

## REVIEW ARTICLE



# The European Sleep Research Society – past, present and future

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## Summary

It is 50 years ago, in 1972, that the founding conference of the European Sleep Research Society (ESRS) was organised in Basel. Since then the Society has had 13 presidents and a multitude of board members and has organised, among other things, another 24 congresses. At this 50th anniversary, as the 26th ESRS congress is approaching, we have summarised the history of the ESRS. In this review, we provide a background to show why the foundation of a European society was a logical step, and show how, in the course of the past 50 years, the Society changed and grew. We give special attention to some developments that occurred over the years and discuss where the ESRS stands now, and how we foresee its future.

## KEYWORDS

European Sleep Research Society, history of science

## 1 | INTRODUCTION

It is 50 years since the European Sleep Research Society (ESRS) was founded at the first congress organised in Basel. The birth of the ESRS has had a tremendous influence on sleep research and researchers and clinicians working in the field of sleep. What started as an

extended, but still small, family, where you could talk and exchange ideas, slowly turned into a professional organisation with committees and sub-committees on different topics concerning the gathering and dissemination of the newest knowledge in the sleep field. This happened on the background of a continent that changed quite considerably in the past 50 years.

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The ESRS has become middle-aged, as we call it. This is the period beyond young adulthood, but before the onset of old age. It is the age where experience and strategies compensate the cognitive loss that also occurs. Although one can question whether the human time span also applies to research societies, as the heads are refreshed every 4 years. You can see in this, and more in the brief overview, in which we have gathered information on the past 50 years of the ESRS. We highlight certain developments that occurred within the Society, and at the end we reflect on where the ESRS stands now, and how we foresee its future. We hope that the ESRS may grow and prosper and that in 50 years another generation can write up its history.

## 2 | BACKGROUND

After the discovery of rapid-eye movement sleep (Aserinsky & Kleitman, 1953; Jouvet & Michel, 1959) and the discovery of the role of the reticular formation in the activation of the brain (Moruzzi & Magoun, 1949) around the middle of the 20th century, an incredible amount of research activity occurred in the following years. This led to the foundation of the Association for the Psychophysiological Study of Sleep (APSS) in the USA in the early 1960s, which has held annual meetings since then. Then 10 years later, June 1971, the APSS organised an international meeting in Bruges, Belgium. Only 3 months later another international meeting was organised in Würzburg, West Germany, with the title “The Nature of Sleep.” At the end of this meeting it was decided, “after thorough discussion among the European participants” to found a “European Society for Sleep Research.” A committee was formed chaired by Werner P. Koella to organise the Society and plan a congress. This was the birth of the idea to establish a European sleep society, to bring together researchers from different European countries.

Before this time, sleep as a topic was mainly presented at neurological or psychiatric meetings. The idea of a society devoted to sleep research was to give exposure to all aspects of sleep research, also to the people that were not directly involved as researcher. Werner P. Koella and his team prepared and organised the founding congress of our Society in Basel, Switzerland, the home base of Professor Koella, from October 3–6, 1972. A meeting totally and exclusively devoted to all aspects of sleep.

As remembered by Professor Koella: “Way over 300 researchers, professors, students, and other persons interested in sleep, from all over Europe (including the countries “behind” the iron curtain) but also from the Americas and the Near and Far East attended our

Congress. They all agreed: it was an excellent show, and a good promising start into the life of ESRS.”

The Scientific programme of this (and the following congresses) consisted of a handful of Symposia with invited speakers and ~80 Free Communications, dealing with various themes of both basic and clinical aspects of sleep. The most important meeting was the Business Meeting where ~200 attendants participated in the founding of the ESRS. According to the bylaws, the main purpose of the Society should be “...to promote research on sleep and related areas, to improve the care for patients with sleep disorders and to facilitate the dissemination of information regarding sleep research” (§2.1). Responsible for these activities was the ESRS board and the Scientific Committee (SC). The board consisted of five persons [President, Vice President (at that time often the local organiser), Secretary, Assistant-Secretary, and Treasurer]. Board members and SC members were elected for two terms, which means a maximum of 4 years, with the exception of the Treasurer with an unlimited number of 2-year terms (see for a list of Presidents also Figure 1).

Also fixed in the bylaws: “Scientific conferences of the society shall normally take place every second year” (§13). This has been followed and the ESRS has, including the founding congress in Basel, held 25 congresses in the past 50 years. Professor Koella was elected as the first President, and, next to the officers, a Scientific and Publication Committee was established. At the end of the meeting 199 Founding Members had signed up to the ESRS. A few months later a book – *SLEEP* – appeared, containing all the Symposia and Free Communications presented at the founding meeting in Basel.

