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Dear PANS Community,

Greetings! As the calendar year comes to a close, I hope it has been a productive one for you, your students, colleagues and families. Our society had a memorable year, including participation in three highly successful gatherings in this past summer in Glasgow, Scotland: the 4th World Conference on Kisspeptin (Kisspeptin 2022), the International Congress of Neuroendocrinology (ICN2022), and the international PANS Trainee Workshop we hosted following ICN2022. We were also very pleased to sponsor a plenary lecture at ICN2022, featuring a wonderful talk by our colleague and PANS member, Dr. Ursula Kaiser. Finally, we began ICN2022 with a fantastic social event at which we recognized trainee and ECR members who received PANS Travel Awards to attend the meeting (see photo below). Reports on each of these events follow in this issue, as well as photos that capture the fun and delight we all experienced in our return to in-person meetings!

We also wish to extend special congratulations to past PANS President Denise Belsham on being elected incoming President of the International Neuroendocrine Federation (INF), as well as to Executive Council member Kellie Breen Church who was elected INF Treasurer! We are proud of you both!

We look forward to an exciting new year for PANS and encourage you all to stay in touch and regularly visit our website (paneuroendo.com). Best wishes to you and your loved ones for a happy and healthy holiday season!

Cheers,

Michael Lehman, PhD,
PANS President

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Postdoc and PI comments on Kisspeptin 2022 Glasgow, Scotland

SP: After attending the 4th annual 2022 KISSPEPTIN Conference in August, I have a greater appreciation for the growing field of kisspeptin and my fellow researchers. I especially enjoyed this conference because of its intimate size and collaborative nature. As a post-doc, I was able to speak with my peers and discuss the basics of this field. The conference also allowed me to engage and learn from primary investigators that were also in attendance. I also found it refreshing to meet the people and faces behind the names on various publications I have read. Not only was this conference extremely conducive to networking and solidifying supportive and basic kisspeptin knowledge but also to being exposed to the new growth within the kisspeptin field. My horizons were broadened after engaging with peers whose knowledge on kisspeptin was outside the field reproduction. I look forward to applying new techniques and knowledge I was exposed to at the meeting on my current work as well as attending future conferences. I would fully recommend the KISSPEPTIN conference to trainees and all types of researchers.



Marina Fernandez, Ph.D.
Assoc. Researcher
Laboratory of Neuroendocrinology
INSTITUTE OF BIOLOGY AND
EXPERIMENTAL MEDICINE-CONICET
BUENOS AIRES, ARGENTINA

Sidney Pereira, Ph.D.
Postdoc with V. Navarro
HARVARD MEDICAL SCHOOL



KISSPEPTIN 2022
4th World Conference
Glasgow 5-6 August 2022



MF: It is always a pleasure to attend Kisspeptin Meetings (thank you so much PANS for the organization!). As an Environmental Scientist who focuses on the effects of Endocrine Disrupting Chemicals (EDC) on Metabolism and Reproduction, I appreciate all the new information that is shared in these meetings regarding the neuroendocrine circuits that regulate these two important systems. In Kisspeptin2022, particularly, a lot of information about the extra hypothalamic presence of kisspeptin shed light on other possible site of action and points of regulation where EDC could impact Kiss expression and activity. Also, the inclusion of experts from other disciplines in the discussion was a big plus, as it showed the topics from other angles.

The format of these meetings, small and intimate, allows for networking with colleagues, many of whom are experts on the field, and are great opportunities to set collaborations. I was able to meet in person many new colleagues, who will become friends for sure, to connect with colleagues that I had already met before but was unable to see in person for more than two years due to the pandemic (if I name you, I will forget about some of you, you know who you are!!), and to network with students.

Report on the International Congress of Neuroendocrinology ICN2022 Glasgow

-Contributed by Claire-Dominique Walker, PhD, McGill University

The 10th meeting of the ICN was held in beautiful Glasgow, Scotland in early August and was well attended by approximately 500 participants from Europe, Asia, North and South America, as well as Australia and New Zealand. As PANS, we supported the travel of many trainees to the Congress, especially those from South America, and in turn had a nice contingent from our society (see all of the photos uploaded onto the PANS website). In addition to several excellent symposiums and poster sessions, plenary lectures outlined the excellence, diversity and ongoing energy that we currently witness in the field of neuroendocrinology. The meeting was kicked off by a fantastic and engaging PANS whiskey and chocolate tasting at the Royal College of Physicians and Surgeons in downtown Glasgow, where we were welcomed to the beautiful historic building with the sound of the bag pipes!!



