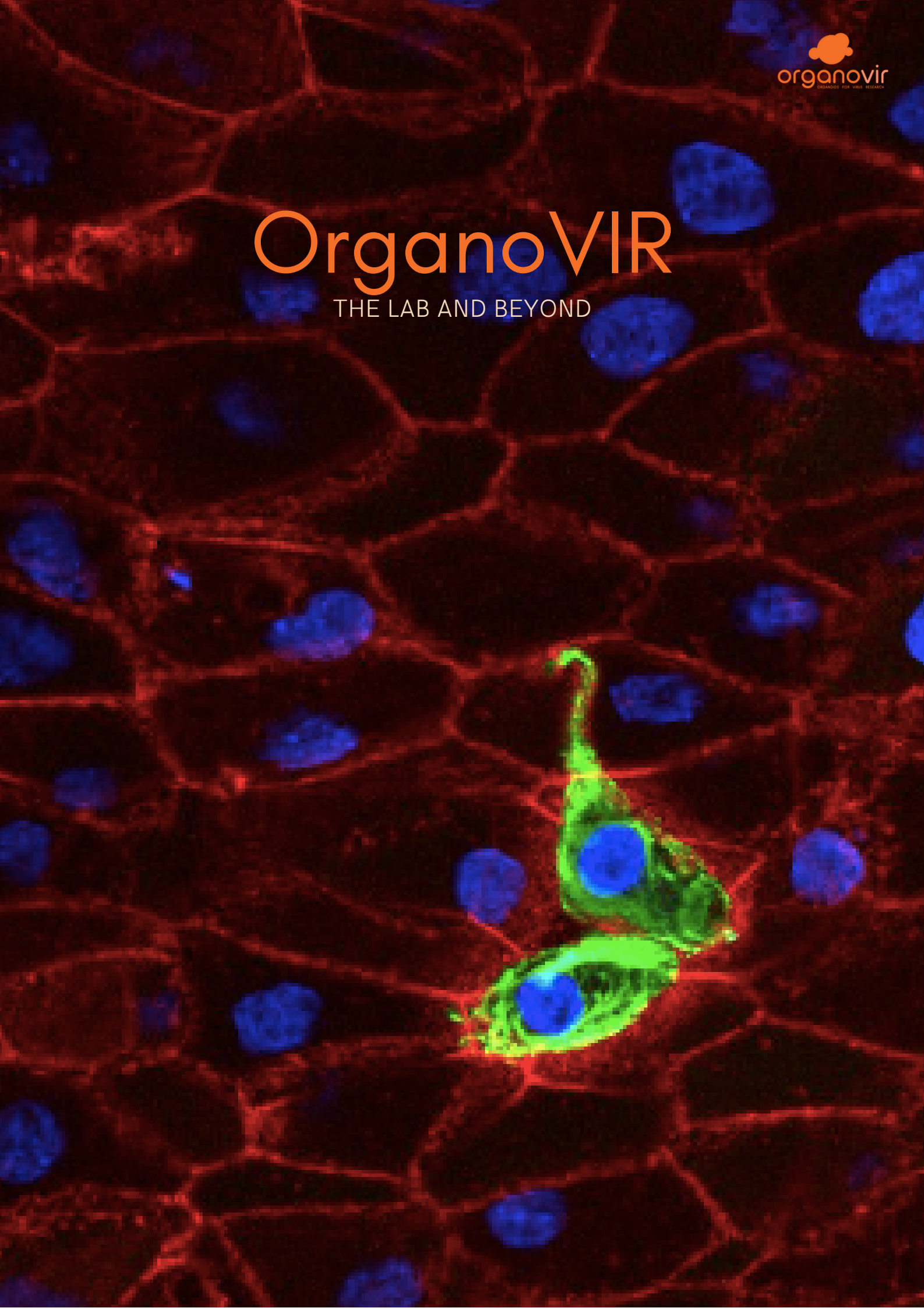
organovir
ORGANOIDS FOR VIRUS RESEARCH

OrganoVIR

THE LAB AND BEYOND



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DTU Denmark Technical University

