Aleksandra Ćiprijanović

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Date of Birth 28^{th} October 1987

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Employment History

2024 - Present NSF-Simons AI Institute for the Sky (SkAI)
Activities Board - Research Events

Senior Personnel
Part of the SkAI management and leading various research projects.

2023 - Present Fermi National Accelerator Laboratory, Batavia, IL
Data Science, Simulation and Learning Division

Cosmic AI Group Lead
Managing the group and leading the AI efforts in the cosmic frontier at Fermilab.

2022 - Present Fermi National Accelerator Laboratory, Batavia, IL
Data Science, Simulation and Learning Division

Wilson Fellow Associate Scientist
Uncertainty quantification, robustness and interpretability of AI methods in astro/HEP.

2022 - Present University of Chicago, Chicago, IL
Department of Astronomy & Astrophysics

CASE Scientist Affiliate
Co-advising students of all levels; AI for astrophysics and cosmology.

2020 - 2022 Fermi National Accelerator Laboratory, Batavia, IL
Scientific Computing Division - AI and Software for Physics Applications

Postdoctoral Research Associate - Project: High Velocity Artificial Intelligence
Uncertainty quantification in machine learning; robustness of deep learning models to noise and pixel level perturbations is scientific data pipelines; domain adaptation and its application to astrophysics and high-energy physics.

2019 - 2020 Fermi National Accelerator Laboratory, Batavia, IL
Scientific Computing Division

Visiting Researcher - machine learning for galaxy merger classification (convolutional and Bayesian Neural Networks); development of deep learning utilities package; simulation-based inference for learning model parameters from simulated images of gravitational lenses.

2019 - 2020 Mathematical Institute, Serbian Academy of Sciences and Arts, Belgrade, Serbia

Research Assistant Professor - machine learning for astronomy; galaxy morphology from simulations and astronomical surveys.

2018 - 2019 Department of Astronomy, Faculty of Mathematics, University of Belgrade, Serbia

Research Assistant Professor - cosmic-rays and large-scale structure formation; gamma rays and neutrino astrophysics; Big Bang Nucleosynthesis.

2014 - 2018 Department of Astronomy, Faculty of Mathematics, University of Belgrade, Serbia

Research Assistant - cosmic-ray acceleration and interactions; large-scale accretion shocks and galaxy clusters.

2011 - 2014 Deptartment of Astronomy, Faculty of Mathematics, University of Belgrade, Serbia

Junior Researcher - cosmic-ray acceleration and interactions;
large-scale accretion shocks and galaxy clusters.

Education

2011 - 2016 PhD in Astronomy and Astrophysics - University of Belgrade, Serbia

Thesis: *Contribution of Galaxies and Galaxy Clusters to the Diffuse Gamma-Ray Background*

2010 - 2011 MSc in Astrophysics - University of Belgrade, Serbia

Thesis: *Cosmological Cosmic-Ray Contribution to Extragalactic Gamma-Ray Background*

2006 - 2010 BSc in Astrophysics - University of Belgrade, Serbia

Awards and Fellowships

2022 - Present Wilson Fellowship, Fermilab

Research Interests

- I am the world-leading expert in domain adaptation AI methods for astrophysics and cosmology. I'm broadly interested in advancing AI/ML for complex scientific problems. My focus is on AI model robustness, uncertainty quantification, physics-informed models, and latent space interpretability. I have experience working with tabular, spectral, imaging and graph datasets.
- My focus is on large astronomical surveys and simulations and how to bridge the gap and combine large astronomical datasets, to better constrain physics. I'm particularly interested in structure formation across time and scales, with particular focus on galaxies (regular, low-surface brightness, merging, lensed galaxies), but also galaxy clusters and large-scale structures, as well as their use as probes of cosmology.

Skills

- **Computer Skills**

  Programming languages:*Python, C, Fortran, Git, Pytorch, Tensorflow, Keras*
  Data Processing: *Wolfram Mathematica, R, Origin, IDL*
  Web programming and word processing: *HTML, LaTeX, MS* & *Libre Office*

- **Languages**

  Serbian: fluent – native speaker English: fluent Greek, Spanish, German: basic

Advising

POSTDOCTORAL ASSOCIATES

2022 - Present Rebecca Nevin

2022 - Present Sreevani Jarugula

GRADUATE STUDENTS

2024 - Present Sneh Pandya (Northeastern University) SCGSR Fellowship

2024 - Present Shrihan Agarwal (U. Chicago)

2020 - 2024 Jason Poh (U. Chicago) PhD thesis

2020 - 2022 Dimitrios Tanoglidis (U. Chicago) PhD thesis

UNDERGRADUATE AND MASTER STUDENTS

2024 Ricardo Campos (University of Bologna, Italy) Italian Summer Student Program

2023 Marcos Tamargo-Arizmendi (University of Chicago) SULI Student

2023 Andrea Roncoli (University of Pisa, Italy) Italian Summer Student Program

2022 - 2023 Meghan Zhao (University of Chicago)

2022 - 2024 Paxson Swierc (University of Chicago)

2022 - 2023 Egor Danilov (EPFL, Lausanne, Switzerland), master thesis

2022 - 2023 Marina Dunn (University of California, Riverside), master thesis

2022 Brian (Junhe) Zhang (University of Chicago)

2022 Fei Xu (University of Chicago)

2022 Hanzi Tan (University of Chicago)

2021 - 2022 Marie Tagliavia (University of Chicago)

2021 - 2022 Adrey Scott (University of Chicago)

2021 - 2022 Shuyu Wang (University of Chicago)

2021 - 2022 Yupeng Yao (University of Chicago), master thesis

2021-2022 Alex Bisnath (University of Chicago), undergraduate thesis

2021 Caleb Levy (Colgate University) SIST Intern

2019 - 2024 Ashwin Samudre (Simon Fraser University)

2019 - 2024 Rohan Venkat (University of Chicago)

2019 - 2022 Kathryn Downey (University of Chicago), undergraduate thesis

2019 - 2021 Sydney Jenkins (University of Chicago)

2019 - 2020 Mikel Zemborian (University of Chicago), undergraduate thesis

HIGH-SCHOOL STUDENTS

2024 Cibi Vadivel (Mentoring for a Science Fair)

2022 Isabella Vesely (QuarkNet Summer Intern)

2022 Maryanne Xu (QuarkNet Summer Intern)

2022 Simonne Shevchuk (QuarkNet Summer Intern)

2022 - 2024 Anvi Padhi (Target Summer Intern)

2022 Dylan Sebanc (Target Summer Intern)

2022 Stephanie Vega (Target Summer Intern)

OTHER

2022 - 2023 Ashia Lewis (Fermilab, AI Associate)

2022 - 2023 Maggie Voetberg (Fermilab, AI Associate)

2020 - 2021 Diana Kafkes (Fermilab, AI Associate)

Pedagogical Experience

2023, 2024 FNAL-BNL Summer School - *AI week lead*

Working with 2 groups of 20 undergraduate students.
Developed curriculum, lead all other involved scientists/postdocs, prepared and presented material.

2022, 2023 Worked with undergraduate students at the University of Chicago.

Talk and hands-on session - AI basics and their application to astrophysics.

