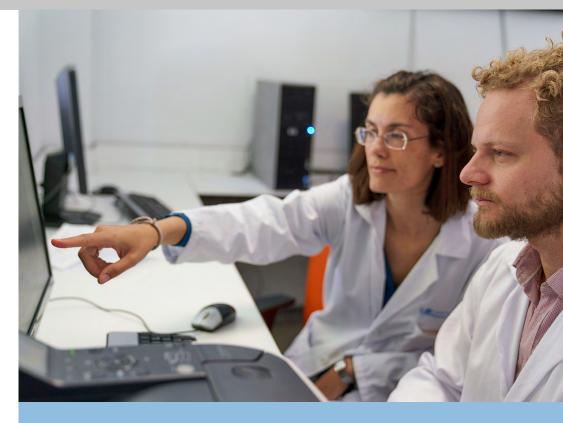
Designed to certify both practical experience and expertise in cardiac devices and electrophysiology, <u>EHRA Certification</u> was launched in 2005. In recent years, success rates have improved, which may in part be due to the exam preparatory courses organised by the EHRA Education Committee.

The online format allowed candidates to sit the EHRA certification exam using their own computer or tablet from their preferred location.

The exam consists of a rigorous test of knowledge with pass marks set by the standard-setting committee using validated statistical methods. EHRA certification process assesses the competence, knowledge and skills of physicians and allied professionals. Success in the exam provides a 10-year certification at level 1, but for physicians, an additional logbook is needed to achieve the full level 2 certification.

The proportion of candidates who passed the online exam in 2022





EHRA Recognised Training Centres (ERTC)

The EHRA Certification Committee is also in charge of <u>EHRA_Recognised Training Centres (ERTC)</u>, an initiative that encourages good educational practices by providing a quality label for training excellence and efficiency.



Nine new centres went through the selection process in 2022 and are now enrolled in the programme, bringing the total number of ERTC to 45.

The ERTC renewal process was also launched in 2022. Therefore, centres who joined more than five years ago were asked to renew their certification.

I Education Pillar

Selection

The EHRA Selection Committee continues to manage training fellowship activities which promote the development of academic medicine in the field of cardiac rhythm disorders.

EHRA Training Fellowhip grants

<u>EHRA Training Fellowships</u> are offered to give physicians the opportunity to gain specialised training in clinical electrophysiology or cardiac pacing carried out in an ESC member country, preferably outside their home country.

Two EHRA Training Fellowship grants (one in EP and one in CP) were awarded to physicians from across Europe.

EHRA Observational Training programme (EOTP)

Four EOTP were granted in 2022 to visit a centre for two to four weeks.

EHRA Congress Educational Grants

The Selection committee is committed to guaranteeing access to EHRA Congress Grants. **Nearly 400 Congress Educational grants were awarded** for EHRA 2022 in Copenhagen, Denmark allowing winners to benefit from a free congress registration and getting part of their travel costs covered.

Fellow of EHRA (FEHRA)

Lastly, the EHRA Selection Committee is also responsible for reviewing the Fellow of EHRA (FEHRA) applications. This prestigious title recognises EHRA Members who have made exceptional contributions to cardiac rhythm, distinguishing themselves in clinical, educational, and organisational aspects of the field.



In 2022, the FEHRA title was awarded to 13 prominent EHRA Members.



ADVOCACY PILLAR

🛓 🛛 <u>Pillar Chairperson</u>

& Digital Committee Chairperson Dr. Emma Svennberg FESC



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mHealth, Health Economics and PROM Coordinator Prof. Giuseppe Boriani FESC, FEHRA



Patient Coordinator Prof. Jean-Claude Deharo FESC

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e-Communication Committee Chairperson Dr. David Duncker FESC, FEHRA



EU-Funded Projects

EHRA is involved in several EU-funded projects and is recognised as an important partner to disseminate the results within the cardiovascular community (practitioners, researchers and institutions) ensuring a large audience is aware of the latest and best practices to improve the patients' outcomes.

ESCAPE-NET (European Sudden Cardiac Arrest Prevention Education Network)

The ESCAPE-NET project aims to maximise the exploitation of the European cohorts by bringing together Europe's largest SCA study cohorts in one joint database consisting of >94,000 SCA cases. This will generate the power necessary to unravel the complex causes of SCA with the strategy of a multi-scale approach, ranging from genomics to the socio-economic environment of each individual in the community. This will form the foundation of a personalised risk score, and the development of effective individualised prevention and treatment strategies. As treatment of SCA (particularly first-response treatment) is different between European countries, combining the large cohorts that are present across Europe additionally creates the opportunity to evaluate and compare treatment strategies.

