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PERSONAL

Born April 20, 1964, in Brussels, Belgium.
US and Belgian citizenships.

EDUCATION

1985 – 1991 [Cornell University](http://www.cornell.edu), Ithaca, New York, Department of Physics. Degrees: M.S. (1988), Ph.D. (1991). Ph.D. Thesis: “Hydrodynamic Calculations of Stellar Interactions.” Ph.D. Thesis advisor: Prof. Stuart L. Shapiro.

1980 – 1985 [Université Libre de Bruxelles](http://www.ulb.ac.be), Brussels, Belgium, Faculté des Sciences Appliquées. Degree: Ingénieur Physicien (M.S. in Applied Physics), *Avec Grande Distinction* (1985). Thesis: “Charge Division in Drift Chambers Operated in Streamer Mode.” Thesis advisor: Prof. Jean Sacton.

RESEARCH INTERESTS

Theoretical Astrophysics: dynamics of dense stellar systems (globular clusters, galactic nuclei, massive black holes); exoplanets (dynamics and formation); hydrodynamic stellar interactions (stellar collisions and mergers, binary coalescence, common envelope evolution); relativistic astrophysics (neutron stars and black holes, gravitational waves, relativistic star clusters); dynamics of binary and multiple star systems; radio pulsar timing and applications.

Computational Astrophysics: numerical hydrodynamics, numerical relativity, Monte Carlo methods, N -body simulations, parallel algorithms.

EMPLOYMENT

- 2001 – [Northwestern University](http://www.northwestern.edu), Evanston, Illinois:
Joseph Cummings Professor of Physics (2009-);
Professor of Physics and Astronomy (2006-);
Associate Professor of Physics and Astronomy (2001-2006).
- 1995 – 2002 [Massachusetts Institute of Technology](http://www.mit.edu), Cambridge, Massachusetts:
Associate Professor of Physics (2001-2002, on leave);
Assistant Professor of Physics (1995-2001).
- 1992 – 1995 [Institute for Advanced Study](http://www.ias.edu), Princeton, New Jersey:
Member, School of Natural Sciences.
- 1986 – 1992 [Cornell University](http://www.cornell.edu), Ithaca, New York:
Research Associate, Department of Astronomy (1991-1992);
Research Assistant, Department of Astronomy (1988-1991);
Teaching Assistant, Department of Physics (1986-1988).

AWARDS AND HONORS

- 2006 – 2007 Research Mentor Award (Northwestern University, Weinberg College of Arts and Sciences).
- 2006 Fellow of the American Physical Society.
- 2004 – 2005 Faculty Honor Roll (Northwestern University Associated Student Government).
- 1996 – 2000 Sloan Research Fellow (Alfred P. Sloan Foundation).
- 1992 – 1995 Hubble Fellow (NASA).
- 1991 Graduate Student Prize (Astronomical Society of New York).
- 1985 – 1986 Hoover Foundation Fellow (Belgian American Educational Foundation).

TEACHING EXPERIENCE

2001 – **Northwestern University, Department of Physics and Astronomy:**

- ASTRON 449: 'Stellar Dynamics' (graduate-level introduction to galactic dynamics at the level of *Binney & Tremaine*).
- ASTRON 445: 'General Relativity and Applications' (graduate-level introduction to general relativity and relativistic astrophysics).
- ASTRON 390-JR: 'Astrobiology' (Junior Research Seminar).
- ASTRON 331: 'Astrophysics' (advanced undergraduate introduction to theoretical astrophysics).
- ASTRON 110: 'From Copernicus to Hawking: the People and Ideas that Shaped Modern Cosmology' (freshman seminar).
- PHYS 345: 'Introduction to General Relativity' (undergraduate introduction to relativity at the level of *Hartle*)
- PHYS 135: 'General Physics' (Section Instructor).
- PHYS 125-1: Physics for ISP (honors level introduction to classical mechanics)
- PHYS 110: 'Einstein's Outrageous Legacy' (freshman advising seminar)
- PHYS 110: 'Origins: from Big Bang Cosmology to Astrobiology' (freshman advising seminar).
- PHYS 110: 'The Physics of Armageddon' (freshman seminar).
- AGEP Professor - Midwest Crossroads AGEP (NSF Alliances for Graduate Education and the Professoriate) - a partnership of Northwestern, Indiana and Purdue University to increase minority participation in graduate studies and academia.
- supervised 8 PhD Theses (A. Gürkan, PhD '05; Genya Takeda, PhD '08; Emmanouela Rantsiou, PhD '09; Sourav Chatterjee, PhD '10; Sanghamitra Goswami, PhD '13; Bharath Pattabiraman, PhD '14; Meagan Morscher, PhD '15; Carl Rodriguez, PhD '16).
- supervised more than 50 REU and senior thesis students, and about 20 graduate students
- mentored 13 postdocs (F. Antonini, S. Chatterjee, C. Deloye, J. Faber, J. Fregeau, M. Freitag, N. Ivanova, P. Kiel, S. Matsumura, S. Naoz, E. Thommes, S. Umbreit, F. Valsecchi).