Committees & Services

2024 - Present Fermilab AI Project Office Member

2023 - Present Fermilab Cosmic AI Group Lead

2023 Hiring Committee Member, Fermilab - Senior AI Researcher (PI: T. Micheli, K. Knoepfel)

2023 Hiring Committee Member, Fermilab - Postdoctoral Research Associate (PI: A. Norman)

2023 Hiring Committee Member, Fermilab - Postdoctoral Research Associate (PI: S. Gardiner)

2023 - Present AI Seminars Organizer, Fermilab

2022 - Present AI Lab-Wide Meetings Organizer, Fermilab

2022 Schramm Fellow - Hiring Committee Member, Fermilab

2021 - 2022 Officer - Fermilab Student and Postdoc Association (FSPA)

2020 - Present AI Project Office Liaison - Fermi National Accelerator Laboratory

2020 - 2023 Astronomy + ML Journal Club lead - Fermilab and Deep Skies Lab

2021 - 2023 Educational Club organizer and co-lead - Deep Skies Lab

2020 - 2021 Astronomy Seminar co-organiser - Fermi National Accelerator Laboratory

Projects

Pending "ACED: Multimodal learning for holistic galaxy studies in the era of big astronomical surveys", *PI*
NSF ACED - Fermilab and UChicago

2024 - Present "AI for the Sky: The SkAI Institute" (Astrophysics + AI Institute), *senior personnel*
NSF National Artificial Intelligence (AI) Research Institutes - Northwestern University, UChicago et al.

2020 - 2023 "High Velocity Artificial Intelligence - HVAI" (fast inference and AI), *co-I*
DOE HEP Computational HEP sessions program - Fermi National Accelerator Laboratory

2020 "Blowing in the Wind - BOWIE" (active galactic nuclei and computing), *senior personnel*
Funded by the Serbian Ministry of Education, Science and Technological Development
(stopped being part of the project after receiving a job offer in the US)

2011 - 2019 "Emission Nebulae: Structure and Evolution" (supernova remnants, HII regions), *co-I*
Funded by the Serbian Ministry of Education, Science and Technological Development

Professional Associations

2022 - Present International Astronomical Union (Individual Member)

2020 - Present LSST Dark Energy Science Collaboration

2020 - Present LSST Informatics and Statistics Science Collaboration

2020 - Present LSST Galaxies Science Collaboration

2020 - Present Dark Energy Survey Collaboration

2019 - 2020 Europlanet Society

2018 - 2022 International Astronomical Union (Junior Member)

2018 - Present European Astronomical Society

2017 - 2019 Society of Astronomers of Serbia (Board of Directors)

2011 - Pesent Society of Astronomers of Serbia

Collaborations

2020 - Present Survey Science Group, University of Chicago
`https://surveys.uchicago.edu/`

2018 - Present Deep Skies Lab
`https://deepskieslab.com/`

2017 - 2020 COST action CA16117 - *Management Committee Member Substitute*
"Chemical Elements as Tracers of the Evolution of the Cosmos"

2017 - 2019 Serbian and Bulgarian Academy of Sciences Joined Project
"Optical Search for Supernova Remnants and HII Regions in Nearby Galaxies
(M81 and M101 Groups of Galaxies)"

2016 - 2017 Serbian–Slovenian Bilateral Project (University of Novi Sad and University of Nova Gorica)
BI-RS/16-17-035 "Milky Way diffuse emission: a closer look at the emission from millisecond pulsars and its impact for dark matter signal searches"

2014 - 2016 Serbian and Bulgarian Academy of Sciences Joined Project
"Optical Search for Supernova Remnants and HII Regions in Nearby Galaxies
(M81 and IC342 Groups of Galaxies)"

Conference Organisation

- FNAL-BNL Summer School for Undergraduates, AI weeks organizer
  1 July - 9 August 2024. Fermilab, USA
- 22nd International Workshop on Advanced Computing and Analysis Techniques in Physics Research (ACAT) 2024
  SOC Member, 11 march - 15 March 2024. Stony Brook University, USA
- AI Jamboree
  23 October 2023. Fermilab, USA
- Debating the Potential of ML in Astronomical Surveys No.2, SOC Member
  27 November - 1 December 2023. IAP, Paris / Flatiron institute, New York, USA

- FNAL-BNL Summer School for Undergraduates, AI weeks organizer
  3 July - 11 August 2023. Fermilab, USA
- New Perspectives, Fermilab Conference
  16 - 22 June 2022. Fermilab, USA, hybrid event
- XIX National Conference of Astronomers of Serbia - LOC member
  13 - 17 October 2020. Belgrade, Serbia, virtual event
- Astronomy in Serbia and Serbia in the International Astronomical Union - LOC member
  16 May 2019. Belgrade, Serbia
- International Day of Women and Girls in Science
  8 March 2019. Belgrade, Serbia
- XVIII National Conference of Astronomers of Serbia - LOC member
  17 - 21 October 2017. Belgrade, Serbia
- XVII National Conference of Astronomers of Serbia - LOC member
  23 - 27 September 2014. Belgrade, Serbia

Reviewing Service

- DOE Project and Comparative Reviews - 2
- Astrophysical Journal (ApJ) - 2
- Monthly Notices of the Royal Astronomical Society (MNRAS) - 3
- Machine Learning: Science and Technology (MLST) - 1
- Physical Review D - 1
- Astronomy and Computing - 1
- RAS Techniques and Instruments - 2
- ML4PS workshop at NeurIPS 2023 - 3
- ML4Astro workshop at ICML 2023 - 2

Observing Runs

- Observation of galaxies in narrow band H_α and [SII] filters, NAO Rozhen, Bulgaria
  2011 - 2020, 13 times
- Observation of galaxy M94 in narrow band H_α and [SII] filters, Tubitak National Observatory, Turkey
  28 April - 1 May 2016

Community and Outreach

- ”NASA Space App Challenge”, head judge
  Chicago, October 2023 and October 2024
- ”Cosmic Algorithms: Unveiling Mysteries of the Universe with Artificial Intelligence”
  2024 DOE National Science Bowl, Leesburg, VA, April 2024
- ”Saturday Morning Physics: Cosmology, Astrophysics and AI”
  Fermilab, December 2021, March & November 2022, March & November 2023 and April 2024

- ”AI in Astrophysics”
  Chicago Science Fest, 17 June 2023
- ”Artificial Intelligence in Astrophysics”
  Fermilab Lecture Series, April 2023
- ”SAGE Live: Artificial Intelligence”
  SAGE Live Event, April 2023
- ”AI in Astrophysics”
  Fermilab Lecture Series, March 2023
- ”AI in Astrophysics”
  SpaceVision 2022, University of Chicago, November 2022
- Guest speaker in ”Radio Galaxy” science radio show, episode ”Machine Learning in Astronomy”, April 2022
- ”Astrophysics and Cosmology”
  Saturday Morning Physics, Fermilab, December 2021 and March 2022
- ”Futurati Podcast - Ep. 58 ”Dark matter, deep learning and astrophysics”
  September 2021
- Superheroes in STEM 2021
  1 May, virtual conference for high school students
- Grace Hopper Celebration 2020
  29 September - 3 October 2020, virtual event
- Several appearances in ”Familyology” radio show for children, 2018 - 2019
- ”Chemical Elements and Reactions in Cosmos”
  Lecture at ”Petnica” science center for gifted high-school students, October 2017
- Guest speaker in ”Radio Galaxy” science radio show, episode ”Cosmos in gamma rays”, March 2016
- ”Diffuse Gamma-Ray Emission of Large-Scale Structures”
  Lecture at ”Petnica” science center for gifted high-school students, March 2015
- Astronomy lectures in primary schools, 2010
- Public lectures at Belgrade Planetarium, 2009