JAGIELLONIAN UNIVERSITY IN KRAKÓW

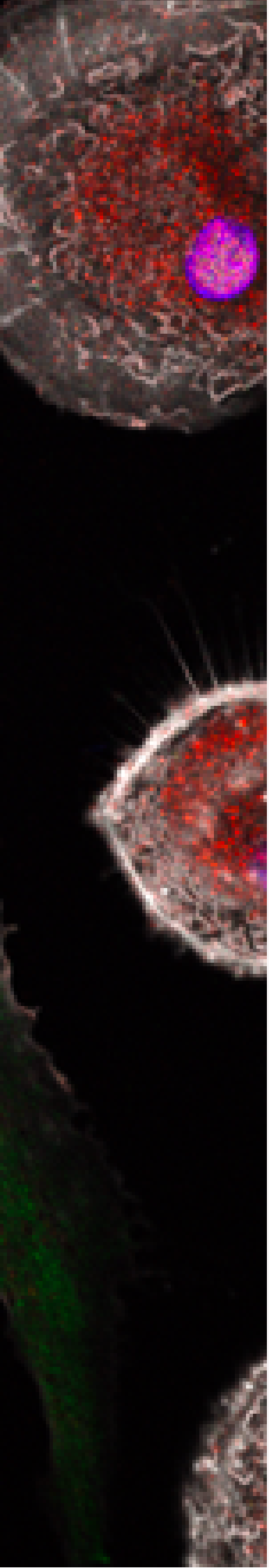
Utrecht University

Hubrecht Institute

the power of time off
humanizing people & organizations

Milestones

As **organovir** has officially come to an end, let's look back at all the accomplishments we've made during the course of our project, including our publications, our unique training programmes and finally, our **organovir** graduates!



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Scientific Milestones

1. **Apical-out airway organoids as a platform for studying viral infections and screening for antiviral drugs**

   *Top 100 Downloaded Microbiology papers

   Stroulios, Brown, Moreni, ... and Simmini

   go to paper

2. **Evaluation of 3D Human Intestinal Organoids as a Platform for EV-A71 Antiviral Drug Discovery**

   Masmoudi, Santos-Ferreira, ... and Buti

   go to paper

3. **Moving beyond the moral status of organoid-entities**

   Barnhart, Dierickx

   go to paper

4. **The interplay between the airway epithelium and tissue macrophages during the SARS-CoV-2 infection**

   Barreto-Duran, Szczepański, ... Pyrć

   go to paper

5. **Heterogenous morphogenesis of Caco-2 cells reveals that flow induces three-dimensional growth and maturation at high initial seeding cell densities**

   Dogan, Dufva

   go to paper

6. **When science meets entrepreneurship**

   Satrio, Rijkeboer, Reitsma, Lindgreen, Wolthers, Pajkrt

   go to paper

7. **Humanizing science: seven actions for PhD students to become next generation, future-proof scientists**

   Satrio, Rijkeboer, Reitsma, Lindgreen, Wolthers, Pajkrt

   go to paper

8. **Put Some Guts into It: Intestinal Organoid Models to Study Viral Infection.**

   García-Rodriguez, Sridhar, Pajkrt, Wolthers

   go to paper

Find more scientific milestones on our website!

THE LAB AND BEYOND

Training beyond the lab

Although academic scientific training is certainly an important aspect of our consortium, **organovir** believes that in order to deliver the next generation of researchers, we must take science beyond the lab. In addition to training in science, the **organovir** training programme also consisted of a Personal Development Plan (PDP) and a pre-MBA programme.

Through the PDP, the ESRs were trained to develop soft skills that enabled them to regulate emotions, act and react mindfully, and be self-aware. The soft skills taught within the PDP allows the ESRs to think clearly, collaborate harmoniously in teams and to lead people with compassion.

Additionally, the unique pre-MBA trained the ESRs in entrepreneurial and managerial skills. These are valuable skills as most young researchers end up working in a commercial setting.

Combined, these three pillars enabled our ESRs to lead innovation in the field of organoids for virus research.

With the successful implementation of the PDP and the pre-MBA programme in our training programme, we have managed to set an example for other ITNs that science does indeed go beyond the lab.

Humanizing Science

Within **organovir**, ESRs are are guided through seven actions to help them develop human skills and become the next generation of scientists.