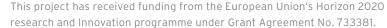
On 2 December an EHRA webinar took place on the subject of "Novel insights on sudden cardiac arrest - lessons from the ESCAPE-NET project".

The project ended in December 2022.



ESCAPE NET Consortium Meeting, May 2022





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🔅 🛛 Advocacy Pillar

PROFID

The aim of PROFID is to develop a personalised prediction of risk for sudden cardiac death (SCD) after myocardial infarction, a leading cause of death in Europe, as well as a personalised SCD prevention by targeted implantation of an implantable cardioverterdefibrillator. The goal is to successfully prevent the majority of the catastrophic SCD events that occur after myocardial infarction by accurate and timely identification of patients that are at high risk for SCD followed by implantable cardioverter defibrillator.

In 2022, PROFID partners finalised the first phase of the project, which is the Clinical prediction model development. This model was presented at ESC Congress 2022 in Barcelona during the session "Latest Science in Arrhythmias" by Dr. Nikolaos Dagres, the study author.

In that phase, a variety of data from different settings was included in order to develop a clinical prediction model for the individual risk of sudden cardiac death.

The results of the analysis show that LVEF is only a moderate predictor of SCD in patients after myocardial infarction and that other parameters including previously reported candidate predictors, clinical data and CMR measurements did not increase the predictive performance. It was also found that overall, the risk for SCD is low in patients with LVEF 35% or below and very low in patients with LVEF above 35%.

In the next step, these findings will inform the design of the randomised PROFID trial programme so that a contemporary approach to the selection of patients for prophylactic ICD therapy can be developed.





This project has received funding from the European Union's Horizon 2020 research and Innovation programme under Grant Agreement No. 847999.



AFFECT-EU

The <u>project</u> involves 14 EU countries. Its main goal is to develop an accurate, riskbased and ready-for-implementation AF screening algorithm using digital devices for early detection and reduction of AF-related health inequities, morbidity and mortality in Europe.

In the last year, 15 deliverables have been submitted to the commission across all seven work packages.

The last report submitted focused on health economics and described the developed AFFECT-EU cost-effectiveness model, in terms of model structure and health states, main assumptions, uncertainty analyses, and results to be generated, and provides a basis that can be adapted for use by different countries for the purpose of estimating the cost-effectiveness of AF-screening.

Other deliverables that were submitted between the end of 2021 and 2022 included dissemination and communication activities, reports on critical model parameters, the harmonisation of datasets of AF-related health determinants and catalogues of variables relevant to the project, ethics requirements and considerations, and an improvement of the model for risk-stratified AF prediction.

The project has been extended until 30 March 2024.

In order to increase visibility and disseminate study progress across Europe and beyond, Facebook, Twitter and LinkedIn accounts have been established by the ESC. A project website has been set up to inform interested visitors about project progress in a structured manner.

EHRA-PATHS

EHRA (ESC) is the coordinator on this project, funded by the European Commission for a period of 60 months starting on 1 April, 2021. The project aims to transform and improve the clinical practice in the field of AF to holistic, inclusive and personalised treatment strategies. It will change the single-disease focused approach to a multi-factorial approach considering multimorbidity, polypharmacy, and sex. This transformation could lead to a reduction in the yearly European healthcare burden of multimorbid, elderly AF patients (>65 years of age), both medically and financially.

During 2022, the consortium completed the following activities:

- A survey about the current management of multimorbid atrial fibrillation was conducted by King's College London and distributed among European Heart Rhythm Association (EHRA) members in Europe. Main outcomes of the survey have been published in *EP Europace*.
- Within WP3 (design and development of the new care pathways), UZA has created standardised templates for 22 comorbidities, each template consisting of a column for action triggers, process KPI and treatment KPI. All partners involved in WP3 were assigned to 4-5 comorbidities (i.e. two partners per comorbidity) and provided suggestions for action triggers, process KPI and treatment KPI. UZA evaluated optimisation of the care pathway templates based on partner suggestions and put the main findings together.
- Communication and dissemination channels (Twitter and the project website) that were launched during the first year of the project are now functional, and the newsletters are circulated on a quarterly basis.
- External advisory boards have been established. The Worldwide Scientific Advisory Board and Data Monitoring Board facilitate a high quality of research and progress of the project. Similarly, the Patient Advisory Board is committed to delivering a patient-centric approach ensuring that the patient perspective is heard during the whole span of the project.



These projects have received received funding from the European Union's Horizon 2020 research and Innovation programme under Grant Agreements No. 847770 and No. 945260.