### 2.1 | The 50 years and their presidents

**Werner P. Koella** (1972–1976), deceased in 2008, was the founding president of the ESRS. At that time, he was a scientific expert at Ciba-Geigy and teaching neurophysiology at the University of Bern. Werner P. Koella was the driving force behind the establishment of the ESRS. He even invested his own money into the Society, created the Hess prize and for many years edited the ESRS congress proceedings. During his term, the ESRS congresses (1972 Basel, Switzerland; 1974 Rome, Italy; 1976 Montpellier, France) were entirely under the responsibility of the local organising committee in collaboration with the President. The programme of the first congress in Basel included five symposia with invited speakers and 86 free communications. A similar number of presentations was given at the second meeting in Rome (see also Table 1 with the list of congresses).



**FIGURE 1** A gallery of ESRS presidents 1972–2022

**TABLE 1** Congresses of the European Sleep Research Society (ESRS), since 2022 named “Sleep Europe”

ESRS congress	Location	Dates	ESRS President	Chair of the Local Committee	Delegates
1st	Basel, Switzerland	Oct 3–6, 1972	Werner P. Koella	–	~300
2nd	Rome, Italy	Apr 8–11, 1974	Werner P. Koella	Mario Bertini	?
3rd	Montpellier, France	Sep 6–10, 1976	Werner P. Koella	Pierre Passouant	~300
4th	Tirgu-Mures, Romania	Sep 11–15, 1978	Pierre Passouant	Liviu Popoviciu	?
5th	Amsterdam, the Netherlands	Sep 2–5, 1980	Pierre Passouant	Piet Visser	~300
6th	Zürich, Switzerland	Mar 23–26, 1982	Ian Oswald	Alexander Borbély	?
7th	Munich, Germany	Sep 6–9, 1984	Ian Oswald	Eckart Rütger	?
8th	Szeged, Hungary	Sep 1–5, 1986	Pier-Luigi Parmeggiani	Ferenc Obal	420
9th	Jerusalem, Israel	Sep 5–9, 1988	Pier-Luigi Parmeggiani	Peretz Lavie	325
10th	Strasbourg, France	May 20–25, 1990	Alexander Borbély	Daniel Kurtz	1,114
11th	Helsinki, Finland	Jul 5–10, 1992	Alexander Borbély	Markku Partinen	~700
12th	Florence, Italy	May 22–27, 1994	Torbjörn Åkerstedt	Piero Salzarulo	850
13th	Brussels, Belgium	Jun 16–21, 1996	Torbjörn Åkerstedt	Myriam Kerkhofs	802
14th	Madrid, Spain	Sep 9–12, 1998	Michel Billiard	Antonio Vela-Bueno	~1,200
15th	Istanbul, Turkey	Sep 12–16, 2000	Michel Billiard	Erbil Gozukirmizi Hakan Kaynak	~800
16th	Reykjavik, Iceland	Jun 3–7, 2002	Irene Tobler	Thorarinn Gislason	783
17th	Prague, Czech Republic	Oct 5–9, 2004	Irene Tobler	Sona Nevsimalova	~1,300
18th	Innsbruck, Austria	Sep 12–16, 2006	Thomas Pollmächer	Birgit Högl Werner Poewe	~1,200
19th	Glasgow, Scotland	Sep 9–13, 2008	Thomas Pollmächer	Colin Espie	1,430
20th	Lisbon, Portugal	Sep 14–18, 2010	Claudio Bassetti	Teresa Paiva	1,552
21st	Paris, France	Sep 4–8, 2012	Claudio Bassetti	Jean-Louis Pépin	1,404
22nd	Tallinn, Estonia	Sep 16–20, 2014	Philippe Peigneux	Erve Sõõru	1,568
23rd	Bologna, Italy	Sep 13–16, 2016	Philippe Peigneux	Roberto Amici	1,903
24th	Basel, Switzerland	Sep 25–28, 2018	Walter McNicholas	Christian Cajochen	1,733
25th	Virtual Congress (originally planned for Seville, Spain)	Sep 22–24, 2020	Walter McNicholas		1,726
26th	Athens, Greece	Sep 27–30, 2022	Pierre-Hervé Luppi	Dimitrios Dikeos	

**Pierre Passouant** (1976–1980), deceased in 1983, was Professor of Experimental Medicine in Montpellier. Professor Passouant co-organised the third and fourth ESRS congresses in Tirgu-Mures (Romania) in 1978 and Amsterdam (the Netherlands) in 1980, respectively. Both had their own difficulties to organise. Having a congress in Romania, an Eastern European country, was not easy at that time. Practically, because the communication between Montpellier and Tirgu-Mures to evaluate the quality of the facilities was difficult. Politically, because some members were opposed to organise a congress in a communist dictatorship and refused to participate. For the latter, it should be noted that at the opening ceremony, Michel Jouvet was quite critical of the regime, and a team lead by J. L. Valatx, from Lyon, asked and obtained permission to visit political prisoners during the congress.

