



Calling all students and early-career researchers interested in toxicology and biomedical sciences!

Applications are now being accepted for the [Summer School on Innovative Approaches in Science](#). In response to a growing need to be conversant in innovative approaches in toxicology and biomedical sciences, this four-day Summer School will highlight modern alternatives to the use of animals—including in vitro and computational modeling—through lectures, discussion, and interactive sessions.

The school will take place **June 22-25 at Johns Hopkins University** in Baltimore, Maryland. **Registration is free** and open to undergraduates through early-career researchers. Applications are due **January 31**.

Hosted by the Physicians Committee for Responsible Medicine, the Center for Alternatives to Animal Testing at Johns Hopkins University, and the European Commission Joint Research Centre.



Featured Scientific Articles

Check out this month's featured articles to learn more about new human-relevant research scientists are currently conducting.

[A Community-Based Lung Cancer Rapid Tissue Donation Protocol Provides High-Quality Drug-Resistant Specimens for Proteogenomic Analyses](#)

Boyle TA, Quinn GP, Schabath MB, Muñoz-Antonia T, Saller JJ, Duarte LF, et al. A community-based lung cancer rapid tissue donation protocol provides high-quality drug-resistant specimens for proteogenomic analyses. *Cancer Medicine*. 2019;00:1-13.

[Engineering Geometrical 3-Dimensional Untethered In Vitro Neural Tissue Mimic](#)

Pagan-Diaz GJ, Ramos-Cruz KP, Sam R, Kandel ME, Aydin O, Saif MTA, et al. Engineering geometrical 3-dimensional untethered in vitro neural tissue mimic. *Proceedings of the National Academy of Sciences*. 2019; 116:25932-25940

Employment Opportunities

The [Physicians Committee for Responsible Medicine](#) is hiring a regulatory testing analyst with at least two years of work experience in toxicology, pharmacology, environmental health, risk assessment, industrial hygiene, chemistry, or a related field to implement human-relevant test methods and minimize the use of animals in domestic and international chemical and pharmaceutical testing policies and guidelines.

The [Canadian Centre for Alternatives to Animal Methods](#) is recruiting postdocs to develop human biology-based in vitro platforms for disease modelling and toxicity testing—areas of interest include human stem cell-based disease modelling, cellular and tissue engineering, synthetic biology, in vitro & computational toxicology, and science policy

The [Wyss Institute for Biologically Inspired Engineering at Harvard University](#) is hiring a postdoctoral fellow with expertise and knowledge of bone marrow function, the hemopoietic niche, immunology and stem cell biology to join an interdisciplinary team of biologists and engineers.

[Center for Alternatives to Animal Testing](#) (CAAT) at Johns Hopkins University is looking for a postdoctoral fellow to work in the areas of developmental neurotoxicology (autism), 3D organoid models, high-content imaging, and CRISPR/Cas9 gene editing. All interested in the position should send a CV and motivation letter to Dr. Lena Smirnova, lana.smirnova@jhu.edu.

[PETA International Science Consortium](#) is hiring a research associate for PETA US and PETA India. Applicants should have a passion for replacing animal tests with efficient and effective in vitro and in silico models.

Upcoming Events

The European Commission's Joint Research Centre is launching an online course to explore the principles of the 3R's (replacement, reduction, and refinement) relating to animals used for scientific purposes. [MOOC the Three Rs and Animal Use in Science](#) will provide ideas and examples on how to address the 3Rs in the classroom and develop students' critical thinking and understanding of science. The course begins on January 13 and lasts for five weeks with an estimated workload of four hours per week. It is tailored to secondary school teachers but

anyone can register.

The National Toxicology Program (NTP) Interagency Center for the Evaluation of Alternative Toxicological Methods (NICEATM) will present a free webinar titled [“Use of Animal-free Affinity Reagents”](#) on January 21 at 11:00 a.m. EST. Two speakers will review the usefulness and limitations of nonanimal-derived affinity reagents and their potential to replace animal-based antibodies.

Calling all students and early-career researchers interested in innovative approaches in toxicology and biomedical sciences! The [Summer School on Innovative Approaches in Science 2020](#) is now accepting applications. The summer school is hosted by the Physicians Committee for Responsible Medicine, the Center for Alternatives to Animal Testing at Johns Hopkins University, and the European Commission Joint Research Centre. The school will take place June 22-25 at Johns Hopkins University in Baltimore, Maryland. Applications are due **January 31**.

[Fund for the Replacement of Animals in Medical Experiments \(FRAME\)](#) Summer Studentship Program 2020 is now accepting applications. FRAME is an independent charity dedicated to promoting the 3Rs and the development of new techniques that will replace the need for laboratory animals in medical and scientific research, education, and testing. This program supports undergraduates in undertaking summer research projects in an area relating to the development of alternative methods. Deadline to apply is **January 31**.

[Physicians Committee for Responsible Medicine’s ERA21 team](#) and Shamar Advisors are co-hosting a free four-part speaker series at Arizona State University Biodesign Institute during the spring 2020 semester. We will hear from top researchers and industry professionals regarding current capabilities of nonanimal models and how we can work together to replace research using animals with human biology-based science. Join us for this exciting new series on **January 31, February 28, March 27, and April 24**. Food and drinks will be provided. These events are open to ALL audiences – both ASU and external audiences welcome. [Early registration](#) is encouraged as seating is limited.

Funding Opportunities

[PETA International Science Consortium Ltd.](#), is offering the Early-Career Scientist Award to Attend the Summer School on Innovative Approaches in Science. This award will provide a postgraduate student, postdoctoral fellow, or new researcher the opportunity to advance their knowledge of innovative non-animal approaches in science, including in vitro and computational models. The Science Consortium will choose one winner based on the applicant’s dedication to and capability of advancing non-animal toxicology. The winner will receive reimbursement for hotel accommodation up to US\$550 and airfare up to US\$500 for travel within the US or up to US\$1,000 for travel from outside the US. This award is available only to attendees of the toxicology track. The deadline to apply for this award is **March 23**, and the winner will be announced in April.

[The International Foundation for Ethical Research](#) 2020 Application Cycle for Graduate Student Fellowships for Alternatives to the Use of Animals in Science is now open. **Applications are due April 30**. Fellowships are awarded to those enrolled in Master’s and PhD programs in the sciences whose proposals show the greatest potential to reduce, refine or replace the use of animals in research, testing, and/or education.

[Berlin Institute of Health QUEST Initiative](#) offers various awards for researchers working to increase the value and impact of biomedical research by maximizing the quality, reproducibility, generalizability, and validity of research.

[Animal Free Research UK](#) has open grant calls for Early Career Researcher Conference Grants and PhD and Postdoc Grants. These funding opportunities award research funding to cutting-edge scientists that develop human methods and non-animal technologies to study human disease.

Learn More About Human-Based Research

The ERA21 team wants to bring human-based research to your institution! We can help organize an educational speaker series or host a symposium on human-based research at your university. Please contact Janine McCarthy at jmccarthy@pcrm.org for more information.

[Good Science Digest](#)

Find out what Physicians Committee scientists have to say about the latest obstacles and advances in replacing animal use with human-relevant methods in research, testing, and education.

[Ethical Science News](#)

Ethical Science News provides the latest updates on human-relevant research advances to replace animal use.

[Explore human-relevant research happening in labs across the United States](#)

Stay Connected!

[Join the ERA21 Facebook group](#) for updates on 21st century science and to connect with fellow scientists.

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