

doi: 10.1111/j.2047-2927.2014.00259.x

The need of continuous focus on improved mentoring of trainees and young investigators in the field of andrology: highlights of current programs and opportunities for the future

¹D. T. Carrell, ²E. Rajpert-De Meyts, ³C. Krausz, ⁴E. A. Jannini, ⁵P. Y. Liu, ⁶G. L. Gerton, ⁷S. La Salle and ⁸A. Amaral

¹Departments of Surgery (Urology), Human Genetics, and Obstetrics and Gynecology, University of Utah School of Medicine, Salt Lake City, UT, USA, ²Department of Growth and Reproduction, Copenhagen University Hospital Rigshospitalet, Copenhagen, Denmark, ³Department of Biomedical, Experimental, and Clinical Sciences "Mario Serio", University of Florence, Florence, ⁴Department of Systems Medicine, Tor Vergata University of Rome, Rome, Italy, ⁵Department of Medicine (Endocrinology), Harbor UCLA Medical Center and Los Angeles Biomedical Research Institute, Los Angeles, CA, ⁶Department of Obstetrics and Gynecology, Perelman School of Medicine at the University of Pennsylvania, Philadelphia, PA, ⁷Department of Biochemistry, Midwestern University, Downers Grove, IL, USA, and ⁸Department of Developmental Genetics, Max Plank Institute for Molecular Genetics, Berlin, Germany

The future of the field of andrology is dependent on the attraction of talented young scientists and clinicians, top quality training and educational opportunities and continued early career stage mentoring and support. As the official journal of two organizations focused on male reproductive health; the European Academy of Andrology (EAA) and the American Society of Andrology (ASA), *Andrology* has a unique interest and mission in promoting and supporting high-quality training of young investigators and clinicians. As briefly described below, both the EAA and ASA have implemented and continue to implement progressive programmes to foster the development of young investigators and attract talented trainees to the field. We applaud both societies for their impressive efforts, but also encourage further creative programmes. In this editorial, we highlight the valuable programmes currently available through the EAA, ASA and the International Network for Young Researchers in Male Fertility (INRYRMF) and we encourage even more creative focus on the training of future andrologists. Finally, we highlight new ways in which *Andrology* can further assist in this endeavour.

The American Society of Andrology (ASA) celebrates its 40th anniversary scientific meeting in 2015 and has established itself as the premier North American society for interaction between clinical researchers and bench scientists unified to solve andrological issues. Trainee members comprise, on average, 15% of the entire membership, and among regular and trainee members alike, one third reside and work outside North America. The Society has embraced this diversity, most recently through the

NIDDK-funded ASA Diversity Initiative (<http://www.andrologycareers.org>) aimed at providing mentorship to andrology trainees, and to spark interest in the next generation of scientists and physicians, who do not yet know what andrology is.

The future of andrology requires listening to the concerns that trainees have, and ensuring that they have a voice that is heard. To this end, the ASA has recently instigated a number of important initiatives. Through a by-law change, trainees now have a vote, not only a voice, at ASA council. An online survey was organized by the Trainee Affairs Committee to determine trainee needs. The response was clear. Trainees want mentors. Trainees want to organize themselves, to hold a trainee-directed symposium in which they decide what the agenda will be. Trainees want and need financial support to attend the meeting.

The response of ASA was swift. Next year, the incoming President of the ASA will present all trainee travel awards at the long-established annual Trainee mixer. The Trainee Affairs Committee, in conjunction with the Diversity Committee, is connecting mentors with mentees. However, we still need mentors and mentees to sign up through <http://www.andrologycareers.org/track-1-asa-trainees.html>. Next year, trainees will run their own trainee-directed symposium with a programme that will be established by the two trainee-elected representatives and a programme organizing committee that they will form. Next year, we will continue to provide free one-time 1-year memberships to trainee first authors of abstracts accepted for the annual

meeting. We will continue to channel fundraising efforts for trainee awards through the CREATE fund. The ASA is now actively connecting job seekers and employers through its revamped website (<http://www.andrologysociety.org/Careers/Job-Seekers.aspx>). More work is needed, but we are continuing to listen and trainees have a voice.

As an association of scientists and clinicians active or interested in andrology, the EAA is devoted to the development of andrological sciences and to spread excellence in the andrology culture. One of the major missions of the EAA is to establish a clinical training programme for physicians who wish to become specialists in andrology. The education in Andrology deals with the prevention, diagnosis, treatment (medical and surgical) and rehabilitation of all andrology-related diseases or pathological conditions such as male infertility, contraception, sexual dysfunctions, endocrine dysfunctions, genital tract infections/inflammations, testis and prostate cancers. To accomplish this objective, EAA directs 25 training centres in Europe and one in the USA (Los Angeles) (<http://www.andrologyacademy.net/centres.php>). The education is based on 18 months of clinical training in a certified EAA training centre, followed by an exit exam which qualifies the fellow as 'EAA Clinical Andrologist'. The exam (written and oral) is held annually in front of the examination board. Since 1997 a total of 93 trainees passed the exam and represent the core of highly qualified clinical andrologists in Europe (http://www.andrologyacademy.net/exams_history.php). Besides clinical training, the Academy offers post-graduate courses and workshops on a regular basis and these educational activities are highly attended by young clinicians and research fellows. The EAA educational courses focus on one or more of the following macroareas: fertility and infertility, genetics/epigenetics and embryology in andrology, hypogonadism and other endocrine and metabolic diseases of andrological interest, andrological cancers, surgical andrology, sexually transmitted diseases and sexual medicine.

