

CURRICULUM VITAE

Ralf Kotulla

Center for Gravitation, Cosmology and Astrophysics
Department of Physics
University of Wisconsin - Milwaukee
1900 E Kenwood Blvd
Milwaukee, WI 53211

Phone: +1 (414) 229-3655
E-Mail: kotulla@uwm.edu
Web: <http://www.galev.org>
<http://members.galev.org/rkotulla>

EDUCATION

06/2001	Abitur (Grammar school exams, Germany)
04/2002 – 09/2003	Technische Universität Darmstadt, Germany
10/2003 – 11/2006	Georg-August Universität Göttingen, Germany
09/2004 – 02/2005	Rijksuniversiteit Groningen, The Netherlands (semester abroad)
11/2006	Diploma in Physics , grade 1.2 on scale from 1.0 (best) to 5.0 Project: Spectroscopy of X-Ray selected Active Galactic Nuclei
07/2007 – 09/2010	PhD-student University of Hertfordshire, UK
01/2010 – 05/2010	Research Intern at University of Wisconsin, Madison collaborating with Prof. Jay Gallagher
09/2010	Ph.D. in Astrophysics Thesis title: Galaxy evolution and the redshift desert Advisors: Prof. Fritze and Prof. Brinks

EMPLOYMENT

07/2001 – 03/2002	Basic military service
10/2003 – 11/2006	Student research assistant, University Göttingen
12/2006 – 06/2007	Scientific assistant, Göttingen University Observatory
07/2007 – 09/2010	PhD-student, University of Hertfordshire
01/2010 – 05/2010	Research Intern at University of Wisconsin - Madison
09/2010 – present	Post-doctoral researcher at University of Wisconsin-Milwaukee

AWARDS AND GRANTS

- Three grants from UW Madison for support of WIYN One Degree Imager Commissioning and Development of Data Reduction Capabilities: \$32,000 (2012/2013)
- Financial aid from organizers of ADASS 2013 conference: \$1500 (2013)
- Hubble Space Telescope Archival Research Theory Grant (PI Kotulla + 1 Co-I): \$111,047 (2012)
- Invited visitor to Kavli Institute for Astronomy and Astrophysics in Beijing (2012)
- travel grant from AAS and IAU to participate in the IAU General Assembly: \$2000 (2012)
- travel grant from IAU (participation in General Assembly, 2009)

AWARDS AND GRANTS (CONTINUED)

- travel grant from NASA/JPL (participation in workshop, 2008)
- travel grant from European Astronomical Society (conference participation, 2008)
- travel grant from the Astronomische Gesellschaft (conference participation, 2008)
- PhD research studentship from University of Hertfordshire, UK (07/2007 – 06/2010)
- German Research Foundation (DFG) observing/travel grants (2006 & 2007)
- Merit scholarship from Konrad Adenauer Stiftung (10/2003 – 12/2006)

TEACHING AND PUBLIC OUTREACH EXPERIENCE

Training received	University of Hertfordshire Generic Training for Researchers: Teaching for Research students
Teaching experience	Teaching Assistant, “Physics lab courses for minor subject students” Teaching Assistant, “Introduction to geophysics and astrophysics” Teaching Assistant, “Advanced lab courses in astrophysics” Creation of two practicals for third-year students: <ul style="list-style-type: none">• “Structural analysis of galaxies” and• “Crowded field photometry of star clusters” Supervision of student practicals at Göttingen Univ. Observatory Supervision of student practicals at Bayfordbury observatory Substitute lecturer for Astrophysics I (Astron 400) at UWM, 2012
Student supervision	Supervisor of two undergraduate research projects <ul style="list-style-type: none">• “Spectroscopy of active galactic nuclei” and• “Determination of the speed of light using variable stars” Co-Supervision of Oliver Hielscher, Master student at the Center for Astrophysics, Universität Heidelberg Co-Supervision of Vanessa Böhm, research intern at the Center for Astrophysics, Universität Heidelberg
Student mentoring	Markus Hartmann, Diploma student at Universität Göttingen (2006-2007) Project: The star cluster population of I Zwicky 18 Marie Aylin Type, Diploma student at Universität Göttingen (2006-2008) Project: Galaxy transformations in galaxy clusters Hagen Thilo Meyer, Ph.D. student at Universität Heidelberg (2007-2012) Project: The evolutionary history of dwarf galaxies in the Virgo cluster Paul Kotze, Ph.D. student at University of Cape Town (since 2007) Project: Galaxy transformation in the galaxy supercluster Abell 1437 GALEV-specific (theory, use and application) mentoring: Jenna Ryon, grad student at University of Wisconsin - Madison (ongoing) Alexander Hansson, Ph.D. student at Universität Heidelberg (2010-2012) Randa Asad, grad student at University of Cincinnati (2011-2012)