1996 – 2001 **MIT, Department of Physics:**

- 8.901: 'Astrophysics I' (graduate-level introduction to stellar astrophysics).
- 8.03: 'Physics III' (sophomore-level course at the level of Crawford, Waves).
- freshman advising seminars on Astrophysics.
- supervised 3 PhD Theses (K. Joshi, PhD '00; J. Faber, PhD '01; J. Fregeau, PhD '03).
- supervised 9 Physics senior theses.
- supervised 17 undergraduate (REU/UROP) students, 5 graduate students, and one postdoctoral fellow (S. Portegies Zwart).
- supervised high-school students in the Research Science Institute program.

ADMINISTRATIVE EXPERIENCE

- 2013 – Editor for [The Astrophysical Journal Letters](#)
- 2015 – 2019 Member of the Advisory Board of the Kavli Institute for Theoretical Physics (KITP) at the University of California, Santa Barbara (Co-Chair, 2018-19).
- 2009 – 2013 Co-Director, Northwestern University Center for Interdisciplinary Exploration and Research in Astrophysics ([CIERA](#))
- 2009 – [Aspen Center for Physics](#), General Board Member; Summer Program Selection, Winter Conference Selection, Summer Admissions, Nominating Committees, and Colloquium Committee (Chair).
- 2009 – 2011 American Astronomical Society Warner Prize and Pierce Prize Committee member.
- 2006 – 2012 Northwestern University, Member of the Administrative Board of The Graduate School.
- 2006 – 2008 Northwestern University, Limited Submissions Committee member.
- 2005 – 2012 Scientific Editor for [The Astrophysical Journal](#).
- 2005 – 2008 Northwestern University, Fulbright Fellowship Committee member.
- 2005 – 2006 Northwestern University, Department of Materials Science Program Review Committee member.
- 2005 American Physical Society, World Year of Physics Talent Search Evaluator.
- 2004 – 2012 American Astronomical Society Employment Committee member; chair (2010-11).
- 2001 – Northwestern University, Weinberg College of Arts and Sciences:
Committee on Tenure (2016 – 2019);
Committee on Appeals (2006 – 2011);
Interdisciplinary Committee on Evolutionary Processes (2005 – 2011);
Dean's ad-hoc committees (most years);
[Integrated Science Program](#) Committee (2001 –).
- 2001 – Northwestern University, Department of Physics and Astronomy:
Director of Graduate Studies for Astronomy PhD Program (2016 –);
Faculty Search Committees (member 2002 – 03, 2015 – 16; chair 2008 – 09, 2016 – 17);
Executive Committee member (2010 –);
Director of Graduate Studies (2006 – 2008);
Promotion Committees (2007 – 08; 2008 – 09; 2014 – 15);

Graduate Admissions (2006 – 07; 2009 – 10; 2014 – 15; 2015 – 16);
 Awards and Honors Committee (2005 – 09; chair 2014 – 15);
 Long-Term Planning Committee (member 2004 – 05; chair 2005 – 06);
[Heilborn Lectures](#) Committee (2003 – 2005);
 Colloquium Committee (2004 – 06; 2010 – 12);
 Graduate Curriculum and Advising Committee (member 2001 – 2003; chair 2006 – 2008);
 Undergraduate Program Reform Committee (2002 – 2003);
 IGERT Nonlinear Dynamics Program Executive Committee (2002 – 2003);
 Graduate Program Reform Committee (2001 – 2002);

2001 Joint NSF/NASA [Task Force on Gravitational Wave Computation](#) (Chair: Saul Teukolsky).

1986 – 1991 MIT, Department of Physics:
 Astrophysics Colloquium Chair (1995 – 98);
 Graduate Admissions (1997, 1999);
 Astrophysics Web Site Administrator (1996 – 2001);
 Physics Theory Retreat Committee (1999 – 2001);
 CSR Space Planning Advisory Committee (1997 – 2001);
 Special Taskforce on Education Information (1997 – 98);
 two promotion committees.

- Proposal peer reviewer and review panel member (NASA, NSF, NSERC, PPARC).
- Peer reviewer for The Astrophysical Journal, Astronomy & Astrophysics, Icarus, Monthly Notices of the Royal Astronomical Society, Nature, Physical Review D, Physical Review Letters, Science.

