

**PERSONAL AND CONTACT INFORMATION:**

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**EMPLOYMENT:****YCAA Prize Postdoctoral Fellow** (Sep/2020–present):

- 3-year prize postdoctoral fellowship at the Yale Center for Astronomy and Astrophysics (YCAA), Physics Department, Yale University, New Haven, CT, USA
- academic advisor: Prof. C. Megan Urry

**BHI Postdoctoral Fellow** (Sep/2017–Sep/2020):

- 3-year prize postdoctoral fellowship at the Black Hole Initiative (BHI) at Harvard University, Center for Astrophysics | Harvard & Smithsonian, Cambridge, MA, USA
- academic advisor: Dr. Sheperd S. Doeleman

**EDUCATION:****Ph.D. in Astrophysics** (Oct/2011–Jun/2017):

- California Institute of Technology (Caltech), Pasadena, CA, USA
- thesis: *Unveiling the Structure of Active Galactic Nuclei with Hard X-ray Spectroscopy*, defended in May/2017, advisor Prof. Fiona A. Harrison

**M.Sc. in Physics/Astrophysics** (Oct/2005–May/2011):

- University of Zagreb, Zagreb, Croatia (Oct/2005–Sep/2008)
- University of Split, Split, Croatia (Oct/2008–May/2011)
- thesis: *Quasar Radio Loudness Distribution*, defended in Sep/2010, advisor Prof. Vernesa Smolčić

**Summer Internships:**

- California Institute of Technology, Pasadena, CA, USA, with Prof. Dominik Riechers (2010)
- Space Telescope Science Institute, Baltimore, MD, USA, with Dr. Anton Koekemoer (2009)
- Max Planck Institute for Astronomy, Heidelberg, Germany, with Dr. Martin Kürster (2008)

**SELECTED AWARDS AND GRANTS:**

[ *individual awards, excluding prize postdoctoral fellowships listed above:* ]

- **XMM-Newton Cycles 20 & 21 Guest Observer Programs** (as PI; 2022–present & pending): funding to support a graduate student working on data analysis, travel, and publications; awarded along with a total of ~170 ks of XMM-Newton and ~230 ks of NuSTAR observations of small samples of nearby megamasers and intermediate-redshift quasars selected from a wide-field X-ray survey
- **Simons Foundation Travel Grant** (Jun/2021): full coverage of participation in the summer workshop *Black Hole Formation, Accretion, and Outflows Through Cosmic Time* at Aspen Center for Physics
- **NuSTAR Cycle 5 Guest Observer Program** (as PI; 2021–present): funding to support an undergraduate student working on data analysis, travel, and publications; awarded along with ~150 ks of NuSTAR observations of a hyperluminous obscured quasar at intermediate redshift
- **Chandra Cycle 20 Theory Grant** (as PI; May/2019–present): funding for computer resources, summer intern stipend, and publications; awarded for development of X-ray spectral models

- **NASA Earth and Space Science Fellowship** (Oct/2014–Jun/2017): highly competitive 3-year graduate student funding partially covering stipend, tuition, and research funds
- **International Fulbright Science and Technology Award** (Oct/2011–Sep/2014): 3-year internationally competitive graduate student scholarship to cover stipend, tuition, and research funds

*[group awards for collaborative work:]*

- awarded to the Event Horizon Telescope Collaboration or its members for producing the first-ever resolved image of a black hole at the center of the galaxy Messier 87:
  - **Royal Astronomical Society Group Achievement Award** (Jul/2021)
  - **American Astronomical Society Bruno Rossi Prize** (Jan/2020)
  - **Breakthrough Prize in Fundamental Physics** (Sep/2019)
  - **National Science Foundation Diamond Achievement Award** (May/2019)
- **NASA Group Achievement Awards** (4 in total): awarded in 2012 (two), 2014, and 2016 to members of the calibration and science teams for contributions to the success of the NuSTAR mission

### **SCIENTIFIC COLLABORATIONS:**

- **Accretion History of AGN** (AHA; 2020–present): wide-area survey using mainly public X-ray data to characterize distant obscured active galactic nuclei (AGN), constraining their evolution
- **Event Horizon Telescope (EHT) Collaboration** (2017–present): very long baseline interferometry in the millimeter-wave band for imaging black holes at the angular scale of their event horizons
- **BAT AGN Spectroscopic Survey** (BASS; 2015–present): extensive multi-wavelength survey of AGN originally selected in the high-energy X-ray band using the wide-field Swift/BAT instrument
- **NuSTAR Extragalactic Survey Team** (2013–present): survey using mainly public NuSTAR data from observations of AGN, focused on X-ray spectroscopy and follow-up of serendipitous sources
- **RoboPol and MARMOT** (2013–2016): long-term multi-wavelength polarimetric monitoring of blazars (highly variable AGN sub-class) in the optical, radio, and gamma-ray bands