TEACHING AND PUBLIC OUTREACH EXPERIENCE (CONTINUED)

Public outreach	Poster exhibition at Göttingen University Observatory (2005 - 2006) Public observatory tours at Göttingen University Observatory (2006 - 2007) Guide and presenter at Bayfordbury University Observatory Open Nights (multiple occasions in 2008 - 2009) Instructor for Boy- and Girl scouts (ages 6-16) at Bayfordbury Observatory Instructor at several local UK schools for Moon Watch program as part of the International Year of Astronomy Universe in the Park (2010 - present): more than 25 talks followed by public stargazing in numerous Wisconsin State Parks
------------------------	---

CONFERENCES AND MEETINGS

- Annual Meeting of the Nobel laureates in Lindau (2005)
- 37th Saas-Fee Winter School on "The Origin of the Galaxy and the Local Group" (2007)
- ESO-Workshop on Star and Massive Star Cluster Formation, Garching (07/2007)
- Young Massive Star Clusters, Granada, Spain (09/2007): poster
- Annual Meeting of the "Astronomische Gesellschaft", Würzburg, Germany (2007): 2 posters
- International Space Science Institute (ISSI) Workshop on young and intermediate age star clusters, Bern, Switzerland (12/2007)
- National Astronomy Meeting 2008, Belfast, UK (04/2008): **talk**
- From Taurus to the Antennae, Sheffield, UK (04/2008): **talk**
- Joint European and National Astronomy Meeting 2008, Vienna (09/2008): **2 talks**, 2 posters
- Photometric Accuracy Testing Meeting, UCL London, UK (09/2008): **talk**
- Photometric Accuracy Testing Meeting at NASA/JPL, Pasadena, CA (12/2008): **talk**
- European Week of Astronomy and Space Science, Hatfield, UK (04/2009): 3 posters
- VIIth Marseille International Cosmology Conference: Harvesting the desert – The universe between $z = 1$ and 3, Marseille, France (06/2009): poster
- XVIIth IAU General Assembly, Rio de Janeiro, Brasil (08/2009): 3 posters
- AAS 215th meeting, Washington, DC (01/2010): **dissertation talk**
- AAS 217th meeting, Seattle, WA (01/2011): **talk**
- Surveys and Simulations, Heidelberg, Germany (08/2011): **2 talks**, poster
- Meeting at Monash University (Melbourne, Australia), Stellar Interiors and Nucleosynthesis group (1 week, March 2012)
- XVIIIth IAU General Assembly, Beijing, China (August 2012, 2 posters)
- Invited visitor to Kavli Institute for Astronomy and Astrophysics, Beijing, China (3 weeks in October 2012)
- AAS 222nd (summer) meeting, Indianapolis, IN (06/2013): multiple posters
- Astronomical Data Analysis Software & Systems, Waikoloa, Hawai'i (08/2013): poster

SEMINARS, COLLOQUIA, OTHER TALKS

- Guest at "Wisconsin Tonight" on local TV TMJ4 (2013, talk about Chelyabinsk meteor)
- Presentation to the Milwaukee Astronomical Society (03/2013)
- Lunch-talk Dept. of Astronomy, UW-Madison (03/2013 & 10/2013)
- Seminar at Kavli Institute for Astronomy and Astrophysics, Beijing (09/2013)
- Invited talk at Swinburne Institute of Technology, Melbourne, AU (03/2012)
- Seminar at Monash Center for Astrophysics, Melbourne, AU (03/2012)
- Colloquium at University of Wisconsin - Stevens Point (11/2010)
- Lunch-talk Dept. of Astronomy, University of Wisconsin, Madison (04/2010 & 09/2010)
- Lunch-talk Space Telescope Science Institute (08/2009)
- Lunch-talk UCO/Lick, Santa Cruz (10/2008)
- Lunch-talk Carnegie Observatories, Pasadena (10/2008)
- Colloquium at Center for Astrophysics (ZAH), Heidelberg (09/2008)
- Seminar at Astronomical Computing Institute (ARI), Heidelberg (08/2008)

