university of groningen

Rosalind Franklin Fellows 2020

university of groningen

Annette Bergemann

Associate Professor in Labour and Health Economics - Faculty of Ecomics and Business

Rosalind Franklin Fellow

Research topic
Gender, Labour and Health

Research content
My research focuses on gender aspects in the interactions between labour, health and family topics. I apply innovative econometric methods, I use economic theory and I collect and analyse innovative data with a particular focus on expectation formation.

Motivation
Although there is abundant research on gender-specific issues in labour economics, in family economics, and health economics little is known about how the interactions between these areas vary by gender.

Ultimate goal
Contribute to the understanding of gender differences in health and success on the labour market and find policies that help to narrow the gender gaps in these areas.

university of groningen

Hilde Bras

Professor and Chair of Economic and Social History, with special attention to Global Demography and Health - Faculty of Arts

Rosalind Franklin Fellow

Research topic
The global history of population and health

Research content
Demographic transitions in 19th-century Europe and contemporary sub-Saharan Africa and Asia and the roles played by historical, spatial, and social contexts.

Motivation
To better understand historical and contemporary inequalities in demographic and health outcomes and to contribute to policies improving well-being.

Ultimate goal
Developing a new methodology to comparatively analyze historical and contemporary global demographic transitions.

university of groningen

Zoé Christoff

Assistant Professor in Cognitive Artificial Intelligence - Faculty of Science and Engineering

Rosalind Franklin Fellow

Research topic
Logical foundations of collective AI

Research content
I use formal tools to model how individuals in crowds form opinions and take decisions. I have worked for instance on opinion diffusion in social networks, and on social phenomena where rational individual choices seem “collectively dumb”, such as “informational cascades” and “pluralistic ignorance”.

Motivation
In practice, we all know that (dis-)information might determine who wins an election. However, in theory, we still fail to understand the mechanisms behind the interaction between networks, truth, opinions, and democracy.

Ultimate goal
Discover the most general laws ruling opinion dynamics.

university of groningen

Mònica Colominas Aparicio

VENI Laureate - Faculty of Theology and Religious Studies

Rosalind Franklin Fellow

Research topic

The Status of Religious Minorities in Pre-Modern and Early-Modern Spain

Research content

I research religious diversity in pre-modern and early-modern Spain. In particular, I deal with the conditions of Muslims and Jews in Christian Spain and of Jews and Christians in Islamic societies (al-Andalus). I am also interested in the role of inter-religious polemics in identity construction at the time.

Motivation

I am guided by what I understand to be the need to write a history of Western intellectual and social thought that pays due attention to the role played by official Islam and the presence of Muslim and Jewish minorities in its co-production.

Ultimate goal

My ultimate goal is to successfully complete the RFF's tenure-track and to make my subject of study prominent within the Faculty of Theology and Religious Studies.

university of groningen

Ema Dimastrogiovanni

Assistant Professor - Faculty of Science and Engineering

Rosalind Franklin Fellow

Research topic
Cosmic inflation and primordial gravitational waves

Research content
I am a theoretical physicist interested in understanding the very early stage in the history of our universe and its evolution.

Motivation
The motivation for my research work is helping advance fundamental physics with cosmology. Cosmology is the study of the origin and evolution of our universe. We have reasons to expect that the universe at very early times was populated with different particles than those we have observed in nature so far.

Ultimate goal
My ultimate goals are to contribute to fundamental physics and to education, and to promote the importance of science in society.

university of groningen

Hannah Dugdale

Professor of Evolutionary Medicine - Faculty of Science and Engineering

Rosalind Franklin Fellow

Research topic

Evolutionary biology & Diversity in Science

Research content

- Evolutionary dynamics of behavioural and life-history traits in human and natural animal populations, focusing on the evolution of ageing
- Factors underlying the under-representation of minority groups in science

Motivation

- Individuals clearly age differently but we don’t fully understand why
- Reduced diversity hinders progress in science

