

## VASCERN EXCHANGE VISIT ON FRIDAY & SATURDAY JANUARY 20-21, 2023

*Some of the speakers could change and some of the interventions could be done remotely*

### Program Friday January 20, 2023: 101 Genomes Foundation

#### We envision blocks of presentation/interaction on three topics

1. The 101 Genomes Foundation (F101G): creation, bioinformatics and fundraising
2. Phenotypic, biological and genomic data used in bioinformatics
3. Consent, access and interactions

*Location*: Center for Medical Genetics: Prins Boudewijnlaan 43/6, 2650 Edegem (second floor)

### 10:30-12:00 The 101 Genomes Foundation (F101G): creation, funding and anchorage

- 1.1. **Creation: Diagnostic odyssey, neonatal marfan, genomics and discovery.**  
Romain ALDERWEIRELDT & Ludivine VERBOOGEN: 40'
- 1.2. **Fundraising: King Baudouin Foundation, *impatients!* and others.**  
Ludivine VERBOOGEN 15'
- 1.3. **FBN1, anchor and exploration point.**  
Romain ALDERWEIRELDT 20' – Q&A 15'

#### 12:00-13:00 Lunch Break

### 13:00-15:30 GEMS, Genomic Cloud and bioinformatics tools

- 2.1. **GEMS: Consent, phenotypic and biological data**  
Romain ALDERWEIRELDT 40' – Q&A 10'
- 2.2. **Deployment of the F101G Genomic Cloud.**  
Emma VERKINDEREN 40' – Q&A 10'
- 2.3. **Overview of the oligogenic machine learning research at (ib)<sup>2</sup>**  
Sofia PAPADIMITRIOU 30' – Q&A 10'

#### 15:30-16:00 Break

### 16:00-17:30 GDPR, access and other genomic initiatives

- 3.1. **GDPR and patients rights**  
Me Thomas DUBUISSON 30' – Q&A 10'
- 3.2. **Access management**  
Ludivine VERBOOGEN 15' – Q&A 10'
- 3.3. **Other genomic initiatives and conclusion**  
Romain ALDERWEIRELDT 15' – Q&A 10'

**Program Saturday January 21, 2023: UZA**

**We envision blocks of presentation/interaction/lab visit on three topics**

1. Sequencing in the year 2023
2. The use of iPSC in vascular research (especially the aorta)
3. Aorta research in mouse models

*Location: Center for Medical Genetics, Prins Boudewijnlaan 43/6, 2650 Edegem (second floor)*

**10:00-12:00 Genomics and sequencing in the year 2023**

**1.1. How did we evolve from chromosomal analysis to whole genome analysis.**

Bart LOEYS

Some basics on chromosomes, DNA, techniques to analyse. What is the genomic revolution ? How do we use genomics in the aneurysm clinic ?

**1.1. How does the current genomic sequencing technology work?**

Arvid SULS

Basic explanation on the next generation technology ? Tour of the lab to see the sequencers ?

**1.2. What is the GEMS project?**

Lotte VAN DEN HEUVEL

What do we study ? How do we study ? How do we involve patients ? What is the GEMS App ? What does informed consent mean in this context ?

**13:00-14:30 The use of iPSC in vascular research**

**2.1. What is an iPSC? Why do we need iPSC? How do we make iPSC? How long does it take? How do we look at them?**

Joe DAVIS & Melanie PERIK

Which cells can we make from iPSC? How do know it is a vascular smooth muscle cell (VSMC)? How can functionally characterize an iPSC-VSMC? How will we use iPSC-VSMC to study aortic aneurysm?

**2.2. Visit to the lab: see where we make the iPSC and iPSC-VSMC**

**14:30-15:00 Break**

**15pm-16:30 pm: Aorta research in mouse models**

**3.1. Why do we still need mouse models? Which mouse models do we use? How do we study the aorta in the mouse by echocardiography? How do we study the aorta once it is dissected from the mouse? How do we perform a mouse clinical trial?**

Lucia BUCCIOLI - Irene VALDIVIA CALLEJON

**3.2. Live demonstration of a mouse dissection: How do we isolate the aorta?**