

# CURRICULUM VITAE

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## EMPLOYMENT

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Jan. 2016 – Royal Society University Research Fellow (proleptic Lecturer) at the JBCA, University of Manchester  
Jan. 2015 – Dec. 2015 Royal Society University Research Fellow at the IoA, Cambridge University  
Oct. 2012 – Dec. 2014 Associate Research Scientist at Johns Hopkins University  
Sept. 2011 – Sept. 2012 Senior Research Associate at the Canadian Institute for Theoretical Astrophysics  
Oct. 2008 – Aug. 2011 Postdoctoral Researcher at the Canadian Institute for Theoretical Astrophysics  
Sept. 2005 – Sept. 2008 Postdoctoral Researcher at the Max-Planck-Institut für Astrophysik  
March 2005 – Aug. 2005 Research Fellowship at the Max-Planck-Institut für Astrophysik

## EDUCATION

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Oct. 2001 – March 2005 Ph. D. in Astrophysics at the Ludwig-Maximilians-Universität in Munich  
Ph. D. institution: Max-Planck-Institut für Astrophysik  
Title: *Spectral Distortions of the Cosmic Microwave Background*  
Supervisor: Prof. Rashid Sunyaev  
Ph. D. defense: *July 2005*  
Oct. 2001 – Oct. 2004 Student of the International Max-Planck Research School on Astrophysics (IMPRS)  
[<http://www.imprs-astro.mpg.de>]  
Oct. 2000 – July 2001 Diploma in Physics (equivalent to M.Sc.) at the Universitäts-Sternwarte Göttingen  
Title: *Contributions of the internal motion of the intracluster medium to the Sunyaev-Zeldovich Effect* (in German)  
Supervisor: Prof. Karl Mannheim  
Thesis submission: *May 2001*  
Oct. 1998 – July 2001 Undergrad in physics at the Georg-August University of Göttingen  
Oct. 1996 – Sept. 1998 Undergrad in physics at the Technical University of Hannover

## RESEARCH INTERESTS

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- *Cosmology*: spectral distortions of the CMB; cosmological recombination; early-universe physics, cosmological parameter estimation; Sunyaev-Zeldovich effect; 21 cm cosmology
  - *Atomic physics*: two-photon and Raman processes; hydrogen and helium recombination spectra; collisional processes in astrophysical plasmas
  - *Radiative transfer*: Lyman- $\alpha$  escape in the early Universe; line feedback; line scattering and partial frequency redistribution; electron scattering
  - *High energy physics*: energy transfer to the IGM by annihilating dark matter and decaying particles; variation of fundamental constants; accretion onto compact objects;
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## TEACHING EXPERIENCE

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- Invited Lecturer at the Ecole de Physique (3 hours), Les Houches, Switzerland, April 2016
- Invited Lecturer at the ISAPP School 2015 (1.5 hours), Paris, France, June 2015
- CUSO Lecturer 2014 (14 hours), Geneva, Switzerland, Oct 16 - Nov 6, 2014
- Invited Lecturer at the Gif School 2014 (1.5 hours), Paris, France, Sept 8 - 12, 2014
- Invited Lecturer at the School on Cosmology Tools (3 hours), Madrid, Spain, Nov 12 - 15, 2013
- Invited Lecturer at KEK Particle Phenomenology (3 hours), Tsukuba, Japan, Sept 30 - Oct 3, 2013
- Invited Lecturer at the 100th Les Houches school on Post-Planck Cosmology, July 8 - Aug 2, 2013

## ACADEMIC SERVICES

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- *Leader* of the CMB spectral distortion working group in the *PRISM* and *COrE+* collaboration
- *Panel activities* for the NASA Astrophysics Theory Program and the European Research Council
- *Meeting organization* (most recent)
  - Scientific organizer, ‘Global 21cm and CMB Distortions’, Bangalore, India, July 11-16, 2016
  - Scientific organizer, ‘Dark Ages & White Nights’, St Petersburg, Russia, June 20-25, 2016
  - Scientific organizer of the Workshop on ‘CMB Distortions’, Chicago, USA, May 18-29, 2015
  - Scientific organizer of a special session, 223rd AAS meeting, Washington, USA, Jan 5-9, 2014
  - Scientific organizer of the Workshop on ‘Spectral Polarimetry’, Paris, France, Dec 2012
  - Scientific organizer of the Workshop on ‘21-cm Cosmology: Advanced Data Analysis’, Toronto, Canada, June 2011
  - Scientific organizer of the Recombination Workshop held in Orsay/Paris, France, July 2009
- *Institutional activities*
  - Organizer of the cosmology discussion group at JHU, 2012 – 2014
  - Organizer of the cosmology discussion group at CITA, 2009 – 2012
  - Member of the Postdoc selection committee at CITA, 2010
  - Member of the Visitor/Seminar/Hosting committee at CITA, 2009 – 2012
- *Referee* for MNRAS, A&A, Phys. Rev. D & Let., JCAP, JHEP, EJP, Astronomy Letters

## SOFTWARE DEVELOPMENT

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- Author of COSMOSPEC ([www.Chluba.de/CosmoSpec](http://www.Chluba.de/CosmoSpec))
- Author of COSMOREC and RECFAST++ ([www.Chluba.de/CosmoRec](http://www.Chluba.de/CosmoRec))
- Author of COSMOTHERM ([www.Chluba.de/CosmoTherm](http://www.Chluba.de/CosmoTherm))
- Author of SZPACK ([www.Chluba.de/SZpack](http://www.Chluba.de/SZpack))

## AWARDS

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- Recipient of the *Beatrice D. Tremaine* award 2010
  - *Berliner-Ungewitter Diploma-Prize* of the Faculty of Physics in Göttingen, Summer 2001
  - *Book Stipend* of the AVENTIS (former HOECHST AG) Studienstiftung, 1998-1999
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