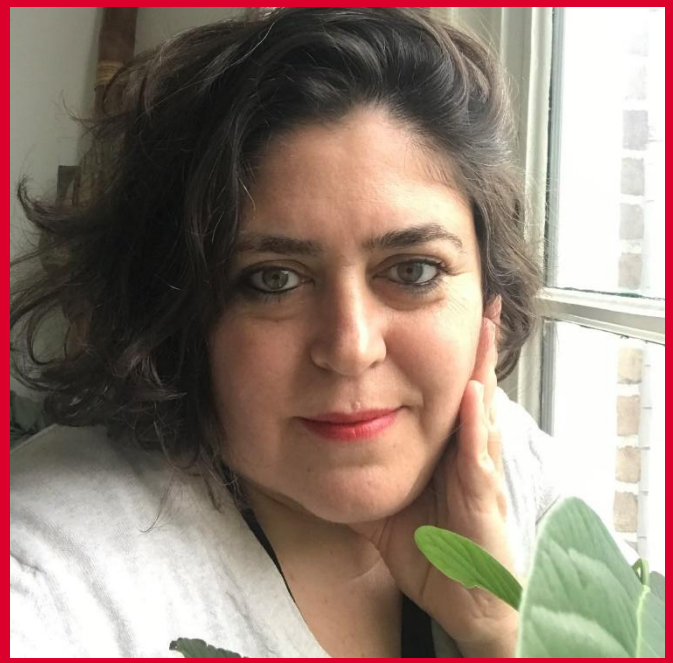
Ultimate goal

- Generate knowledge on how individuals can live longer healthier lives
- Improve the representation of minority groups in science

university of groningen

Valentina Gallo

Associate Professor in Epidemiology and Sustainable Health - Campus Fryslân



Rosalind Franklin Fellow

Research topic

Epidemiology, Neurological diseases, pesticides, sustainable health, health inequalities, environmental epidemiology, planetary health

Research content

My background is in clinical neurology and I have a long-standing experience in exploring risk factors for neurodegenerative diseases. I am particularly interested in environmental risk factors exploring co-benefits under a planetary health framework. As an epidemiologist, lately I have been engaging with the COVID-19 pandemic contributing producing meaningful methods and evidence. At campus Fryslân I am engaging in developing the concept of Sustainable Health with my colleagues.

Ultimate goal

Set up a research and teaching flagship on Sustainable Health at Campus Fryslân.

university of groningen

Inge R. Holtman

Assistant Professor at Biomedical Sciences of Cells and Sciences – University Medical Center Groningen

Rosalind Franklin Fellow

Research topic
Computational Neurobiology, Neurogenomics, transcriptional regulation

Research content
My research focuses on genomic and bioinformatics approaches to study brain diseases, epigenetics and transcriptional regulation, and the identification of cell types and cell states that drive brain pathophysiology.

Motivation
Shortly after my initial encounter to neurology patients as a young bachelor student, I developed a fascination for the genetic predispositions underlying brain-diseases.

Ultimate goal
Build models to predict brain disease progression and end stage neuropathology.

university of groningen

Helle Hvid Hansen

Assistant Professor - Faculty of Science and Engineering

Rosalind Franklin Fellow

Research topic
Logic, Theoretical Computer Science

Research content
Logic and semantics of computation, in particular, modal logic, coalgebra and algebra, and their applications in the formal specification and analysis of software systems.

Motivation
Providing foundations of program verification. Understanding logical structures relevant for program analysis and specification.

university of groningen

Julia Kamenz

Assistant Professor at Groningen Biomolecular Sciences and Biotechnology Institute – Faculty of Science and Engineering

Rosalind Franklin Fellow

Research topic
Cell Cycle Dynamics and Cell Division

Research content
I am studying the molecular mechanisms that mediate and control cell proliferation and cell division using frog egg extracts – a powerful biochemical system, live cell fluorescence microscopy of human cells and computational modeling.