The next congress, to be held in Birmingham, gave its own problems. Passouant did not receive answers to his letters for many months. Eventually the local organiser in Birmingham announced that, due to health problems, he could not organise the event. After this (late) withdrawal Passouant contacted Piet Visser from Amsterdam. After a week contemplating, he accepted to organise the fourth ESRS

congress, and it became a great success. This was later recorded as “the major rescue” in the history of the Society.

**Ian Oswald** (1980–1984), deceased in 2012, was Professor of Psychiatry at the University of Edinburgh. He co-organised the fifth and sixth ESRS congresses in Zürich (Switzerland) in 1982 and Munich (Germany) in 1984, respectively. Probably exciting science was presented, but his term was, when it comes to governing of the Society, remarkably uneventful. What was introduced for the first time here was the congress soccer match, but due to heavy rain it had to be cancelled. Eventually the first match took place in Szeged (1986).

**Pier Luigi Parmeggiani** (1984–1988) is Professor emeritus of Physiology at the Medical Faculty of the University of Bologna. He co-organised the eighth and ninth ESRS congresses in Szeged (Hungary) and Jerusalem (Israel), respectively. In Szeged, the W.R. Hess prize was awarded to Scott Campbell and Jürgen Zulley. The SC was enlarged and from now on was chaired by one of the members of the committee. The organisation of the congress in Jerusalem in 1988 was particularly difficult due to, what is now called, the First Palestinian Intifada, that started a year earlier. Letters were sent to members of the Society, suggesting changing the congress venue

because of the political situation. The congress went ahead as planned without great difficulties. During the presidency of Professor Parmeggiani, the joint effort of the ESRS with the Sleep Research Society (USA) resulted in the first World Federation of Sleep Research Society meeting, which was held in 1991 in Cannes (France).

**Alexander A. Borbély** (1988–1992) is Professor emeritus of Pharmacology at the University of Zürich. During Borbély's presidency, the 10th and 11th congresses were held in Strasbourg (France) and Helsinki (Finland), respectively. In Strasbourg (1990), the Young Scientists' Symposium was initiated and is since then an important part of the opening ceremony of the ESRS congress. At that same congress a first meeting with presidents of European national sleep research societies took place, and the foundation of the *Journal of Sleep Research*, the societies own journal, was approved. Jim Horne was appointed as Editor and the first issue appeared in March 1992. In Helsinki (1992) satellite symposia were introduced for the first time. Of note, during the traditional soccer match in 1992, Alex Borbély (as the ESRS President) took part in the game as a goalkeeper. He managed a spectacular save, but broke two fingers doing so. Nevertheless, in the 25th anniversary book he wishes the ESRS another 25 successful years and promises to sign up as honorary goalkeeper at the congress of 2022 (Billiard & Beersma, 1997).

**Torbjörn Åkerstedt** (1992–1996) is Professor emeritus of Behavioural Medicine of the Stress Research Institute of Stockholm University. He co-organised the 12th and 13th ESRS congresses in Firenze (Italy) in 1994 and Brussels (Belgium) in 1996, respectively. During his presidency, the by-laws were revised considerably, which lead to more membership participation in the board elections.

**Michel Billiard** (1996–2000) is Professor emeritus of Neurology at the University of Montpellier. Professor Billiard co-organised the 14th congress in Madrid (Spain) in 1998 and the 15th congress in Istanbul (Turkey) in 2000. During this period, the ESRS went online with the first home page (March 1997). That same year at the occasion of the 25th anniversary the booklet "ESRS 1972–1997" was published. The ESRS registered officially in Regensburg according to German law as a non-profit organisation. Also, the limited formal structure of the ESRS, which worked well when the ESRS was young, turned out to be insufficient to cover the requirements of the growing sleep community in Europe. Particularly the rapid development in clinical sleep research on the national level made it necessary to coordinate and harmonise the exchange of experience in training, accreditation, and quality control. For this reason, ad hoc committees were appointed by the Board in 1997/98. On the political level, for the meeting in Istanbul a similar scenario unfolded as for the Jerusalem meeting 12 years earlier. A petition was submitted to the board, requesting a postal ballot concerning postponing of the congress due to violation of human rights in Turkey. The congress was able to go ahead as planned, but only after weeks of turmoil. The congress in Istanbul was the first ESRS congress that started with teaching courses.