CONFERENCE ORGANIZATION

- Aspen Winter Conference [Formation and Dynamical Evolution of Exoplanets](#) (Aspen, CO, March 2017; main organizer).
- [Fellows at the Frontiers](#) 2016 (Evanston, IL, August 2016; SOC Chair).
- [Binary Stars in Cambridge](#) 2016 (Cambridge, United Kingdom, July 2016; SOC member).
- International Conference on ['Extreme Solar Systems III'](#) (Waikoloa, Hawaii, November 2015; SOC co-chair with M. Mayor).
- MODEST-14 Conference on ['The dance of stars: dense stellar systems from infant to old'](#) (Physikzentrum Bad Honnef, Germany, June 2014, SOC member).
- International Conference on ['Extreme Solar Systems II'](#) (Jackson Hole, WY, September 2011; SOC co-chair with G. Marcy).
- Special Joint DAP/DNS Session on 'Neutron Stars and the Dense Matter Equation of State' at 2011 APS April Meeting (Anaheim, CA; co-organizer and co-chair with C. Horowitz).
- International Conference on 'The Evolution of Interacting Binaries' (Mykonos, Greece, June 2010; SOC member), in honor of Ron Webbink.
- [Aspen Winter Conference](#) on 'Formation and Evolution of Black Holes' ([Aspen Center for Physics](#), Feb 2010; main organizer).
- KITP Program on ['Formation and Evolution of Globular Clusters'](#), Coordinator (with A. Sills, E. Vesperini, & S. Zepf), UC Santa Barbara, January - April, 2009.
- Aspen Summer Program on ['Characteristics and Habitability of Super Earths'](#), Organizer (with E. Ford, L. Kaltenegger, & S. Seager), Aspen Center for Physics, August 2008.
- IAU Symposium 246 on ['Dynamical Evolution of Dense Stellar Systems'](#) (Capri, Italy, September 2007; SOC Member).
- International Conference on ['40 Years of Pulsars'](#) (Montreal, Canada, August 2007; SOC Member), celebrating the 40th anniversary of the discovery of the first radio pulsar by Bell Burnell and Hewish.
- International Conference on ['Extreme Solar Systems'](#) (Santorini, Greece, June 2007; SOC co-chair and proceedings co-editor), in honor of [Alex Wolszczan](#).
- 'Symposium on Relativity and Astrophysics' (Cornell University, Ithaca, New York, June 2007; SOC Member), in honor of [Saul Teukolsky](#).
- Pale Blue Dot III (Adler Planetarium, Chicago, September 2006; SOC member, LOC member).
- IAU General Assembly Joint Discussion on 'Compact Objects in Dense Star Clusters' (Prague, Czech Republic, August 2006; SOC co-chair and proceedings editor).
- [MODEST-6](#) Conference on 'Modeling Dense Stellar Systems' (Northwestern University, August 2005; main organizer).
- [Aspen Winter Conference](#) on 'Planet Formation and Detection' ([Aspen Center for Physics](#), Feb 2005; co-organizer).
- [Aspen Winter Conference](#) on 'Binary Radio Pulsars' ([Aspen Center for Physics](#), Jan 2004; co-organizer).
- Co-organized 3 workshops for the NSF Center for Gravitational Wave Physics (at PSU) on 'Making Waves with Intermediate-Mass Black Holes' (May 2004; SOC member);
 'Gravitational Wave Phenomenology' (Nov 2003; SOC member); and
 'Source Simulation and Gravitational Wave Data Analysis' (Oct 2002; SOC member).
- [KITP Conference](#) on 'Globular Clusters: Formation, Evolution and the Role of Compact Objects' (Santa Barbara, Jan 2003; coordinator).
- [Conference on 'Radio Pulsars'](#) (Crete, Aug 2002; SOC member), in honor of [Andrew Lyne](#), [Dick Manchester](#) and [Joe Taylor](#).
- Aspen Center for Physics Programs on 'Physical Applications of Radio Pulsar Timing' (June 1998, main organizer) and 'Compact Objects in Dense Star Clusters' (June 2001; co-organizer).
- Colloquium on 'Stellar Collisions, Mergers, and Their Consequences' (June 2000; American Museum of Natural History, New York, SOC member).

PROFESSIONAL ORGANIZATIONS

- [American Association for the Advancement of Science](#) (Member).
- [American Astronomical Society](#) (Member).
- [American Physical Society](#) (Fellow).
- [International Astronomical Union](#) (Member).

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