### **EXPERIENCE WITH OBSERVING AND DATA:**

- **X-ray**: worked with the complete NuSTAR extragalactic archive (>1000 observations, ~100 Ms of exposure), both BAT and XRT onboard Swift, broadband X-ray spectroscopy and variability studies with data from Chandra, XMM-Newton, Suzaku, BeppoSAX, RXTE, and INTEGRAL
- **optical**: ~8 nights of observing at Keck Observatory (spectroscopy and imaging), ~11 nights of observing at Palomar Observatory (Hale telescope, spectroscopy), ~7 nights at Skinakas Observatory (optical polarimetry monitoring), astrophotography with amateur telescopes
- **near-infrared**: ~4 nights of observing at Las Campanas Observatory (Magellan/Baade telescope, spectroscopy), ~16 nights at Palomar Observatory (Hale telescope, spectroscopy)
- **sub-millimeter**: ~14 nights at Combined Array for Millimeter-wave Astronomy (CARMA), ~3 nights on duty at EHT's Array Operations Center, remote observing scripts for the Submillimeter Array (SMA)
- **multi-wavelength**: coordinated campaigns to get nearly simultaneous observations in the radio, sub-millimeter, IR/visible/UV, X-ray, and gamma-ray bands, worked on compiling and modeling of the multi-scale broadband spectra and correlated variability of AGN (typically, relativistic jets)

### **EXPERT SERVICE TO THE FIELD:**

- **Reviewer, panelist, or facilitator** in multiple observing proposal reviews for Chandra and NuSTAR
- **Invited reviewer and panelist** for Hubble Space Telescope and Yale Observatories (Palomar, Keck)
- External graduate funding **proposal reviewer** for *NASA Earth and Space Science Fellowship* or *Future Investigators in NASA Earth and Space Science and Technology* (program renamed recently)

- **Referee** (~2 papers/year) for American Astronomical Society Journals, Monthly Notices of the Royal Astronomical Society, and Publications of the Astronomical Society of the Pacific
- **Contributor** to documentation supporting US astrophysics infrastructure:
  - science definition teams for Probe mission concepts HEX-P and STROBE-X (2022)
  - white papers for the Astro 2020 Decadal Survey (4 in total; 2019)
  - STROBE-X science definition team (white paper on the science case and feasibility; 2017)
  - NuSTAR Senior Review Proposal (2016)
- **Public communications management:**
  - Communications Manager for the Yale Postdoctoral Association (Jul/2020–present)
  - Outreach and Communications Group Coordinator for the EHT Collaboration around the time of its biggest public announcement – the first black hole image (Sep/2017–Dec/2020)
- **Seminar/colloquium series co-organizer:**
  - Yale Astronomy and Astrophysics Center Colloquium, Yale (Sep/2021–Sep/2022)
  - Black Hole Initiative Colloquium, Harvard (Sep/2017–Sep/2019)
  - Caltech Astronomy astro-ph discussion, Caltech (Oct/2013–Oct/2016)
- **Science and local organizing committee member and/or session chair:**
  - special session on EHT science at the *APS April Meeting 2023*, virtual (Apr/2023)
  - *EHT in Light of High-energy Emission (HEAD 20 special session)*, Waikoloa, HI, USA (Mar/2023)
  - Annual EHT Collaboration Meeting, virtual (Dec/2022)
  - *Many Faces of Black Hole Accretion* symposium within the EAS Meeting 2021, virtual (Jul/2021)
  - *Third Annual Black Hole Initiative Conference*, Cambridge, MA, USA (Sep/2019)

