

**Contact**

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Date of birth: 25th March 1979  
Place of birth: Greenock, Scotland  
Citizenship: British

**Employment**

Feb 2012 - Present	Self-funded fellowship from the DFG (Priority Program 1573) Universität Heidelberg
Jun 2006 - Jan 2012	PDRA Universität Heidelberg
Mar 2006 - May 2006	PDRA Astrophysikalisches Institut Potsdam
Jan 2005 - Feb 2006	UKAFF Fellowship University of St Andrews

**Education**

Sep 2001 - Jun 2005	University of St Andrews, UK PhD in Astrophysics "The Onset of Gravitational Collapse in Molecular Clouds" Supervisor - Prof. Ian A. Bonnell Awarded 22nd June 2005
Sep 1997 - May 2001	University of St Andrews, UK MSci (upper 2nd class) in Astrophysics: awarded July 2001

**Successful grant applications**

05/2011	PI on the proposal "The formation of prestellar cores in the ISM", part of the Schwerpunktprogramme "The Physics of the ISM" (1573), funded by the Deutsche Forschungsgemeinschaft
11/2008	Co-I on proposal to Landesstiftung Baden-Württemberg to establish a new research group on Primordial Star Formation
09/2008	Co-I on Heidelberg University FRONTIER proposal "The First Star Cluster"

## Teaching experience

### Lecturing

29th Jul - Aug 2nd 2013	Lecturer at the HiPACC (High Performance Astro-Computing Center) School on "Star and Planet Formation", Santa Cruz.
15th Nov 2012	Undergraduate Lecture on "Star and Brown Dwarf Formation", a feature lecture for the course "Extra Solar Planets and Brown Dwarfs".
Sep 2012 - Dec 2012	Graduate lecture course on "The Dark Ages of the Universe"
7th Apr 2008	Introductory lecture on Star Formation

### Student Supervision

Apr 2013 - Present	Primary supervisor Philipp Hottinger's Bachelor's project on "Can we use CO to trace the energy balance of GMCs?"
Oct 2012 - Present	Primary supervisor for Camilo Penaloza's Masters project "CO (2-1) as a tracer of star-forming gas"
Oct 2012 - Present	Primary supervisor for Clio Bertelli Motta's Masters project "Does the IMF vary under starburst conditions?"
Oct 2012 - Present	Primary supervisor for Tilman Hartwig's Masters project "Improving H <sub>2</sub> line-cooling in Pop III star formation simulations"
Apr 2010 - Present	Co-supervisor for Mei Sasaki's PhD "Structure and star formation in the early universe"
Jun 2010 - Present	Co-supervisor for Jayanta Dutta's PhD "Unanswered questions in Pop III star formation"
May 2009 - Feb 2013	Co-supervisor of Gustavo Dopcke's PhD "The Pop III to Pop II star formation transition"
Jun 2008 - Feb 2012	Co-supervisor of Florian Bürzle's PhD "Magnetic fields in Star formation with SPH"
Jan 2008 - Jan 2009	Primary supervisor for Julien Fieger's Diplom "The fragmentation of proto-stellar discs"

### Seminar Series

Apr 2013 - July 2013	Co-chair of the IMPRS seminar (seminar series of the graduate astrophysics school)
Sep 2006 - Sep 2008	Colloquium Chair at the Institut für Theoretische Astrophysik

### Tutoring and lab demonstration

Sep 2011 - Dec 2011	Tutor for Theoretical Astrophysics course
Oct 2001 - Dec 2004	Second year astrophysics lab demonstrating
Oct 2001 - Dec 2004	Second year astrophysics tutorials
Oct 2001 - Dec 2004	Junior Honours lab demonstrating (F90 Programming Course/Computational Astrophysics)
Oct 2001 - Dec 2001	First year Physical Universe Tutorials (Astronomy for non-mathematicians)
Oct 2001 - Dec 2001	One-to-one tutorials for 1st year physics student
Oct 2001 - Dec 2001	First year observing evenings at the University of St Andrews Observatory

## Recent Talks (last 2 years)

- **The role of molecules in star formation**  
Invited Colloquium, Hamburg University (Sternwarte), 3rd April 2013.
- **A review of Brown Dwarf formation scenarios: the success and failure of the current models.**  
Invited review at "50 Years of Brown Dwarfs", Ringberg, Germany, 21st to 24th October, 2012.
- **The IMF of Pop III stars**  
Invited talk at "The low-metallicity ISM", Göttingen, Germany, 8th - 12th October, 2012.
- **The role of molecules in star formation**  
Contributed talk at "Galactic Scale Star Formation", Heidelberg, Germany, 30th July to 3rd August, 2012.
- **Why does primordial gas fragment?**  
Invited talk at "First Stars IV", Kyoto, Japan, 21st - 25th, May, 2012.
- **Is molecular gas necessary for star formation?**  
Contributed talk at the joint UK and Germany National Astronomy Meeting, Manchester, UK, April 27th - 30th, 2012.
- **TreeCol: how to cheat at radiative transfer**  
Contributed talk at the ITA Colloquium, Heidelberg, Germany, March 12th, 2012.
- **TreeCol: a novel approach to ray-tracing in astrophysical fluid codes**  
Invited talk at the FLASH workshop, Sternwarte Hamburg, Germany, February 15th - 6th, 2012.
- **A review of brown dwarf formation mechanisms**  
Invited talk at the annual meeting of the Astronomische Gesellschaft, Heidelberg, Germany, September 19th - 23rd, 2011.
- **The formation and fragmentation of Pop III protostellar discs**  
Contributed talk at the annual meeting of the Astronomische Gesellschaft, Heidelberg, Germany, September 19th - 23rd, 2011.
- **The formation of low-mass Pop III stars**  
Contributed talk at "Young and Bright", Potsdam, Germany, September 11th - 14th, 2011.
- **The formation of clumps and stars in GMCs**  
Contributed talk at "The origin of the IMF", Tenerife, October 18th - 22nd, 2010.
- **The IMF: from primordial to present-day star formation**  
Invited talk at the Galaxy formation Seminar, East Lansing, October 14th, 2010
- **The formation of brown dwarfs in clusters**  
Invited talk at the Brown dwarf seminar, Star and planet formation group, MPIA, Heidelberg, 26th May, 2010.