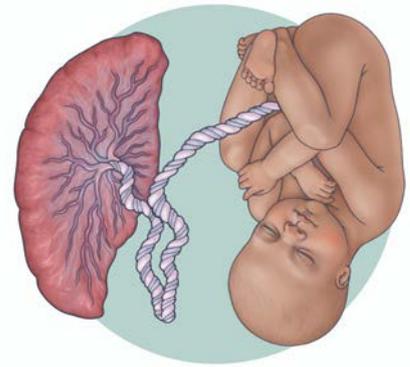


iPlacenta Newsletter

Innovation in Modelling Placenta for Maternal and Fetal Health



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Editorial

Colin Murdoch, project coordinator
Mirren Augustin, project manager

As we were surveying our disrupted plans for international training, meetings, conferences and secondments this week, with all physical activities in 2020 cancelled due to the Coronavirus crisis, it struck us just how strongly some central elements built into the MSCA ITN framework are brought into relief at this time.

First, as a condition for joining us, all our early-stage researchers (ESRs) moved to another country before embarking on this PhD. We are certain, having both experienced relocating internationally for work, that they share at least two traits: they are curious and ready for adventure, reflected in their readiness to leave behind the familiar, often learn a new language, and explore a new culture. While dealing with lockdown is difficult anywhere, the additional challenge of negotiating the crisis and the new reality – including the difficulty to travel – far from home is something we should recognize. Reports suggest that far fewer students globally are prepared to embark on international studies next year. How will this experience mould the ESRs for the future?

Second, international travel is fundamental to the ESRs' individual PhD programmes. They are expected to complete secondments in partner institutions in other countries, present at international conferences, and regularly meet up with the other iPLACENTA researchers for training and networking. So they were in London and Turin last year, and this year ought to have met in Cork, Dundee and Amsterdam. Travel is integral to science. The essence of scientific meetings includes: inspiring keynotes, intriguing cutting-edge studies, initiation of future collaborations and invitations to join a new group. These are all key for the next step in the career path.

Lessons to be learned from Coronavirus are sure to be discussed at personal, institutional and EU level, as well as within the iPLACENTA consortium. The success of virtual conferences will help to more vehemently consider climate and environmental concerns and the topic of carbon footprint reduction in science (Haman et al. Nature 573, 451-2 (2019)).

From the start of the project, we organised some training via video-conference; we will implement more as we go ahead. We also set out to ensure the ESRs were proficient in project management tools, choosing Microsoft Teams as a platform. Little did we know that this would become the gold-standard professional tool which our ESRs could seamlessly navigate.

While we contemplate the future of vaccines and treatments we should go into the uncertain months ahead with the thoughts of Nelson Mandela in our minds: "It always seems impossible until it's done." What we do know is our ESRs are versatile and with their experience will be ready to navigate the new research environment ahead.

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Untangling Science - Basics of the iPLACENTA blog

Julia Scheel is an early-stage researcher based at the University of Rostock in Germany. She uses a systems biology approach to study the fetomaternal interface. This year she also takes care of our blog, which includes "personal experiences" of being a PhD candidate and "Science untangled".

What is the purpose of the blog?

The idea of this blog is to give others insights into everything pursuing a PhD entails. It is a safe space to express and communicate our struggles, doubts and to share our experiences.

Our new series "Science untangled" is supposed to bring science and our work closer to non-scientists. Scientific writing is full of technical jargon and abbreviations. Working in a specific field, we get used to the "lingo". It saves time and is expected as a sign of expertise. Expressing your work in a universal language makes you drill down to the essentials of your project and understand it on a deeper level.

You have been coordinating the blog since January 2020 - what have you learned?

- Non-professional or not naturally gifted writers need some kind of frame (word count, layout, topics, graphics) to write around.
- Share instructions in more than one channel. Different people prefer and remember different kinds of media.
- Send out reminders at least a month before deadline, another a week before and a last one a day before deadline.
- Consider enough time for 3 revisions of any blog. In my opinion it is pretty much impossible to revise your own work properly.
- Advertise the blog internally a couple of days before you actually post it, so your colleagues can prepare to advertise it on other social media channels. You will need to find or create a fitting title image that will catch people's attention.
- Ask for advice and feedback! I was not the first to take care of the blog and got a lot of help from my colleagues.

Engaging in social media - Interview with our Instagram expert

Yolanda Correia, from Luxemburg, is doing her PhD at Aston University in the UK. Her research focuses on looking at the different (hemodynamic) changes during a normal versus a preeclamptic pregnancy in mice, as well as looking at the protective mechanisms that could potentially reverse/prevent effects and changes seen in preeclampsia. She currently also manages the iPLACENTA Instagram account.

What does iPLACENTA share on Instagram, and why?

