

CV

Regenberg, Birgitte, Ecology and Evolution

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Date of birth: 05.01.1968. Children: Two, age 20 and 24 years

SCIENTIFIC FOCUS AREAS

I am founder and pioneer in the extrachromosomal circular DNA (eccDNA) field that emerged in the mid 2010s. My leadership in the field is demonstrated by the facts that I am currently coordinating a European EIC future and emerging technologies consortium in the field, I organized the first and third inaugural workshops on eccDNA and have written several reviews on the topic.

EDUCATION

2022 Leading Research, 3-month program on research management, University of Copenhagen

2019 INSEAD business school, 8-month program on project management

01.02.2000 PhD, Royal Veterinary and Agricultural University, Denmark

01.10.1994 Master of Science in Biology, University of Copenhagen, Denmark

CURRENT AND MOST RECENT EMPLOYMENT

2007 – now Associate Professor, Department of Biology, University of Copenhagen, Denmark

2004 – 07 Postdoctoral fellow and Assistant Professor, Goethe-Universität, Frankfurt am Main, Germany

2000 – 04 Assistant Professor, Center for Process Biotechnology, DTU, Denmark

ACADEMIC AWARDS AND HONOURS

2022 OvaCure Innovation Challenge 2022, part of winning team (<https://www.ovacure.org>)

2022 – now Woman of the year in Denmark together with 60 other women in academia, public and private organisations (<https://urbnet.au.dk/news/nyhed/artikel/women-of-the-year>)

2019 – now Commissioner for Denmark in ICY, the International Commission on Yeasts

2011 Freja fellow, Faculty of Science, University of Copenhagen, Denmark

2007 Skou fellow, Danish Research and Innovations Agency, Denmark

MANAGEMENT

2019 – now I manage two research consortia as PI (see description below).

2007 – now My own research group, currently 5 post doc, 4 PhD students, 1 MSc student, 1 AC TAP and 1 (TAP) technician. Based on our current efforts and funding, my group will increase the research output substantially and keep its size at least until 2024.

2000-03 DNA-array-facility responsible in the group of Professor J. Nielsen, Center for Process Biotechnology, DTU, Denmark.

MAIN CURRENT FUNDING

2022-252.9 million DKK Novo Nordisk Foundation, Denmark, PI

2022-256.5 million DKK, 3.8 million DKK share of grant, Sygesikringen Danmark, co-PI

2020-2431.5 million DKK, 13.5 million DKK share of grant, Future Emerging Technologies, FET Open, EC Horizon 2020 PI and coordinator (7 partners). It supports the development of radically novel early-stage breakthrough technologies and is high risk - high gain (funding rate < 5%).

2019-2318.4 million DKK, 10.3 million DKK share of grant, Innovation Fund Denmark (4 partners), PI. The Grand Solutions program is a competitive program that supports innovative and interdisciplinary research in the interface between basic and applied research.

SUPERVISION AND TEACHING

In total, I have supervised and co-supervised 18 PhD students and 11 Post docs, of these 5 are current PhD students and 5 are current post docs in my group.

Current teaching: Metabolism and Enzymology; Molecular Biology, Genetics and Biotechnology; Human Genetics;

Semester Procedures for PUK and BSc Projects

RECENT OUTREACH (SELECTED)

Web sites: <https://www.regenberglab.net/>; <https://www1.bio.ku.dk/english/research/ecology-evolution/regenberg-group/>; <https://www.circularvision.org/>; <https://www1.bio.ku.dk/english/staff/?pure=en/persons/23899>; Tweets on: @regenberglab
2022 Podcast, Circular Vision, with Professor Antonio Gasbarrini and Dr. Franco Scaldaferri, How circular DNA might help patients with Inflammatory Bowel disease, <https://www.circularvision.org/podcast>

2021 Podcast, The Genomics Lab 05-2021. Extrachromosomal circular DNA, chromosome evolution & circular DNA in human disease with the Regenberg Lab

2021 Youtube, Julia Sidenius Johansen and Birgitte Regenberg. How research in circular DNA might lead to early discovery of pancreatic cancer, <https://www.youtube.com/watch?v=NqbQfPEGuTY>

2019 Interview with The New York Times (5,496,000 subscribers, 15 million readers), 22-11-2019, Scientists Are Just Beginning to Understand Mysterious DNA Circles Common in Cancer Cells

INNOVATION AND TECHNOLOGY TRANSFER

An important part of my outreach activities, is to bring my groups new discoveries and technologies to use in medical practice to promote growth and health in society. EccDNA in human blood plasma has the potential to function as biomarker for diseases such as pancreatic and lung cancer. I collaborate with BGI-Qingdao, Roche and Chemometec A/S to develop screening technologies through our large grants (from e.g. Innovation Fund Denmark and the Horizon-2020 program). Furthermore, I am in the process of establishing a company that provides eccDNA-technology for cancer research.

SERVICES TO THE INTERNATIONAL ACADEMIC COMMUNITY

2019 – now Commissioner for Denmark in ICY, the International Commission on Yeasts

2022 Co-organized EMBO Workshop, The yin and yang of chromosomal and extra-chromosomal DNA,
2020 Co-organized the inaugural conference on circular DNA: Circular DNA in development and disease; Berlin Institute of Health; Berlin; Germany.

Frequent grant evaluator, e.g. The Einstein Foundation; The Wellcome Trust; ETH Zürich grants
Ad hoc reviewer, e.g. Cell, Nature, Nature Communications, NAR, Current Biology, BMC Genomics
BIBLIOMETRICS (Google Scholar)

67 peer-reviewed publications, >3900 citations, h-index: 31.

INTERNATIONAL RELATIONS (CURRENT KEY COLLABORATORS)

eccDNA biology: Professor Yves Barral, Institute of Biochemistry, ETH Zürich, Switzerland, Professor, David Gresham, Center for Genomics and Systems Biology, NYU, New York, USA, Associate Professor Yonglun Lou, BGI-Qingdao, China and Aarhus University, Denmark. eccDNA in health and disease (human and mouse):

Professor Henriette Pilegaard, Dept. of Biology, University of Copenhagen, Denmark, Professor Julia S. Johansen, Department of Oncology, Herlev and Gentofte Hospital, Denmark, Professor Estrid Høgdall, Department of Clinical Medicine, Herlev and Gentofte Hospital, Denmark, MD, Professor Antonio Gasbarrini, Università Cattolica del Sacro Cuore, Rome, Italy, Associate Professor Mirna Perez-Moreno, Dept. of Biology, University of Copenhagen, Denmark, CSO Søren Kjærulff, Chemometec A/S, Hørsholm, Denmark, Professor Jörg Kutter, University of Copenhagen, Denmark.

Bioinformatics pipelines for mapping of eccDNA: Marghoob Mohiyuddin, Roche Sequencing Solutions, CA, USA, Associate Professor Intawat Nookaew University of Arkansas for Medical Sciences, USA, Professor Marcos Araújo-Bravo, Biodonostia Health Research Institute, San Sebastián, SPAIN. Evolutionary biology: Professors Michael Poulsen and Jacobus Boomsma, Dept. of Biology, University of Copenhagen, Denmark