These actions are introduced in the Personal Development Plan (PDP). Designed and facilitated by **thepoweroftimeoff.com**, the PDP focuses on actions that include maintaining well-being, understanding purpose in life, discovering identity, understanding how values and beliefs impact internal and external communication, boost emotional competences, integrating insights in personal and professional life as well as experimenting with new leadership behavior, and recognizing and leading ethical dilemmas.

After completing the PDP, ESRs reported an increase of self-confidence, ability to take better care of themselves, and courage to address issues in their workplace. This shows that the PDP has positively influenced the ESRs throughout their PhD journey.

Furthermore, in 2019, another EU ITN (Innovative Training Network), VAGABOND followed in our footsteps. After discovering our consortium and the unique training programme that we offered, VAGABOND also implemented the PDP within their training programme.

To read more about the PDP and its implementation, click here:

click here

When Science Meets Entrepreneurship

The science industry is arguably one of the most competitive industries in the world. Nowadays, scientists are competing to commercialize, patent and fund their research. With this in mind, how did we prepare the next generation of researchers to navigate the competitive scientific industry as academic entrepreneurs?

In collaboration with the Amsterdam Business School, the OrganoVIR pre-MBA prepared our ESRs to work in a commercial setting. This provided our ESRs with a unique opportunity to develop their entrepreneurial and business analytics skills during their training.

Following a very successful implementation of a pre-MBA programme in our training programme, our coordinators Dasja Pajkrt and Katja Wolthers decided to also offer the same programme for researchers of their new consortium, **GUTVIBRATIONS.**

How did combine science and entrepreneurship? Find out here:

click here

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organovir Graduates

Four years have passed since the start of the **organovir** project. Despite the pandemic, we were fortunate to still be able to continue collaborating with our partners and have fun while doing so. Without realizing it, we have now reached a time when our ESRs are graduating from their PhD studies! Below are our first two **organovir** graduates - more will follow very soon:

Asli Aybike Dogan, DTU

On the 28th of October 2022, Asli Aybike Dogan, our ESR from the Technical University of Denmark (DTU) successfully defended her PhD thesis "*3D printed cell culture devices for engineering extracellular microenvironments*" under the supervision of Dr. Martin Dufva and was granted a PhD diploma. Asli is the first **organovir** ESR to graduate from their PhD studies.

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Igor Coqueiro (UCA)

On the 31st of January 2023, our ESR Igor Coqueiro was granted his PhD diploma. Igor is the second **organovir** ESR to graduate from their PhD studies after defending his thesis "Infection of human blood-brain barrier cells in vitro by different subtypes of enterovirus A71 and its consequences on permeability and particles release" under the supervision of Dr. Jean-Luc Bailly.

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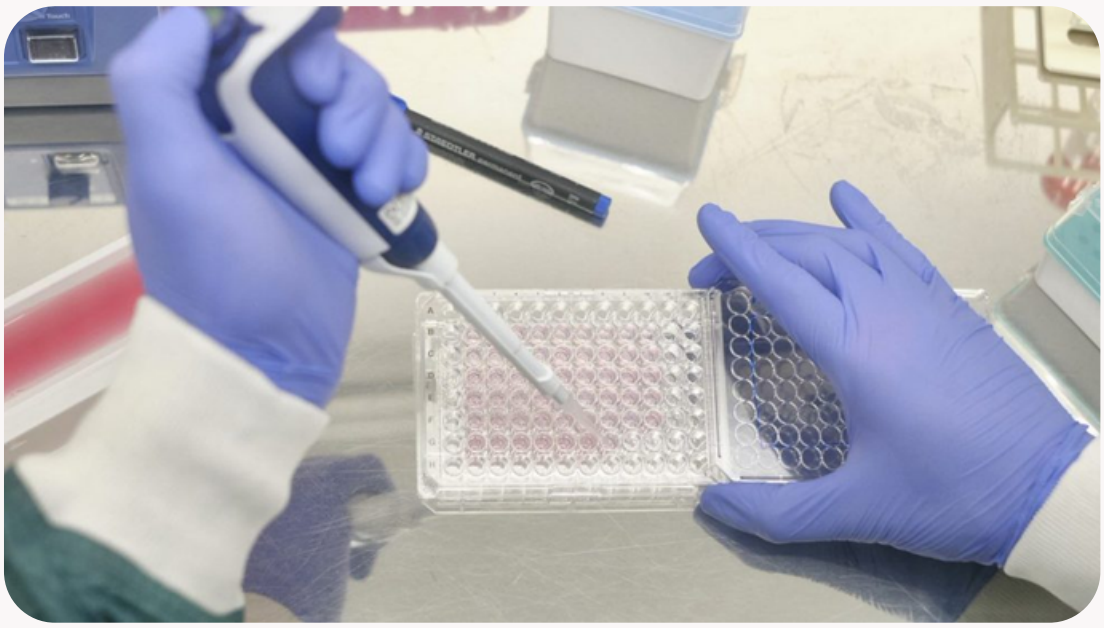
Trends

