

Mikael Normann, M.Phil., F.R.A.S., M.Inst.P.

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Research Interests

General relativity, conformal geometry, differential geometry,
differential equations, philosophy of mathematics

Education

Queen Mary University of London

Ph.D., Mathematics, expected viva: September 2021

Research: general relativity, conformal geometry, PDE theory

Queens University of Belfast

M.Phil., Astronomy, 2016

Research: low luminosity supernovae

University of Bergen

B.Sc., Physics, 2014

Hong Kong Baptist University

Exchange, 2012-2013

Research

KLICE Research Institute

Research fellow, 2019 - present

Interdisciplinary studies, foundations of mathematics

University of Stavanger

Research assistant, 2016

Project: simulations of cold electroweak baryogenesis

Publications

Evolution Equations For a Wide Range of Einstein-Matter Systems

Normann, M., Valiente Kroon, J.A. *Gen Relativ Gravit* 52, 103 (2020).

Future Stability of Self-gravitating Dust Balls in an Expanding Universe

Normann, M., Valiente Kroon, J.A., Beheshti, S. *In preparation*

Hyperbolic Reduction of the Weyl-Lanczos Equation for a Wide Class of Einstein-matter Models

Normann, M. *In preparation*

Talks and
Presentations

University of Stavanger, Invited speaker
Evolution equations for a wide range of Einstein-matter systems
Stavanger 2020

KLICE Research Institute, talk
Gravitation for the Masses
Tyndale House, Cambridge 2020

Queen Mary Relativity Seminar, Speaker
Lanczos potential in General Relativity
Queen Mary University of London, London 2020

10th Central European Relativity Seminar, poster presentation
Evolution equations for a wide range of Einstein-matter systems
Max Planck Institute for gravitational physics, Golm 2020

22nd International Conference on General Relativity and Gravitation
poster presentation *Evolution equations for Relativistic Elastic Matter*
Valencia Conference Centre, 2019

Queen Mary Internal Postgraduate Seminar, invited speaker
An intuitive introduction to Einsteins theory of relativity
Queen Mary University of London, 2018

Astrophysics Research Centre Research Seminar
presentation of new papers by Abbot et al.
Observation of Gravitational Waves from a Binary Black Hole Merger
and *Astrophysical Implications of the Binary Black-Hole Merger GW150914*
Queens University of Belfast, 2016

Astrophysics Research Centre Research Seminar, research presentation
ASASSN-14ha, a low luminosity type IIP supernovae
Queens University of Belfast, 2015

Teaching

Queen Mary University of London
Teaching Assistant, Electricity and Atomic Physics, spring 2018
Teaching Assistant, Electric and Magnetic Fields, spring 2018
Teaching Assistant, Relativity and Gravitation, fall 2018 and 2019
Teaching Assistant, Quantum Mechanics, fall 2018 and 2019
Teaching Assistant, Geometry, spring 2018

Queens University of Belfast
Graduate Demonstrator, Level 1 Physics Lab, spring 2014 - 2016

Grants and
Scholarships

Queen Mary Postgraduate Research Fund, 2019

IOP Student Conference Fund, 2019

Queen Mary Principal's Research Studentship, 2018-2021

Astrophysics Research Centre International Scholarship
Queens University of Belfast, 2015

Courses and
Training

London Taught Course Centre
Four intensive courses between 2018-2019
London Mathematical Society

Royal Irish Academy Masterclass
Among 15 elected candidates to attend an interactive masterclass
with professor Richard Ellis
Royal Irish Academy, Dublin 2016

Student Demonstrator Course
Training in teaching and lab demonstrating
Queens University of Belfast, 2016

Conferences and
Seminars

22nd International Conference on General Relativity and Gravitation
Valencia Conference Centre, 2019

9th and 10th Central European Relativity Seminar
Jagiellonian University, 2019
Max Planck Institute for Gravitational Physics, 2020

Brussels-London Geometry Seminar
University College London, 2018

Heilbronn Distinguished Lecture Series
University of Bristol, 2018

Public ESO Spectroscopic Survey of Transient Objects Meeting VIII
University of Cambridge, 2015

Memberships

Member of Institute of Physics, 2018 - Present

Fellow of the Royal Astronomical Society, 2020
Nominee: Professor Malcolm MacCallum

Languages
and Skills

Norwegian (native), English (Fluent), German (Basic), Chinese (Basic)
L^AT_EX, XAct, Mathematica