The ICN2022 plenary lecture, sponsored by PANS, was delivered by Dr Ursula Kaiser (Harvard Medical School, USA). She expertly discussed the molecular mechanisms that keep the GnRH neurons quiescent before puberty and potential therapeutic targets that can be explored for the treatment of central precocious puberty.

Other plenary lectures focused on the role of prolactin in thermoregulation during pregnancy (Dr Dave Grattan, New Zealand, Australasia lecture), sex differences in neuroendocrinology research, which can be thoroughly integrated within every level of study (Dr Liisa Galea, University of British Columbia, Canada, Mortyn Jones lecture), kisspeptin in regulation of the HPG axis (Dr Hitoshi Ozawa, Nippon Medical School, Japan, Japanese Neuroendocrine Society lecture) and important, yet less well known, functions of vasopressin on olfaction (Dr Mike Ludwig, University of Edinburgh, UK, Glenn Hatton lecture). The history of neuroendocrinology lecture was delivered with much brio and British humor by Dr Gareth Leng, using the field of oxytocin research to illustrate the various interest clusters that have propagated oxytocin broadly in neuroendocrinology.



ICN2022 Glasgow cont.

This was followed by the 2nd Wylie Vale public lecture given enthusiastically by Dr Gilles Yeo (University of Cambridge, UK) on genes, diet and obesity, which provided much food for thought! A potential new portal system between the suprachiasmatic nucleus and the OVLT was outlined by Dr Rae Silver (Columbia University, USA, Geoffrey Harris lecture), a nice parallel with the hypophysial portal system described originally by Dr Harris. The final plenary lecture was given by Dr Sebastian Bouret (Universite de Lille, France, SNE lecture) on early programming of metabolism.

The program of the ICN meeting also highlighted promising early career researchers in a dedicated symposium featuring postdoctoral fellows from Australia, Canada and USA and by awarding The Michael Harbuz ECR prize to Dr Comninos (UK) for his research on kisspeptin and human sexual behavior. Senior career researcher Dr Cannon (Sweden, the Alison Douglas Award lecture) brilliantly closed the ECR symposium with many useful educational insights and tips into career development. Overall, it was an excellent scientific meeting, blessed by unusually nice weather (probably uncharacteristic of Scotland) for all the networking excursions (Stirling Castle, Loch Lomond, City of Glasgow) that many of the attendees enjoyed with a wee dram of whiskey...



PANS 2022 Trainee Workshop

-Contributed by Denise Belsham, PhD
University of Toronto

The PANS Trainee Workshop was a tremendous success thanks, in part, to the amazing group of participants that included an engaging mix of speakers and faculty. The meeting took place immediately following the world-class ICN2022 meeting in Glasgow. The venue was really special, the Veterinary School at the University of Glasgow, just north of the city. The rural feel of the campus gave everyone a chance to get acquainted with nature and enjoy a stress-free three days of science – although getting back to dorm life was somewhat nostalgic for most... There was a welcome reception on the first night after everyone tested negative for Covid. Thus, without masks and worries



about the pandemic, we were able to enjoy everyone's smiling faces when getting to know each other with some ice-breakers and a nice walk to the building where the meeting was planned. With such a friendly bond formed between the attendees, many stayed up late playing board games in the dorm.



The first day of the workshop consisted of cutting-edge techniques currently being used in neuroendocrinology. The speakers were spectacular – even our current INF president Vincent Prevot gave a talk on his unique transgenic models. Other presentations included Richard Piet (electrophysiology), Mauro Silva (optogenetics), Shreekala Nampoothiri (RNA-seq analyses), Rodrigo Carrasco (PET imaging) and finally some beautiful images from Aleisha Moore (*in vivo* calcium imaging). The fantastic day of science was followed by a poster session where all of the trainees could present their work and chat with like-minded scientists. The comradery was amazing with this group – no one felt left out of the discussions during the day.