### MENTORING, EQUITY/INCLUSION EFFORTS, TEACHING, AND OUTREACH:

- Work with **graduate students**: Samantha Cabral (2019–2020; University of Massachusetts Boston Physics M.Sc. thesis co-advisor), Nikita Kamraj (2017–2021; Caltech Astronomy Ph.D. thesis, multiple chapters), Yanjun Xu (2016–2017; Caltech Physics Ph.D. thesis chapter)
- Work with **undergraduate students** on short research projects under my supervision: Annie Giman (2022), Tristan Weaver (2021–present), Miles Waits (2021), Kale Langley (2016), Peter Kosec (2015), Alex Place (2014), Clarke Esmerian (2013), Ana Rose Glidden (2013)
- **Advocate for and participant in Diversity, Equity, and Inclusion initiatives:** *Caltech Safe Zone* training program, *Equity and Inclusion Journal Club* at Harvard/SAO, *APS-IDEA Network* at Yale Physics Department, and *Yale Astronomy Climate and Diversity Committee*
- **Chair of the EHT Speakers Bureau** (Aug/2022–present): leading member of the EHT Collaboration committee ensuring equitable and diverse representation among speakers on behalf of the collaboration at professional events, and actively pursuing new visibility opportunities
- Completed courses on **contemporary teaching and mentoring practices in STEM:**
  - *Undergraduate Science Mentoring Workshop* at Harvard (Jan–Apr/2018)
  - *Principles of University Teaching and Learning in STEM* at Caltech (Jan–Mar/2017)
- Designed and delivered a **practical course on multi-wavelength astronomy** for middle school students within the long-running *Yale Pathways Summer Scholars* program (Jun/2022)
- **Teaching assistant** at Caltech (2012–2013): *Astronomy for Non-majors* (undergraduate, own section), *Galaxies and Cosmology* (undergraduate, with a Massive Open Online Course component), *Astronomical Instrumentation* (graduate); at Yale (2022): *High-energy Astrophysics* (mixed-level)
- **Outreach for the EHT Collaboration** (2017–present): active contributor (coordinator until Dec/2020) to planning, organization, and production of the Collaboration’s non-scientific output, such as explanatory and educational graphical material, documentary filming, press releases, popular-level articles and other coverage in the media, public presentations, outreach events, and online presence in terms of the official website and social media profiles (helping to build the audience from just a few hundred to >130 thousand followers while I was the principal content contributor)

- **Astronomy news in Croatian media:** giving interviews to news outlets (online, printed, and radio) explaining recent news in astronomy to the Croatian general public, and making graphical, educational and press release material (mostly on EHT results) translated to Croatian language
- **Presenter at large-scale public outreach events,** such as the annual *A Ticket to Explore JPL* (at NASA's Jet Propulsion Laboratory in Pasadena, CA, USA) and *Cambridge Explores the Universe* at Harvard
- **Cahill Rooftop Observatory** (CRO; 2014–2017): appointed manager of a small rooftop observatory of the Caltech Astronomy Department with duties including management of users and equipment, maintenance of CRO telescopes, student training, and organization of local outreach events together with the larger Caltech Astronomy Outreach Team
- **Caltech Astronomy Outreach Team** (2011–2017): together with other members co-organizer and participant in many public telescope viewing events (at CRO as well as in other locations), lectures, panels, and visits to local elementary schools
- **Sky as a Gift** (*Nebo na poklon* in Croatian; 2006–2009): regional coordinator and hands-on instructor for elementary school teachers on practical projects in astronomy using amateur telescopes

### **SELECTED ORAL PRESENTATIONS:**

- *Large Hadron Collider Days in Split 2022* conference in Split, Croatia, invited talk on behalf of the EHT Collaboration (Oct/2022)
- European Astronomical Society (EAS) Meeting 2022 in Valencia, Spain, symposium S5b: *Towards the next generation of X-ray surveys with Athena* (Jun/2022)
- *Ten Years of High-Energy Universe in Focus: NuSTAR 2022* conference in Cagliari, Italy (Jun/2022)
- *Black Hole Accretion Under the X-ray Microscope* conference in Villafranca del Castillo, Spain (Jun/2022)
- *New England Regional Quasar and AGN Meeting 2022* in Storrs, CT, USA (May/2022)
- THEAPA group meeting, Institute of Astronomy, Cambridge University, Cambridge, UK (May/2022)
- 19<sup>th</sup> Meeting of the High-energy Astrophysics Division (HEAD) of the American Astronomical Society in Pittsburgh, PA, USA (Mar/2022)
- *From Vision to Instrument: Designing the Next-generation EHT (ngEHT) to Transform Black Hole Science* meeting of the ngEHT interest group, online (Nov/2021)
- *Young Astronomers on Galactic Nuclei 2021* conference in Copenhagen, Denmark, and online in hybrid format, presented remotely (Sep/2021)
- *Black Hole Formation, Accretion, and Outflows Through Cosmic Time* summer workshop at the Aspen Center for Physics, Aspen, CO, USA, and online in hybrid format (Jul/2021)
- Astronomical Institute of the Czech Academy of Sciences seminar, Prague, Czech Republic, presented remotely (May/2021)
- Accretion History of AGN (AHA) collaboration meeting, online (Jan/2021)
- High-energy group seminar at SRON – Netherlands Institute for Space Research, Utrecht, the Netherlands (Feb/2020)
- *X-calibur 2019: Next-generation X-ray Spectroscopy* in Winchester, UK (Jul/2019)
- Inter-institutional AGN Meeting, European Southern Observatory Headquarters, Santiago, Chile (Apr/2019)
- High-energy Astrophysics Group talk series, Massachusetts Institute of Technology, Cambridge, MA, USA (Apr/2019)
- *Torus 2018: The Many Faces of AGN Obscuration* conference in Puerto Varas, Chile (Dec/2018)
- EHT Collaboration Meeting in Nijmegen, Netherlands (Nov/2018)
- STROBE-X Science Definition Team Meeting in Lubbock, TX, USA (Sep/2017)