A new practical guide on "How to use digital devices"

During EHRA 2022 the new position paper "How to use digital devices to detect and manage arrhythmias: an EHRA practical guide" was launched after a great collaborative effort between the digital committee and our sister societies HRS, LAHRS and APHRS. The position paper was published in *EP Europace* and well received by the community - it has been ranked by Altmetric as top 5% in research score and has had almost 20,000 views in its first few months. This paper reflects the ongoing education provided in digital health for the EHRA community provided by the Digital Committee and was also reflected in several sessions on digital health during the EHRA congress.

One key goal for the digital committee is and remains the engagement of patients in digital health. To reach this goal a patient representative played a natural role in the writing committee of the EHRA position paper on digital health. The digital committee has played an active role in updating and collaborating with patients in creating the updated afibmatters.org website and the newly launched "myrhythmevice.org" website.

Together with EHRA's m-health and health economics Coordinator Giuseppe Boriani:

- <u>A survey on the reimbursement of digital devices</u> was launched and published in *EP Europace* in August 2022 showing that reimbursement is a key focus area to continue the growth of digital devices in arrhythmia care within the EHRA countries.
- <u>A review</u> was also published on the practice of reimbursement for remote monitoring (RM) of cardiac implantable electrical devices (CIED) highlighting how reimbursement policies across Europe still show an important heterogeneity and have been considered as an important barrier to full implementation of RM as a standard for the follow-up of patients with pacemakers, defibrillators, devices for cardiac synchronisation, or implantable loop recorders.
- Another <u>review on 'performance-based risk sharing arrangements for devices and</u> procedures in cardiac electrophysiology' was also published in October 2022.

Lastly, a new survey was launched on the use of simulators amongst the EHRA community, and the exciting results are currently being analysed to bring more clarity in how we might use this new field in digital health to provide education for our members.



✓ The EHRA practical guide on "The use of Digital Devices in detection and management of arrhythmias" was brought on by the accelerated need for digital solutions for our patients that was made apparent during COVID-19. The digital committee is committed to providing EHRA Members with up-to-date digital information and the guide provides a way to ease the transition into a digital workflow.

Dr. Emma Svennberg, EHRA Advocacy Pillar Chair (2020-2022)

Patient Initiatives

EHRA provides patients with attractive educational material to help them make informed decisions when discussing their treatment plan with their physicians.

afibmatters.org

What's new?

- Video testimonials on several topics (variability of symptoms, Living with AF, AF and family impacts, etc.)
- <u>New version in 2022: Greek</u>
 Now afibmatters.org is available in 13 languages



In 2022, new users increased by 43% compared to the previous year and page views by 35%.





myrhythmdevice.org



A new dedicated resource, created together with healthcare professionals and patients, for patients with cardiac devices and future recipients as well as their caregivers.

Five sections compose this website:

- What is a cardiac device
- Pacemaker
- ICD
- Implantable heart Rhythm monitor
- Living with a cardiac device

I find the ride we took together in co-designing this website particularly fascinating and instructive. When we, as patients, saw the first draft of the website, we did not fully recognise ourselves in the structure and set-up. It took courage for us to say this out loud to the team of cardiologists. But we did. The great thing is that the expert physicians accepted this and involved us even more in this website which made us feel heard and seen. To me, that is also co-design; staying in your own field but by putting it together so openly you can lift the whole thing up to something different and better than what was there before.

Axel Verstrael

The new EHRA committee, which took office in September 2022, is also committed to measuring patient reported experience and outcomes.

Etira Cardio Tak Keep the thin rhythm

e-Communication

EHRA continues to increase its presence on social media through its Presidential account on Twitter and LinkedIn (@EHRAPresident) which now gathers more than 2,800 followers. Follow the trend and keep up to date with the latest news from EHRA.

To develop EHRA's relationship with members of its community, the committee has developed a 'Stay in contact page'.

The e-Communication committee also actively contributes to many EHRA projects lead by other committees: patient websites, scientific surveys, etc.



EHRA Cardio Talk "Keep the rhythm"

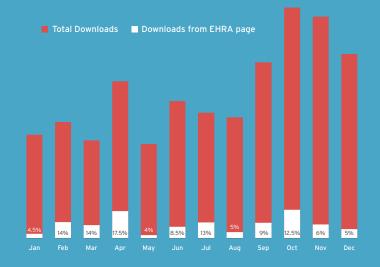
The monthly podcast series launched at the end of 2021 feature key opinion leaders in EP and cardiac pacing tackling topics about EHRA papers, interviews with experts, and education.

In 2022, the following guests were invited to participate in the first episodes: Dhiraj Gupta, Haran Burri, Isabelle van Gelder & Tom De Potter, Paulus Kirchhof, Jeroen Hendricks, Katarzyna Malaczynska-Rajpold, Gerhard Hindricks, Christophe Leclercq & Jose Luis Merino, Katja Zeppenfeld & Jacob Tfelt-Hansen, John Camm, Kevin Vernooy, Philipp Sommer.