The second day was all about networking and forming those life-long bonds that we hear about from more senior scientists all the time. For instance, the current Endocrine Society president, Ursula Kaiser, and myself met back when we were just post-docs on opposite sides of the US at one of the Endocrine Society meetings and have remained scientific and personal friends ever since! Hopefully, some of those types of friendships were formed on this day. The day started with three professional development talks by Mike Lehman on

“good publishing habits”, Debbie Kurrasch on “getting job ready”, and another by Marina Fernandez on “recognizing bias and EDI concepts”. This really started some great discussions in the entire room – where everyone contributed their own thoughts and comments. We then went on a beautiful afternoon excursion to the little town of Aberfoyle, followed by a visit to the Stirling Castle. No one was left behind after finding the hidden bus (in plain sight). A fantastic day!

The last morning concluded the workshop before our attendees had to depart for home with wonderful memories. The morning was presented by three post-docs from the organizers' laboratories. The talks from Neruja Loganathan (Belsham Lab – human-derived neurons from iPSCs), Rajae Talbi (Navarro Lab – *in situ* hybridization RNAscope), and last but certainly not least Cristina Silva (Kerr Lab – epigenetics and miRNAs). What a superb line-up of speakers overall! We had a pizza lunch for those staying overnight before their early morning flights, with a free



afternoon to enjoy Glasgow. Everyone was very happy with the opportunity to attend such this wonderful workshop. However, this would not have been possible without the generous support of the International Neuroendocrine Federation and Stoelting Inc. Their support allowed all of the attendees to come to the workshop at no cost. We had attendees from many countries – Canada, USA, Brazil, Argentina, Chile, Nigeria, UK, France, Egypt and even as far away as New Zealand. See all of the great photos on the

PANS website (www.paneuroendo.com). Finally, we need to acknowledge the hard work of the planning committee that helped to bring us such a special event, especially Victor Navarro and Bredo Kerr for putting together the program, Mike Lehman for his constant support, and all of the other faculty that helped in the background. Most of all, the hospitality of Neil Evens (always smiling, even after organizing the entire ICN2022) and the tireless efforts of Chris Marshall were absolutely essential to keep everyone fed, quenched, and cheerful during the event. We appreciate all of you for attending the workshop and hope that you will spread the word about PANS to all of your peers and colleagues!



▶▶▶ PANS Trainee Take-a-ways ◀◀◀

Dr. Noelia Paula Di Giorgio

IBYME-CONICET
Buenos Aires, Argentina
(Lux-Lantos lab)



This workshop exceeded my expectations. I had a valuable exchange of ideas and acquirement of knowledge on new techniques (electrophysiology, optogenetics, chemogenetics, calcium imaging, RNA scope, among others) that will improve our research in Argentina, where I conduct my research. Although sometimes it is a bit difficult to achieve those sophisticated techniques due to our economic restrictions or because we are starting our research career, it could also lead to establish new research collaborations with international experts in the field. The organization was great and very well thought-out to enable us to share experiences with other trainees. We also had the possibility to enjoy a poster session to show our results and discuss them with the experts. What I liked most was that not only we had a great opportunity to share our research experiences and difficulties with other trainees/researchers and think together of a better solution, but also to enjoy very friendly social moments and visit beautiful places in Glasgow. I will definitely recommend trainees to participate in this kind of workshop, to have their personal experience, and feel involved in the Neuroendocrinology field, as well as get in touch with amazing people with similar interests.

My motivations to attend the PANS workshop were the great quality of the speakers, the topics to discuss and the vision to support young scientists to generate new networks. PANS workshop exceeded my expectations, from the place where we were hosted, to the presentations and the way discussions about the different topics were generated among the attendants. This experience contributed to my formation, showing me new techniques and approaches that I'm now implementing in my own research project. Additionally, my scientific network has grown, I have generated new contacts with other trainees in neuroendocrinology field, something that PANS supported during the whole meeting. I hope that other young scientists will have this kind of opportunities, to contribute to the Latin-American scientific growth in the neuroendocrinology field.



Francisco Diaz Castro
Pontificia Universidad Catolica de Chile, Chile (E. Morselli lab)



Naira Mansano
Universidade de São Paulo, Brazil
(R. Frazao lab)

Three things attracted me to attend PANS workshop: the subject of an overview of several essential techniques for neuroendocrinology, big names as speakers, and networking with several renowned universities (this was my favorite topic). As a Latin-American researcher from a developing country, I was very comfortable discussing and sharing doubts and suggestions with other researchers. The discussions and presentations directly contributed to my training, and I even used what I learned in my Ph.D. defense in September. Additionally, the organization was impeccable, promoting a quality stay, great food, interaction between members, and poster presentation. I hope to have that opportunity again! Thank you, PANS!