**SELECTED PUBLICATIONS:**

My complete list of publications includes 134 papers that are published or accepted for publication in a peer-reviewed journal as of early Nov/2022. The h-index for the complete list is 49 with ~12,000 citations in total, according to NASA ADS. You can find the full list on [my website](#) or in this [ADS library](#).

In the listing below, part A contains my peer-reviewed first-author papers, while part B highlights the papers I directly contributed to as one of the lead authors, albeit at different levels. These 30 papers currently have ~1100 citations in total and their h-index is 19. My most-cited first-author paper has ~120 citations. Students I directly supervised are highlighted with an asterisk (\*) in front of their name.

**A) Peer-reviewed First-author Papers:**

7. Baloković, M., \*Cabral, S.E., Brenneman, L., Urry, C. M.: *Properties of the Obscuring Torus in NGC 1052 from Multi-epoch Broadband X-ray Spectroscopy*, 2021, ApJ, 916, 90
6. Baloković, M., Harrison, F. A., Madejski, G., et al.: *NuSTAR Survey of Obscured Swift/BAT-selected AGN: II. Median High-energy Cutoff in Seyfert II Hard X-ray Spectra*, 2020, ApJ, 905, 41
5. Baloković, M., Brightman, M., Harrison, F. A., et al.: *New Spectral Model for Constraining Torus Covering Factors from Broadband X-ray Spectra of AGN*, 2018, ApJ, 854, 42
4. Baloković, M., Paneque, D., Madejski, G., Furniss, A., Chiang, J., et al.: *Multiwavelength Study of Quiescent States of Mrk 421 with Unprecedented Hard X-Ray Coverage Provided by NuSTAR in 2013*, 2016, ApJ, 819, 156
3. Baloković, M., Matt, G., Harrison, F. A., et al.: *Coronal Properties of the Seyfert 1.9 Galaxy MCG -05-23-016 Determined from Hard X-ray Spectroscopy with NuSTAR*, 2015, ApJ, 800, 62
2. Baloković, M., Comastri, A., Harrison, F. A., et al.: *The NuSTAR View of Nearby Compton-thick AGN: The Cases of NGC 424, NGC 1320, and IC 2560*, 2014, ApJ, 794, 111
1. Baloković, M., Smolčić, V., Ivezić, Ž., Zamorani, G., Schinnerer, E., Kelly, B.: *Disclosing the Radio Loudness Dichotomy: An Unbiased Monte Carlo Approach Applied to the SDSS-FIRST Quasar Sample*, 2012, ApJ, 759, 30

