

Composition of the current research team

Dr. Atakan Gurkan (Marie Curie PostDoc until Aug. 2008)
project: The evolution of dense stellar clusters

Dr. Alessia Gualandris (NWO PostDoc until Jan. 2007)
project: The origin of hypervelocity stars

Dr. Stefan Harfst (NWO PostDoc July 2007 until July 2010)
project: Multi-scale and multi physics N -body calculations of the Dutch Dynamic GRAPE Grid.

Evghenii Gaburov (NWO PhD student until Sept 2008, UVA)
project: Understanding the physics of stellar collisions
Co-promotor Onno Pols (UU)

Evert Glebbeek (NWO PhD student until Sept 2008, UU)
project: Evolving stellar collision products
Co-promotor Onno Pols (UU)

Derek Groen (NWO PhD student until Oct 2010, UVA)
project: Setting up the Dutch Dynamic GRAPE Grid
Promotor: P. Sloot (UvA)

Nicolas Faber (Duke of Luxembourg PhD until Oct 2009, UVA)
project: Characterizing the chaoticity in self gravitating N -body systems.
Co-promotores: Ch. Boily (U. Strasbourg)

Bert Bastijns (ESO funded PhD student until Oct 2012, UVA)
Collaborators: prof. B. Schulds (ESA)

Hui-Chen Chen (Taiwanese Science Foundation funded PhD student until Oct 2009)
project: How did the Arches cluster form.

Floris van Deuveren (MSc student until Oct 2007)
project: Characterizing the radiation field of the S-stars

Peter Geldof (MSc student until Oct 2007)
project: Running High precision N -body models on graphical processing units. Collaborators: R. Belleman (UvA)

Previous PostDocs, PhD students and MSc students

Dr. Michael Sipior (PostDoc 2002-2005)

Dr. Piero Spinnato (PhD September 1999 UVA) promotor: P. Sloot

Dr. Mark Gieles (PhD October 2006, UU) Promotor: H. Lamers (UU),
Co-promotor: S. Portegies Zwart

Dr. Thijs Kouwenhoven (PhD September 2006, UVA) promotores: L. Kaper, E.P.J. van den Heuvel, Co-promotores: A. Brown, S. Portegies Zwart

Dr. Alessia Gualandris (PhD September 2006, UVA) promotores: E.P.J. van den Heuvel and P. Sloot, Co-promotor: S. Portegies Zwart

Chris Joshi (PhD April 2004 MIT) promotor: F. Rasio

David Stibbe (MSc 2006 UVA)

Jelle van den Berk (MSc 2005 UVA)

Jort Gemmeke (MSc 2005 UVA)

Ramon Brassler (MSc 1999 UVA) in collaboration with prof. H. Hernichs (UvA)

Cody Nave (MSc 2001 MIT) in collaboration with dr. F. Rasio (Northwestern U)

Dedicated Supercomputer for high precision gravitational simulations: MoDeStA

MoDeStA is a dedicated parallel computer platform for **MO**deling **DE**nse **ST**ellar systems in **Am**sterdam. The machine consists of 4 dedicated GRAPE-6A/4 modules, 2 GRAPE-6Af and 1 GRAPE-6A. The machines are interconnected with an Infiniband low latency Ethernet. Two of the machines (the two GRAPE-6Af platforms) are connected via a 30Gbit/s dedicated Ethernet connection to two identical machines at the University of Tokyo (Japan). The sustained speed of MoDeStA is about 1.2 TFLOPs, which at the moment of inauguration brought the machine at number 42 of the top 500 list of fastest computers. In 2007 we expect to upgrade the MoDeStA with a dozen GRAPE-DR special purpose computers to form a large production platform for distributed gravitational N -body simulations.

Lectures, courses and organized events

Summer school *the general N-body problem*, Split, August 2007

IAU colloquium *the evolution of small N systems*, Capri, September 2007.

SOC IAU General Assembly Joined Discussion 14 *Modeling Dense Stellar Systems*, [Prague, Czech Republic], August 2007

SOC Mass loss from stars and the evolution of stellar clusters May 29 - June 1, 2006 [Lunteren, The Netherlands]

Organizer Workshop, MODEST-6d, Amsterdam, 21 March – 15 April 2006

Organizer Summer school *Modeling Dense Stellar Systems* (MODEST-5), Amsterdam, 24-30 July 2005

Organizer Workshop, MODEST-4b, Amsterdam, 7-8 June 2005

Organizer Workshop, MODEST-2, Amsterdam, 15-18 December 2003

SOC Formation and evolution of massive young star clusters 17-21 November 2003 [Cancun, Mexico]

SPC Massive stars in interacting binaries 16-21 August 2004 [Montreal, Quebec]

2002, SOC Galactic & stellar dynamics, Jenam Prague In: Boily, C.M., Patsis, P., Portegies Zwart, S., Spurzem, R., Theis, C.(eds.): Galactic & stellar dynamics. Proc. Workshop at JENAM-2002 Conf., Porto, 3-6 September 2002; EAS Publ. Ser. 10, EDP Sciences, Les Ulis, 95-100 (2003)

Jenam, 7th European and 65th Annual Czech Astronomical Society Conference, 9 - 12 September 1998 [Prague, Czech Republic]

MSc level lecture course *Distributed stochastic simulations*, Amsterdam, 2006/2007 [6 ECTS]

MSc level lecture course *Stochastic simulations*, Amsterdam, 2006/7 [6 ECTS]

MSc level lecture course *Stochastic simulations*, Amsterdam, 2004/5 [6 ECTS]

MSc IAC lecture course, *computational gas- and stellar dynamics* Utrecht, 2005/6 (together with Vincent Icke) [6 ECTS]

MSc lecturer course, *Stars with neighbors; the evolution of binary systems*, Heidelberg, 1999/2000 [12 ECTS]

Summer school, Computational astrophysics, Como 1999

HOVO, Nijmegen, 2004, 2005 and 2006 (together with J. Kuijper, P. Grooten & G. Nelemans)

Relevant web addresses

Personal homepage: <http://staff.science.uva.nl/~spz/>

MODEST web page: <http://www.manybody.org/modest/>

MoDeStA homepage: <http://modesta.science.uva.nl/>

Binary evolution visualization engine: <http://staff.science.uva.nl/~spz/act/roche/roche.html>

Starlab homepage: <http://www.ids.ias.edu/~starlab/index.html>

MUSE developers page: <http://london.science.uva.nl:8000/muse>

McScatter interactive 3-body scattering engine: <http://manybody.org/manybody/McScatter.html>

Working group #5: <http://www.manybody.org/modest/WG/wg5.html>

interactive binary evolution engine: http://www.manybody.org/cgi-bin/starlab/binary_demo.pl

ESF ASTROSIM: http://www.esf.org/esf_article.php?language=0&article=614&domain=1&activity=1

Profilewerkstuk: <http://www2.werkstuknetwerk.nl/uva/science/scuva/252/thema.html>

Popular article: <http://www.natuurkunde.nl/artikelen/view.do?supportId=190742>