When I first saw the possibility of attending the PANS Workshop, I thought it could be a great opportunity to interact with neuroendocrine researchers, learn from experts, and share experiences for my academic career. However, the Workshop exceeded all my expectations. I had the opportunity to learn cutting-edge techniques, an extremely enriching experience for me. The workshop had an excellent schedule that included talks and an amazing opportunity to interact with researchers worldwide, an opportunity that surely improved my professional network. Attending the workshop was a particularly valuable experience for the advancement of my professional development and the development of my research line. One of the most meaningful experiences was the lectures on scientific careers and the difficulties that women face throughout our careers. I certainly recommend and expect other young scientists have the same experience to interact with neuroendocrine researchers and trainees around the world.



Randriely Lima
McGill University, Canada
(P. Silveira lab)



Julietta Sheng
Colorado State University, USA
(S. Tobet lab)

I attended the workshop because I was interested in learning new and innovative techniques to increase rigor and breadth of my research. I also hoped to expand my professional network to include scientists from all around the world. Both of those expectations were met AND exceeded. The techniques presented at the workshop were done so in a way that was not only informative, but also applicable to my studies. Additionally, the networking at the workshop was fantastic. The mentors/advisors that attended were all very knowledgeable and easy to approach. I also met a plethora of incredible young scientists who I believe could be potential collaborations in the future. I enjoyed the excursion to Stirling Castle the most. It was a nice change of scenery, but still conducive to networking. I think it allowed everyone get to know one another as people, rather than just scientists. Overall, the workshop gave me a deeper appreciation for the neuroendocrine community and has further swayed me to pursue a career in this field.

How long have you been doing research? Have you always studied the same topics?? I started my graduate training in late 1990s with Pat Whitten doing field work in Madagascar with lemurs and finished under Larry Young examining how plant phytoestrogens affect brain sexual differentiation in rats. I've been working on endocrine disruption and neurotoxicology in some form ever since. Oddly, I never worked with prairie voles while in Larry's lab, but I do now! And a few years ago, I was asked by a team at Duke to help them with a project using lemur brains so I've kind of come full circle, which is fun.

What got you into science and research in the first place? I grew up in Florida right near the Kennedy Space Center, which sits in the middle of a wildlife refuge. I was always thrilled with the idea that humans can accomplish astounding feats of engineering while protecting nature at the same time. My Dad wanted me to follow his example and become an engineer but I was always more interested in the creatures and ecosystems of that unique place. My work has always focused on protecting ourselves and our planet. I never get tired of it.

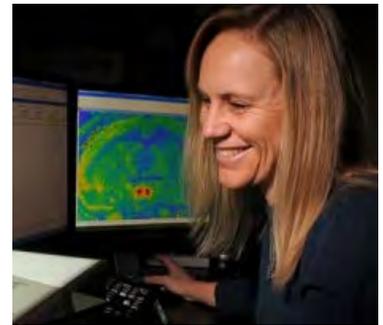
What aspects of research and being a scientist most interest you? I love applying new knowledge to solve problems. For example, early in my career discoveries in the kisspeptin field were critical for me to convincingly demonstrate that endocrine disrupting chemicals can advance female puberty. I also relish building collaborations across disciplines to accomplish something impossible to do myself. I have a new collaboration with Soraia Macari in Brazil who is an expert in bone endocrinology. Together we're working to see if flame retardants can compromise bone development and remodeling. I would never have been able to do those studies without her. Virtually all my work is collaborative. I have always been unafraid of being the least knowledgeable person in the room. Being a scientist means you never stop learning.

Which of your own scientific accomplishments are you most proud of? Getting toxic chemicals off the market. So far my work has helped get bisphenol a (BPA) out of water bottles and other products, and flame retardants out of furniture. Generating key data that makes a difference is exhilarating, even negative data. Toxicology is a field where when you run an exhaustive set of experiments and be happy to find nothing, because often that's actually a good thing. So our negative data papers are sometimes our most impactful.