**B) Peer-reviewed Papers with Significant Contributions:**

23. Fabbiano, G., Paggi, A., Morganti, R., Baloković, M., et al., *Jet-ISM Interaction in NGC 1167/B2 0258+35, a LINER with an AGN Past*, 2022, ApJ, 938, 105
22. Walton, D., Baloković, M., Fabian, A., et al., *Extreme relativistic reflection in the active galaxy ESO 033-G002*, 2021, MNRAS, 506, 1557
21. Jiang, J., Baloković, M., Brightman, M., Liu, H., Harrison, F., Lansbury, G., *Highly Accreting Low-mass Black Hole Hidden in the Dust: Suzaku and NuSTAR Observations of the NLSy1 Mrk 1239*, 2021, MNRAS, 505, 702
20. The EHT Multiwavelength Science Working Group (including Baloković, M., as a core contributing coauthor) et al.: *Broadband Multi-wavelength Properties of M 87 during the 2017 Event Horizon Telescope Campaign*, 2021, ApJ, 911, L11
19. \*Kamraj, N., Baloković, M., Brightman, M., et al., *The Broadband X-ray Spectrum of the X-ray Obscured Type 1 AGN 2MASX J193013.80+341049.5*, 2019, ApJ, 887, 255
18. Christensen, L., Baloković, M., Chou, M.-Y., et al., *An Unprecedented Global Communications Campaign for the Event Horizon Telescope First Black Hole Image*, 2019, CAPJ, 26, 11
17. Lanz, L., Hickox, R., Baloković, M., et al., *Investigating the Covering Fraction Distribution of Swift/BAT AGN with X-ray and Infrared Observations*, 2019, ApJ, 870, 26
16. \*Kamraj, N., Harrison, F., Baloković, M., A. Lohfink, Brightman, M., *Coronal Properties of Swift/BAT-selected Seyfert 1 AGN Observed with NuSTAR*, 2018, ApJ, 866, 124

15. Boorman, P., Gandhi, P., [Baloković, M.](#), Brightman, M., Harrison, F., Ricci, C., Stern, D., *An Iwasawa-Taniguchi Effect for Compton-thick Active Galactic Nuclei*, 2018, MNRAS, 477, 3775
14. \*Xu, Y., [Baloković, M.](#), Walton, D., Harrison, F., Garcia, J., Koss, M., *Evidence for Relativistic Disk Reflection in the Seyfert 1h Galaxy/ULIRG IRAS 05189-2524 Observed by NuSTAR and XMM-Newton*, 2017, ApJ, 837, 21
13. García-Bernete, I., Ramos Almeida, C., Landt, H., Ward, M. J., [Baloković, M.](#), Acosta-Pulido, J. A., *The Infrared to X-ray Correlation Spectra of Unobscured Type 1 Active Galactic Nuclei*, 2017, MNRAS, 469, 110
12. Masini, A., Comastri, A., Puccetti, S., [Baloković, M.](#), et al., *The Phoenix Galaxy as Seen by NuSTAR*, 2017, A&A, 597, 100
11. Landt, H., Ward, M., [Baloković, M.](#), et al., *On the Black Hole Mass of the Gamma-ray Emitting Narrow-line Seyfert 1 Galaxy 1H 0323+342*, 2017, MNRAS, 464, 2565
10. Farrah, D., [Baloković, M.](#), Stern, D., et al.: *The Geometry of the Infrared and X-ray Obscurer in a Dusty Hyperluminous Quasar*, 2016, ApJ, 831, 76
9. Koss, M. J., Assef, R., [Baloković, M.](#), et al., *A New Population of Compton-Thick AGN Identified Using the Spectral Curvature Above 10 keV*, 2016, ApJ, 825, 85
8. Koss, M. J., \*Glidden, A. R., [Baloković, M.](#), et al., *NuSTAR Resolves the First Dual AGN Above 10 keV in SWIFT J2028.5+2543*, 2016, ApJ, 824, L4
7. Masini, A., Comastri, A., [Baloković, M.](#), et al., *NuSTAR Observations of Water Megamaser AGN*, 2016, A&A, 589, 59
6. Rivers, E., [Baloković, M.](#), Arévalo, P., et al., *The NuSTAR View of Reflection and Absorption in NGC 7582*, 2015, ApJ, 815, 55
5. Lohfink, A. M., Ogle, P., Tombesi, F., Walton, D., [Baloković, M.](#), et al., *The Corona of the Broad-line Radio Galaxy 3C 390.3*, 2015, ApJ, 814, 24
4. Koss, M. J., Romero-Cañizales, C., Baronchelli, L., Teng, S. H., [Baloković, M.](#), et al., *Broadband Observations of the Compton-thick Nucleus of NGC 3393*, 2015, ApJ, 807, 149
3. Brightman, M., [Baloković, M.](#), Stern, D., et al., *Determining the Covering Factor of Compton-thick Active Galactic Nuclei with NuSTAR*, 2015, ApJ, 805, 41
2. Matt, G., [Baloković, M.](#), Marinucci, A., et al., *The Hard X-ray Spectrum of NGC 5506 as Seen by NuSTAR*, 2015, MNRAS, 447, 3029
1. Sbarrato, T., Tagliaferri, G., Ghisellini, G., Perri, M., Puccetti, S., [Baloković, M.](#), et al., *NuSTAR Detection of the Blazar B2 1023+25 at Redshift 5.3*, 2013, ApJ, 777, 147