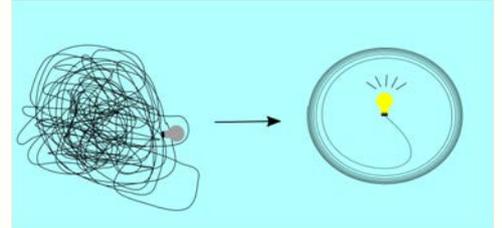
iPLACENTA shares a multitude of things: weekly quizzes or polls about science and daily life, fun facts about science, life in a day of a scientist (Instagram takeovers by our members), and recently we have shared different types of things such as "What do you have for breakfast during lockdown" and "Lockdown catwalk" in which we featured all of our members. We have seen a definite rise of followers and participation in our quizzes since lockdown started.

I think it is important for people to see both what we are doing as scientists and what kind of research we do but also that we are normal people like everyone else and do not necessarily correspond to the stereotype people think of when they hear about scientists. I think it is also important to inspire other/ future scientists and get them interested in what we are doing and possibly even collaborate.

How have the ESRs been communicating under lockdown?

Besides Instagram, we have been communicating through our WhatsApp group and Teams, mostly. We keep each other motivated and regularly check up on each other and share the good and the not-so-good things about lockdown. Occasionally, we send each other funny memes and laugh about it.

SCIENCE COMMUNICATION



Latest Blog themes: Systems Biology; gene expression; new perspectives on research through the crisis
www.iplacenta.eu/blog



Post shared on Instagram

RECENT PUBLICATIONS

Ducat A et al.: Molecular Mechanisms of Trophoblast Dysfunction Mediated by Imbalance between STOX1 Isoforms



Vaiman Lab, INSERM | *iScience* 23, 2020 | <https://doi.org/10.1016/j.isci.2020.101086>

ABSTRACT | STOX1 is a transcription factor involved in preeclampsia and Alzheimer disease. We show that the knock-down of the gene induces rather mild effect on gene expression in trophoblast cell lines (BeWo). We identified binding sites of STOX1 shared by the two major isoforms, STOX1A and STOX1B. ...

Gebara N. et al.: Extracellular vesicles, apoptotic bodies and mitochondria: stem cell bioproducts for organ regeneration



Bussolati Lab, UNITO | *Curr Transpl Rep* 7, 2020 | <https://doi.org/10.1007/s40472-020-00282-2>

ABSTRACT | *Recent findings:* The therapeutic effects of stem cell therapy in organ repair, specifically those utilizing mesenchymal stromal cells, are largely dependent on the cells' release of different bio-products. Among these bio-products, extracellular vesicles (EVs) appear to play a major role due to their ability to carry and deliver bioactive material for modulation of cellular pathways in recipient cells. ...

Melchiorre K et al.: Hypertensive Disorders of Pregnancy and Future Cardiovascular Health



Khalil/Thilaganathan, St George's, University of London | *Front. Cardiovasc. Med.* 2020 | <https://doi.org/10.3389/fcvm.2020.00059>

ABSTRACT | Hypertensive disorders of pregnancy (HDP) occur in almost 10% of gestations. These women are known to have higher cardiovascular morbidity and mortality later in life in comparison with parous controls who had normotensive pregnancies. Several studies have demonstrated that women with preeclampsia present in a state of segmental impaired myocardial function, biventricular chamber dysfunction, adverse biventricular remodeling, and hypertrophy, a compromised hemodynamic state and indirect echocardiographic signs of localized myocardial ischemia and fibrosis. These cardiac functional and geometric changes are known to have strong predictive value for cardiovascular disease in non-pregnant subjects. ...

Out this May: iPLACENTA project flyer also in French and Spanish

May is #PreeclampsiaAwareness month. 22nd May is World Preeclampsia Day.

For the occasion, we'd like to highlight the iPLACENTA flyer, which describes how our early-stage researchers' projects contribute to improving the understanding of preeclampsia and other pregnancy complications.



English, French and Spanish versions available at:
www.iplacenta.eu/flyer2020.html

LOOKING AHEAD

Training and secondments

Two iPLACENTA training events should have taken place in 2020: "PlacentOmics" (Cork, April 6-8) and "Organ-on-chip" (Dundee, June 15-19), with a programme also covering other topics such as clinical management of pregnancy complications, patient experience, pre-clinical modelling, drug discovery, extracellular vesicles, Open Science in research, and grant writing. The events were cancelled due to the Coronavirus crisis, and we are working to develop viable plans to make up for the cancellations over the

coming year. A number of planned secondments by early-stage researchers have also been affected and will be need to be reassessed.

Conferences

The International Federation of Placental Associations (IFPA) 2020 annual conference in Amsterdam has been postponed to September 2021. This will be an ideal time for the early-stage researchers to present their work in a dedicated session to innovation in placenta modelling.

iPlacenta Consortium

This is where our early-stage researchers are based:



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