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# Hans Moritz Günther - CV

## Positions

| | |
|---|---|
| Jan. 2015 - now | Research Scientist at MIT |
| Jan. 2010 - Dec. 2014 | Post-Doc at Harvard-Smithonian Center for Astrophysics, Cambridge, MA, USA (supervisor: S. Wolk) |
| Mar. 2009 - Dec. 2009 | Hamburger Sternwarte, Hamburg, Germany (supervisor: J. H. M. M. Schmitt) |

## Education

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|---|---|
| Feb. 2006-Mar. 2009 | **Doctoral thesis work** at the Hamburger Sternwarte, Hamburg, Germany (advisor: J. H. M. M. Schmitt; grade: "sehr gut" (very good)) |
| Feb. to Apr. 2008 | **Visiting researcher** at the University of Virginia, Charlottesville |
| Nov. 2005 | **Diploma** in Physics (grade: "ausgezeichnet" (excellent)) |
| Nov. 2004- Nov. 2005 | **Diploma thesis work** at the Hamburger Sternwarte (topic: Structure and X-ray emission of the accretion shock in classical T Tauri stars) |
| Jun. to Aug. 2004 | **Summer student** at CERN, Geneva, Switzerland (topic: Verification of fission processes in the Geant4 software) |
| 2000-2005 | **Undergraduate student** at Universität Hamburg, Germany (Major: Physics, Minor: Astronomy) |
| Aug. 2002 to June 2003 | **Undergraduate student** at Imperial College London, United Kingdom |

## Honors and Awards

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|---|---|
| 2010 | Promotionspreis der Astronomischen Gesellschaft (Prize of the German Astronomical Society for PhD) |
| 2007-Mar. 2009 | Scholarship of the Studienstiftung des deutschen Volkes (German National Academic Foundation) for post-graduates, providing networking, travel expenses and research abroad (Virignia) |
| 2005 | Otto-Stern award of the Department of Physics for best Diploma in term 2005/2006 |
| 2001-2005 | Scholarship of the Studienstiftung des deutschen Volkes (German National Academic Foundation) for undergraduates, 4-year stipend |

## Supervision experience

summer student (3 months): Stars in the Chandra Deep Field South
PhD student (2010 - 2014; advisor: Prof. Schmitt): NIR line emission in CTTS
summer student (3 months): Stellar X-ray cycles
diploma student (1 yr): TW Hya in X-rays
summer student (3 months): FUSE data
undergraduate project (90 h): Reducing ORPHEUS data

## Teaching and public outreach

Taught 50 % of a CfA internal python course in 2012 (python4astronomers.github.com)
Development of teaching material for pupils aged 13-19
Teaching for school classes on the observatory (age 8-19, once per week since 2004)
Concept for a self-guided tour of the observatory
contribution to public nights (tours and children's programm)

## Invited and contributed talks in the last 4 years

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|---|---|
| Oct 2015 | ESTEC, Exchanging mass, momentum, and ideas: Connecting accretion and outflows in Young stellar objects: contributed talk |
| Jan 2015 | CfA, Cambridge: HEAD lunch talk |
| Jan 2015 | AAS meeting: Contributed talk |
| Nov 2014 | 15 years of Chandra: Contributed talk |
| Apr 2014 | Colgate University: Seminar |
| Feb 2014 | Yale University : Seminar |
| Jan 2015 | AAS meeting: Contributed talk |
| Jan 2013 | Leibniz Institute for Astrophysics Potsdam (AIP): Seminar |
| Nov 2012 | Brown University, Providence, USA: Seminar |
| Jun 2012 | Cool Stars 17, Barcelona, Spain: Invited review |
| Feb 2012 | NRAO, Charlottesville, USA: Lunch talk |
| Jan 2012 | MPIA Heidelberg, Germany: Seminar |

## Community service

Member of the Athena SWG 3.2
CfA Post-Doc council (organize one day symposium and social events, represent Post-Docs on the institutional level)
*XMM-Newton* OTAC
referee A&A, ApJ, MNRAS, Science

## Successful observing proposals as PI

(This list includes only space telescopes and major ground-based facilities with mirror diameters > 2 m.)