Attended Workshops

- P5 Town Hall - Cosmic Frontier
  February 22 - February 24 2023, Lawrence Berkeley National Lab, CA
- Galaxy Formation and Evolution in the Data Science Era
  March 21 - March 24 2023, KITP, and virtual
- Building Physical Understanding of Galaxy Evolution with Data-Driven Astronomy
  January 17 - March 24 2023, KITP, CCA and virtual
- AI for Experiments - Research Collaborations (JTFI Workshop-Part II)
  20 October, 2022, Fermilab, Batavia, IL
- DOE Laboratory Workshops: Advanced Research Directions on AI for Science and Security
  16 August - 18 August 2022, Bowie, MN

- Rubin Observatory Project & Community Workshop 2022
  8 August - 12 August 2022, Tucson, AR and virtual event
- DESC February 2022 Collaboration Meeting
  21 February - 25 February 2022, virtual event
- Machine Learning and the Physical Sciences
  13 December 2021, NeurIPS2021, virtual event
- Rubin Project and Community Workshop
  9 August - 13 August 2021, virtual event
- DESC July 2021 Collaboration Meeting
  19 July - 23 July 2021, virtual event
- Quarks to Cosmos with AI
  12 July - 16 July 2021, Carnegie Mellon University, virtual event
- Summer School in Statistics for Astronomers XVI
  1 June - 5 June 2021, Penn State's Center for Astrostatistics, virtual event
- Where the Earth Meets the Sky
  27 May - 28 May 2021, Cosmic Dawn Center at DTU, Copenhagen, virtual event
- DESC February 2021 Virtual Meeting
  1 February - 5 February 2021, virtual event
- Machine Learning and the Physical Sciences
  11 December 2020, NeurIPS2020, virtual event
- Women in Machine Learning
  9 December 2020, NeurIPS2020, virtual event
- DESC 2020 Virtual Sprint Week
  30 November - 4 December 2020, virtual event
- Snowmass Community Planning Meeting
  5 October - 8 October 2020, virtual event
- Astro Hack Week 2020
  31 August - 4 September 2020, Flatiron Institute, New York, USA, virtual event
- Rubin Observatory Project & Community Workshop 2020
  10 August - 14 August 2020, virtual event
- BigSkyEarth Training School 2018: Big Data in Simulations and Observations
  26 November - 1 December 2018, Tuorla Observatory, University of Turku, Finland
- BigSkyEarth Training School 2018: GPU–based analytics and data science
  3 - 7 April 2018, Vicomtech Research Center, San Sebastian, Spain
- ChETEC Year 1 Main Action Workshop – MC meeting + WG workshops
  9 - 11 October 2017, Keele University, United Kingdom
- Workshop on Perspectives on the Extragalactic Frontier: from Astrophysics to Fundamental Physics – Talk
  2 - 6 May 2016, ICTP – Trieste, Italy
- Workshop on the Future of Dark Matter Astro–Particle Physics: Insights and Perspectives – Poster
  8 - 11 October 2013, ICTP – Trieste, Italy
- Regional Workshop on Atomic and Molecular Data – Talk
  14 - 16 June 2012, Belgrade, Serbia

- Symposium ”Mathematics and applications” – Talk
  27 - 28 May 2011, Belgrade, Serbia

- Students practice at Astronomical Observatory Ondrejov, Stellar department
  July 2010, Ondrejov, Czech Republic

- The Third International School in Astronomy: Astroinformatics – Virtual Observatory
  29 June - 01 July 2010, Belgrade, Serbia

- Symposium ”Mathematics and applications” – Talk
  28 - 29 May 2010, Belgrade, Serbia

- Students practice at Astronomical Observatory Ondrejov, Stellar department
  July 2009, Ondrejov, Czech Republic

Talks & Posters

Professional Presentations

- ”Particle Physics and Cosmology”
  19th Annual Fermilab-CERN Hadron Collider Physics Summer School, Fermilab, July 2024

- ”Scaling up the Estimation of Strong Lensing Parameters with Simulation Based Inference ”
  A. Ćiprijanović
  RAS Discussion Meetings: Simulation Based Inference in Astrophysics, January 12 2024, Royal Astronomical Society and virtual

- ”Towards flexible domain adaptation methods for cross-datasets studies of galaxies”
  A. Ćiprijanović
  Galaxy Formation and Evolution in the Data Science Era, March 21 - March 24 2023, KITP and virtual

- ”Bridging the gap between simulations and survey data - domain adaptation for deep learning in astronomy”
  A. Ćiprijanović, D. Kafkes, K. Downey, S. Jenkins, G. N. Perdue, S. Madireddy, G. F.Snyder, B. Nord, T. Johnston
  Debating the Potential of Machine Learning in Astronomical Surveys, 18 October - 22 October 2021, Institute d’astrophysique de Paris, France

- ”Domain Adaptation for Cross-Domain Studies in Astronomy: Merging Galaxies Identification”
  A. Ćiprijanović, D. Kafkes, K. Downey, S. Jenkins, G. N. Perdue, S. Madireddy, T. Johnston, G. F.Snyder, B. Nord
  Where the Earth Meets the Sky, 27 May - 28 May 2021, Cosmic Dawn Center at DTU, Copenhagen, virtual event

- ”Multi-Messenger Studies of Cosmic Ray Acceleration in Galaxy Cluster Accretion Shocks”
  A. Ćiprijanović, T. Prodanović
  30th Summer School and International Symposium on the Physics of Ionized Gases, 24 - 28 August, 2020, Šabac, Serbia

- ”Contribution of Galaxies and Galaxy Clusters to the Diffuse Gamma-Ray Background (PhD Thesis)”
  A. Ćiprijanović
  XVIII Serbian Astronomical Conference, 17 - 21 October 2017, Belgrade, Serbia

- ”Neutrino Constraints to the Diffuse Gamma-Ray Emission from Accretion Shocks”
  A. Ćiprijanović, T. Prodanović
  Workshop on Perspectives on the Extragalactic Frontier: from Astrophysics to Fundamental Physics, 2 – 6 May 2016, ICTP – Trieste, Italy

- ”Atomic and Molecular Data – Application on Formation of Molecules in Dark Clouds”
  A. Dobardžić[1], A. Kovačević
  Regional Workshop on Atomic and Molecular Data, 14 – 16 June 2012, Belgrade, Serbia

- "Cosmological Cosmic-Ray Contribution to the Extragalactic Gamma–Ray Background"
  A. Ćiprijanovicć
  Symposium "Mathematics and applications", 27 – 28 May 2011, Belgrade, Serbia

- "Stellar spectra and data reduction"
  A. Ćiprijanovicć, R. Vujetić
  Symposium "Mathematics and applications", 28 – 29 May 2010, Belgrade, Serbia

Posters

- "DeepUQ: A Systematic Comparison of Aleatoric Uncertainties from Deep Learning Methods"
  B. Nevin, B. Nord, **A. Ćiprijanovi'c**
  Machine Learning and the Physical Sciences, Workshop at the 38th Conference on Neural Information Processing Systems (NeurIPS), 15 December 2024, Vancouver, Canada

