

# ANDRONET: A new European network to boost research coordination, education and public awareness in andrology

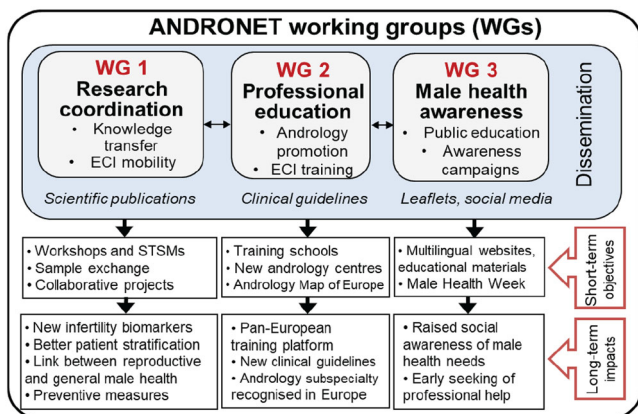
Andrology, a multidisciplinary field of biomedicine devoted to male health, has long been fragmented and not well supported by research grant institutions and a poorly informed public. One of the reasons was the lack of a network through which researchers and clinicians could interact towards the strengthening of research collaboration, andrology education and public awareness of growing problems in male health. These objectives largely overlap with the priorities of the European Academy of Andrology (EAA); therefore the establishment of such a network has been strongly promoted by the EAA, which during the last 2 years reached out to numerous groups and organizations across Europe and beyond. The project was submitted to the European Cooperation in Science and Technology (COST) funding organization at the end of 2020 by a team of 45 proposers from 26 countries, and the funding was approved in May 2021. The network has the acronym ANDRONET: European andrology network—research coordination, education and public awareness (CA20119). As the project's title stipulates, ANDRONET has three main objectives: (1) to improve coordination of research, (2) to improve education in andrology and (3) to increase public awareness of male health-related issues. Each objective has short- and long-term goals, which form the basis of the main working groups (WGs) (Figure 1).

The need for such a network was urgent due to the increasing incidence of infertility and testicular cancer, worrying reports of an association of poor reproductive function with poor general health and greater male predisposition to several serious diseases leading to

shorter life expectancy in men.<sup>1</sup> While male factor in infertile couples is common, in the majority of cases, the only treatment option is assisted reproduction technology with the primary burden on women.<sup>2</sup> The etiology of male reproductive problems is heterogeneous and comprises complex interactions between multiple genes and epigenetic and other 'omics' factors, with presumed but largely unknown impact of environmental factors.<sup>2–8</sup> The expertise in various basic and clinical aspects does exist but collaborative projects are usually limited to a few groups or countries. Two good examples are the previously European Union (EU)-supported European Male Health Study (EMAS)<sup>9</sup> or the currently active ReproUnion Consortium.<sup>10</sup> Several collaborative studies in the frame of the International Male Infertility Genomics Consortium ([www.imigc.org](http://www.imigc.org)) testify the importance of joining forces in our field. Thus, ANDRONET's first objective is to increase multidisciplinary research collaboration and data exchange among andrology and reproductive biology centres, including the existing consortia. In the spirit of COST Action, ANDRONET will transfer knowledge to European countries with often very good patient cohorts but less developed research in this field.

The other important objective of ANDRONET is to improve professional education in clinical andrology, which is currently fragmented among several medical branches, and to contribute to the recognition of andrology as a medical subspecialty at the European level. The majority of the andrologists have a specialization in endocrinology, urology, gynaecology or even dermatology, and only a minority of them received appropriately comprehensive andrology education. Few countries officially recognize andrology as a medical subspecialty, so there is not a great incentive for young trainees to choose this field as a professional career. At the European level, education in andrology, meant as a holistic evaluation of male-specific health problems, is carried out only in the frame of the EAA-certified clinical andrologist training ([www.andrologyacademy.net](http://www.andrologyacademy.net)). The comprehensive curriculum in andrology and the exit exam developed by the EAA are a solid base for the development of a subspecialty in andrology, with the ultimate aim of its recognition at the European level. ANDRONET together with the EAA will promote education in andrology at national and EU-based health boards and institutions to increase the number of high-profile training centers where clinical andrologists can receive comprehensive education.

The final main objective of ANDRONET is to improve the proper information of the public and patients with evidence-based knowledge



**FIGURE 1** ANDRONET main objectives and working groups

**TABLE 1** ANDRONET COST Action leadership positions

<b>Action chair</b>	<b>Rafael Oliva</b>
Action vice-chair	Csilla Krausz (Italy)
<b>WG1 (science coordination)</b>	
Leader	Frank Tüttelmann (Germany)
Vice-leader	Judit Castillo (Spain)
Co-leaders	Kristian Almstrup (Denmark), Katerina Komrskova (Czech Republic), Ana Katusić Bojanac (Croatia), Antoni Riera Escamilla (Spain)
<b>WG2 (professional education)</b>	
Leader	Leen Antonio (Belgium)
Vice-leader	Csilla Krausz (Italy)
Co-leaders	Lars Björndahl (Sweden), Rosita Condorelli (Italy), Josanne Vassallo (Malta)
<b>WG3 (public awareness)</b>	
Leader	Andrea Sansone (Italy)
Vice-leader	Chris Barratt (UK)
Co-leaders	Viktoria Rosta (Hungary), Eduard Ruiz-Castañé (Spain)
<b>Grant awarding</b>	
Coordinator	Davor Ježek (Croatia)
Co-coordinators	Alberto de la Iglesia (Spain), Jolanta Słowikowska-Hilczner (Poland), Zsolt Kopa (Hungary)
<b>Science communication</b>	
Coordinator	Ewa Rajpert-De Meyts (Denmark)
Vice-coordinator	Sandra Laurentino (Germany)
Co-coordinators	Aleksander Giwercman (Sweden), João Ramalho Santos (Portugal)