Monthy Downloads

Number of episodes:	15
Total Downloads:	8,208
Avg Downloads per episode:	547
Avg Downloads per month:	513





🙆 | Research Pillar

SESEARCH PILLAR

Pillar Chairperson

& Scientific Documents Committee Chairperson Dr. Nikolaos Dagres FEHRA



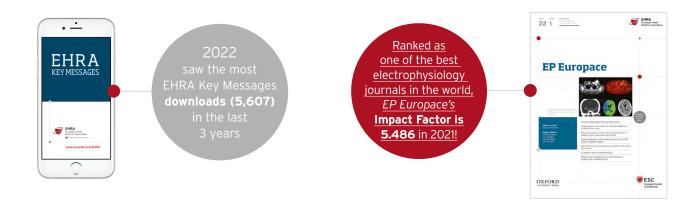
Scientific Initiatives Committee Chairperson Assoc. Prof. Serge Boveda FESC, FEHRA



Scientific Documents

The committee facilitates, develops and publishes scientific documents that address fields of high relevance for clinical practice. Most are developed in close cooperation with our international sister societies. The focus is on practical guides that provide advice to clinicians in areas that are not covered in detail by current ESC guidelines. EHRA scientific documents are published in the *EP Europace* journal. Recent examples include:

- How to use digital devices to detect and manage arrhythmias: an EHRA practical guide European Heart Rhythm Association (EHRA)/Heart Rhythm Society (HRS)/Asia Pacific Heart Rhythm Society (APHRS)/Latin American Heart Rhythm Society (LAHRS) Expert Consensus Statement on the state of genetic testing for cardiac diseases
- EHRA consensus on prevention and management of interference due to medical procedures in patients with cardiac implantable electronic devices
- Practical considerations, indications and future perspectives for leadless and extravascular cardiac implantable electronic devices: a position paper by EHRA/HRS/LAHRS/APHRS
- EHRA expert consensus statement on arrhythmic mitral valve prolapse and mitral annular disjunction complex in collaboration with the ESC Council on valvular heart disease and the European Association of Cardiovascular Imaging endorsed by the Heart Rhythm Society, by the Asia Pacific Heart Rhythm Society, and by the Latin American Heart Rhythm Society



EHRA Key Messages App

Free app containing the main messages and highlights of published scientific documents in concise and accessible formats.

EP Europace

Official journal of EHRA, the ESC Working Groups on Cardiac Cellular Electrophysiology and e-Cardiology. Prof. A. Auricchio was appointed as new Editor in Chief in September 2022.

EP Europace will be an open access journal as of January 2023.

🙆 | Research Pillar

Scientific Initiatives

The Scientific Initiatives Committee (SIC) undertakes research providing a picture of daily EP practice and insight into how consistently arrhythmia treatment is applied across ESC member countries.

In order to improve the efficiency and scientific value of research initiatives at a European level, the SIC had set a strategic plan for 2020-2022 which mainly focused on:

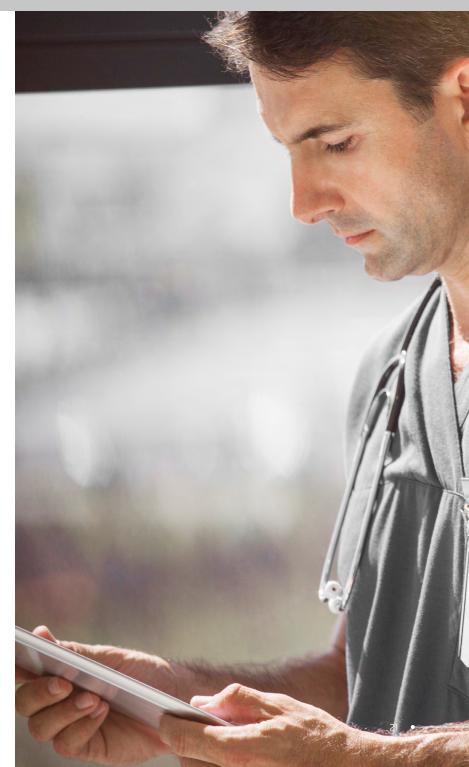
- 1 Primary prevention of sudden cardiac death SCD
- 2 AF management
- 3 Health economics and communication: arrhythmia management during the COVID-19 era

The SIC can count on the collaboration of more than **190 EP centres** that form the EHRA Scientific Research Network.