Motivation
Cell division is one of the most fundamental processes of life. Erroneous cell division can result in cell death and disease development including cancer. The dramatic, complex and perfectly orchestrated changes cells undergo during the process of cell division fascinate me until today.

Ultimate goal
Doing exciting science, being a good mentor and sparking science-curiosity in students.

university of groningen

Renata Raidou

Assistant Professor - Faculty of Science and Engineering

Rosalind Franklin Fellow

Research topic
Medical Visualization and Visual Analytics

Research content
Interface between Visual Analytics, Image Processing and Machine Learning, with strong focus on medical applications (cancer treatment and anatomical education).

Motivation
Medical visualization is an enabler for medical research/diagnosis/treatment, and an influential component thereof. My motivation is to support life sciences research, by working on numerous topics that remain unsolved and by helping the generation of life-saving/improving ideas.

Ultimate goal
Work on challenging and highly demanding research topics, such as Visual Analytics for Computational Medicine and Biology, Computational Healthcare and Translational/ Predictive Medicine, and help life science researchers improve/save lives.

university of groningen

Cecília Salgado

Associate Professor - Faculty of Science and Engineering

Rosalind Franklin Fellow

Research topic
Arithmetic Geometry

Research content
I study algebraic varieties, i.e., geometric structures associated to polynomial equations. My research deals with whole number solutions to such equations from the foundational point of view, studying the associated geometric objects and its properties, to applications such as the construction of good error correcting codes.

Motivation
To be able to use geometry to deal with problems that arise naturally in number theory is what drove me to the field. I enjoy working at the intersection of these two branches.

Ultimate goal
Push further the motto Geometry determines Arithmetic for higher dimensional varieties, in particular surfaces, by contributing to the quest for answers of long-standing conjectures in the field of rational points on varieties.

university of groningen

Sandy Schmidt

Assistant Professor - Faculty of Science and Engineering

Rosalind Franklin Fellow

Research topic
Pharmaceutical Biotechnology, Biocatalysis

Research content
I am exploiting the powerful reactivity and selectivity of enzymes for the production of pharmaceuticals.

Motivation
I am addicted to enzymes and their incredible capabilities of doing fantastic chemistry. I am keen on establishing these catalysts from nature in various synthetically useful reactions for the production of pharmaceuticals but also other chemicals serving as materials of our daily live in a green and sustainable fashion.

Ultimate goal
Doing my little part in our transition toward a more sustainable society by establishing efficient enzymatic production routes.

university of groningen

Jagoda Sławińska

Assistant Professor - Faculty of Science and Engineering

Rosalind Franklin Fellow

Research topic

Theory of electronic structure of hybrid materials

Research content

My research consists of modeling, understanding and design of novel hybrid materials for nanoelectronics and spintronics. One of the key aspects is to make use of both electron's charge and spin for information processing, providing a suitable platform for low-power and high-performance computing.

Motivation

Quantum materials that emerged in the recent years often manifest exotic phenomena; the purpose of my research is to explore them towards unconventional technological applications.