What person has most influenced you as a scientist? So many people! I had terrific graduate and post-doc mentors who supported me both as a scientist and a mother, and I am forever grateful for that. Andrea Gore has been a fabulous role model throughout my career and helped me become a better writer. Vasantha Padmanabhan taught me the ropes of reviewing grants and John Godwin has been a lovely friend and colleague. He is such an innovative thinker and with John, no idea is too wacky! I love that.

Where in the world would you like to have a future research conference? Why? Antarctica because it's the only continent I haven't visited. Yes, that's a totally selfish reason.

What is your greatest lab skill? I am a zen master of cryosectioning. Getting brain sections to lay perfectly flat is my jam. I often joke that when I retire I want to be the obsessive lady in the corner listening to a good book while prepping sections. The older I get the less I'm kidding!



FWIW (for what it's worth): what's trending on Heather's phone.

Favorite podcast

I devour This American Life, Reveal, 99% Invisible, and Invisibilia, which recently taught me the advantages of having a poop friend. Where else can you get life changing knowledge like that?

Favorite food app

Instacart! During the pandemic I became an addict.

Most-surprising app relied on

The flashlight. It's invaluable in the microscope room.



Favorite emoji



Unread email

Six. I'm putting them off because they either have bad news or will require me to stop procrastinating.

App you wish existed

One that would empty the dishwasher. Everyone in the house avoids that task like the plague. We're all stupidly childish about it. A dishwasher emptying robot app would be the bomb.

PhD & Postdoc Perspectives...

Gimena Fernandez, PhD

Laboratory of Neurophysiology – Multidisciplinary Institute of Cell Biology (IMBICE [CONICET - CIC-PBA – UNLP]), La Plata, Buenos Aires, Argentina



How did you get interested in science and research? My interest and curiosity started in my early childhood. I was born in a family related to the field of science, particularly, the human health area. My mom is a biochemist, my dad a pharmacist and, recently, my younger sister became MD and a future cardiologist.

I remember me playing with my sister at my mother's laboratory around the benches each day after school, watching the amazing universe inside a drop of pond water and little insects through the microscope. Of course, I was always an inquiring person, so I used to ask about everything related to her work. Also, I had the fortune of growing up in a pharmacy. Playing with a lot of empty boxes, I learned about medicines, specific diseases and different laboratories and, early on, I confirmed the key role of pharmacists in healthcare. I've always had a profound curiosity about how things work. As far as I can remember, I knew that I would be a scientist.

What got you into neuroendocrine science? I was born in Pehuajo, a small town where everyone knows each other. One day my father told me that the son of a person he knew was a scientist and had recently returned from the US to settle in Argentina. That's how I met Dr. Mario Perello, who will later become my advisor. I started working in the neuroendocrinology field doing my MSc. thesis and I stayed in the same field since then. From the beginning, I felt attracted by the neuroendocrine control of feeding behavior and the role of the gastrointestinal hormone ghrelin in those mechanisms. It is impressive how the brain, particularly the hypothalamus, plays a pivotal role in the integration of circulating signals, like nutrients and hormones, to promote behavioral and metabolic responses that ensure energy homeostasis.

What aspects of research and being a scientist most interest you? I feel that research is all about discovering, learning and spreading the knowledge. It's exciting to have a job where I relish the daily challenges and where I can constantly learn new things, even from mistakes. More than that, I cherish the fact that research is not a monotonous work. There are always more interesting questions than time to address them. That's what I love about science. I also found the opportunity to meet and work with people from all over the world very rewarding. Collaborations have a lot of positive influences on ourselves: learn new skills, combine expertise and resources, gain insights into our research and even make friends.

Milestones in your professional development?

I have been very fortunate to visit Dr. Jacques Epelbaum and Dr. Virginie Tolle's lab at the Center de Psychiatrie et Neurosciences of Paris at the beginning of my PhD. I feel that this experience really shaped my life so far, not only professionally, but mainly, personally. It was my first time abroad visiting a different laboratory, facing a new culture and the barrier of two foreign languages (English and French to work/live). All the team supported me throughout the stay and made me feel very comfortable and accompanied, making my experience simply amazing.