- "Neural network prediction of strong lensing systems with domain adaptation and uncertainty quantification"
  S. Agarwal, **A. Ćiprijanovi'c**, B. Nord
  Machine Learning and the Physical Sciences, Workshop at the 38th Conference on Neural Information Processing Systems (NeurIPS), 15 December 2024, Vancouver, Canada

- "Population-level Dark Energy Constraints from Strong Gravitational Lensing using Simulation-Based Inference"
  S. Jarugula, B. Nord, A. Gandrakota, **A. Ćiprijanović**
  AI4Science: Scaling in AI for Scientific Discovery, Workshop at the the 41st International Conference on Machine Learning (ICML), 26 July 2024, Vienna, Austria

- "Domain Adaptive Graph Neural Networks for Constraining Cosmological Parameters Across Multiple Data Sets"
  A. Roncoli, **A. Ćiprijanović**, M. Votberg, F. Villaescusa-Navarro, B. Nord
  Machine Learning and the Physical Sciences, Workshop at the 37th Conference on Neural Information Processing Systems (NeurIPS), 15 December 2023, New Orleans, LA

- "Domain Adaptation for Measurements of Strong Gravitational Lenses"
  P. Swierc, M. Zhao, **A. Ćiprijanović**, B. Nord
  Machine Learning and the Physical Sciences, Workshop at the 37th Conference on Neural Information Processing Systems (NeurIPS), 15 December 2023, New Orleans, LA

- "Semi-Supervised Domain Adaptation for Cross-Survey Galaxy Morphology Classification and Anomaly Detection"
  A. Ćiprijanović, A. Lewis, K. Pedro, S. Madireddy, G. N. Perdue, B. Nord, S. M. Wild
  Machine Learning and the Physical Sciences, Workshop at the 36th Conference on Neural Information Processing Systems (NeurIPS), 3 December 2022, New Orleans, LA

- "DIGS: Deep Inference of Galaxy Spectra with Neural Posterior Estimation"
  G. Koular, **A. Ćiprijanović**, B. Nord
  Machine Learning and the Physical Sciences, Workshop at the 36th Conference on Neural Information Processing Systems (NeurIPS), 3 December 2022, New Orleans, LA

- "Neural Inference of Gaussian Processes for Time Series Data of Quasars"
  E. Danilov, **A. Ćiprijanović**, B. Nord
  Machine Learning and the Physical Sciences, Workshop at the 36th Conference on Neural Information Processing Systems (NeurIPS), 3 December 2022, New Orleans, LA

- "Strong Lensing Parameter Estimation on Ground-Based Imaging Data Using Simulation-Based Inference"
  J. Poh, A. Samudre, **A. Ćiprijanović**, B. Nord
  Machine Learning and the Physical Sciences, Workshop at the 36th Conference on Neural Information Processing Systems (NeurIPS), 3 December 2022, New Orleans, LA

- "DeepBench: A library for simulating benchmark datasets for scientific analysis"
  M. Voetberg, A. Lewis, B. Nord **A. Ćiprijanović**
  Machine Learning for Astrophysics, Workshop at the the 39th International Conference on Machine Learning (ICML), 22 July 2022, Baltimore, MD

[1] Married name for some time, so publications can be found under both surnames.

- ”Inferring Structural Parameters of LSBGs with Uncertainty Quantification using BNNs”
  D. Tanoglidis, **A. Ćiprijanović**, A. Drlica-Wagner
  Machine Learning for Astrophysics, Workshop at the the 39th International Conference on Machine Learning (ICML), 22 July 2022, Baltimore, MD

- ”Estimating Cosmological Constraints from Galaxy Cluster Abundance using Simulation-Based Inference”
  M. Reza, Y. Zhang, B. Nord, J. Poh, **A. Ćiprijanović**, L. Strigari
  Machine Learning for Astrophysics, Workshop at the the 39th International Conference on Machine Learning (ICML), 22 July 2022, Baltimore, MD

- ”Robustness of deep learning algorithms in astronomy - galaxy morphology studies”
  A. Ćiprijanović, D. Kafkes, G. N. Perdue, K. Pedro, G. Snyder, F. J. Sánchez, S. Madireddy, T. Johnston, B. Nord, S. Wild
  Machine Learning and the Physical Sciences, Workshop at the 35th Conference on Neural Information Processing Systems (NeurIPS), 13 December 2020, virtual conference

- ”Detecting Low Surface Brightness Galaxies with Mask R-CNN”
  C. Levy, **A. Ćiprijanović**, A. Drlica-Wagner, B. Mutlu-Pakdil, B. Nord, D. Tanoglidis
  Machine Learning and the Physical Sciences, Workshop at the 35th Conference on Neural Information Processing Systems (NeurIPS), 13 December 2021, virtual conference

- ”Using Mask R-CNN to detect and mask ghosting and scattered light artifacts in astronomical images”
  D. Tanoglidis, **A. Ćiprijanović**, A. Drlica-Wagner
  Machine Learning and the Physical Sciences, Workshop at the 35th Conference on Neural Information Processing Systems (NeurIPS), 13 December 2020, virtual conference

- ”Detecting Low Surface Brightness Galaxies with Mask R-CNN”
  C. Levy, A. Drlica-Wagner, D. Tanoglidis, **A. Ćiprijanović**, B. Matlu-Pakdil
  Machine Learning and the Physical Sciences, Workshop at the 35th Conference on Neural Information Processing Systems (NeurIPS), 13 December 2020, virtual conference

- ”Domain Adaptation for Cross-Domain Studies of Merging Galaxies”
  A. Ćiprijanović, D. Kafkes, S. Jenkins, K. Downey, G. N. Perdue, S. Madireddy, T. Johnston, B. Nord
  Statistical Challenges in Modern Astronomy VII, 7 - 10 June 2021, Penn State’s Center for Astrostatistics, virtual conference

- ”Domain adaptation techniques for improved cross-domain study of galaxy mergers”
  A. Ćiprijanović, D. Kafkes, S. Jenkins, K. Downey, G. N. Perdue, S. Madireddy, T. Johnston, B. Nord
  Machine Learning and the Physical Sciences, Workshop at the 34th Conference on Neural Information Processing Systems (NeurIPS), 11 December 2020, virtual conference

- ”Deepmerge: Studying Distant Merging Galaxies With Deep Neural Networks”
  A. Ćiprijanović, G. F. Snyder, B. Nord, J.E.G. Peek
  XIX Serbian astronomical conference, 13 - 17 October 2020, Belgrade, Serbia

- ”Women Scientists Who Made Nuclear Astrophysics”
  C. V. Hampton, M. Lugaro, P. Papakonstantinou, P. G. Isar, B. Nordström, N. Özkan, M. Aliotta, **A. Ćiprijanović** et al.
  15th International Symposium on Nuclei in the Cosmos, 24 June - 29 June 2018, Assergi, L’Aquila, Italy

- ”Cosmic-Ray Nucleosynthesis in Galactic Interactions”
  T. Prodanović, **A. Ćiprijanović**
  15th International Symposium on Nuclei in the Cosmos, 24 June - 29 June 2018, Assergi, L’Aquila, Italy

- ”Cosmic Rays and the Production of Lithium in Small Magellanic Cloud”
  A. Ćiprijanović, T. Prodanović
  15th International Symposium on Nuclei in the Cosmos, 24 June - 29 June 2018, Assergi, L’Aquila, Italy