2022 publications

- Contemporary management of ventricular electrical storm in Europe: results of a European Heart Rhythm Association Survey (October 2022)
- Mexiletine for recurrent ventricular tachycardia in adult patients with structural heart disease and implantable cardioverter defibrillator: an EHRA systematic review (September 2022)
- Reimbursement practices for use of digital devices in atrial fibrillation and other arrhythmias: a European Heart Rhythm Association survey (August 2022)
- Current practices and expectations to reduce environmental impact of electrophysiology catheters: results from an EHRA/LIRYC European physician survey (August 2022)
- The blanking period after atrial fibrillation ablation: a European Heart Rhythm Association survey on contemporary definition and management (August 2022)
- Management of Conduction Disorders after Transcatheter Aortic Valve Implantation: results of an EHRA Survey (March 2022)
- Long-term quality of life and acceptance of implantable cardioverter-defibrillator therapy: results of the European Heart Rhythm Association survey (February 2022)
- Contemporary clinical management of monomorphic idiopathic premature ventricular contractions: results of the European Heart Rhythm Association survey (January 2022)
- All survey results are published in *EP Europace* and on EHRA/ESC website

All publications under the EHRA Scientific initiatives Committee can be found here.



🗿 | Research Pillar

Registries and Trials

EHRA is represented within the European Observational Research Programme (EORP) for a number of important registries. These registries enable a timely assessment of the ESC Clinical Practice Guidelines, monitoring their implementation and adherence. EHRA and EORP collaborate on the two following registries:

- Atrial Fibrillation Phase III was launched in July 2018 in adherence to the new ESC Atrial Fibrillation Guidelines published in 2016. Enrolment and follow-up have been completed. 8,306 were enrolled between 1 July 2018 and 15 July 2019, in 192 sites from 31 participating countries. The statistical report was delivered in December 2019 and the publication is in process. New atrial fibrillation guidelines were published in 2020 including results of the AF III Registry. Lastly, the final database lock is scheduled for Q4 2022.
- The Epicardial Hybrid Atrial Fibrillation Ablation Registry (EHAFAR) describes the diagnostic and therapeutic approaches used in routine practice when performing epicardial hybrid atrial fibrillation ablation (EHAFA) procedures. The database was locked and forwarded to the coordinators in January 2020. Analyses are still in progress.

EHRA is also supporting a registry managed outside EORP, the EAST-AFNET 4 Trial.

EAST-AFNET 4 Trial

The EAST-AFNET 4 trial provides compelling evidence that early rhythm-control therapy is associated with a lower risk of adverse cardiovascular events compared to usual care in patients with early atrial fibrillation and comorbidities. This main finding, published in the NEJM in 2020, was confirmed by several subgroup analysis and has direct clinical implications and the potential to change clinical practice towards rhythm control therapy early after diagnosis of atrial fibrillation (AF) with the aim to improve outcomes for our patients with atrial fibrillation.





Output: Participation Pillar

MEMBERSHIP PILLAR

Pillar Chairperson 5

& International Affairs Coordinator Prof. Helmut Pürerfellner FESC



2

National Cardiac Societies Committee Chairperson Assist. Prof. Sime Manola FESC

6 Young EP Committee Chairperson Dr. Kasia Malaczynska-Rajpold



National Cardiac Societies

The National Cardiac Societies Committee's activities are driven by three main objectives:

Strengthen relations between EHRA and EP National Cardiac Societies (NCS)/ Working Groups (WG) as well as monitor their expectations to facilitate collaboration

Encourage individual members to join EHRA and become more involved in the association

Implement actions and procedures which lead to better networking, such as the traditional EHRA Summit, and joint sessions on EPNCS/WG events

EHRA Summit

In 2022, the EHRA NCS Committee and EHRA Board were happy to be back onsite. The Summit was held 9 and 10 June 2022 in Zagreb, Croatia. 46 countries participated.

The topics tackled in this last edition were the following: 'How to improve research and implement the results in everyday clinical life?' and 'How to manage sudden cardiac death in 2022?'

Improving Collaboration with Our Partners

EP Working Group of the moment

This initiative showcases a new EP NCS or EP WG of the EHRA network quarterly. It highlights the efforts and activities these partner organisations are undertaking and promotes the interaction between the various EP NCS/ WG and EHRA. Countries showcased in 2022: Bulgaria, Turkey, Greece, Slovenia.