Another major milestone in my career has been the CAJAL Course in 2016: "Nutrition and Brain Functions" which gave me the opportunity to spend three intensive weeks at Bordeaux Neurocampus in France. It was a rewarding experience given the quality of the lectures and content addressed, surrounded by outstanding researchers from the field of nutritional neuroscience. The FENS fellowship also granted me the opportunity to learn and perform state-of-the-art techniques that are years from now to be available in my country. As recently as last year, I was invited to assist to the 14th Canadian IBRO-USCRC School of Neuroscience "Development, Plasticity and Repair of Neural Circuits" in Montreal. Due to the COVID-19 pandemic, this course was given online. I take advantage to thank the School Organizing Committee for letting us complete the laboratory part next year.



What's trending on Gimena's phone.

Favorite emoji



Biggest time-wasting app

Instagram

Strangest place you've lost your phone

Fuel station toilet

Cities listed in weather app

La Plata, Pehuajó

Most listened to artist

James Blunt, Maroon 5, Ed Sheeran, Dua Lipa, Ricky Martin and Ricardo Arjona

Times when you stay off your phone

Lab experiments and gym time

Number of unread emails

198

»»» PANS News «««

Many congratulations to past PANS President **Professor Denise Belsham (University of Toronto, Canada)** on being elected as the **incoming President of the International Neuroendocrine Federation**, the governing body of the global neuroendocrine community with 28 societies worldwide (including PANS), at the International Congress of Neuroendocrinology in Glasgow Scotland in August 2022. She will serve as the first woman INF President for the term 2024-2028. And to Executive Council member **Professor Kellie Breen Church (University of California, San Diego, USA)** on being elected Treasurer of the INF. To round out the Executive Council, Professor Waljit Dhillon (BSN member, Imperial College London, UK) was elected as Secretary – a dream team. Finally, Professor Rebecca Campbell (University of Otago, New Zealand) was elected as the next Program Chair for the ICN2026 in Nagoya Japan. We are so proud of your accomplishments - with our best wishes in these exciting new roles!



Photo at the ICN2022 in Glasgow: Presidents of the INF – Professors Tony Plant (2007-2012), Robert Millar (2016-2020), Vincent Prevot (2020-2024), Denise Belsham (2024-2028) and Gareth Leng (2012-2016). Unfortunately missing from the photo John Russell (2002-2007).

Join us for our next **PANS PPE Seminar**
**“Membrane-initiated estrogen signaling (EMS)
regulating female reproduction.”**

Friday December 2, 2022
@ 12 noon EST

Dr. Paul E Micevych, PhD
Professor and Edith Agnes Plumb Endowed Chair in
Neurobiology
David Geffen School of Medicine
University of California, Los Angeles



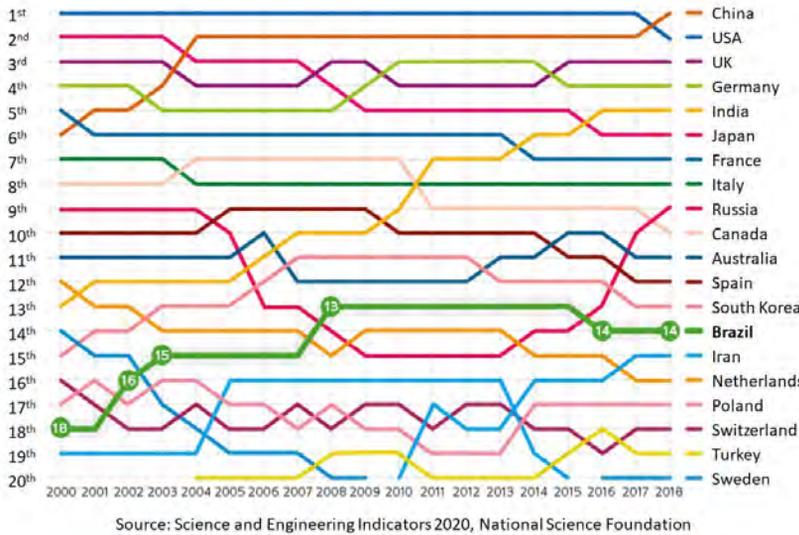
Zoom link:

<https://us02web.zoom.us/j/84542862807?pwd=MURtL1dPclZlZzd6UnZrQ3d4SVF1UT09>

Renewed Hope for Brazilian Science

-Contributed by Deborah Suchecki, PhD
 Department of Psychobiology – Universidade Federal de São Paulo

