Department of Genetics
University Medical Center Groningen
Groningen

- Medieval city
  First documented in 1040 AD
  Beautiful historic town center
- Population of 200,000
  30% students
  University & Polytechnic
- Known for its good quality of life
  Vibrant cultural- and nightlife
  Affordable housing
  Bicycle friendly (car not needed!)
University of Groningen

• Founded in 1614
• 30,000 students & 650 faculty members
• Top-100 ranked University
  – 80th in the 2017 Times Higher Education ranking
  – 86th in the 2017 US News & World Report ranking
    • In top-50 for Molecular Biology and Genetics
University Medical Centre Groningen

- Research & teaching hospital
- Largest in the region
  >12,000 employees
  Catchment area has 3.5 million inhabitants
- Multiple specialist medical centers
  Regional trauma center
  Expert clinical centers
  Rare diseases centers
  Transplant center
Groningen and Dept. of Genetics on film

• About Groningen – the cycling city
  https://www.youtube.com/watch?v=05liuz7A7E0 (3:45 min)

• About the Department of Genetics, UMCG; made for the 2016 ASHG meeting
  https://www.youtube.com/watch?v=idZnxNpF7ME&feature=youtu.be (6:45 min)

• Prof. Cisca Wijmenga, PhD – 2015 Spinoza Prize Winner
  https://www.youtube.com/watch?v=lGW-FvKPrkc
  (3:35 min; in Dutch with English subtitles)
Department is housed in ERIBA, the European Research Institute for the Biology of Ageing

- Architecturally innovative
- Environmentally friendly
- 500m to city center
Department of Genetics

- Modern laboratory for research and diagnostics
- Open office, flexible workspaces
Head of Department – Prof. Cisca Wijmenga, PhD

- Dutch Royal Academy of Science member
- Spinoza prize winner
  - highest Dutch prize for science
- Expert in the genetics of complex diseases
  - focus on celiac disease
>50 international staff, of 30 nationalities
per September 2016
Department of >350 staff including:

- Doctors and Genetic Counsellors: 24
- Professors and Researchers: >44
- PhD Students: 50
- Support Staff: >114

Per Sept 2016
Multiple areas of research focus

- Complex (multifactorial) diseases
  - Particularly autoimmune diseases
- Systems Genetics/Bioinformatics
- Congenital Diseases
- Oncogenetics, Neurogenetics and Cardiogenetics
- Ethical, Legal and Social Issues in clinical genetics

From Aguirre-Gamboa et al., 2016
Biobanks, projects and cohorts

- **LifeLines**
  - Dutch population cohort with more than 167,000 healthy participants
  - Sub-cohorts LifeLines-Deep, LifeLines-Next: biomaterials for genetic study

- **Human Functional Genomics Project (HFGP)**
  - Joint project linking genetics and the microbiome
  - Collaboration of the Radboud UMC, Center for Infectious Diseases (Nijmegen);
    the Department of Genetics, UMCG; the Broad Institute of MIT and Harvard,
    and Massachusetts General Hospital (Boston)

- **EUROCAT Nederland**
  - Dutch branch of the European Surveillance of Congenital Anomalies program
Growing department with increasing impact

Number of papers per year in high impact factor (>30) journals

Total number of papers per year
Funding for research

Funding comes from the Netherlands Organization for Scientific Research (NWO), the European Research Council (ERC), charities, industrial partners, and other private and public research bodies.

<table>
<thead>
<tr>
<th>Funding Agency</th>
<th>Awarded to UMCG Genetics</th>
<th>Average success rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>NWO (NL)</td>
<td>45%</td>
<td>15%</td>
</tr>
<tr>
<td>ERC</td>
<td>50%</td>
<td>11%</td>
</tr>
</tbody>
</table>
Personal grants are available

Local
Rosalind Franklin fellowships

National
Charity organizations
- Dutch Cancer Society (KWF) fellowships
- Netherlands Heart Foundation Dekker fellowship
- Dutch Digestive Diseases career development grants
- Dutch Diabetes Foundation career grants

Netherlands Organization for Science Research
VENI, VIDI, VICI programmes

European
European Research Council: starter/advanced grant
Marie Curie Actions (EC)
Benefits of working in UMCG Genetics

- Large, international research staff
- Modern lab maintained by permanent technical staff
- Large bioinformatics cluster, many in-house programs
- Diagnostic specialists
- Collaborative atmosphere
- ISO 9001 status
  - Assures clear guidelines about our work environment
- English language editors to help with publications & presentations
Department highlights 2015-2016

- Cisca Wijmenga awarded Dutch Spinoza prize in 2015
- Visit by NIH director Francis Collins in 2015
- 3 NWO-VIDI personal grants (€800k) and 2 ERC starting grants (€1.5m)
- Launch of trial preconception screening program for couples
- Implementation of the 5-genes per minute program for rapid genetic diagnosis in seriously ill newborns
Publication highlights 2015-2016

- 2 Science papers on the association between genetics and the microbiome (2016)
- Nature Medicine paper on how genes affect immunity in response to pathogens (Li et al., 2016)
- Paper on how the microbiome affects blood lipids – one of Circulation Research “best papers” of 2015 (Fu et al., 2015)
- 5 Cell press papers on the first findings of the Human Functional Genomics Project (2016)
See our websites for more information

- [http://www.rug.nl/research/genetics/](http://www.rug.nl/research/genetics/)
- [http://www.systemsgenetics.nl/](http://www.systemsgenetics.nl/)
May 2016 - Research group sailing on the Lauwersmeer to celebrate the Spinoza award to Cisca Wijmenga