FURTHER RELEVANT EXPERIENCE

Committees	2005-2007 council member Göttingen University Observatory (student representative)
Programming	C/C++, Python, Fortran scripting in Perl, IRAF/PyRAF, ESO-MIDAS, (IDL) programming for multi-processor computing clusters (MPI, Condor) development of an data reduction pipeline for Opt/NIR imaging Webserver administration, web-design in HTML and PHP Use and administration of SQL databases
Languages	German: native speaker – English: fluent – Dutch: basic

ASTRONOMICAL OBSERVING EXPERIENCE

Telescope time, PI	30 hours UKIRT/WFCAM (U/08A/20) 2 nights WIYN/WHIRC (October 2010)
Telescope time, Col	2 nights ESO 3.6 m NTT (079.B-0511) 24 nights WIYN 3.5m at KPNO (ODI, MiniMosaic, OPTIC, WHIRC, SparsePak) 3 nights Calar Alto 3.5m (Optical imaging) 12 nights WIYN 0.9m at KPNO (optical imaging) 28 nights SAAO 1.0 m Optical imaging 21 nights SAAO 1.4 m Infrared Survey Facility (IRSF): NIR imaging
Further observing experience	23 nights WIYN One Degree Imager Science Commissioning 2 nights on WHT, La Palma (Integral Field spectroscopy) 5 nights WIYN 0.9m at KPNO > 50 nights on Göttingen University Observatory 50 cm telescope

SYNERGISTIC ACTIVITIES

- Reviewer for The Astrophysical Journal, The Astronomical Journal, and Monthly Notices of the Royal Astronomical Society (2009 – present)
- Technical Reviewer for NASA (2013)
- Reviewer for the National Science Foundation (2014)
- Member of the WIYN One Degree Imager Commissioning working group, member of the ODI Pipeline Science team (2012 – present)
- Development of data reduction capabilities for WIYN One Degree Imager; code was first released 04/2013 at <http://members.galev.org/rkotulla/research/podi-pipeline/>; publication in the Astronomical Journal in preparation

PROFESSIONAL MEMBERSHIPS

- International Astronomical Union
- American Astronomical Society
- Deutsche Physikalische Gesellschaft (German Physical Society)
- Astronomische Gesellschaft (German Astronomical Society)

REFERENCES

- **Prof. Dr. John S Gallagher III** – long-term collaborator and mentor
Department of Astronomy, University of Wisconsin - Madison,
475 N Charter St, Madison, WI 53706
email: jsg@astro.wisc.edu
phone: +1 (608) 263 2456
- **Prof. Dr. Dawn Erb** – current post-doc advisor
Department of Physics, University of Wisconsin - Milwaukee,
1900 E Kenwood Blvd, Milwaukee, WI 53211
email: dawn@gravity.phys.uwm.edu
phone: +1 (414) 229 3654
- **Dr. Daniel Harbeck** – WIYN One Degree Imager Scientist
WIYN Observatory & National Optical Astronomical Observatory
950 N Cherry Ave, Tucson, AZ 85719
email: harbeck@wlyn.org
phone: +1 (520) 318 8217
- **Dr. Peter Anders** – former group member and long-term collaborator
National Astronomical Observatories
Chinese Academy of Sciences,
20A Datun Road, Chaoyang District, Beijing 100012, China
email: anders@bao.ac.cn