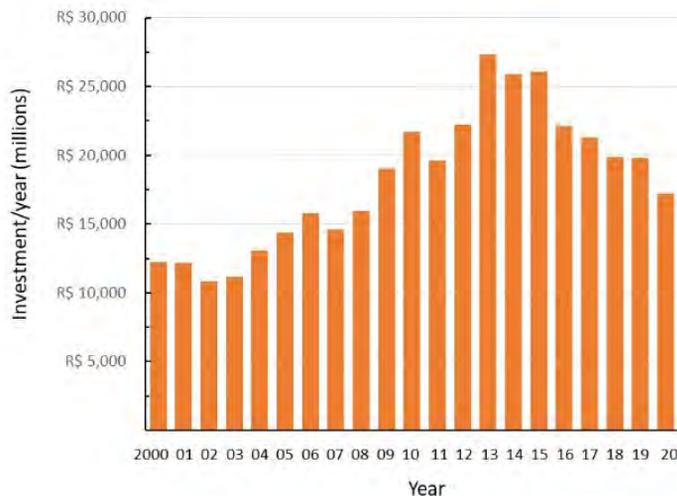
Talking about the future of Science in Brazil is a bitter task. For 20 or so years, the Brazilian agency responsible for the regulation of graduate programs in the country worked relentlessly to improve the scientific records in all fields of knowledge. Not without mistakes, the strategies proposed by this agency (CAPES – Coordination for Development of High Education Personnel) boosted the Brazilian scientific production (**Figure 1, below**). In addition, the National Council for Advancement of Science and Technology (CNPq) created exchange programs for undergraduate and graduate students, which improved the quality of scientific thinking.



During his term, President Luiz Inácio “Lula” da Silva, invested heavily in Science and Education, implementing affirmative actions, so, at least, 50% of the places in Federal Universities are destined to students from public schools, who usually come from underprivileged families. In 2000, Brazil had 3 million university students and this number jumped to 8 million during President Lula’s government (2003 – 2011). All seemed to be going quite well for Brazilian Science and

Education until the investments started to drop from 2016 on, in a concerning but still, manageable way.

The new term under Bolsonaro’s “management” marked the downfall of Science and Education. The procedures for distribution of funds to these two areas are too complicated



to explain in a short text, but today’s budget for Science is 38% of that in 2013, when investments reached its peak (**Figure 2, left**). Despite the Constitution’s guarantee of a percentage of the Gross Domestic Product for investment in Science and Technology, the president “decided” not to transfer the amount and hijacked a large amount to other objectives. To make things worse, this happened during the pandemics, when the need for money (continued →)

when the need for money to develop vaccines and effective treatments to avoid almost 700,000 deaths was of utmost urgency. Instead, the government advertised the effectiveness of medications that are not antiviral, therefore, not appropriate to treat COVID and the Ministry of Health spent millions buying these ineffective medications.

With the drop in investments, the value of fellowships has been frozen since 2016, so the stipend for Master's students is almost US\$ 300.00 and that for Ph.D. students, US\$ 400.00 per month. Students are demotivated to build a career in Academia, which is a major setback because science is done by graduate students, not by professors or technicians. Another major consequence of this policy of destruction is the exodus of bright and well-trained young scientists, who have no opportunities to do meaningful work in Brazil. After years of investment in one's training, Brazil is exporting the best minds to developed countries. It is not a sustainable strategy and a waste of money! Adding to this negative scenario, Brazilian science relies on imported goods and the value of the US\$ doubled during this government, meaning that our ability to receive essential reagents and equipment is dramatically reduced..

But we, as scientists, need to assume our responsibility for the scientific illiteracy that seems to be spreading worldwide. The general population has a distorted idea of scientists and Science in general. So, it is in our hands to change this picture and invest energy in public outreach. It is imperative that we start showing the importance of Science and Technology for people's well-being and for a country's development, which, ultimately, will bring benefits to everyone.

Technical Resource:

Endocrinology, 2022, 163, 1–18
<https://doi.org/10.1210/endo/bqac109>
Advance access publication 23 July 2022
Technical Resource



A Modified Ultra-Sensitive ELISA for Measurement of LH in Mice

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<https://doi.org/10.1210/endo/bqac109>

Commentary:

The Ultrasensitive Luteinizing Hormone (LH) ELISA Gets a New Lease on Life

By DJ Bernard and L Ongaro

<https://doi.org/10.1210/endo/bqac123>



PANS thanks Stoelting and the International Neuroendocrine Federation for their generous support.



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