

FELASA2022 – Communication as a driver for better science, transparency, and animal welfare

World-changing events took place between the 2019 and 2022 FELASA congresses. The challenges imposed by the Covid-19 pandemic highlighted the importance of animal research, and were an unavoidable issue discussed at FELASA2022. However, it was the future of laboratory animal science, medicine, and education that took central stage — a future that will rely on improved ‘Communication’ between all stakeholders.

Nuno Henrique Franco and Vootele Voikar

At the end of the 2019 14th FELASA (the Federation of European Laboratory Animal Science Associations) congress, in Prague, when we vowed to return to again meet our colleagues and friends in Marseille three years later under the auspices of AFSTAL (French Association of Laboratory Animal Sciences), little did we know how world events would forever change how we viewed ourselves, our work, science, and society. Laboratory animal veterinarians, technicians, caretakers, and managers faced particularly difficult professional, personal, and ethical challenges during the Covid-19 pandemic^{1,2}. Many struggled to take care of up to thousands of laboratory animals in their animal facilities, amidst cancelled projects, budget cuts, personnel shortages, equipment scarcity (much of which, notwithstanding, was generously redirected to hospitals³), and often faced the hard decision of euthanizing a great number of animals in their colonies⁴. At the same time, animal experiments were now needed more than ever, for shedding light on this new virus, its biology and effects, and for developing and testing life-saving vaccines^{5,6}. Under such dire circumstances, and yet with renewed trust in the possibilities of science, the organizers started to prepare the 15th FELASA congress. Planning a major face-to-face event was, admittedly, a risk. Would the pandemic subside enough to allow us to finally meet face-to-face? And even if so, how many would indeed be able – and more importantly, willing – to participate? Fortunately, the gods of science and animal welfare smiled upon the organizers, and FELASA2022 was by all measures a great success, much due to the efforts of AFSTAL, the Organizing Committee, the Scientific Committee, and Mondial Congress & Events, the company behind the scenes making sure everything worked well.



Nuno and Vootele.

The numbers of this congress are impressive: 2,200 participants, nearly 100 parallel sessions, poster sessions, and workshops; 484 published abstracts (154 selected oral presentations; 208 selected e-poster presentations; 119 invited talks; three keynote talks); and 11 Satellite-Meetings of laboratory animal science, medicine and education organizations, all condensed into four intensive and very rewarding days. Those who missed some talks because they were on other sessions, or want to re-watch their favourites, can view them on-demand on the congress platform until the end of the year.

The motto of FELASA2022 was ‘Communication’, a central theme expanded through various content streams: Communication with and between Animals; Communication and Culture of Care;

Education and Training: Communication towards the Future; Communicating between Peers, Authorities, and the Public. Given how detached from one and other the pandemic often made us feel, the ‘communication between peers’ dimension was, beyond a main theme in the congress sessions, also a recurrent topic of conversation; and how rewarding it was to catch up in passionate discussions during scientific sessions, coffee breaks, social events and exhibitions! On the other hand, we often discussed how the contingencies of the pandemic widened our view on the possibilities of distance communication and learning.

The congress opened with the session ‘3Rs – Travelling the globe and pandemic impacts’. Indeed, we learned about the importance of several essential online tools, databases and working modalities for collaboration



Florence the Fish welcomes all to FELASA2022.

and training in laboratory animal science and the 3Rs. Of the latter, the Education & Training Platform for Laboratory Animal Science (ETPLAS; etplas.eu) took central stage throughout the congress. The outcomes of the ETPLAS Pilot Project and its free on-line courses on EU-function modules (with many more to come) were featured in six talks, both by its members and the European Commission. Also, and for the first time, ETPLAS sat as an observer association at the FELASA member delegates meeting, and held its own satellite-meeting during the congress to present its past achievements and future goals. Several other new initiatives were showcased at the congress. We highlight here the Swiss National Science Foundation National Research Programme 79 “Advancing 3Rs – Animals, Research, and Society” (NRP 79), that awarded an impressive 20 million CHF to 3Rs research projects on three main topics: Innovation, Implementation, and Ethics and Society, the latter adding the perspective of the humanities and social sciences on the use of animals for scientific purposes.

Openness, transparency and communication with lay people were recurrent topics during the conference, often led by the European Animal Research Association (EARA). Importantly, it was agreed that researchers must take the lead in transparency and communication, and go from being part of a “silent majority” to actively reach out to the community to talk about scientifically and ethically justified animal research.