**Irene Tobler** (2000–2004) is Professor emeritus of Zoology at the University of Zürich. The 16th and 17th ESRS congresses were held during Irene Tobler's presidency in Reykjavik (Iceland) and Prague

(Czech Republic), respectively. The congress in Reykjavik in 2002 was the only ESRS congress that was opened by the president of the country where the congress took place. During a meeting with the presidents of the National Societies in 2004 on Mallorca a steering committee was founded to integrate the National Societies into the ESRS (see *La fonction crée l'organe*: the formation of committees within the ESRS). A programme for young scientists was initiated, made possible by an educational grant from industry, resulting in three highly successful courses. The 2004 congress in Prague was the first ESRS congress with clinical case presentations and video sessions. It was also the first congress where the ESRS profited from the revenues. This enabled the Board to carry administrative costs and to support teaching. During the general assembly in 2004 the Board proposed "to change the bylaws to emphasise that the ESRS will engage more than presently in medical aspects of sleep." The changes to the bylaws were accepted by the Assembly, while at the same occasion it was decided not to change the name of the society.

**Thomas Pollmächer** (2004–2008) is Professor of Psychiatry at the Ludwig-Maximilian University Munich and Director of the Center of Mental Health, Klinikum Ingolstadt. The 18th and 19th ESRS congresses were organised in Innsbruck (Austria) and Glasgow (Scotland), respectively, during the presidency of Thomas Pollmächer. In 2006 in Innsbruck the first debate sessions were added to the congress programme. During this period the bylaws were adapted to include the National Sleep Societies (NSS) as an integral part of the ESRS, making their 5,000 members associated members of the ESRS. The number of officers in the Board was increased. In 2006 a board member co-opted from the Assembly of National Sleep Societies (ANSS) was added. In 2008, the number of vice-presidents was increased to two; one for basic research and one for clinical topics. Professor Pollmächer headed a big European Union (EU) funded educational Marie Curie programme providing 1-week training courses to 160 students Europe-wide for 4 years.

**Claudio Bassetti** (2008–2012) is Professor of Neurology and Director of the Department of Neurology at the University Hospital in Bern. Professor Bassetti co-organised the 20th and 21st ESRS congresses in Lisbon (Portugal) in 2010 and Paris (France) in 2012, respectively. These meetings were the first where ESRS Sleep Science Awards were given (to Michel Jouvet and Elio Lugaresi, respectively; see also Table 2 with a list of awards). The organisation of the Society was further professionalised. For instance, since the Lisbon meeting the organisation has been coordinated by a professional congress organiser (Congrex, Basel). Also in Lisbon, four European Sleep Network Sessions were organised (on sleep apnea, narcolepsy, insomnia, and restless legs syndrome). During Bassetti's presidency the first two meetings with the European Respiratory Society (ERS) were organised (see Sleep and Breathing Conference and *La fonction crée l'organe*: the formation of committees within the ESRS).

**Philippe Peigneux** (2012–2016) is Professor of Clinical Neuropsychology at the Université Libre de Bruxelles. Professor Peigneux co-organised the 22nd and 23rd ESRS congresses in Tallinn (Estonia) in 2014 and Bologna (Italy) in 2016, respectively. During the presidency of Philippe Peigneux the first edition of the ESRS Sleep Medicine

**TABLE 2** Prizes and awards

Prize, Award or Grant	Year	Recipient
W. R. Hess Prize	1986	Scott Campbell (San Diego, CA, USA) and Jürgen Zulley (Munich, Germany)
Pisa Sleep Award	1994	Michael Jouvet (Lyon, France)
	1996	Elio Lugaresi (Bologna, Italy)
	1998	Alexander Borbély (Zürich, Switzerland)
	2000	David Parkes (London, UK)
	2002	Torbjörn Åkerstedt (Stockholm, Sweden)
	2004	Peretz Lavie (Haifa, Israel)
	2006	Giulio Tononi (Madison, WI, USA)
	2008	Irene Tobler (Zürich, Switzerland)
	2010	Claudio Bassetti (Bern, Switzerland)
	2012	Mario Giovanni Terzano (Parma, Italy)
	2014	Pier Luigi Parmeggiani (Bologna, Italy)
	2016	Pierre Maquet (Liège, Belgium)
ESRS Sanofi-Synthelabo European Sleep Research Grant	2018	Tarja Porkka Heiskanen (Helsinki, Finland)
	2021 <sup>a</sup>	Dieter Riemann (Freiburg, Germany)
	Since 1994	Research grant for young scientists
Helgi Kristbjarnson's Awards	Since 2004	Poster prizes
Philips Research Grant	2010	V. Revell, D.J. Skene, and C. Papamichael
ESRS Sleep Science Award	2010	Michel Jouvet (Lyon, France)
	2012	Elio Lugaresi (Bologna, Italy)
	2014	Alexander Borbély (Zürich, Switzerland)
	2016	Pier Luigi Parmeggiani (Bologna, Italy)
	2018	Torbjörn Åkerstedt (Stockholm, Sweden)
	2020	Tarja Porkka-Heiskanen (Helsinki, Finland)
ESRS Travel / Meeting Grants	Since 2012	
ESRS Short-Term Research Fellowships	Since 2016	
ESRS 2-week Training Grants	Since 2016	

<sup>a</sup>2020 skipped due to coronavirus disease 2019 (COVID-19) pandemic. ESRS, European Sleep Research Society.