and thereby increase awareness of rising male health problems. In the long run, a better awareness can contribute to the development of preventive measures. Currently, access to the relevant information is very variable among European countries: only few have good information available online, for example in Italy (*Amico Andrologo*; [www.amicoandrologo.it](http://www.amicoandrologo.it)) and in Russia. English-speaking people can find information on the excellent portal *Healthy Male* developed in Australia ([www.healthymale.org.au](http://www.healthymale.org.au)), the recently developed portal by the EAA *Andrology Awareness* ([www.andrologyawareness.eu](http://www.andrologyawareness.eu)) and the website of the patient organization *Fertility Europe* ([www.fertilityeurope.eu](http://www.fertilityeurope.eu)) dedicated primarily to couple infertility. However, in most of the European countries, language-specific educational materials for the general public are fragmented or largely missing, and filling this gap will be one of the goals of ANDRONET.

The COST Action will only cover networking tools and coordination costs such as the meetings organization and attendance, training workshops and schools, short-term scientific missions (exchange of scientists and professionals among participants), dissemination costs and travel grants. Hence, we hope that ANDRONET will help the partners to leverage additional support from their national funding sources.

The formally starting the Action kick-off meeting of the management committee (MC) took place online on 27–28 October 2021, and the ANDRONET project will be developed during the next 4 years (2021–2025). The MC members have decided on different leadership positions responsible for organization of the Action and the WGs (Table 1). Currently ANDRONET is formed by 46 MC members and 133 WG members representing 33 countries, but the size of the network is expected to increase to hundreds of participants within the next few years. One of the key characteristics of COST actions is their openness, so anyone interested in andrology can join. As in all COST actions, geographic spread (open to all countries in the world), gender balance and age balance are important values. To join one of the three WGs of ANDRONET, one needs to follow an administrative requirement of an online application at the link <https://www.cost.eu/actions/CA20119/>.

Judging from the very participative and enthusiastic kick-off meeting, ANDRONET is on a good way towards the success in the next 4 years!

### CONFLICT OF INTEREST

The authors declare that there is no conflict of interest that could be perceived as prejudicing the impartiality of the information reported.

Rafael Oliva<sup>1</sup> 

Csilla Krausz<sup>2</sup> 

Ewa Rajpert-De Meyts<sup>3</sup> 

<sup>1</sup> *Molecular Biology of Reproduction and Development, Biomedical Research Institute August Pi I Sunyer, University of Barcelona and Hospital Clínic, Barcelona, Spain*

<sup>2</sup> *Department of Experimental and Clinical Biomedical Sciences 'Mario Serio', University of Florence, Florence, Italy*

<sup>3</sup> *Department of Growth and Reproduction, Copenhagen University Hospital (Rigshospitalet), Copenhagen, Denmark*

### Correspondence

Rafael Oliva, Molecular Biology of Reproduction and Development, Biomedical Research Institute August Pi I Sunyer, University of Barcelona and Hospital Clínic, Barcelona, Spain.

Email: [roliva@ub.edu](mailto:roliva@ub.edu)

### ORCID

Rafael Oliva  <https://orcid.org/0000-0003-4876-2410>

Csilla Krausz  <https://orcid.org/0000-0001-6748-8918>

Ewa Rajpert-De Meyts  <https://orcid.org/0000-0002-5946-7559>

### REFERENCES

- De Jonge C, Barratt CLR. The present crisis in male reproductive health: an urgent need for a political, social, and research roadmap. *Andrology*. 2019;7(6):762-768.
- European IVF-monitoring Consortium for the European Society of Human Reproduction and Embryology. ART in Europe, 2016: results generated from European registries by ESHRE. *Hum Reprod Open*. 2020(3);2020:hoaa032. <https://doi.org/10.1093/hropen/hoaa032>

3. Krausz C, Riera-Escamilla A. Genetics of male infertility. *Nat Rev Urol*. 2018;15(6):369-384.
4. Olesen IA, Andersson AM, Aksglaede L, et al. Clinical, genetic, biochemical and testicular biopsy findings among 1213 men evaluated for infertility. *Fertil Steril*. 2017;107:74-82.e7.
5. Punab M, Poolamets O, Paju P, et al. Causes of male infertility: a 9-year prospective monocentre study on 1737 patients with reduced total sperm counts. *Hum Reprod*. 2017;32:18-31.
6. Tournaye H, Krausz C, Oates RD. Concepts in diagnosis and therapy for male reproductive impairment. *Lancet Diabetes Endocrinol*. 2017;5:554-564.
7. Skakkebaek NE, Rajpert-De Meyts E, Buck Louis GM, et al. Male reproductive disorders and fertility trends: influences of environment and genetic susceptibility. *Physiol Rev*. 2016;96:55-97.
8. Castillo J, Jodar M, Oliva R. The contribution of human sperm proteins to the development and epigenome of the preimplantation embryo. *Hum Reprod Update*. 2018;24(5):535-555.
9. Lee DM, O'Neill TW, Pye SR, et al. The European Male Ageing Study (EMAS): design, methods and recruitment. *Int J Androl*. 2009;32(1):11-24.
10. Priskorn L, Tøttenborg SS, Almstrup K, et al. RUBIC (ReproUnion Biobank and Infertility Cohort): a binational clinical foundation to study risk factors, life course, and treatment of infertility and infertility-related morbidity. *Andrology*. 2021;9(6):1828-1842.