- "Optical Observations of NGC2366 Galaxy in Narrow Band [SII] and Hα Filters"
  M. M. Vučetić, B. Arbutina, N. Petrov, **A. Ćiprijanović**, M. Z. Pavlović, D. Urošević
  XI Bulgarian-Serbian Astronomical Conference, 14 - 18 May, 2018, Belogradchik, Bulgaria

- "Constraining the Collective Radio Emission of Large Scale Accretion Shocks"
  A. Ćiprijanović, T. Prodanović, M. Z. Pavlović
  XVIII Serbian Astronomical Conference, 17 - 21 October 2017, Belgrade, Serbia

- "Observation of NGC185 Galaxy – Study of Supernova Remnant In a Dwarf Elliptical Galaxy"
  M. M. Vučetić, B. Arbutina, M. Z. Pavlović, **A. Ćiprijanović**, D. Urošević, N. Petrov, D. Onić, A. Trčka
  X Serbian – Bulgarian Astronomical Conference, 30 May - 3 June 2016, Belgrade, Serbia

- "Radio Evolution of Supernova Remnants Including Non–Linear Particle Acceleration"
  M. Z. Pavlović, D. Urošević , B. Arbutina, **A. Ćiprijanović**, M. Vučetić, V. Zeković, D. Onić
  X Serbian – Bulgarian Astronomical Conference, 30 May - 3 June 2016, Belgrade, Serbia

- "Neutrionos from Large-Scale Stuctures?"
  A. Dobardžić, T.Prodanović
  XVII National Conference of Astronomers of Serbia, 23 - 27 September 2014, Belgrade, Serbia

- "Diffuse Gamma–Ray Emission from Large Scale Structures"
  A. Dobardžić, T. Prodanović
  Workshop on the Future of Dark Matter Astro–Particle Physics: Insights and Perspectives, 8 – 11 October 2013, ICTP – Trieste, Italy

Public Talks and Seminars

- "Bridging the Gap Between Astronomical Datasets with AI"
  STScI, Baltimore MD, November 2024

- "Bridging the Gap Between Astro. Datasets: From Proof of Concept to AI Model Deployment with Domain Adaptation"
  Northwestern University, Evanston IL, February 2024

- "Bridging the Gap Between Astro. Datasets: From Proof of Concept to AI Model Deployment with Domain Adaptation"
  University of Chicago, AI in Science Seminar Series, Chicago IL, November 2023

- "Domain Shift Problems in Astrophysics: Bridging the gap between simulated and real data with AI"
  Department of Astronomy, Faculty of Mathematics Seminar, Belgrade, Serbia, April 2023

- "Domain Shift Problems in Astrophysics: Bridging the gap between simulated and real data with AI"
  DIII-D National Fusion Facility, San Diego CA, March 2023

- "Domain Shift Problems in Astrophysics: Bridging the gap between simulated and real data with AI"
  SISSA, Italy, February 2023

- "Bridging the gap between astronomical datasets with AI - Domain Shift, Model Robustness and Failure Modes"
  KITP and CCA, February 2023

- "Bridging the gap between simulations and real data - domain adaptation for deep learning in physics and astronomy"
  Data Science Institute, Imperial College London, February 2022

- "Bridging the gap between simulations and astronomical surveys with deep learning"
  Center for AstroPhysical Surveys, NCSA, University of Illinois, December 2021

- "Bridging the gap between simulations and survey data - domain adaptation for deep learning in astronomy"
  Institute for Theory and Computation, Harvard, November 2021

- "Bridging the gap between simulated and real data in physics and astronomy -
  - domain adaptation for deep learning algorithms"
  Department of Physics, South Dakota School of Mines and Technology, October 2021

- "Bridging the gap between simulations and instrument data - domain adaptation for deep learning in astronomy"
  AI/ML Seminar, Fermilab, April 2021

- ”Domain adaptation for cross-domain studies in astronomy”
  Seminar at University of Tennessee, Knoxville, February 2021
- ”Domain adaptation for cross-domain studies in astronomy”
  Seminar at the Department of High Energy Physics, Imperial College London, January 2021
- ”Artificial Intelligence at Fermilab”
  53rd Annual Users Meeting, Fermi National Accelerator Laboratory, Batavia IL, August 2020
- ”Classifying High-redshift Merging Galaxies with Deep Neural Networks ”
  Particle Astrophysics Seminar, Fermi National Accelerator Laboratory, Batavia IL, February 2020
- ”Machine Learning Applications in Astronomy”
  Seminar on Computer Science and Applied Mathematics, Mathematical Institute of the Serbian Academy of Sciences and Arts, Belgrade, Serbia, October 2019
- ”Imposter Synrdome”
  International Day of Women and Girls in Science at the Faculty of Mathematics, University of Belgrade, Serbia, March 2019
- ”Learning About Cosmic Rays through Muli-Messenger Astrophysics”
  Joint seminar at the Department of Astronomy, University of Wisconsin – Madison and WIPAC, Madison WI, February 2018
- ”Learning About Cosmic Rays through Muli-Messenger Astrophysics”
  Seminar at the Department of Astronomy and Astrophysics, University of Chicago, Chicago IL, January 2018
- ”Small Magellanic Cloud and the First Measured Lithium Abundance Outside of the Milky Way”
  Seminar of the Physics Department, Faculty of Sciences, University of Novi Sad, Serbia, January 2018
- ”Structure-Formation Cosmic Rays in Light of Fermi-LAT and IceCube”
  Seminar at the University of Nova Gorica, Slovenia, November 2017
- ”Neutrinos and Diffuse Gamma-Ray Emision of Large-Scale Structures”
  Seminar of the Physics Department, Faculty of Sciences, University of Novi Sad, Serbia, April 2015
- ”Diffuse Gamma-Ray Emission of Large-Scale Structures”
  Seminar of the Department of Astronomy, Faculty of Mathematics, University of Belgrade, Serbia, November 2013
- ”Astronomy and Astrophysics through Data Reduction of Astronomical Observations and Student Projects”
  Seminar of the Department of Astronomy, Faculty of Mathematics, University of Belgrade, Serbia, March 2009

Publication List

Journal Papers

1. ”DISS: Deep inference of strong lensing systems in simulations of ground-based surveys with neural posterior estimation”: J. Poh, A. Samudre, **A. Ćiprijanović**, J. Frieman, B. Nord, 2024, *submitted to JCAP*.
2. *”DeepAstroUDA: Semi-Supervised Universal Domain Adaptation for Cross-Survey Galaxy Morphology Classification and Anomaly Detection”: **A. Ćiprijanović**, A. Lewis, K. Pedro, S. Madireddy, B. Nord, G. N. Perdue, S. W. Wild, 2023, *MLST*, 4, 025013.
3. ”The LSST AGN Data Challenge: Selection Methods”: Đ. V. Savi ć, I. Jankov, W. Yu, V. Petrecca, M. J. Temple, Q. Ni, R. Shirley, A. B. Kovačević, M. Nikolić, D. Ilić, L. Popović, M. Paolillo, S. Panda, **A. Ćiprijanović**, G. T. Richards, 2023, *ApJ*, 953, 138.
4. ”DIGS: Deep Inference of Galaxy Spectra with Neural Posterior Estimation”: G. Khullar, B. Nord, **A. Ćiprijanović**, Jason Poh, Fei Xu, 2022, *MLST*, 3, 04LT04.