\rm 🛛 Membership Pillar

• EHRA Joint Sessions

Date	Local Organiser	Event	Topic of joint session	Faculty	Attendance
18 Feb.	Associação Portuguesa de Arritmologia, Pacing e Eletrofisiologia (APAPE) & Instituto Português do Ritmo Cardíaco (IPRC)	ARRITMIAS 2022 Cascais, Portugal	About the new 2021 guidelines	Chairpersons: H. Reis & M. Oliveira Speakers: S. Barra, H. Burri, P. Cuhna, F. Morgado Discussion panel: D. Martins, L. Parreira, N. Santos	300
16 Apr.	EP & Pacing Working Group of the Hellenic Society of Cardiology	Panhellenic Seminars of the Working Groups 2022 Ioannina, Greece & online	EHRA joint session	Chairpersons: K. Gatzoulis, N. Fragkakis Speakers: S. Archontakis, JC. Deharo, P. Flevari, P. Arsenos	30 onsite - online
28 Apr.	Romanian Working Group of Arrhythmias	Working Group of Arrhythmias - Romanian Society of Cardiology Online	Best of EHRA 2022	Speakers: A. Berruezo, S. Bogdan, G. Boriani, D. Cozma, JC. Deharo, L. Geller, C. Leclercq	316
26 May	Arrhythmia & EP Working Group of the Austrian Society of Cardiology	Austrian Working Group of Rhythmology National Congress "ÖKG Jahrestagung" Salzburg, Austria	New European Guidelines and Position papers	Chairpersons: S. Manola, D. Scherr Speakers: S. Manola, H. Pürerfellner, C. Steinwender, M. Stühlinger	80
3 Jun.	Turkish Society of Cardiology - Working Group on Arrhythmias	National Arrhythmia Meeting of the Turkish Society of Cardiology Bodrum, Turkey	Ventricular arrhythmias and sudden death	Chairperson: Ö. Arslan Speakers: T. Betts, F. Kiliçaslan, B. Köktürk	170
7 Sept.	Kyrgyz Society of Cardiology	Congress of Cardiologists of Kyrgyzstan Bishkek, Kyrgyzstan & Online	Joint scientific practical session	Chairpersons: K.A. Kalysov, A.K. Turdubaev Speakers: K. Kalysov, S. Manola, D.A. Osmonov, A.K. Turdubaev	400 onsite & online

\rm 🛛 Membership Pillar

• EHRA Joint Sessions

Date	Local Organiser	Event	Topic of joint session	Faculty	Attendance
11 Oct.	Arrhythmia Alliance / British Heart Rhythm Society (BHRS)	Heart Rhythm Congress (HRC) 2022	Screening for atrial fibrillation: what progress?	Chairpersons: S. Haldar, JL. Merino Speakers: A. Brandes, J. Camm, B. Freedman, J. Mant, R. Schnabel, E. Svennberg	150
20 Oct.	Belgium Heart Rhythm Association (BeHRA)	16th Belgium Heart Rhythm Meeting (BHRM) Brussels, Belgium	The future of pacing	Chairpersons: F. Van Heuverswyn, A. Wauters Speakers: C. Barbraud, C. Garweg, M. Glikson, F. Leyva	190
5 Nov.	Macedonian Society of Cardiology - Working Group for Arrhythmias	Annual meeting of the Macedonian Society of Cardiology - Highlights in Cardiology Skopje, Macedonia	Atrial fibrillation - ablation procedure: PVI - how to start a new ablation centre?	Chairperson: L. Poposka, V. Traykov Speakers: M. Farkowski, L. Poposka, J. Taleski, V. Traykov,	250
19 Nov.	Working Group on Arrhythmias of the Tunisian Society of Cardiology	National Congress of the Tunisian Society of Cardiology and Thoracic CardioVascular Surgery (STCCCV) 2022 Tunis, Tunisia	My EHRA in Tunisia: New insights in modern cardiac pacing	Chairpersons: E. Allouche Y. B. Ameur, A. B. Halima, S. Ouali Speakers: H. Burri, S. Chabrak, S. Kammoun, C. Linde	60

😣 | Membership Pillar

International Affairs

The EHRA International Affairs Coordinator helps to develop the association's international relationships by strengthening EHRA's collaboration with its sister societies. These sister societies include the **Asia Pacific Heart Rhythm Society** (APHRS), **Heart Rhythm Society** (HRS) and the **Latin American Heart Rhythm Society** (LAHRS). Thanks to its strong ties with its sister societies and with its numerous international partners EHRA is able to create many opportunities to meet at congresses, collaborate on joint scientific documents and offer educational opportunities for young peers worldwide.

Joint sessions at sister societies' congresses

EHRA participated in joint sessions at several sister and affiliated societies' congresses as well as other international events.

