

CURRICULUM VITAE

Name: Carl D. Murray

Address: Astronomy Unit
School of Physical and Chemical Sciences
Queen Mary University of London
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Qualifications:

- Ph.D. Queen Mary College, University of London, January 1980.
Title of thesis: *"Aspects of the Dynamical Evolution of Small Particles in the Solar System"*
- B.Sc. Queen Mary College, University of London, August 1977.
First Class Honours in Applied Mathematics with Astrophysics

Academic Career:

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| Oct. 2021 — present | Emeritus Professor of Mathematics and Astronomy,
Astronomy Unit, Queen Mary University of London. |
| Sep. 1997 — Sep. 2021 | Professor of Mathematics and Astronomy,
Astronomy Unit, Queen Mary University of London. |
| Nov. 1995 — Present | Courtesy Professor, Department of Astronomy,
University of Florida, U.S.A. |
| Dec. 1988 — Aug. 1997 | Reader in Mathematics and Astronomy,
Astronomy Unit, Queen Mary and Westfield College. |
| Jan. 1985 — Dec. 1988 | Lecturer in the School of Mathematical Sciences,
Queen Mary College. |
| Oct. 1983 — Dec. 1984 | Royal Society University Research Fellow, School of
Mathematical Sciences, Queen Mary College. |
| Sep. 1982 — Sep. 1983 | Postdoctoral Research Assistant, Department of
Applied Mathematics, Queen Mary College. |
| Jan. 1980 — June 1982 | Research Associate, Center for Radiophysics and Space
Research, Cornell University, U.S.A. |

Awards and Fellowships:

- Leverhulme Trust Research Fellowship (Sep. 2013 — Aug. 2015)
Two-year fellowship to study Cassini images of Saturn's rings
- PPARC Senior Research Fellowship (Jan. 2004 — Dec. 2006)
Three-year fellowship to facilitate full participation in Cassini image analysis
and study of resonances between extra-solar planets.

SERC/PPARC Advanced Fellowship (Oct. 1990 — Sep. 1995)

Five-year fellowship to prepare for Cassini mission to Saturn and the study of chaotic orbits in the solar system.

Royal Society University Research Fellowship (Oct. 1983 — Dec. 1984)

Five-year fellowship to study "*The Application of Modern Dynamics to the Solar System*"; resigned in 1984 to take up lectureship at Queen Mary.

Space Missions:

Member (since 1990) of the Imaging Science Team on the NASA/ESA Cassini-Huygens mission to Saturn that arrived at Saturn in July 2004.

Co-investigator on the Combined X-ray Spectrometer (D-CIXS) instrument on the SMART-1 mission to the Moon.

Science associate on the Beagle 2 lander on the Mars Express mission.

Science associate on the JANUS camera system for the JUICE mission to Jupiter.

Editorships:

Science Editor for *Monthly Notices of the Royal Astronomical Society* (2014-2021)

Associate/Consulting Editor of *Icarus*, the International Journal of Solar System Studies (1991–2010)

Associate Editor of *Celestial Mechanics and Dynamical Astronomy* (1998-2004)

Membership of Professional Organisations:

Fellow of the Royal Astronomical Society (since 1980)

Member of the RAS Education Committee (1993–1995)

Member of the RAS Library Computerisation Working Group

Member of the International Astronomical Union (since 1985)

Member of IAU Commission 20 (Minor Planets, Comets and Satellites)

Member of IAU Commission 22 (Meteors and Interplanetary Dust)

Member of the Mars Task Group of the IAU's Working Group on Planetary System Nomenclature (since 2005)

Full Member of the American Astronomical Society (since 1990)

Member of the AAS Division of Planetary Sciences (since 1991)

Member of the AAS Division on Dynamical Astronomy (since 2004)

Vice-Chair of the AAS Division on Dynamical Astronomy (2018-2019)

Chair of the AAS Division on Dynamical Astronomy (2019-2020)

Member of the American Geophysical Union (since 2013)

Organisation of Conferences:

Member of the Local Organising Committee of the Third International IRAS Conference, "Comets to Cosmology", held at Queen Mary College, July 1987.

Member of the Scientific Organising Committee of the conference in honour of the 300th anniversary of the publication of Newton's *Principia* held at the Royal Greenwich Observatory, July 1987.

Host and organiser of a meeting of the CRAF/Cassini Imaging System Working Group held at Queen Mary and Westfield College, September 1989.

Organiser of the Solar System session at the first UK National Astronomy Meeting, Durham University, April 1992.

Host and organiser of meetings of the Cassini Imaging Team held at the Dublin Institute for Advanced Studies (July 1994) and Queen Mary (June 2001).

Co-chair of successful UK bid to host the 2005 annual meeting of the Division of Planetary Science of the American Astronomical Society.

Member of the Scientific Program Committee of the 2004 annual meeting of the Division of Planetary Science of the American Astronomical Society, Louisville, Kentucky, USA.

Chair of Scientific Program Committee and Member of the Local Organising Committee of the 2005 annual meeting of the Division of Planetary Science of the American Astronomical Society, Cambridge, UK.