5. *"DeepAdversaries: Examining the Robustness of Deep Learning Models for Galaxy Morphology Classification": **A. Ćiprijanović**, D. Kafkes, G. Snyder, F. J. Sánchez, G. N. Perdue, K. Pedro, B. Nord, S. Madireddy, S. M. Wild, 2022, *MLST*, 3, 035007.

6. "DeepGhostBusters: Using Mask R-CNN to detect and mask ghosting and scattered-light artifacts from optical survey images": D. Tanoglidis, **A. Ćiprijanović**, A. Drlica-Wagner, B.Nord, M.H.L.S.Wang, A. Jacob Amsellem, K. Downey, S. Jenkins, D. Kafkes, Z. Zhangd, 2022, *Astron. Comput.*, 39, 100580

7. "Snowmass White Paper: Machine Learning and Cosmology": C. Dvorkin, S. Mishra-Sharma, B. Nord, V. A. Villar, C. Avestruz, K. Bechtol, **A. Ćiprijanović**, A. J. Connolly, L. H. Garrison, G. Narayan, F. Villaescusa-Navarro, 2022, arXiv:2203.08056

8. "Validating Synthetic Galaxy Catalogs for Dark Energy Science in the LSST Era": The LSST Dark Energy Science Collaboration (LSST DESC) - E. Kovacs, Y.-Y. Mao, A. Bahmanyar et al., 2022, *Open Journal of Astrophysics*, Vol. 5, doi.org/10.21105/astro.2110.03769

9. *"DeepMerge II: Building Robust Deep Learning Algorithms for Merging Galaxy Identification Across Domains": **A. Ćiprijanović**, D. Kafkes, K. Downey, S. Jenkins, G. N. Perdue, S. Madireddy, T. Johnston, G. F. Snyder, B. Nord, 2021, *MNRAS*, 506, 677-691

10. "DeepShadows: Separating Low Surface Brightness Galaxies from Artifacts using Deep Learning": D. Tanoglidis, **A. Ćiprijanović**, A. Drlica-Wagner, 2021, *Astron. Comput.*, 35, 100469

11. *"Deep Merge: Classifying Merging Galaxies with Deep Neural Networks": **A. Ćiprijanović**, G. F. Snyder, B. Nord, J. E. G. Peek, 2020, *Astron. Comput.*, 32, 100390

12. "Updated Radio $\Sigma - D$ Relation for Galactic Supernova Remnants – II": B. Vukotić, **A. Ćiprijanović**, M. M. Vučetić, D. Onić, D. Urošević, 2019, *Serb. Astron. J.*, 199, 23

13. "Optical Observations of the Nearby Galaxy NGC2366 Through Narrow Band Hα and [SII] Filters. Supernova Remnants Status": M. M. Vučetić, D. Onić, N. Petrov, **A. Ćiprijanović**, M. Z. Pavlović, 2019, *Serb. Astron. J.*, 198, 1

14. "Contribution of Galaxies and Galaxy Clusters to the Diffuse Gamma–Ray Background (Dissertation Summary)": **A. Ćiprijanović**, 2017, *Publ. Astron. Soc. Pac.*, 129, 047002

15. *"Galactic Cosmic-Ray Induced Production of Lithium in the Small Magellanic Cloud": **A. Ćiprijanović**, 2016, *Astropart. Phys.*, 85, 24

16. "Optical Observations of the Nearby Galaxy IC342 with Narrow Band [SII] and H_α Filters. II – The Detection of 16 Optically–Identified Supernova Remnant Candidates": M. M. Vučetić, **A. Ćiprijanović**, M. Z. Pavlović, T. G. Pannuti, N. Petrov, U. D. Göker, E. N. Ercan, 2015, *Serb. Astron. J.*, 191, 67

17. *"Neutrino Constrains to the Diffuse Gamma–Ray Emission from Accretion Shocks": **A. Dobardžić**, T. Prodanović, 2015, *Astrophys. J.*, 806, 184

18. "Updated Radio $\Sigma - D$ Relation For Galactic Supernova Remnants": M. Z. Pavlović, **A. Dobardžić**, B. Vukotić, D. Urošević, 2014, *Serb. Astron. J.*, 189, 24

19. "Diffuse Pionic Gamma–Ray Emission from Large Scale Structures in the Fermi Era": **A. Dobardžić**, T. Prodanović, 2014, *Astrophys. J.*, 782, 109 [Erratum: 2014, *Astrophys. J.*, 787, 95]

20. "Optical Observations of the Nearby Galaxy IC342 With Narrow Band [SII] and H_α Filters. I": M. M. Vučetić, B. Arbutina, D. Urošević, **A. Dobardžić**, M. Z. Pavlović, T. G. Pannuti, N. Petrov, 2013, *Serb. Astron. J.*, 187, 11

21. "Relativistic Non–Thermal Bremsstrahlung Radiation": V. Zeković, B. Arbutina, **A. Dobardžić**, M. Z. Pavlović, 2013, *Int. J. Mod. Phys. A*, 28, 1350141

Conference Papers and Proceedings

1. "DeepUQ: A Systematic Comparison of Aleatoric Uncertainties from Deep Learning Methods": B. Nevin, **A. Ćiprijanovi'c**, B. Nord, arXiv:2411.08587, (Machine Learning and the Physical Sciences, Workshop at

the 38th Conference on Neural Information Processing Systems (NeurIPS), 15 December 2024, Vancouver, Canada), soon on arXiv and conf. website
https://arxiv.org/pdf/2411.08587

2. "Neural network prediction of strong lensing systems with domain adaptation and uncertainty quantification": S. Agarwal, **A. Ćiprijanovi'c**, B. Nord, arXiv:2411.03334, (Machine Learning and the Physical Sciences, Workshop at the 38th Conference on Neural Information Processing Systems (NeurIPS), 15 December 2024, Vancouver, Canada), soon on arXiv and conf. website
https://arxiv.org/pdf/2411.03334

3. "Population-level Dark Energy Constraints from Strong Gravitational Lensing using Simulation-Based Inference": S. Jarugula, B. Nord, A. Gandrakota, **A. Ćiprijanović**, arXiv:2407.17292 (AI4Science: Scaling in AI for Scientific Discovery, Workshop at the the 41st International Conference on Machine Learning (ICML), 26 July 2024, Vienna, Austria),
https://arxiv.org/pdf/2407.17292

4. "Domain Adaptive Graph Neural Networks for Constraining Cosmological Parameters Across Multiple Data Sets": A. Roncoli, **A. Ćiprijanović**, M. Votberg, F. Villaescusa-Navarro, B. Nord, arXiv:2311.01588 (Machine Learning and the Physical Sciences, Workshop at the 37th Conference on Neural Information Processing Systems (NeurIPS), 15 December 2023, New Orleans, LA),
https://ml4physicalsciences.github.io/2023/files/NeurIPS_ML4PS_2023_138.pdf

5. "Domain Adaptation for Measurements of Strong Gravitational Lenses": P. Swierc, M. Zhao, **A. Ćiprijanović**, B. Nord, arXiv:2311.17238 (Machine Learning and the Physical Sciences, Workshop at the 37th Conference on Neural Information Processing Systems (NeurIPS), 15 December 2023, New Orleans, LA),
https://ml4physicalsciences.github.io/2023/files/NeurIPS_ML4PS_2023_121.pdf