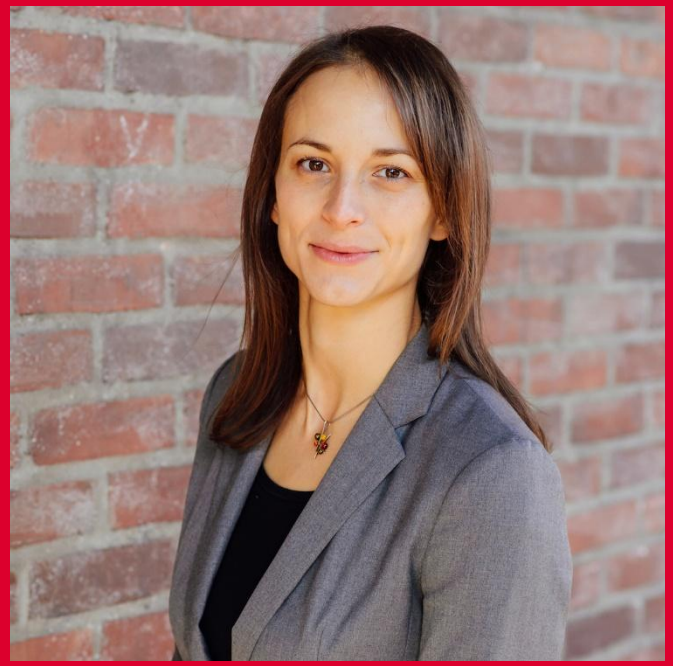
Ultimate goal

Propose novel materials and devices suitable for technologies beyond CMOS.

university of groningen

Katarzyna (Kasia) Tych

Assistant Professor - Faculty of Science and Engineering



Rosalind Franklin Fellow

Research topic
Single molecule Biophysics

Research content
I use single molecule optical tweezers in combination with structural information and biochemical approaches to characterize the function of proteins.

Motivation
We do not yet understand how the majority of the proteins, which are essential to life, function. In order to do this we need specialized experimental techniques with which we can observe single protein molecules in action.

Ultimate goal
To unravel the functional mechanisms of important biological systems and to develop new tools with which it is possible to do so.

university of groningen

Elisabeth Wilhelm

Assistant Professor in Control of Robotic Systems for Assistance and Rehabilitation - Faculty of Science and Engineering

Rosalind Franklin Fellow

Research topic
Development of a robotic device for sensory retraining in chronic pain patients

Research content
By combining micro- and macro robotics with closed loop control algorithms that are designed using machine learning we support the brain to re-learn how to interpret external stimuli.

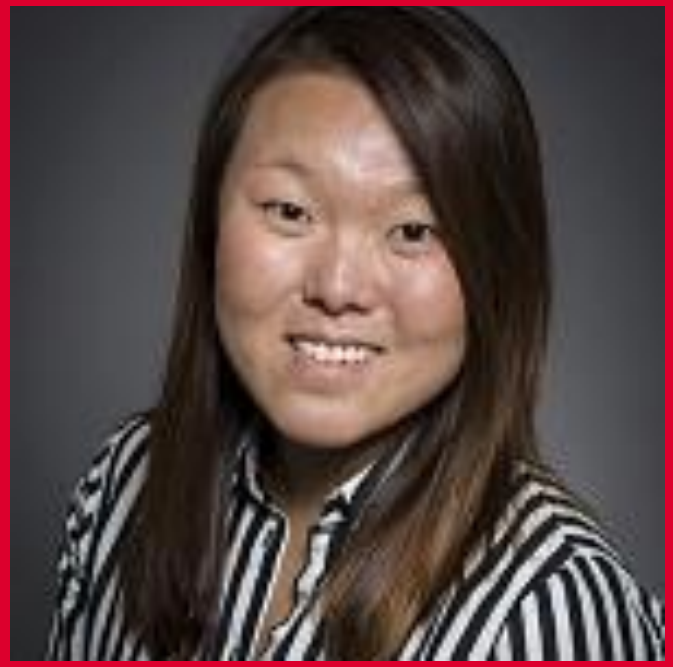
Motivation
Chronic pain effects about 18% of the Dutch population. The potential of available therapies is often quite limited and pain killers come with a lot of negative side effects.

Ultimate goal
Provide non-pharmacological therapies for people with chronic neurological conditions such as chronic pain by exploiting the potential of artificial sensory stimulation.

university of groningen

Jingxiu Xie (JX)

Assistant Professor in the Chemical Technology department -
Faculty of Science and Engineering



Rosalind Franklin Fellow

Research topic
Heterogenous Catalysis for Gas Conversion

Research content
More Sustainable Utilization of Carbon Resources- CO_2 conversion, natural gas upgrading, circular economy.

Motivation
Improve global standard of living responsibly.

Ultimate goal
New catalysts and chemical processes.