REFEREED PUBLICATIONS

16. **Kotulla, Ralf**: “A fully-integrated data reduction facility for the WIYN One Degree Imager” in preparation
15. Canning, Rebecca; Ryon, Jenna; Gallagher, John; **Kotulla, Ralf**; et al. “Filamentary Star Formation in NGC 1275”; MNRAS, submitted
14. **Kotulla, Ralf**; Erb, Dawn K.; Reddy, Naveen A.; Shapley, Alice E.; Steidel, Charles C.; Kornei, Katherine A.; Pettini, Max:
“Lyman- α and absorption lines in rest-frame ultraviolet spectra of star-forming galaxies at $z \sim 2-3$: Trends with physical parameters and their evolution with redshift”
submitted to Astrophysical Journal (2014)
13. Young, Michael D.; **Kotulla, Ralf**; Gopu, Arvind; Wilson, Liu: “Integrating the ODI-PPA science gateway with the QuickReduce pipeline for on-demand processing”; Proceedings of SPIE – Astronomical Telescopes + Instrumentation 9152, article 9152-14 (2014).
12. Anders, Peter; **Kotulla, Ralf**; de Grijs, Richard; Wicker, James:
“Stochastic stellar cluster IMFs: Models and impact on integrated cluster parameter determination”
Astrophysical Journal, 778, 138 – arXiv:1310.4936
11. David Kaplan, et al, incl. **Kotulla, Ralf**:
“Discovery of the Optical/Ultraviolet/Gamma-ray Counterpart to the Eclipsing Millisecond Pulsar J1816+4510”
Astrophysical Journal 753, 174 (2012) – arXiv:1205.3699
10. Bastian, N.; Adamo, A.; Gieles, M.; Lamers, H. J. G. L. M.; Larsen, S. S.; Silva-Villa, E.; Smith, L. J.; **Kotulla, R.**; Konstantopoulos, I. S.; Trancho, G.; Zackrisson, E.:
“Evidence for environmentally dependent cluster disruption in M83”
Monthly Notices of the Royal Astronomical Society Letters 417, 6 (2011) – arXiv:1106.2427
9. Hendrik Hildebrandt, et al, incl. **Kotulla, Ralf**:
“PHAT: Photo-z Accuracy Testing”
Astronomy & Astrophysics 523, 31 (2010) - arXiv:1008.0658
8. Lisker, T.; Janz, J.; Hensler, G.; Kim, S.; Rey, S.-C.; Weinmann, S.; Mastropietro, C.; Hielscher, O.; Paudel, S.; **Kotulla, R.**:
“The First Generation of Virgo Cluster Dwarf Elliptical Galaxies?”
Astrophysical Journal Letters 706, 124 (2010) – arXiv:0910.3209
7. Falkenberg, Marie Aylin; **Kotulla, Ralf**; Fritze, Uta:
“The role of E+A and post-starburst galaxies - I. Models and model results”
Monthly Notices of the Royal Astronomical Society 397, 1940 (2009) – arXiv:0901.1665
6. Falkenberg, M. A.; **Kotulla, R.**; Fritze, U.:
“The role of E+A and post-starburst galaxies - II. Spectral energy distributions and comparison with observations”
Monthly Notices of the Royal Astronomical Society 397, 1954 (2009) – arXiv:0905.0909
5. **Kotulla, Ralf**; Fritze, Uta; Weilbacher, Peter; Anders, Peter:
“GALEV evolutionary synthesis models - I. Code, input physics and web interface”
Monthly Notices of the Royal Astronomical Society 396, 462 (2009) – arXiv:0903.0378
4. **Kotulla, Ralf**; Fritze, Uta:
“Impact of subsolar metallicities on photometric redshifts”
Monthly Notices of the Royal Astronomical Society Letters 393, 55 (2009) – arXiv:0811.3217

3. **Kotulla, Ralf**; Fritze, Uta; Gallagher, John S., III:
“Rescuing the Initial Mass Function for Arp 78”
Astrophysical Journal Letters 688, 65 (2008) – arXiv:0810.1748
2. **Kotulla, Ralf**; Fritze, Uta; Anders, Peter:
“Young globular clusters in an old S0: clues to the formation history of NGC 4570”
Monthly Notices of the Royal Astronomical Society 387, 1149 (2008) – arXiv:0804.1257
1. W. Kollatschny, **Ralf Kotulla**, W. Pietsch, K. Bischoff:
“New active galactic nuclei detected in ROSAT All Sky Survey galaxies: II. The complete dataset”
Astronomy & Astrophysics 484, 897-915 (2008) – arXiv:0804.1917