

Mark Pearce

Curriculum vitae



Date and place of birth & citizenship

- 29th March 1970, Great Britain.
- Swedish and British citizenship.

Contact details

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Career history

- 2020-, Deputy Dean (*vice skolchef och Fakultetsförnyelseansvarig*), Faculty of Engineering Sciences, KTH.
- 2012-2019, Head of Physics Department (*prefekt*), KTH.
- 2008-2011, Director of undergraduate education (*studierektor*), Department of Physics, KTH.
- 2007, Professor of physics (with specialisation in astroparticle physics), KTH.
- 2003, Associate professor (*lektor*), KTH. Swedish Research Council *Lektorsanställningsbidrag*.
- 2000, *Docent* in Physics at KTH
- 1998, Assistant professor (*forskarassistent*), KTH.
- 1996, Postdoc, Department of Physics, KTH. Wenner-Gren Centre Scholarship.
- 1996, Ph.D. in Experimental Particle Physics, The University of Birmingham, Great Britain. Thesis title: 'Measurements of bottom hadron lifetimes and the Λ^0 production rate in $Z^0 \rightarrow b\bar{b}$ events using data from the OPAL experiment'. Supervisor: professor Peter Watkins.
- 1992, B.Sc. (honours). Applied physics. Brunel University, Great Britain.

Awards and recognition

- 2020, elected member of Royal Swedish Academy of Sciences (Kungl. Vetenskapsakademien, KVA), Physics Class.
- 2012, elected Fellow, Institute of Physics, IOP.
- 2010, Wallmarkska Prize, KVA. Citation (my translation): 'For his ingenuity in instrument development which has led to prominent new knowledge regarding antimatter in the cosmic radiation'.
- 2003, Göran Gustafsson small Prize for young researchers.

Recent large grants, as main applicant

- Swedish Research Council (VR) project grants, 2010-, 5 Mkr

Version: February 2020

- Swedish Research Council (VR) infrastructure grant, 2008, 2 Mkr
- Swedish National Space Agency (Rymdstyrelsen), project grants, 2011-, ~40 Mkr
- Knut och Alice Wallenberg Foundation, project grant, 2004, 8 Mkr

Ph.D. student supervision (completion year indicated)

- Victor Mikhalev (2018); Merlin Kole (2014); Laura Rossetto (2012); Juan Wu (2012); Mózsi Kiss (2011); Cecilia Marini Bettolo (2010); Petter Hofverberg (2008); Silvio Orsi (2007); Johan Lundquist (2005); Jens Lund (2005).

Research activity and leadership

- 1999-, *astroparticle physics / high-energy astrophysics:*

2018-, X-Calibur - X-ray polarimetry of compact objects with focusing X-ray optics. Swedish lead. Collaboration between USA/Japan/Sweden.

2017-, P.I. for CubeSat X-ray monitor. KTH student satellite.

2005-, PoGOLite & PoGO+ - X-ray polarimetry of Crab & Cygnus X-1. Swedish lead, 2005-. Mission P.I., 2009-. Collaboration between Sweden, Japan and USA.

2003-2006, Fermi - gamma-ray space telescope, CsI(Tl) scintillator radiation hardness studies.

1999-, PAMELA - satellite for studies of cosmic-ray antiparticles. Swedish lead and P.I. for anticoincidence system. Collaboration between Italy, Russia, Sweden and Germany.

Recent activity with mission proposals:

2017-, Co-I for ESA M5/F1 mission proposal, e-ASTROGAM (gamma-ray space telescope).

2016-2018, P.I. for national small satellite mission, SPHiNX (GRB satellite polarimeter).

2015-2018, Co-I for ESA M4 mission candidate, XIPE (X-ray Imaging Polarisation Explorer).

Working group leader for particle background studies.

- 1992-1999, *experimental particle physics at CERN:*

1996-1999, Radiation tolerant optoelectronics for LHC experiments. Leader of two working groups at CERN. Simulation studies of supersymmetry phenomena. (ATLAS Collaboration).

