

FELICIA KRAUSS

MULTIMESSENGER ASTROPHYSICS

During my postdoc at the University of Amsterdam, I have worked on multiwavelength and multimessenger aspects of black hole systems. I have published on the topics of IceCube neutrinos and blazar associations as well as X-ray observations of young AGN. I have further investigated multimessenger transient events for the next generation ESFRI facilities within the ASTERICS H2020 program.

CURRENT POSITION

07/2016–current Postdoctoral Researcher at API/GRAPPA at the University of Amsterdam, the Netherlands.

Advisors: David Berge, Sera Markoff.

EDUCATION

03/2013–06/2016 PhD in physics, thesis: “Extreme Environments: From supermassive black holes to supernovae” at Dr. Remeis Observatory/ECAP, FAU Erlangen-Nürnberg, Germany

Advisors: Joern Wilms, Matthias Kadler.
responsibilities included multiwavelength data analysis and broadband modeling, X-ray detector simulations, neutrino calculations, as well as teaching duties.

11/2015 Research stay at NASA/GSFC; host: R. Ojha, working on various TANAMI projects

11/2013 Research stay at NASA/GSFC; host: R. Ojha, working as a *Fermi*/LAT flare advocate

08/2010–03/2013 Master of Science in physics, thesis: “Multiwavelength Observations of TANAMI Sources” at Dr. Remeis-Observatory/ECAP, FAU Erlangen-Nürnberg, Germany

Advisors: Joern Wilms, Matthias Kadler.

10/2007–08/2010 Bachelor of Science in physics, thesis: “Swift Observations of TANAMI Counterparts” at Dr. Remeis-Observatory/ECAP, FAU Erlangen-Nürnberg, Germany

Advisors: Joern Wilms, Matthias Kadler.



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Google Scholar

SKILLS

Multiwavelength data analysis
X-ray, γ -ray and optical data

Astrophysical software
ISIS, HEASoft, XMM SAS, ftools

Coding: S-Lang, slxfig, \LaTeX

Coding: python, perl, shell, HTML

Coding: C, C++

Operating Systems: Unix

Microsoft, MacOS

🔧 SCIENTIFIC SERVICE

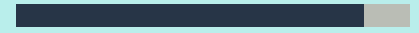
- 2018 Poster judge** for the PhD student poster competition at the 8th Fermi Symposium, Baltimore, MD, USA
- 2016–current Referee** for Astroparticle Physics, ApJ, AJ, Galaxies
- 2016–2017 Postdoc representative** of the API PhD/PD Council
- 2016–2017 Organizing workshop** on Transient Alert Mechanisms
- 2014–current Flare Advocate** for the *Fermi*-LAT collaboration: weekly shift, analyzing latest data and reporting active sources in ATeLs as well as organizing follow-up observations
- 2014–current Internal referee** for the *Fermi*-LAT collaboration
- 2014 Convener & LOC** of the PhD session of the annual meeting of the German Astronomical Society
- 2013–current Remeis *Swift* & *Fermi* data:** responsible for *Swift* and *Fermi* data archive at the Remeis cluster as well as the *Swift*/XRT, *Swift*/UVOT, and *Fermi*/LAT extraction scripts.

💬 OUTREACH

- 2018** Workshop on moon phases (Dutch): observing the lunar eclipse with the public and explaining the solar system
- 2018** Public lecture (45 minutes, Dutch): outreach talk about black holes, in the framework of the monthly stargazing events
- 2017** Participation in the 'Open Day' (Dutch): making arts and crafts related to research with young children and explaining research on pulsars
- 2017** Participation in Native Scientist Outreach Event (German/Dutch): building spectroscopes with Dutch children (ages 15-16), presenting complex concepts of current research
- 2017** Participation in Girl's Day (Dutch): explaining life as an astrophysicist to middle school girls
- 2015–2017** Participation in 'Letters to a Pre-Scientist' (English): Exchanging letters with a middle/high-school student from high-poverty schools
- 2015** Night of Science at ECAP (German), helping organize a city-wide outreach event, presenting experiments and research to the public
- 2013–current** Guided tours of the historic Dr. Remeis Observatory (German), and the Anton Pannekoek Institute (Dutch/English) including observing and a presentation.