6. "Semi-Supervised Domain Adaptation for Cross-Survey Galaxy Morphology Classification and Anomaly Detection": **A. Ćiprijanović**, A. Lewis, K. Pedro, S. Madireddy, G. N. Perdue, B. Nord, S. M. Wild, arXiv:2211.00677 (Machine Learning and the Physical Sciences, Workshop at the 36th Conference on Neural Information Processing Systems (NeurIPS), 3 December 2022, New Orleans, LA),
https://ml4physicalsciences.github.io/2022/files/NeurIPS_ML4PS_2022_159.pdf

7. "DIGS: Deep Inference of Galaxy Spectra with Neural Posterior Estimation": G. Koular, **A. Ćiprijanović**, B. Nord, (Machine Learning and the Physical Sciences, Workshop at the 36th Conference on Neural Information Processing Systems (NeurIPS), 3 December 2022, New Orleans, LA),
https://ml4physicalsciences.github.io/2022/files/NeurIPS_ML4PS_2022_38.pdf

8. "Neural Inference of Gaussian Processes for Time Series Data of Quasars": E. Danilov, **A. Ćiprijanović**, B. Nord, arXiv:2211.10305 (Machine Learning and the Physical Sciences, Workshop at the 36th Conference on Neural Information Processing Systems (NeurIPS), 3 December 2022, New Orleans, LA),
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9. "Strong Lensing Parameter Estimation on Ground-Based Imaging Data Using Simulation-Based Inference": J. Poh, A. Samudre, **A. Ćiprijanović**, B. Nord, arXiv:2211.05836 (Machine Learning and the Physical Sciences, Workshop at the 36th Conference on Neural Information Processing Systems (NeurIPS), 3 December 2022, New Orleans, LA),
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10. "DeepBench: A library for simulating benchmark datasets for scientific analysis": M. Voetberg, A. Lewis, B. Nord **A. Ćiprijanović**, (Machine Learning for Astrophysics, Workshop at the 39th International Conference on Machine Learning (ICML 2022), July 22nd, Baltimore, MD)

11. "Estimating Cosmological Constraints from Galaxy Cluster Abundance using Simulation-Based Inference", M. Reza, Y. Zhang, B. Nord, J. Poh, **A. Ćiprijanović**, L. Strigari, arXiv:2208.00134 (Machine Learning for Astrophysics, Workshop at the 39th International Conference on Machine Learning (ICML 2022), July 22nd, Baltimore, MD)

12. "Inferring Structural Parameters of Low-Surface-Brightness-Galaxies with Uncertainty Quantification using Bayesian Neural Networks": D. Tanoglidis, **A. Ćiprijanović**, A. Drlica-Wagner, arXiv:2207.03471 (Machine Learning for Astrophysics, Workshop at the 39th International Conference on Machine Learning (ICML 2022), July 22nd, Baltimore, MD)

13. "Robustness of deep learning algorithms in astronomy- galaxy morphology studies": **A. Ćiprijanović**, D. Kafkes, G. N. Perdue, K. Pedro, G. Snyder, F. J. Sánchez, S. Madireddy, S. M. Wild, B. Nord, arXiv:2111.00961

(Machine Learning and the Physical Sciences, Workshop at the 35th Conference on Neural Information Processing Systems (NeurIPS), 13 December 2021, virtual conference), https://ml4physicalsciences.github.io/2021/files/NeurIPS_ML4PS_2021_6.pdf

14. "Detecting Low Surface Brightness Galaxies with Mask R-CNN": C. Levy, **A. Ćiprijanović**, A. Drlica-Wagner, B. Mutlu-Pakdil, B. Nord, D. Tanoglidis, (Machine Learning and the Physical Sciences, Workshop at the 35th Conference on Neural Information Processing Systems (NeurIPS), 13 December 2021, virtual conference), ml4physicalsciences.github.io/2021/files/NeurIPS_ML4PS_2021_111.pdf

15. "Using Mask R-CNN to detect and mask ghosting and scattered-light artifacts in astronomical images": D. Tanoglidis, **A. Ćiprijanović**, A. Drlica-Wagner, B. Nord, M. H. L. S. Wang, A. J. Amsellem, K. Downey, S. Jenkins, D. Kafkes, Z. Zhang, (Machine Learning and the Physical Sciences, Workshop at the 35th Conference on Neural Information Processing Systems (NeurIPS), 13 December 2021, virtual conference), ml4physicalsciences.github.io/2021/files/NeurIPS_ML4PS_2021_4.pdf

16. "Domain adaptation techniques for improved cross-domain study of galaxy mergers": **A. Ćiprijanović**, D. Kafkes, S. Jenkins, K. Downey, G. N. Perdue, S. Madireddy, T. Johnston, B. Nord, arXiv:2011.03591 (Machine Learning and the Physical Sciences, Workshop at the 34th Conference on Neural Information Processing Systems (NeurIPS), 11 December 2020, virtual conference), ml4physicalsciences.github.io/2020/files/NeurIPS_ML4PS_2020_89.pdf

17. "Women Scientists Who Made Nuclear Astrophysics": C. V. Hampton, M. Lugaro, P. Papakonstantinou, P. G. Isar, B. Nordström, N. Özkan, M. Aliotta, **A. Ćiprijanović** et al., 2019, In: Formicola A., Junker M., Gialanella L., Imbriani G. (eds) Nuclei in the Cosmos XV. Springer Proceedings in Physics, vol 219. Springer, ChamSpringer Proceedings in Physics (15th International Symposium on Nuclei in the Cosmos, 24 June - 29 June 2018, Assergi, L'Aquila, Italy)

18. "Cosmic-Ray Nucleosynthesis in Galactic Interactions": T. Prodanović, **A. Ćiprijanović**, 2019, In: Formicola A., Junker M., Gialanella L., Imbriani G. (eds) Nuclei in the Cosmos XV. Springer Proceedings in Physics, vol 219. Springer, Cham (15th International Symposium on Nuclei in the Cosmos, 24 June - 29 June 2018, Assergi, L'Aquila, Italy)

19. "Constraining the Collective Radio Emission of Large Scale Accretion Shocks": **A. Ćiprijanović**, T. Prodanović, M. Z. Pavlović, 2018, *Publ. Astron. Obs. Belgrade*, No. 98, 273 (XVIII Serbian Astronomical Conference, 17 October - 21 October 2017, Belgrade, Serbia)

20. "Optical Observations of NGC1156 Galaxy in Narrow Band [SII] and H_α Filters": M. M. Vučetić, A. Trčka, B. Arbutina, **A. Ćiprijanović**, M. Z. Pavlović, D. Urošević, N. Petrov, 2018, *Astron. & Astrophys. Trans.*, 30, 379 (X Serbian – Bulgarian Astronomical Conference, 30 May - 3 June 2016, Belgrade, Serbia)

21. "The Modified Equipartition Calculation for Supernova Remnants with the Spectral Index $\alpha = 0.5$": D. Urošević, M. Z. Pavlović, B. Arbutina, **A. Dobardžić**, 2015, *Highlights of Astronomy*, 16, 398 (IAU XXVIII General Assembly, 20 - 31 August 2012, Beijing, China)

22. "Cosmological Cosmic–Ray Contribution to the Extragalactic Gamma–Ray Background": **A. Ćiprijanović**, 2012, *Publ. Astron. Obs. Belgrade*, No. 91, 249 (XVI National Conference of Astronomers of Serbia, 10 - 12 October 2011, Belgrade, Serbia)

