



NIKI Ubags^{1,2}, Manuela Platé^{2,3}, Isaac Almendros^{1,2,3}, Sabine Bartel^{1,2} s.r.bartel@umcg.nl @EarlyCareerERS

Early career forum

Why ERS Early Career Members should attend the International Congress 2019 in Madrid

Cite as: Ubags N, Platé M, Almendros I, *et al.* Why ERS Early Career Members should attend the International Congress 2019 in Madrid. *Breathe* 2019; 15: 128-130.

The European Respiratory Society (ERS) International Congress will take place from September 28 to October 2, 2019, in Madrid, Spain, and as every year, the rich and diverse programme will be full of opportunities for ERS Early Career Members (ECMs). Alongside all the outstanding scientific sessions, which are aimed at physicians, physician-researchers and basic researchers in all fields related to pulmonary medicine, the Early Career Member Committee (ECMC) also organises several sessions dedicated to the professional development of ECMs.

Accordingly, every year the ECMC organises an ECM Session (Tuesday, October 1, from 14:45 to 16:45). This session is specially developed to fit the needs of ECMs, and to provide useful information on topics related to career development, fellowships, and tips and tricks on how to become more involved in the ERS [1]. This year's session will be focused on "Effective communication of your science". Effective communication is part of the everyday life for each physician, scientist or allied respiratory professional, be it communicating scientific advancements in diagnostics or therapies to patients, giving presentations at conferences or even writing papers and proposals. In addition, proper and correct communication of scientific facts to the general public becomes increasingly important in a world of social media and so-called fake news. Furthermore, defining measures for effective public outreach is a prerequisite for virtually all successful future grant applications; thus, scientists and clinicians should

be trained early on in this aspect. The ECM session will provide two presentations on:

- making yourself and your science memorable at the congress
- strategies to effectively communicate science to patients and the wider public

The presentations will be followed by a panel discussion with the speakers. During the ECM session, the ECMC chair Lieuwe Bos will give an overview of what the ECMC can do for you and how you can get involved in tasks that are available to the ECMs. These presentations will be followed by a networking event that provides you with the ideal opportunity to meet and interact with fellow ECMs while enjoying a drink and some tapas.

Excellent learning and development opportunities for ECMs are also offered by Professional Development Workshops. These aim to provide participants with practical tips and guidelines on how to use new skills and knowledge, and apply them in a practical setting. The list of workshops can be found in the programme on the Congress website (<https://erscongress.org/>) and you usually need to register online in advance. In particular, we would like to draw attention to the workshop "Ethical issues in clinical respiratory research - where to draw the line?" that is organised by the ECMC. Expert speakers will lead a discussion on not only scientific advances but also ethical considerations that need to be taken



CrossMark

 @ERSpublications

The #ERSCongress is the largest respiratory conference worldwide. This article points out why @ERSTalk Early Career Members can especially benefit from attending this huge event and gives upcoming fellowship deadlines. <http://ow.ly/3GQ530o8Ezh>



© ERS 2019

into account by focusing on two novel technologies: clustered regularly interspaced short palindromic repeats (CRISPR)/CRISPR-associated protein 9 (Cas9) system-based genome editing and the use of (modified) stem cell therapies. CRISPR/Cas9 is a bacterial protein-RNA complex. It consists of an exonuclease introducing double-strand DNA breaks, which is the Cas9 protein, and a guide RNA that specifically directs the latter to the location of interest in the genome [2]. Thus, after the induction of a double-strand break an additionally supplied (modified) gene construct can be incorporated into the DNA by homologous recombination. Thereby, the CRISPR/Cas9 system represents an easy-to-use molecular tool that is able to delete entire genes, to insert super-exon donors to activate gene expression or even to edit single base pairs to correct mutations, and can basically be handled by every skilled researcher in every laboratory [3]. Accordingly, it is currently being heavily investigated for its potential in the treatment of monogenetic lung diseases, such as α_1 -antitrypsin deficiency or cystic fibrosis [4, 5]. Albeit that the CRISPR/Cas9 genome modification technology seems very promising, it has to be noted that its safety and potential off-target effects, especially for treating human disease, have not yet been clarified.

Thus, in the first part of this course, an experienced pulmonary researcher will describe the tremendous potential associated with the CRISPR/Cas9 technology [5] but will also inform the audience about current knowledge gaps and putative problems. This will be followed by a talk by an expert on bioethics, focusing on the bioethical considerations that should be taken into account when working with this new technology [6].