Textbook was published. Several joint actions with the ANSS were initiated of which the best-known example was the Wake-Up bus operation, culminating with a session at the EU parliament. Also during this period the ESRS joined the Federation of European Neuroscience Societies (FENS). In between the ESRS congress in Tallinn and Bologna the World Sleep meeting was organised in Istanbul in 2015. This was under quite difficult conditions due to the geopolitical settings of that time. Both the congress in Tallinn and Bologna were successful meetings. The congress in Bologna was the congress with the largest participation in the history of the Society (1,903 in total, Table 1). This (unexpected) success brought with it that during presentations people were standing in the hallway and extra screens were put up to enable the participants to follow the lectures. The success of the congresses, together with restructuring of different financial agreements, increased the financial viability of the Society enabling it to develop novel activities in the future. One of these was the initiation of the ESRS Sleep Science School, aimed at gathering early career sleep scientists around different topics, allowing them to gain knowledge, share their work and experience and meet experienced researchers.

**Walter McNicholas** (2016–2020) is Newman Clinical Research Professor at the School of Medicine, University College Dublin. Walter McNicholas co-organised the 24th congress in Basel (Switzerland) and the 25th congress, which was eventually delivered online as a fully virtual event. In 2017, the first Sleep Science School was organised in Fréjus, France. Since then, this has been a biennial event organised around different themes relevant in sleep research and sleep medicine. During the presidency of Professor McNicholas, the website was renewed to be able to provide the online resources that a modern website should allow, and ESRS administration was expanded to support ESRS committees and other Society functions. Electronic voting was introduced at the General Assembly in Basel. While the attendance at the Basel meeting in 2018 did not match the record of Bologna, the upward trajectory of congress attendances over the decade continued and highlighted, for the Board, the need to plan for future congresses with attendance in the range of 2,000–3,000 delegates. The 25th congress was supposed to take place in Sevilla in 2020 and organisation of the event was well on its way. In November 2019 the Board, SC representatives and local organisers met in Seville to evaluate the facilities and put together a preliminary programme. At the end of February 2020, it became clear that the outbreak of coronavirus disease 2019 (COVID-19) in Europe could not be prevented. In a short time, the board changed into a “war cabinet” and decisions needed to be made about the organisation of the congress in Seville. As the situation did not improve, it was decided to organise the meeting online. To not lose money on breaking signed contracts, it was also decided that Seville would be the city where the 2024 congress will take place, as Athens was already the designated city for 2022. This also forced the board to rethink the programme. It meant that techniques needed to be put in place to accommodate online symposia, oral presentations, but also poster presentations and informal meeting rooms, with all the questions about safety and



privacy that came with it. With the help of Congrex, the board succeeded in putting this together and, considering the circumstances, the meeting, with 1,726 paying participants, was still a great success. Even the General Assembly was organised online and presentations, discussions, and voting ran surprisingly smooth. But most will agree that this fully virtual event did not match a face-to-face meeting where networking and direct interaction are key features.

**Pierre-Hervé Luppi** (2020–present) is a Research Director at the Centre National de la Recherche Scientifique (CNRS) since 1989 and the head of a sleep laboratory at the University of Lyon since 2002. He is currently co-organising the congress in Athens (Greece). During the presidency of Pierre-Hervé Luppi further professionalisation of the ESRS is underway notably with the recruitment in 2021 of a General Manager of the Society. The Committees were also renewed, and plans are currently put in place to streamline the processes within the ESRS organisation. The online presence of the ESRS is also increasing with the launch of a new Web site, which became live in February 2022 and social media and Webinar developments.

Looking back, we see a society that started with a moderate but firm membership and a group of researchers that saw the importance of getting themselves organised on a European level. Over the course of the years, the Society expanded, and it was recognised that clinical sleep research and patient care were as important as basic sleep research. The specific inclusion of sleep medicine in the bylaws in 2004 was important in this process. We also see a society where many things were, and still are, organised in a bottom-up approach. This is visible in the call for symposia, and oral/poster presentations that appears every 2 years in the run-up to the conference. The SC rates all the proposals and contributions of the members, and a programme is put together based on the submitted proposals and abstracts of the members. At the General Assembly, next to voting on the composition of the Board and the SC, members can vote on the question of which city the congress should be organised in 4 years' time. National Societies can put in bids and the strongest bid, with the lowest financial risks, are put on the ballot. One can question whether this will remain possible in the future. The number of participants of the congress steadily increases and the financial risks that the ESRS has to take to organise the congress have become larger. The latter may also mean that the ESRS needs to take a stronger control over the organisation.