European Academy of Andrology supports young andrologists with travel grants and with special sessions during the biennial European Congress of Andrology (ECA). In particular, EAA has acted as the major sponsor of the INYRMF since its establishment and has continuously supported their activity to promote andrology among young researchers and clinicians (see below). In addition, a joint educational curriculum for clinical andrology has been established in 2010 with the European Society of Andrological Urology (ESAU) with the final aim to obtain a European subspecialty in andrology (http://www.andrologyacademy.net/Downloads/EAA_Curriculum.pdf). The establishment of this subspecialty will be a substantial advancement towards the recognition of andrology as an independent discipline. This would increase the interest in this field both at the clinical and basic science level.

The most significant organization of trainees is the International Network for Young Researchers in Male Fertility (INYRMF), which was founded in 2006 with the goal of assisting young researchers in male reproduction in reaching their highest potential as scientists (Tüttelmann *et al.*, 2012). With the aim of facilitating informal communication between junior and senior researchers and the establishment of new scientific collaborations, two INYRMF platforms are available: online discussion on the webpage (www.youngresearcher.eu) and annual meetings. Joining the network is free and allows rapid access to relevant

information (such as international meetings announcements, job vacancies, INYRMF news, etc).

Starting in 2008, the network has organized seven annual meetings in different European countries (every other years as satellite meetings in connection with European Testis Workshops), as well as special sessions at the European Congresses of Andrology. The meetings organized so far have been a great success, with an active contribution from all participants (invited speakers and audience – around 60 people in total) and fruitful discussions about high-quality research. The scientific programme usually includes plenary lectures from well-known experts in different topics of the field (from basic to translational Science), open panels, young researcher award lectures, workshops and selected oral communications and poster sessions. Given that the majority of participants are young and the audience is relatively small, INYRMF meetings have a more informal environment than many other congresses, and young researchers feel more confident to actively participate by discussing their own work, asking questions and making comments. Since its foundation the INYRMF has been constantly growing both in terms of number of members (it currently has more than 300) and in the success of the scientific meetings. In fact, the quality of the discussions and of the work presented by young researchers at the meetings strongly suggests that the future of male reproduction research is in good hands.

Andrology has a unique and strong opportunity to support the efforts of mentors and the ASA, EAA and INYRMF in the training of clinicians and researchers. Chief amongst the past and continued efforts of the journal is to provide a forum and learning experience for the publication of high-quality studies. This mission of *Andrology* includes several processes that should be valuable learning experiences for trainees, including the process of rigorous review of the manuscripts to evaluate proper design, valid and impartial statistical analysis, clear and concise writing, logically supported interpretation of the data and clear and proper research ethics and integrity. We applaud the efforts of *Andrology's* editorial board and outside reviewers in assisting in this educational process that affects not only principal investigators but also educates and sets proper expectations for trainees.

We also believe that the journal should address relevant concerns within the field with timely editorial comment. Included in the editorial section of the journal, the recently initiated 'Lessons in Andrology' section provides a valuable opportunity for trainees to better understand, appreciate and learn from the history of the field.

However, as *Andrology* moves forward we must continue to look for novel and creative ways that it can further aid in the training and mentoring of young scientists and clinicians. We are hereby announcing the addition of two trainees to the editorial board of *Andrology*, a first for *Andrology* and its predecessor journals. We believe that this change will not only improve the education of the two selected board members, but will also bring fresh ideas and suggestions from trainees to the journal, including more ideas on how the journal can better serve trainees. We look forward to expanding this effort, including tapping into the talents of our younger colleagues in the better use of social media for the journal and its readers. We encourage the ASA and EAA trainee supervisors to use these tools creatively to advance their missions.

Second, we encourage the societies and trainee groups to make better use of the journal's limited, but underutilized, non-manuscript pages to highlight trainee opportunities, including meetings, funding announcements and educational programmes. *Andrology* encourages its governing societies to assist in assuring that the journal's full potential is utilized by encouraging and assisting its trainee groups to consistently utilize this opportunity.

Finally, beyond traditional research reports, we encourage the creative and practical use of the journal to publish periodic 'special topic' articles relevant in training young investigators. Such topics may include research ethics, grant writing tips, laboratory management issues, alternative or non-traditional career opportunities, or common statistical or design flaws. Such manuscripts will likely be published in the 'editorial section' of the journal, and hence will not affect the impact factor, but could be invaluable to both trainees and mentors.

As highlighted above, many strong and valuable efforts are ongoing in the EAA, ASA and INYRMF and are improving the training and opportunities of trainees and young investigators in the field of andrology. We strongly applaud those efforts and the mentors who are tirelessly working to provide better-trained andrologists for the future. This is essential to the future of our field. We are confident that further creative efforts, including those announced above for the journal, are possible and will benefit our field.

REFERENCE

- Tüttelmann F, De Gendt K, Amaral A, Giachini CC, Welsh M, Blomberg Jensen M, Nurmio M, Wahlgren A & Stukenborg JB. (2012) The future of testis research is turning 6! Six years of international network for young researchers in male fertility. *Int J Androl* 35, 211–213.