🗣️ LANGUAGES

English



German (native)



Dutch



French (UNiCert II/B2 level)



📈 SKILLS

Presentations



Time management



Analytical thinking & problem solving



Teaching & supervising



🤝 COLLABORATIONS

CTA

Fermi-LAT

Swift

TANAMI

ADVISING

- 2016–2018** Co-supervision of Master’s projects at UvA: Stephen Skocpol (“ctools for CTA”), Maria Cosette Molijn (“prospects for CTA observations of Centaurus A”)
- 2016–current** Co-supervision of PhD students at UvA: Matteo Lucchini (“Physical modeling of BL Lac objects and study of M87”), and Dimitrios Kantzas (“Hadronic modeling of Cyg X-1”)
- 2017** Co-supervision of Bachelor’s project at UvA: Timothy Mans (“Deep *XMM* observations of PKS2155–304 from the EXTraS project”)
- 2016–2017** Co-supervision of Master’s project: Jean Damascène Mbarubucyeye (Mbarara University, Uganda; “Unidentified *Fermi*-LAT sources”)
- 2015–2016** Co-supervision of PhD students Roberto Angioni (MPIfR, “Broadband SEDs of radio galaxies and γ -ray quiet sources”); Michael Kreter (University of Würzburg, “Blazars as sources of ANTARES and IceCube neutrinos”)
- 2014–2015** Supervision of summer students: Kunal Deoskar (IIT Kharagpur, “3LAC sources as neutrino counterparts”); Alyssa McElroy (West Texas A&M, DAAD RISE program, “X-ray binaries in the host galaxy of Cen A”); Claire Baxter (University of Edinburgh, “2LAC sources as neutrino counterparts”); Bingjie Wang (University of Pittsburgh, DAAD RISE program, “Broadband observations of supermassive black holes”)
- 2014–2016** Co-supervision of Bachelor and Master’s projects at FAU: Christina Gräfe (“*Chandra* and *Suzaku* analysis of Centaurus A”); Christoph Bürkel (“Bayesian γ -ray light curve analysis of TANAMI sources”); Andrea Gokus (“Light curve cross-correlations of γ - and radio data of PKS0537–441”)
- 2014** Teaching LAT and *Swift* analysis to Dr. Pheneas Nkundabakura (Kigali Institute of Education, visiting postdoctoral scholar, “Studying unidentified *Fermi*-LAT sources”)
- 2013–2016** Supervision of Clara Deifel, high school student, CyberMentor project: Gamma-ray bursts with *Swift*-UVOT, project won first place in regional “Jugend forscht” competition and second place in the state-wide competition

TEACHING

- 2018** Invited lecture (School of Astroparticle physics, ECAP, Germany) about multimessenger astrophysics to PhD & Master’s students: “Multimessenger astrophysics”
- 2017** Seminar lecture (GRAPPA, UvA): giving a 2 hour lecture to Master’s students: “Gamma-ray astronomy”
- 2016** Invited series of 5 lectures about X-ray and γ -ray astronomy as well as leading 5 hands-on sessions at the School on High Energy Astrophysics and Spectroscopy in Kigali, Rwanda: “Introduction to multiwavelength astronomy”, “X-ray and optical astronomy”, “ γ -ray astronomy”, “On archival data”, “Constructing and modeling broadband SEDs”
- 2012** Teaching assistant for undergraduate course: “X-ray astronomy”: supervising integrated tutorials, and assisted in development of materials and with oral examinations
- 2011–2016** Lab instructor of undergraduate astronomy lab course: responsible for lab on CCD detectors, updating lab instructions, giving introductory lecture to students and evaluation of student reports
- 2011** Teaching assistant for undergraduate course: “Galaxies and cosmology”: assisted in development and evaluation of mock observation proposals and peer review panels, gave introductory lecture about peer review and astronomical archives to students

SELECTION OF ACCEPTED PROPOSALS AND GRANTS

Grants

2018 LKBF travel grant for the conference *Fermi Symposium 2018*

2014 DAAD travel grant for the conference *The X-ray Universe 2014, Dublin*

Proposals

2017 Hadronic signature in the spectrum of a low-redshift blazar?; PI: **F. Krauß**, Cols: M. Kadler, K. Mannheim, J. Wilms et al., NuSTAR: 40 ksec, *not triggered*

2016 Hadronic signature in the spectrum of a low-redshift blazar?; PI: **F. Krauß**, Cols: M. Kadler, K. Mannheim, J. Wilms et al., NuSTAR: 40 ksec, *not triggered*

2014 Ultra rapid variability of the TeV-loud Active Galaxy IC 310; PI: D. Eisenacher Glawion, Cols: M. Kadler, **F. Krauß**, et al., XMM-Newton: 58 ksec

2014 Diffuse extended emission in Centaurus A: The best case with which to study AGN/host galaxy interaction; PI: A. Markowitz, Cols: C. Gräfe, . . . , **F. Krauß**, et al., Chandra/LETGS: 100 ksec