| | |
|---|---|
| *Chandra* | What are the dust properties around young stars?<br>50 ks, TOO, not yet triggered |
| *Chandra/NuStar* | How hot can flares from young stars be?<br>90 ks, simultaneous, to be scheduled |
| *XMM-Newton* | What's behind the Elephant's Trunk?<br>80 ks, not yet scheduled |
| *Gemini* | Proto-stellar jets in the making<br>4 * 3h over two years, 2014-2015 |
| *Chandra* | Can X-rays clear a circumstellar disk in 2 years?<br>10 ks, 2014, ObsID 15713 |
| *Spitzer* | Variability in the rho Oph star forming region<br>2.7 h, fall 2013 |
| *XMM-Newton* | Interactions of flares, accretion and wind<br>100 ks, Feb. 2012 |
| *Chandra* | X-ray emission from beta Pic<br>20 ks, 2011, ObsID 13626 |
| *HST* | Jet launching and evolution in the weakly magnetized Herbig Ae star HD 163296<br>2 orbits, ID 12186, September 2011 |
| *Chandra* | Hot wind and accretion in TW Hya<br>20 ks, April 2011, ObsID 12250 |
| *HST* | Winds, accretion and activity: Deciphering the FUV lines in TW Hya<br>10 orbits, April 2011, ID 12315 |
| *Chandra* | Can Weakly Magnetized Herbig Ae Stars Drive Fast X-ray Jets?<br>50 ks, 2011, ObsID 12359 |
| *VLT/XSHOOTER* | A new diagnostic for circumstellar dust<br>1.5 nights, visitor mode, May 2010 |
| *XMM-Newton* | A pilot study to Doppler-image an accretion spot<br>18 ks, Aug 2010, ObsID 0655760101 |
| *Calar Alto* | Spatially resolving the evolution of young stellar jets<br>2 nights, service mode, autumn 2009 |
| *Chandra* | The test of IM Lup: When does accretion cease?<br>150 ks, 2009, ObsID 9938 |
| *XMM-Newton* | Solving the mystery of the X-ray emission from Herbig Ae/Be stars<br>120 ks, 2007, ObsID 0502370201 and 0502370301 |

## Successful funding proposals as PI

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|---|---|
| *CXO* | Challenging accretion models with an HETG observation of T Tau<br>26.699 $, 2015-2017 |
| *CXO* | X-rays reveal a new, hot jet component: The case of Sz 102<br>22.492 $, 2016-2019 |
| *CXO* | What are the dust properties around young stars?<br>42.284 $, 2016-2019 |
| *CXO* | How hot can flares from young stars be?<br>57.142 $, 2016-2019 |
| *CXO* | The dim state of RW Aur<br>17.818 $, 2015-2018 |
| *STScI* | The nature of stationary components in jets from young stellar objects<br>33.000 $, 2014-2016 |
| *CXO* | Can X-rays clear a circumstellar disk in 2 years?<br>ca. 25.000 $, 2014-2017 |
| *SSC* | Variability in the rho Oph star forming region<br>5.000 $, 2014-2015 |
| *STScI* | Stationary components in the DG Tau jet: A new challenge for jet models?<br>24.823 $, 2013-2014 |
| *CXO* | X-ray emission from beta Pic<br>24.981 $, 2011-2012 |
| *STSci* | Winds, Accretion and Activity: Deciphering the FUV lines in TW Hya<br>75.857 $, 2011-2012 |
| *STScI* | Jet Launching and Evolution in the Weakly Magnetized Herbig Ae Star HD 163296<br>29.286 $, 2011-2012 |
| *CXO* | Can Weakly Magnetized Herbig as Stars Drive Fast X-ray Jets?<br>32.614 $, 2011-2012 |
| *STSci* | The Shocking Truth about DG Tau's Jet<br>34.617 $, 2011-2012 |
| *CXO* | What is the Nature of HH 2's X-ray Emissions?<br>13.599 $, 2011-2012 |
| *NASA ADP* | Stellar X-ray Emission from Magnetically Funneled Shocks<br>88.202 $, 2011-2012 |

## Extracurricular activities

Collaboration with the department of history at the University of Hamburg (cp. list of publications)
group leader in a disaster control group for the German red cross (2002-2009)
Emergency medical service training