Abstracts

1. "Galaxy Morphology Classification Using Bayesian Neural Networks for LSST": M. Dunn, **A. Ćiprijanović**, B. Nord, B. Mobasher (241. Meeting of the AAS, 8 - 12 January 2022, Seattle, WA), https://submissions.mirasmart.com/AAS241/Itinerary/EventsAAG.aspx

2. "Temporal Variational Autoencoders and Simulation-based inference for interpolation of light curves of Gravitationally Lensed Quasars": E. Danilov, B. Nord, **A. Ćiprijanović** (Advanced Computing and Analysis Techniques in Physics Research (ACAT 2022), 24 - 28 October 2022, Bari, Italy), https://indico.cern.ch/event/1106990/book-of-abstracts.pdf

3. "Constraining Cosmological Parameters from Dark Matter Halo Abundance using Simulation-Based Inference": M. Reza, Y. Zhang, B. Nord, **A. Ćiprijanović** (Advanced Computing and Analysis Techniques in Physics Research (ACAT 2022), 24 - 28 October 2022, Bari, Italy), https://indico.cern.ch/event/1106990/book-of-abstracts.pdf

4. "Automated Lens Parameter Estimation using Simulation-Based Inference": J. Poh, A. Samudre, **A. Ćiprijanović**, B. Nord (Advanced Computing and Analysis Techniques in Physics Research (ACAT 2022), 24 - 28 October 2022, Bari, Italy), https://indico.cern.ch/event/1106990/book-of-abstracts.pdf

5. "Bridging the gap between simulations and survey data - domain adaptation for deep learning in astronomy": **A. Ćiprijanović**, D. Kafkes, K. Downey, S. Jenkins, G. N. Perdue, S. Madireddy, G. Snyder, B. Nord, T. Johnston (Debating the Potential of MachineLearning in Astronomical Surveys, 18 - 22 October 2021, Institute d'astrophysique de Paris, France), https://ml-iap2021.sciencesconf.org/366128

6. "Domain Adaptation for Cross-Domain Studies in Astronomy: Merging Galaxies Identification": **A. Ćiprijanović**, D. Kafkes, K. Downey, S. Jenkins, G. N. Perdue, S. Madireddy, T. Johnston, G. Snyder, B. Nord (Where the Earth Meets the Sky, 27 - 28 May 2021, Cosmic Dawn Center at DTU, Copenhagen, ID 32), https://indico.nbi.ku.dk/event/1330/

7. "DeepMerge: Studying Distant Merging Galaxies With Deep Neural Networks": **A. Ćiprijanović**, G. F. Snyder, B. Nord, J.E.G. Peek (XIX Serbian astronomical conference, 13 - 17 October 2020, Belgrade, Serbia, p. 114), http://astro.math.rs/kas19/

8. "Multi-Messenger Studies of Cosmic Ray Acceleration in Galaxy Cluster Accretion Shocks": **A. Ćiprijanović**, T. Prodanović (30th Summer School and International Symposium on the Physics of Ionized Gases, 24 - 28 August, 2020, Šabac, Serbia), http://www.spig2020.ipb.ac.rs

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10. "Optical Observations of NGC2366 Galaxy in Narrow Band [SII] and Hα Filters": M. M. Vučetić, B. Arbutina, N. Petrov, **A. Ćiprijanović**, M. Z. Pavlović, D. Urošević (XI Bulgarian-Serbian Astronomical Conference, 14 - 18 May, 2018, Belogradchik, Bulgaria), http://www.astro.bas.bg/XIBSAC/index.php

11. "Contribution of Galaxies and Galaxy Clusters to the Diffuse Gamma-Ray Background (PhD Thesis)": **A. Ćiprijanović** (XVIII Serbian Astronomical Conference, 17 - 21 October 2017, Belgrade, Serbia, p. 33), http://sac18.aob.rs

12. "Observation of NGC185 Galaxy – Study of Supernova Remnant In a Dwarf Elliptical Galaxy": M. M. Vučetić, B. Arbutina, M. Z. Pavlović, **A. Ćiprijanović**, D. Urošević, N. Petrov, D. Onić, A. Trčka (X Serbian – Bulgarian Astronomical Conference, 30 May - 3 June 2016, Belgrade, Serbia), http://www.wfpdb.org/ftp/10_SBAC/

13. "Radio Evolution of Supernova Remnants Including Non–Linear Particle Acceleration": M. Z. Pavlović, D. Urošević , B. Arbutina, **A. Ćiprijanović**, M. Vučetić, V. Zeković, D. Onić (X Serbian – Bulgarian Astronomical Conference, 30 May - 3 June 2016, Belgrade, Serbia), http://www.wfpdb.org/ftp/10_SBAC/

14. "Optical Observation of Supernova Remnant in Elliptical Galaxy NGC185": M. Vučetić, B. Arbutina, M. Z. Pavlović, **A. Ćiprijanović**, D. Urošević, N. Petrov, D. Onić, A. Trčka (Odyssey in Space after Stellar Death, Proceedings of the Conference, 6 - 11 June 2016, Chania, Greece, id. 34), http://snr2016.astro.noa.gr

15. "Updated Radio Surface–Brightness – to – Diameter Relation for Galactic Supernova Remnants": M. Z. Pavlović, **A. Dobardžić**, D. Urošević, B. Arbutina, D. Onić, B. Vukotić (XVII National Conference of Astronomers of Serbia, 23 - 27 September 2014, Belgrade, Serbia (Eds. S. Šegan, S. Ninković, A. Kovačević, B. Novaković), p. 55), http://astro.matf.bg.ac.rs/nkas17/

16. "Optical detection of supernova remnants in the nearby galaxy IC342": B. Arbutina, M. Vučetić, **A. Dobaržić**, M. Z. Pavlović, D. Urošević (IX Bulgarian – Serbian Astronomical Conference: Astroinformatics, 2 - 4 July 2014, Sofia, Bulgaria), http://www.wfpdb.org/ftp/9_BSACA/

17. "Observations of Galaxy IC342 in Narrow Band [SII] and H_α Filters": M. Anđelić, B. Arbutina, D. Urošević, **A. Dobardžić**, M. Z. Pavlović (VIII Serbian – Bulgarian Astronomical Conference, 8 - 12 May 2012, Leskovac (Eds. M. S. Dimitrijević and M. Tsvetkov), p. 19), http://www.astro.bas.bg/8SBM/8_BSAC.html

Selected Software

GNN_DomainAdapt Domain adaptation for cosmology with Graph Neural Networks
(https://github.com/deepskies/GNN_DomainAdapt)

DeepAstroUDA Universal domain adaptation for astrophysics
(https://github.com/deepskies/DeepAstroUDA)

DeepSLEEP Strong Lensing parameter inference with SBI
(https://github.com/deepskies/DeepSLEEP)

DeepAdversaries Adversarial robustness for deep learning in astronomy
(https://github.com/AleksCipri/DeepAdversaries)

DeepMergeDA Domain adaptation for deep learning across different data domains
(https://github.com/AleksCipri/DeepMergeDomainAdaptation)

DeepMerge Convolutional Neural Network for classification of merging galaxies
https://github.com/AleksCipri/deepmerge-public

DeepUtilities Utilities package for machine learning in astronomy
(https://github.com/deepskies/DeepUtilities)