From new laws to new technology, what is happening in the organoid technology industry?



Animal Testing No Longer Required!

Earlier this year, a long list of people and animal-friendly organizations celebrated the amendment law, officially known as the FDA Modernization Act 2.0, which allows animal-free alternatives, including human organoid models, to be used for the development of medicines and biological products for humans.

"This is a nice and big step" said our coordinator Katja Wolthers about the amendment law in an interview for de Volkskrant. "With organoids, we can test drug toxicity and see which products are promising - without animal testing" she added.

Shifting the perspective towards animal-free innovation, especially when the mandate to test on animals has been implemented for many years, may be challenging. However, with the new amendment law and the existence of human organoids combined, the future of animal-free testing may be closer than we think.

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VEO: Winner of Proefdiervrij Venture Challenge 2023

On Friday the 21st of April 2023, Proefdiervrij announced VEO as the winner of this year's Venture Challenge. As the winner, VEO received €25,000 from the Proefdiervrij Foundation to further implement human organoids as the animal-free alternative for human virus research.

The Proefdiervrij Venture Challenge, organized by the Dutch Society for the Replacement of Animal Testing (DSRAT), is a programme that helps researchers set up a venture plan in which scientific breakthroughs are converted into solid business plans. During this programme, experts of the GameChanger Challenge guide researchers to sharpen their entrepreneurial skills while increasing the impact of using animal-free alternatives in research.

At Amsterdam UMC, researchers at VEO (Viral Experts Organoids) are developing human respiratory tract, gut and brain organoids to test efficacy of innovative candidate antiviral drugs in order to increase the success rate of drug development and provide solutions for personalized virus medicine.

The VEO team consists of five researchers from OrganoVIR Labs, Giulia Moreni (PhD student), Inés García-Rodríguez (PhD student) Carlemi Calitz (Postdoc Researcher), Katja Wolthers (Head of OrganoVIR Labs), Adithya Sridhar (Principal Investigator) and Dasja Pajkrt (Head of OrganoVIR Labs). Together, VEO is working to implement human organoids as the ideal animal-free alternative for preclinical antiviral drug screening.

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THE LAB AND BEYOND

Contributors

Dasja Pajkrt, Katja Wolthers, Salvatore Simmini, Kris Dierickx, Vanessa Rijkeboer, Jean-Luc Bailley, Debby Weijers, Saskia Aan, Caroline Tapparel, Ludovico Buti, Kim Benschop, Martin Dufva, Krzysztof Pyrc, Samuel Constant, Bernadett Boda, Song Huang, Jeroen de Groot, Blandine Mille-Baker, Kim Benschop, Adam Meijer, Erwin Duizer, Martin Dufva, Frank van Kuppeveld, Xander de Haan, Erik de Vries, Hans Clevers, Johan van Es, and Ingrid Valks.

With the end of the OrganoVIR project, we will be transitioning into OrganoVIR Labs.

OrganoVIR Labs, based in Amsterdam University Medical Centers (location Academic Medical Center (AMC)), is a laboratory specializing on virus culture and human 2D and 3D ‘organoid cultures’ for virology.

Within our labs, we use human organoids to study pathogenesis of human picornaviruses, CMV, HIV and recently SARS-CoV-2.

Follow us on LinkedIn (@OrganoVIR Labs) or check out our website www.organovirlabs.com!

We will also be launching an annual newsletter!

click here to sign up for the OrganoVIR Labs newsletter