Date	Local Organiser	Event	Topic of joint session	Faculty
Apr. 2022	HRS Heart Rhythm Society	Heart Rhythm 2022 San Franciso, USA	CHRS-EHRA joint session: Translating genetics to optimise arrhythmia care	Chairpersons: E. Behr, A. Krahn
				Speakers: E. Behr, J.D. Roberts, R. Tadros, A. Wilde
Jun. 2022	JHRS Japanese Heart Rhythm Society	JHRS 2022 Yokohama, Japan & Online	Now is the time for the management of comorbidity in patients with atrial fibrillation in the heyday of	Chairperson: K. Satomi
			catheter ablation	Speakers: L. Fauchier, T. Kasai M. Rienstra, T. Shinohara
Sept. 2022	CHRS Canadian Heart Rhythm Society	CHRS Annual Meeting Montreal, Canada & Online	Inherited arrhythmia topics	Chairpersons: M. S. Green, A. Krahn, H. Pürerfellner
				Speakers: S. Hansom, R. Tadros, A. Wilde

😬 | Membership Pillar

Date	Local Organiser	Event	Topic of joint session	Faculty
Oct. 2022	GW-ICC Great Wall - International Congress of Cardiology / Asia Heart Society	33rd GW-ICC 2021 Asia Heart Society Congress 2021 Online	Debate to four: heart Failure, uncontrolled atrial fibrillation and broad QRS complex: Best treatment approach	Chairpersons: X. Chen, JL. Merino, Y. Sun Speakers: H. Burri, X. Fan, JL. Merino, Y. Yang
Oct. 2022	GW-ICC Great Wall - International Congress of Cardiology / Asia Heart Society	33rd GW-ICC 2021 Asia Heart Society Congress 2021 Online	The latest in AF ablation	Chairpersons: S. Chen, C. Jiang, JL. Merino Speakers: JL. Merino, T. Reichlin, L. Su, G. Yan
Oct. 2022	LAHRS Latin American Heart Rhythm Society	LAHRS & SOBRAC 2022 5th Scientific sessions Campinas, Brasil	Practical considerations, indications, and future perspectives for leadless and extravascular cardiac implantable electronic devices	Charipersons: M. Figueiredo, C. Leclercq Speakers: H. Burri, N. Cabanillas, C. Kalil, C. Leclercq
Nov. 2022	APHRS Asian Pacific Heat Rhythm Society	APHRS 2022 Singapore	State of the art management of ventricular tachycardia	Chairpersons: JL. Merino, W. Shimizu Speakers: M-L. Chen, JL. Merino, H. Pürerfellner, K. Soejima
Nov. 2022	AFHRA & ECRA African Heart Rhythm Association Egyptian Cardiac Rhythm Association	AFHRA & ECRA Electrophysiology courses Cairo & Online	Joint EHRA-AFHRA webinar: Management of atrial fibrillation	Speakers: H. S. Asaad, L. Fauchier, M. Rouchdi, R. Samir, A. Tawfik

8 | Membership Pillar

EHRA Young Electrophysiologists (Young EP)

The Young EP network serves electrophysiologists in training and early career consultants to help them grow and build their international professional network. This is done through education, networking and improving visibility. In line with these objectives, the Young EP committee has been expanding the EHRA offer with various projects.

ECG competition

The <u>2nd edition of the ECG Competition</u> took place during the onsite congress in Copenhagen. Over 150 participated in the online preliminary round. Ten excellent ECG readers representing 10 countries with the best score were challenged live with difficult ECGs during the congress. The session was attended by over 200 people onsite and had 175 views online.

Young EP network

Following the database renewal in 2021, the Young EP network consists now of over 500 active members.

EHRA Young Summit

After a cancelled edition in 2020 and an online version in 2021, 2022 was the first edition back on site following the pandemic. The event took place on 8&9 June in Zagreb, Croatia, where 25 Young EP from 17 countries attended. The main speaker of this edition was Professor Emeritus Jan Tijssen (Amsterdam, NL), who gave a very interesting presentation about the statistical approach in clinical research. For the Young EP attending this was also the opportunity to network with other Ambassadors and members of the EHRA Board.

Career development

EP Insight short

visiting programme: In 2022, the list of hosting centres has been enriched with 14 centres specialising in cardiogenetics and three Young EP benefited from this programme.

EHRA speed mentoring:

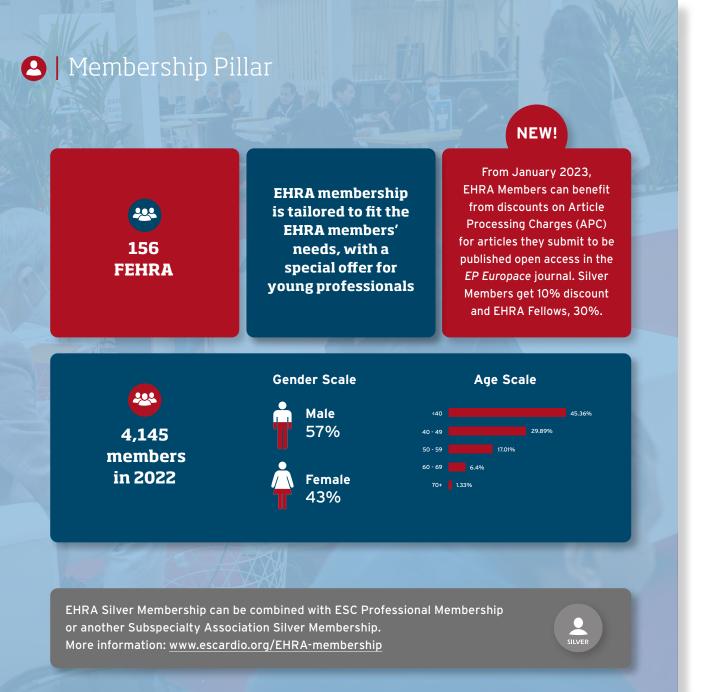
congress in Copenhagen, this activity attracted 22 mentees, offering another opportunity for Young EPs to consult their career paths with the experience and wisdom of the 12 mentors.