1993-1995, Silicon-tungsten luminosity monitors and precision electroweak measurements at electron-positron colliders (OPAL Collaboration).

1992-1996, Studies of bottom-quark hadrons using electron-positron collisions, gaseous muon detector systems. (OPAL Collaboration).

Selected scientific appointments / activity

- Member, international advisory board, HEMERA (EU research infrastructure), 2019-.
- Member, grant evaluation panel, Göran Gustafsson Foundation (KTH/UU), 2013-. Reserve member of board, 2017-.
- Member, National Committee for Astronomy, Swedish Royal Academy of Sciences, 2013-2018.
- Member, board (*insynsrådet*), Institute for Space Physics (*Institutet for Rymdfysik*), 2012-.
- Swedish delegate to EU COST action MP1104 on polarisation, 2011-2015.
- Member of Manne Siegbahn Memorial Lecture committee, 2011-.
- Member of steering committee of The Oskar Klein Centre, 2008-2014. Founding member.

Version: February 2020

- Chair, Swedish Space Researchers Committee (SRS), 2008-2011. Chair, National COSPAR committee (*ICSU-kommittén för rymdforskning*), 2008-2011.
- Member of Swedish Research Council subatomic physics and astrophysics grants committee (*beredningsgrupp NT-M*), 2008, 2009.
- Secretary, board of Particle and Astroparticle Physics Section of Swedish Physical Society, 2000-2004. Member, 2012-2014.

Selected academic appointments

- Chair, Faculty recruitment committee (*rekryteringskommitté*) & Chair, Docent committee (*docentkommitté*), School of Engineering Sciences, KTH, 2020-.
- Member, reference group, KTH Space Centre, 2013-.
- Chairman of board, Centre for Nuclear Energy Engineering, KTH, 2012-.
- Member, Faculty Council Advisory Board, KTH, 2011-2012.
- Unit of Assessment Co-ordinator, KTH Research Assessment Exercise, 2012.
- Member, Board of the School of Engineering Sciences, KTH, 2009-2011.
- Member, Appointments Committee (*tjänsteförslagsnämnd*), School of Engineering Sciences, KTH, 2009-2018. Vice-chair, 2011-2015.
- Member, Central Grants Committee, KTH, 2007-2010.
- Ph.D. thesis opponent (Stockholm, 2004; Uppsala, 2007). Member of >20 Ph.D. thesis grading committees.
- Supervisor to >30 M.Sc. and B.Sc. thesis students.

Publications

[Google Scholar](#)

Selected outreach publications

- M. Pearce, 'På spåret efter antimateria i den kosmiska strålningen'. *Astronomiska sällskapet 100 år* (2019). <http://100.astronomiska.se>
- M. Pearce, 'Framgång i stratosfären'. *Astronomiska sällskapet 100 år* (2019). <http://100.astronomiska.se>
- M. Pearce, 'Kosmisk strålning för alla!'. *Fysikaktuellt* 2 (2019) 24. <http://www.fysikersamfundet.se/fysikaktuellt/>
- M. Pearce, 'Ett nytt sätt att studera röntgenkällor i universum - med Sveriges största ballong'. *Fysikaktuellt* 3 (2018) 12. <http://www.fysikersamfundet.se/fysikaktuellt/>
- M. Pearce, 'A new view of the black-hole binary Cygnus X-1'. *Nature Astronomy* 'Behind the paper' article (2018). <http://astronomycommunity.nature.com>
- M. Pearce, 'Ett nytt fönster mot rymden'. *Forskning och Framsteg* 2 (2012) 38. <https://fof.se/tidning/2012/2/artikel/ett-nytt-fonster-mot-rymden>
- Co-author of 3 Swedish Royal Academy of Sciences posters describing the Nobel Prize in Physics (2002, 2004, 2006).
- Authored "The quantised world" for the Nobel Electronic Museum (2001).