In the second part of the workshop, an expert in stem cell therapies, and the production and application of human stem cells [7] will describe the potential of those cells for therapy and discuss current gaps in knowledge and pitfalls. Again, this will be followed by a talk pointing out ethical pitfalls and points of care when developing stem-cell based therapies [8]. Both parts will be followed by interactive group discussions, with pro/con

debates and discussions of examples brought up by participants. Considering the recent heated debate sparked by the work of He Jiankui of the Southern University of Science and Technology in Shenzhen, China, who claimed to have altered the genomes of twin baby girls born in November to make the children's cells resistant to infection by HIV, this workshop is particularly topical, and covers important scientific and ethical questions in an interactive way that will favour audience participation and discussion of different points of view.

In summary, the ERS Congress offers various possibilities for ECMs to proceed in their professional development, besides presenting their data and meeting with experts in the field. The ECMC is looking forward to meeting you in Madrid!

ERS fellowship opportunities for ECMs: upcoming deadlines

Alongside organising career developmental sessions at the Congress, the ERS also provides a wide variety of fellowships to foster individual professional advancement of ECMs. These fellowships provide a unique opportunity to young researchers and clinicians to expand their knowledge in another institution within Europe. Thereby, the ERS offers different types of grants depending on the duration of the fellowship. Specifically, the next deadlines for the Short-Term Research Fellowships (1–3 months' duration) will be on October 1, 2019, and on April 1, 2020. For longer periods, ERS offers the Long-Term Research Fellowships (from 6 months to up 1 year). The call deadline will be during January 2020.

The Clinical Training Fellowships provide the opportunity for qualified clinicians to expand their expertise in other techniques in a host institution for up to 6 months. There are two calls per year, next deadlines being October 1, 2019, and April 1, 2020.

ERS also hopes to launch further fellowships later in 2019, which will all be published at <https://www.ersnet.org/professional-development/fellowships>.

Affiliations

Niki Ubags^{1,6}, Manuela Platé^{2,6}, Isaac Almindros^{3,4}, Sabine Bartel⁵

¹Faculty of Biology and Medicine, University of Lausanne, Service de Pneumologie, CHUV, Epalinges, Switzerland.

²Centre for Inflammation and Tissue Repair, UCL Respiratory, Rayne Building, University College London, London, UK. ³Unitat de Biofísica i Bioenginyeria, Facultat de Medicina i Ciències de la Salut, Universitat de Barcelona, Barcelona, Spain. ⁴Centro de Investigación Biomédica en Red de Enfermedades Respiratorias, Madrid, Spain.

⁵University of Groningen, University Medical Center Groningen, Dept of Pathology and Medical Biology, GRIAC

Research Institute, Groningen, The Netherlands. ⁶These authors contributed equally.

Conflict of interest

N. Ubags has nothing to disclose. M. Platé has nothing to disclose. I. Almindros has nothing to disclose. S. Bartel reports a grant and personal fees for advisory board membership from Bencard Allergie GmbH outside the submitted work.

Support statement

S. Bartel is supported by an ERS/European Union (EU) RESPIRE 3 Marie Skłodowska-Curie Fellowship and the ERS and the EU Horizon 2020 research and innovation programme under the Marie Skłodowska-Curie grant agreement number 713406.

References

1. Nenna R, Petrarca L, Parisi GF, *et al.* Zooming in on the ERS fellowships and the International Congress. *Breathe* 2018; 14: 141-144.
2. Hsu PD, Lander ES, Zhang F. Development and applications of CRISPR-Cas9 for genome engineering. *Cell* 2014; 157: 1262-1278.
3. Oude Blenke E, Evers MJW, Mastrobattista E, *et al.* CRISPR-Cas9 gene editing: delivery aspects and therapeutic potential. *J Control Release* 2016; 244: 139-148.
4. Shen S, Sanchez ME, Blomenkamp K, *et al.* Amelioration of alpha-1 antitrypsin deficiency diseases with genome editing in transgenic mice. *Hum Gene Ther* 2018; 29: 861-873.
5. Hart SL, Harrison PT. Genetic therapies for cystic fibrosis lung disease. *Curr Opin Pharmacol* 2017; 34: 119-124.
6. Neuhaus CP, Caplan AL. Genome editing: bioethics shows the way. *PLoS Biol* 2017; 15: e2001934.
7. Agha E E, Kramann R, Schneider RK, *et al.* Mesenchymal stem cells in fibrotic disease. *Cell Stem Cell* 2017; 21: 166-177.
8. Lysaght T, Kerridge IH, Sipp D, *et al.* Ethical and regulatory challenges with autologous adult stem cells: a comparative review of international regulations. *J Bioeth Inq* 2017; 14: 261-273.