2014 2014: The very unusual γ -ray source PMNJ1603–4904 and its neighbors; PI: R. Ojha, Cols: C. Müller, . . . , **F. Krauß**, et al., Joint Chandra/ACIS-I (10 ksec) and HST-WFC3UVIS: 2 ksec

POSTERS

2015 June SED catalog of southern blazars, FRANCI 2015, Würzburg, Germany

2015 April SED catalog of southern blazars, Relativistic Jets: Creation, Dynamics, and Internal Physics, Krakow, Poland

2014 October Broadband transmission of Ernie and Bert: The TANAMI view of the IceCube PeV neutrino events, Fifth International Fermi Symposium, Nagoya, Japan

2013 October Multiwavelength Observations of Southern Jets, Swift Science Planning Meeting, Penn State, US

2012 October Poster: Multiwavelength Observations of TANAMI sources, 11th EVN Symposium, Bordeaux, France

TALKS

Invited talks are marked in blue

2018 October 3LAC counterparts to IceCube neutrinos above 100TeV, 8th Fermi Symposium, Baltimore, MD, USA

2018 September [TXS 0506+056, IC 170922A, and multimessenger observations of blazars, invited colloquium, GRAPPA, Amsterdam, the Netherlands](#)

2018 August Gamma-ray bright young radio galaxy PMNJ 1603–4904, TeVPa 2018, Berlin, Germany

2018 August [Multimessenger & multiwavelength observations of blazars, invited colloquium, DESY Zeuthen, Berlin, Germany](#)

TALKS (CONTINUED)

- 2018 March** Neutrinos from blazar jets: Multimessenger astrophysics with AGN, 23rd Symposium on Astroparticle Physics in the Netherlands, Driebergen, the Netherlands
- 2017 November** Radio- γ -ray: Transient Alert Mechanisms – Summary of workshop, CTA Consortium meeting, La Palma, Spain
- 2017 October** Multimessenger studies of blazars, GRAPPA@5 symposium, Amsterdam, the Netherlands
- 2017 April** AGN jets and neutrinos: multimessenger studies of blazars, invited colloquium, Radboud Universiteit Nijmegen, Nijmegen, the Netherlands
- 2017 March** Counterparts of Astrophysical Neutrinos, invited plenary talk, LAT Collaboration Meeting, CERN
- 2016 December** Multimessenger studies of blazars, AMON Workshop, Cochem, Germany
- 2016 December** Multimessenger studies of blazars, HAP Workshop: Monitoring the non-thermal Universe, Cochem, Germany
- 2016 December** VLBI monitoring and Dynamic SEDs of southern blazars, invited talk, HAP Workshop: Monitoring the non-thermal Universe, Cochem Germany
- 2016 November** Hoge-energie astrofysica: zwarte gaten, supernovaresten, UvA Master's project presentation, UvA
- 2016 October** Use cases and follow up of transient events, CTA Consortium Meeting, Bologna, Italy
- 2016 October** AGN jets and neutrinos: multimessenger studies of blazars, ASTRON invited colloquium
- 2016 October** AGN jets and neutrinos, API pizza talk, UvA
- 2016 September** The Fermi Sky in a Multimessenger Context, invited plenary talk, Neutrino Oscillation Workshop (NOW 2016), Italy
- 2016 June** Extreme environments: From supermassive black holes to supernovae, PhD defense, FAU
- 2016 January** Bert, Ernie, and Big Bird: Blazars as sources of IceCube PeV neutrinos, invited colloquium API, Amsterdam
- 2016 January** Bert, Ernie, and Big Bird: Blazars as sources of IceCube PeV neutrinos, invited colloquium MPIfR, Bonn
- 2015 November** Dynamic broadband SEDs of southern blazars, *Fermi*/LAT Speakeasy NASA/GSFC
- 2014 July** Ernie and Bert in the radio - TANAMI blazars in the IceCube neutrino fields, FRANCI 2014, Bamberg
- 2014 June** Ernie and Bert in the radio - TANAMI blazars in the IceCube neutrino fields, the X-ray Universe 2014, Dublin, Ireland
- 2014 April** Ernie and Bert in the Radio: The TANAMI view of the IceCube PeV Neutrino events, IBWS Karlovy Vary, Czech Republic
- 2013 June** Multiwavelength observations of TANAMI sources, *Fermi* Summer School, Lewes, Delaware
- 2013 May** Multiwavelength Observations of TANAMI sources, Astronomy seminar, Würzburg University