EHRA Young EP panelists list:

Renewed annually with Young EP members endorsed by their national ambassadors as available moderators of congress sessions. Every year several Young EPs from this list are offered to cochair sessions during the EHRA congress. New! The Library of EP Recordings: Launched mid-2022 with 10-15-min educational videos on performing various types of EP and cardiac pacing procedure from the key opinion loaders and parrated by

from the key opinion leaders and narrated by Young EPs. New videos will be added quarterly to form a comprehensive series.





Fellowship Recognising excellence through the Fellowship of EHRA Annual call for applications 1 August - 15 October

EHRA Members benefits

- Discount on EHRA Congress, educational courses and exams
- Access to EHRA networking events
- Unlimited access to EHRA webinars and resources from all EHRA congresses on ESC 365
- Access to EHRA courses on ESC eLearning
- Exclusive opportunities to apply for grants, FEHRA, training program and mentoring
- Discount on EHRA Books, ESC textbooks & handbooks, and publications
- New 2023: EP Europace Discount on Article Processing Charges (APC) /
- New benefit for FEHRA: complimentary congress registration
- Voting rights* and access to EHRA Member Directory

*reserved to ESC member countries

EHRA Board 2022-2024

Following the EHRA General Assembly on 27 August 2022, the <u>new EHRA Board</u> took office for a two-year mandate.

"This activity report shows the impressive progress and achievements undertaken during these past years in education, training, research, advocacy, membership and professional development. I would like to thank the previous EHRA Board for these achievements and for maintaining the high level of our Association during the difficult times of the pandemic. A new EHRA Board has now been

appointed and is already at work and enthusiastic to continue to improve the high quality of existing activities as well as to deliver new projects which will come and complement EHRA's portfolio. I am fully convinced that with your help we will make EHRA even more efficient and useful for its members and patients."

Warm regards, Jose Luis Merino, EHRA President 2022-2024

Executive Board Members

President Prof. Jose Luis Merino FESC, FEHRA



President-Elect Prof. Helmut Puererfeliner FESC, FEHRA (AT)

Treasurer Prof. Isabelle C. van Gelder FESC. FEHRA (NL)

Secretary Prof. Haran Burri FEHRA

Ex-Officio: Appointed members

Prof. Angelo Auricchio, Editor-in-Chief of *EP Europace* Journal FESC, FEHRA - from Sept 2022

Prof. Gerhard Hindricks Editor-in-Chief of *EP Europace* Journal FESC, FEHRA (DE) - until end 2022





Certification Committee **Dr. Andreu Porta-Sanchez** (ES)

Selection Committee Dr. Nikolaos Dagres, FEHRA (DE)

Education Committee **Dr. Marta de Riva Silva** (NL)

Scientific Initiatives Committee **Dr. Julian Chun, FEHRA** (DE)

Scientific Documents Committee **Prof. Katja Zeppenfeld, FESC, FEHRA** (NL)

NCS Committee **Dr. Michal Farkowski** (PL)

Young EP Committee Dr. Katarzyna Malaczynska-Rajpold (UK)

Affairs Coordinator Prof. Gregory YH Lip FESC, FEHRA (UK)

Health Economics Coordinator Prof. Giuseppe Boriani, FESC, FEHRA (IT)

Advocacy & Quality Improvement Committee (AQIC) Assoc. Prof. Elena Arbelo, FESC (ES)

Patient Coordinator Prof. Jean-Claude Deharo, FESC (FR)

Digital and e-Communication Committee Prof. David Duncker, FESC, FEHRA (DE)

Congress Scientific Programme Committee **Prof. Serge Boveda, FESC, FEHRA** (FR)

Ex-Officio: Working Group members

Prof. Ana-Maria Gomez ESC WG of Cardiac Cellular Electrophysiology FESC

Prof. Elijah Behr European Cardiac Arrhythmia Genetics Focus Group FESC



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