## 2.2 | Sleep and breathing conference

The Sleep and Breathing Conference (S&B) is a joint initiative between ESRS and the ERS, with responsibility for the organisation and budget shared equally between the two societies in a formal Framework Agreement. The first conference was in Prague in 2011 and has since been held every second year in the gap year between ESRS congresses (Table 3). Thus, the S&B, which is attended by an average of close to 1,000 delegates, has become a core feature in the Society calendar over the past decade. The most recent conference, scheduled again for Prague as the 10th anniversary of the first event, became a fully virtual conference because of COVID-19 pandemic restrictions. However, the feedback was highly positive, and gives scope for considering a hybrid event in future years.

The primary purpose of the S&B is to provide a forum for the continuing education and professional development of all healthcare professionals with an interest in sleep disorders. Thus, the focus of the conference is fundamentally different from the biennial ESRS congress. While the major topic of the conference is sleep and breathing disorders, other sleep topics are included throughout the programme and, thus, the conference should be of interest to all practitioners in the sleep field.

The S&B represents the most substantial cooperation between ESRS and ERS, but there have been many other examples of cooperation between the two societies, most notably in the form of joint Task Forces and other Working Groups. These joint initiatives have resulted in many official Statements and Recommendations that have provided important guidance to clinical sleep practitioners (Bassetti et al., 2020; Bonsignore et al., 2016; Bonsignore et al., 2021; Randerath et al., 2017; Randerath et al., 2018; Randerath et al., 2021).

## 2.3 | La fonction crée l'organe: the formation of committees within the ESRS

Over the years, the ESRS has seen a rapid growth of its activities. Communication between researchers and gathering scientific information has been the mainstay, the highlight of which was the biennial international congress. Gradually, the portfolio of activities expanded and differentiated into content-specific areas of interest.

**TABLE 3** History of the European Sleep Research Society (ESRS)–European Respiratory Society (ERS) sleep and breathing conferences 2011–2021

Number	Location	Dates	ESRS co-chair	ERS co-chair	Delegate numbers
1	Prague	March 31–April 02, 2011	Claudio Bassetti	Walter McNicholas	926
2	Berlin	April 11–13, 2013	Claudio Bassetti	Walter McNicholas	1,077
3	Barcelona	April 16–18, 2015	Walter McNicholas	Anita Simonds	836
4	Marseille	April 6–8, 2017	Walter McNicholas	Anita Simonds	832
5	Marseille	April 11–13, 2019	Walter McNicholas	Maria Bonsignore	833
6	Virtual	April 16–17, 2021	Walter McNicholas	Maria Bonsignore	960

This development compelled the Society to found focus groups for managing these different tasks. Thus, the committees – the vital organs of the Society – were created.

Since the foundation of the ESRS in 1972, the SC had been the sole dedicated working group within the Society. The scope and functioning of the SC had been established right from the start. Its composition and tasks were defined in the bylaws of the Society. It was stipulated that members of the SC be elected by simple majority for the period between two consecutive business meetings (~2 years), and that re-election was possible for one period. The tasks of the SC, which have been constant over the years, include making proposals for the programme of the scientific congress, selecting submitted abstracts for presentations, and helping in the evaluation of manuscripts submitted for the congress publications. The chair of the SC, designated by the committee members, maintains contact with the ESRS board of officers.

In April 2004, the first congregation of NSS took place in Mallorca, Spain. To bring these national societies together was an initiative from Irene Tobler who was then president of the ESRS. Delegates from 20 NSS participated to discuss fundamental issues regarding sleep research, sleep medicine and the need for harmonisation of professional activities across Europe (Figure 2). The outcome of this seminal meeting was the decision to establish a consortium of European NSS, led by a steering committee of five members, under the umbrella of the ESRS. The steering committee further implemented this memory of agreement and started organising annual meetings in cooperation with the NSS and the ESRS board.