There were three keynote lectures. The first keynote by Lynne Sneddon (University

of Gothenburg) on “How Effective Communication Can Drive Improvements in Aquatic Animal Welfare” — a quite fitting topic for a congress which mascot was ‘Florence the Fish’ — highlighted the growing importance of fish models in research. Lynne stressed the importance of acknowledging fish sentience, of communicating our work to improve animal welfare, and of going beyond publication metrics to have a positive impact on the community, society, research, and animals. The second keynote, “More than 3Rs - the Principles of Humane Experimental Technique”, by Hanno Würbel (University of Bern), contained an important message: beyond the three Rs, one must consider 3Vs (construct, internal, and external Validity), along with harm-benefit analysis (HBA). Thus, to be deemed indispensable, an animal study needs to be suitable (determined by the 3Vs), necessary (determined by the 3Rs), and reasonable (determined by an HBA). Moreover, all methods should be transparent, and all data freely available. The importance of data sharing, transparency and openness to achieve the 3Rs was further stressed by FELASA award recipient and final keynote speaker David Smith, who presented his own contributions to bridging communication gaps between stakeholders in animal research (scientists, regulators, pharmaceutical industry and animal welfare groups), changing the norm and driving the 3Rs forward.

The authors of this report were themselves active participants in the Congress, delivering talks, chairing sessions, leading satellite meetings, organizing

workshops, and tweeting the #FELASA2022 hashtag like there was no tomorrow. Nuno Franco and colleagues held a workshop to present the outcome of the FELASA working group in education on experimental design, convened by Derek J. Fry (University of Manchester), which will train trainers in delivering the essentials of experimental design to improve replicability of results, avoid waste of animals, and further the 3Rs. He also delivered a hands-on seminar on technological tools to improve education and training, and a talk on culture of care and the role of animal welfare bodies in ending severe procedures. Vootele Voikar presented the corollary of a collaboration effort he led mid-pandemic to create a new network of European pre-clinical researchers, laboratory animal scientists, data scientists, and companies under COST Action CA20135 (TEATIME – Improving biomedical research by automated behaviour monitoring in the animal home-cage, cost-teatime.org). Members of the TEATIME network were actively involved in several sessions, where the role of novel technology, machine learning and artificial intelligence in biomedical and welfare research was discussed. Long-term 24/7 monitoring of undisturbed laboratory animals in their home cages has ample potential for minimizing animal stress and human interference, allowing unbiased data collection, early detection of humane endpoints, and monitoring progression of clinical symptoms in disease models, as well as treatment effects. When interacting with animals is indeed needed, refining handling techniques is paramount; and in this regard we have to highlight the excellent presentations by Nadine Baumgart (TARC force 3R, University Medical Center Mainz) and by Therese Åhlström (RISE Research Institutes of Sweden), who showed how non-aversive handling techniques and clicker-training can be applied to improve human–animal interaction, making it “stress-free” for both, and also potentially representing a cognitive enrichment. Such talks and many others throughout FELASA2022 gave us a glimpse of the future, which is a hallmark of a successful scientific event.

Throughout the sessions and across all topics, four main take-home messages emerged to guide the future of laboratory animal science, care, and use. The first message is that a Culture of Care⁷ should be fostered in every establishment, centred on caring as much for animals as for the people working with and for them, acknowledging the contributions of each individual, assessing their needs, and providing education and training, as well as room for growth and

development as professionals. Secondly, the information technologies that bridged the distance imposed by the pandemic (such as virtual conferences or e-learning) have now been broadly adopted and will facilitate and democratise access to education and training, while other digital technologies (particularly automation, artificial intelligence and big data) are becoming mainstream and will greatly expand and improve on what we can learn from laboratory animals. The third take-home message is of openness, not only by being transparent to society about our work but also between ourselves, through open protocols, open data and open access⁸, for the benefit of science and humankind. The final message is that despite the substantial progress achieved in the last decade, there is yet ample margin for bettering how we prepare, plan, carry out, and report about animal research, to improve its reliability and relevance, as well as animal welfare.

When humanity needed it the most, animal studies provided the knowledge and means to address a global pandemic. And while we do not know for sure what the future holds, we expect it to be bright for biomedical research, with scientifically sound and ethically acceptable animal experiments continuing to play a central role in it. FELASA will continue to be a major contributor to improving the lives of both laboratory animal professionals and the animals themselves; and FELASA congresses will continue to be the central stage to highlight new insights and technologies for promoting better and more humane science, disseminate good principles and practice, and forge new collaborations. We look forward to seeing you in Athens, at FELASA2025! □

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References

1. Schiermeier, Q., Else, H., Rodriguez Mega, R., Padma, T. V. & Gáind, N. *Nature* **586**, 486–487 (2020).
2. Thurston, S. E. et al. *J. Am. Assoc. Lab. Anim. Sci.* **60**, 646–654 (2021).
3. Sohrabi, C. et al. *Int. J. Surg.* **86**, 57–63 (2021).
4. Grimm, D. *Science* (2020) <https://www.science.org/content/article/it-s-heartbreaking-labs-are-euthanizing-thousands-mice-response-coronavirus-pandemic>
5. Genzel, L. et al. *Curr. Biol.* **30**, R1014–R1018 (2020).
6. Villano, J. S. *Comp. Med.* **71**, 331–332 (2021).
7. Bertelsen, T. & Hawkins, P. *Animal-centric care and management* CRC Press, 2020 15–30.
8. Muñoz-Tamayo, R. et al. *Zenodo* (2022) <https://hal.inrae.fr/hal-03544902v2>

Competing interests

The authors declare no competing interests.