Member of Local Organising Committee of the 2017 annual meeting of the Division on Dynamical Astronomy of the American Astronomical Society, QMUL, UK.

Chair of Scientific Organising Committee of the 2019 annual meeting of the Division on Dynamical Astronomy of the American Astronomical Society, University of Colorado, Boulder, USA.

Other Honours:

Editor's Letter of Commendation as one of the Top Reviewers for the journal *Icarus* during 1990-1991.

In 1996 minor planet 1991 PN₁₈ was officially named (5598) Carlmurray in recognition of "*his immense contribution to our understanding of the dynamics of the minor bodies of the Solar System*".

NASA Group Achievement Award to the Cassini Program Imaging Science Subsystem Team (April 1998) "*in recognition of outstanding achievement in the innovative design, development, integration, and test of the Cassini Imaging Science Subsystem instrument, contributing to the successful launch of the Cassini spacecraft and Huygens probe to Saturn.*"

NASA Group Achievement Award to the Cassini Education and Public Outreach Team (May 2008) "*for sharing the science and excitement of the Cassini mission with*

the Nation and the world through multiple, award-winning education and public outreach products.”

NASA Group Achievement Award to the Cassini Imaging Science Team (April 2009) *“for outstanding dedication and service to the Cassini Imaging Science Team and to humankind’s first in-depth scientific exploration of the Saturn system.”*

NASA Group Achievement Award to the Cassini Magnetosphere Target Working Team (April 2009) *“in recognition of your outstanding contributions to the Cassini Magnetosphere Target Working Team in making the fields and particles observations an outstanding success.”*

NASA Group Achievement Award to the Cassini Imaging Science Subsystem Team (August 2018) *“for exceptional expertise in the execution of imaging sequences and capturing breakthrough science discoveries during Cassini’s Solstice, Ring Grazing and Grand Finale orbits.”*

Runner-up in the 1999 Times Higher Education Supplement/Oxford University Press Science Writing Prize.

Shortlisted for the Research Project of the Year in the 2006 Times Higher Education Supplement Awards.

Shortlisted nominee for a Sir Arthur Clark Award for Individual Achievement, 2008.

Joint winner (with former Outreach Officer, Laura Thomas) of the 2009 London Education Partnership Award for the summer school, “Media Space”, in Excellent Professional Practice in Curriculum and Student Support in Science, Technology, Engineering & Mathematics (STEM)" category.

Joint winner with the UK Cassini Team of the Sir Arthur Clark Award for Space Achievement – Academic Study/Research, 2018 for “their massive contribution to the Cassini-Huygens mission which ended in spectacular fashion in September 2017 after over 13 years exploring the Saturn system.”

Research Council Activities:

Member of the assessment panel for the PPARC Small Awards and National Awards in the Public Understanding of Science (1998–2006).

Member of the Planetary Studies Sub-Panel of STFC’s Astronomy Grants Panel (2008–2011); Chair (2010–2011).

Member of UK Space Agency’s JUICE Project Management Board (since 2015).

Invited Lectures:

David Elder Lecture (University of Strathclyde, April 1997).

Invited lecture at the 50th Colston Symposium "Cosmos, Quantum" (University of Bristol, April 1998).

Invited speaker at the Templeton Foundation meeting on Anthropic Arguments (Cambridge, UK, August 2001).

Invited keynote speaker at the “Jupiter after Galileo and Cassini” conference (Lisbon, Portugal, June 2002).

Robinson Lecturer and recipient of the Robinson Medal (Armagh Observatory, November 2002).

Invited review speaker at the Division of Dynamical Astronomy meeting of the American Astronomical Society (Cannes, April 2004).

Invited Plenary Speaker at the UK National Astronomy Meeting (Leicester, April 2006).

Invited Speaker at the UK National Astronomy Meeting (Preston, April 2007).

Invited Speaker at the American Geophysical Union, Fall Meeting (San Francisco, December 2007).

Invited Speaker at the European Geosciences Union, 2010 Meeting (Vienna, May 2010).

Invited Speaker at the COSPAR, 2010 Meeting (Bremen, July 2010).

Invited Speaker at the European Geosciences Union, 2012 Meeting (Vienna, May 2012).

Invited Speaker at the American Geophysical Union, Fall Meeting (San Francisco, December 2013).

Invited talk on “The Impact on Astronomy of Maxwell’s Adams’ Prize Essay” at the conference “Celebrating Maxwell’s Genius and Legacy”, The Royal Society of Edinburgh, November 2015.

Selected Media Activities:

Appearances on The Sky at Night (BBC1, BBC4) as well as the Today Programme (BBC Radio 4), BBC News, BBC World, BBC World Service, ITV News, Channel 4 News, Channel 5 News, National Public Radio, Canadian Broadcasting Corporation.

Appeared with Brian Cox discussing Saturn’s rings in Episode 2 of 2010 BBC series “Wonders of the Solar System”.

Appearance in Episode 4 of 2019 BBC and PBS series “The Planets” discussing Cassini and Saturn’s rings. Numerous, verbatim quotations appear in the accompanying book.