At the general assembly of the ESRS in Innsbruck, in September 2006, an important adjustment to the Society's bylaws was made. By vote, the consortium of NSS was officially called the “Assembly of National Sleep Societies” and became an official organ of the ESRS. The steering committee was transformed into the Executive



**FIGURE 2** Participants of the first ANSS meeting in Mallorca, Spain, April 2–4, 2004 *From left to right:* Poul Jennum (DK), Antonio Bove Ribe (ES), Danilo Hodoba (HR), Irene Tobler (ESRS), Diego Garcia-Borreguero (ESRS), Sören Berg (SE), Rainer Popovic (AT), Teresa Paiva (PT), Francisca Canellas Dols (local host), Fabio Cirignotta (ESRS), Tarja Porkka-Heiskanen-Stenberg (ESRS), Vanda Liesiene (LT), Karel Sonka (CZ), Marie-Françoise Veccierini-Blineau (FR), Cristiano Violani (IT), Peter Halasz (HU), Neil Stanley (UK), Anna Wirz-Justice (ESRS), Hakan Kaynak (TR), Geert Mayer (ESRS), Dirk Pevernagie (BE), Antigone Papavassiliou (GR), Mikko Härmä (FI), Jürgen Fischer (DE), Gerard Kerkhof (NL)

Committee (EC) of the ANSS. A member of the EC-ANSS was co-opted as an official member of the ESRS board. The role and activities of the ANSS were described in a constitution, supplemented with internal rules for the EC. This committee continued recruiting additional NSS to join the ANSS. To publish much needed guidelines on accreditation and organisation of sleep centres and certification of sleep professionals in Europe was an initial product from the EC-ANSS (Fischer et al., 2012; Pevernagie & Steering Committee of European Sleep Research Society, 2006; Pevernagie et al., 2009).

As of 2008, under the presidency of Claudio Bassetti, the ESRS considered establishing yet other committees to meet the many challenges that the Society was confronted with. By the end of 2009, four new committees had been appointed in addition to the SC and the EC-ANSS that were already in operation. A committee for each of the following themes was assigned: sleep medicine, sleep research, fund raising, and the relation with the EU. The themes for which committees had to be appointed were gradually adjusted over the years in line with the changing business of the Society. Below is a description of the currently active committees, other than the SC and EC-ANSS.

The Sleep Medicine Committee (SMC) was a continuation of the Clinical Committee that was founded in the 1990s and that already collected detailed information on the state of sleep education and sleep medicine in European countries. The SMC kicked off with preparing and organising the ESRS somnologist examination, the first edition of which took place at the ESRS congress in Paris, 2012. Then 2 years later, this event was complemented with an ESRS examination for somnotechnologists (ESRS congress in Tallinn, 2014). At the time that the preparation for these examinations took place, the European Sleep Medicine Textbook was not yet available. To assist students with educational material, a set of must-read papers and book chapters was compiled. In addition, a catalogue of knowledge and skills in sleep medicine was published (Penzel et al., 2014). This paper also served as the blueprint for the first edition of the ESRS Sleep Medicine Textbook. With the second edition of this textbook, the catalogue has been revised (Penzel et al., 2021). The mission of the SMC in its present form is to promote clinical sleep medicine as an integrated multidisciplinary field and as an autonomous healthcare discipline. To this end, subcommittees have been appointed on the following themes: publication of guidelines, accreditation of sleep medicine practice, certification of sleep health professionals, paediatric sleep medicine, and communication of relevant information on sleep medicine.

The main task of the Education Committee (EduCom) has been to establish and develop the curriculum of sleep education in collaboration with European universities and the NSS. A specific goal of EduCom has been to provide up-to-date theoretical education on sleep medicine. This has been accomplished by providing web-based education material on sleep physiology (e-SLEEP/BASIC), and by coordinating, editing, and reviewing the two editions of the ESRS sleep medicine textbook (publication dates 2014 and 2021). While the first edition focused primarily on sleep and sleep-related disorders, the second edition (Bassetti et al., 2021) not only updated the major advances in these topics but also expanded to include the impact of

sleep on major body systems and related disorders among the various specialties of medicine. The EduCom also has taken over responsibility from the SMC to organise the European somnologist/somnotechnologist examinations since 2014, for which task an examination subcommittee has been appointed. In 2021, the total number of ESRS certified Somnologists and Technologists was 826 and 225, respectively.

The Digital and Communication Committee (DCC) is an essential organ of the Society, as this team is mandated with providing advice on the development, maintenance, and content on the ESRS website and digital platforms. These interfaces are intended to be used by ESRS members and committees and is accessible to the public. The DCC is keen to enhance communication and awareness, by providing healthcare professionals, researchers and lay people access to timely, accurate and useful information about sleep medicine and sleep research via the above-mentioned media.

The main task of the Research Network Committee (RNC) is to connect the different research networks within the ESRS, or networking between networks. It also manages the different ESRS travel and visiting grants (by setting out the calls, guiding the reviewing process and deciding on grant assignments). In that context, it takes care of the sleep laboratory database. The RNC increases exchange of information between the ESRS and other related research societies in Europe. Furthermore, the RNC optimises the functioning of the committee itself, as the members of the RNC are representatives of the different ESRS Research Networks, and representatives of all the ESRS Committees.

The Early Career Researcher Network (ECRN) is dedicated to collaboration and participation of early career sleep professionals within the ESRS and its activities and events. The main aim is to establish and maintain a peer network for this target group. This is to foster a generation of healthy, collaborative, and successful sleep professionals. An “early career day” is being hosted at the first day of each biennial ESRS congress, ever since 2016. Moreover, networking events, online sessions, and digital communications such as the “member of the month” are being organised on a regular basis. The ECRN is led by an EC, which reflects the diversity of early career sleep researchers and clinicians within the ESRS.

Finally, the list of ESRS committees is completed with a special taskforce: the Gender Equality Forum (GEF), that aims to:

- raise awareness about the concept of gender inequality and the impact that inequality has on people of all genders and/or identities
- identify current issues and attitudes regarding gender inequality within the ESRS and wider sleep research field
- promote equal treatment for all ESRS members regardless of their sex, gender, or gender identity

As a new group, the GEF is currently building its foundations and planning the next steps towards an equitable society, thereby fostering a culture of inclusivity and gender equality within the ESRS.



## 2.4 | The ESRS in 2022

The sleep community is comprised of a rapidly growing, large, and diverse number of fields including pneumology, neurology, psychiatry, paediatrics, and basic human and animal research. The challenge of the ESRS is to fully integrate and promote all these subfields at the European level. To this aim, the ESRS is increasing its collaboration with national European sleep research societies, thanks to the ANSS, which recently expanded its activities, both online and with the launch of biannual meetings. The ESRS is also formalising its relationship with sister European societies. The ESRS is a member of the FENS and through this membership, all ESRS members are also members of the FENS. A memorandum of understanding (MOU) has been recently signed with the European Academy of Neurology (EAN) and a similar memorandum with the ERS is underway. The ESRS is seeking for the same kind of collaboration with other European societies. Since 2020, the ESRS is also a member of the European Brain Council (EBC) and is actively working with them to advocate sleep research and sleep medicine on the European level. While pursuing the development of its well-known classical activities such as our own biennial meeting, the S&B meeting, and our Sleep Science School, the ESRS is strongly developing its online presence. A plan which was accelerated by the COVID-19 pandemic, and which constitutes a key priority now.

The ESRS is a major cooperation partner of the project SLEEP REVOLUTION within the programme “Horizon 2020”, funded with 15 million euros by the EU. The overall objective is the revolution of sleep diagnostics and personalised healthcare based on digital diagnostics and therapeutics with health data integration. With the commitment of the ESRS and the ANSS (>8,000 members), new standardised guidelines for sleep medicine in the EU are created. Moreover, machine learning techniques will be developed to better estimate obstructive sleep apnea severity and treatment needs, to improve health outcomes and quality of life by which costs ultimately will be alleviated. Integrating 37 European institutions and based on an extensive collaboration between sleep specialists, computer scientists and industry partners, the project is coordinated in Iceland, chaired by ESRS Secretary Erna Sif Arnadóttir and has a duration from 2021 to 2025. The collaboration network consists of over 30 sleep centres working together to provide the needed data (>10,000 sleep studies). The multicentre prospective trials involve experts and end-users to assess and validate new SLEEP REVOLUTION diagnostic algorithms, wearables, and platforms.

## 2.5 | The future of the ESRS

The aim of the ESRS is to host and promote all fields of sleep research and sleep medicine in Europe and beyond. Our first objective is to integrate and support most of the European sleep specialists in their activities. At its founding meeting in 1972, the ESRS was more focussed on basic sleep research and our objective is to continue to strongly support basic research. In addition, the ESRS has the objective to include all types of sleep specialists in the society, in particular

the healthcare providers. To this aim, the objective of the ESRS is to reach out to all professionals, first by strongly developing online activities, including activities on social media. Furthermore, the relationship with European societies hosting those specialists will be developed and strengthened. The partnership with industry should not only be developed at the physical meetings, but all year round. Scientific publications are strongly supported by means of our Society journal, the *Journal of Sleep Research* and this should continue with new publishing strategies, in particular open access, and academic databases. Education is also a priority for the ESRS. Sonologist examinations will be ongoing and future editions of the textbook are envisioned. Finally, it is crucial to develop a strong relationship with patient organisations and the lay public. Further development of the ESRS needs to be done in tandem with the NSS and our partnership with them needs to be tightened in the future. Advocacy for sleep research and sleep medicine should be further developed in the line of our partnership with the EBC and in association with European sister societies.

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## DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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