

Stella Boula

Curriculum Vitae

Krakow
Poland

 <https://stboula.site123.me>



Education

- 2016-2021 **Ph.D.**, *National and Kapodistrian University of Athens, Greece*, Grade: *Excellent*.
"Modeling the multi-wavelength spectrum from Active Galactic Nuclei"
Supervisor: Professor Apostolos Mastichiadis
- 2014-2016 **Masters of Science in Astrophysics, Astronomy & Mechanics**, *National and Kapodistrian University of Athens, Greece*, Grade: *Excellent*.
Thesis: "Modelling Non-thermal Spectra of Active Galactic Nuclei"
Supervisor: Professor Apostolos Mastichiadis
- 2007-2014 **Bachelor of Physics**, *University of Athens, Greece*, Grade: *Very Good*.
Thesis: "Absorption of High Energy Radiation in Gamma Ray Bursts"
Supervisor: Professor Apostolos Mastichiadis
- 2004-2007 **General High School**, *Vrontados - Chios, Greece*, Grade: *Excellent*.
First Class Honours

Fellowships - Awards

- 2018-2021 State Scholarships Foundation (IKY) for PhD studies
- 2018 & 2020 Two travel grants from the Hellenic Astronomical Society
- 2007-2011 Tsapalas foundation scholarship for undergraduate studies
- 2007-2012 Fellowship from women's association: "Friends of Chios' villages" for undergraduate studies

Work Experience

- 07/2021-present Postdoctoral research position (adjunct) at the Gamma-Ray Astrophysics Department, H. Niewodniczanski Institute of Nuclear Physics, Polish Academy of Sciences.
- 2014-2018 Public Outreach at *National Observatory of Athens*. Planning, organization and implementation of activities and presentations for adults, students and kids.

Professional Service

Science working group member: SST-1M collaboration - more in ICRC 2023 contributions: PoS(ICRC2023)741, PoS(ICRC2023)592
Proposal reviewer: NASA Swift and Fermi panels
Journal reviewer: Astronomy & Astrophysics, Monthly Notices of the Royal Astronomical

Assistant to e-book production: "High Energy Astrophysics", Authors: Professors A. Mastichiadis & N. Vlahakis.

Project member: "Black holes altering galaxy evolution: how to find them", PI: N. Vlahakis, 2018

Computer skills

Programming PYTHON, FORTRAN 77, C, MATLAB, MATHEMATICA

Software Pluto, VO tools for Astronomy

OS Linux, Microsoft Windows, macOS

Microsoft 365 ECDL, ECDL Advanced

Languages

Greek Native speaker

English Certificate of Proficiency in English (University of Michigan)

Teaching Experience

Physics Department, National and Kapodistrian University of Athens, Athens, Greece

Laboratory tutor:

2015-2020 Introduction to Astrophysics, 3rd year undergraduate course (Fall semesters)

2014-2019 Astrophysics, 4th year undergraduate course (Spring semesters).

Teaching assistant:

2015-2021 Undergraduate course: "High Energy Astrophysics" (Fall semesters)

2017-2023 Undergraduate course: "Stellar Astrophysics" (Fall semesters)

2015-2019 Undergraduate course: "Star systems and galaxies" (Spring semesters)

2015-2018 Graduate course: "High Energy Astrophysics" (Spring semesters)

2014-2021 Tutoring undergraduate theses in High Energy Astrophysics

Observational Experience

07/2011 Skinakas Observatory: 5 nights, M31 nova monitoring (photometry, spectroscopy)

Publications

Journals:

1. **Boula S.**, and Mastichiadis A. "Expanding one-zone model for blazar emission", *Astronomy and Astrophysics*, Volume 657, January 2022
2. **Boula S.**, Kazanas D. and Mastichiadis A., "Accretion Disk MHD Winds and Blazar Classification", *Monthly Notices of the Royal Astronomical Society: Letters*, Volume 482, Issue 1, 1 January 2019
3. Mastichiadis A., Florou I., Kefala E., **Boula S.** and Petropoulou M., "A roadmap to hadronic supercriticalities: a comprehensive study of the parameter space for high-energy astrophysical sources", *Monthly Notices of the Royal Astronomical Society*, Volume 495, Issue 2, June 2020
4. **Boula S.**, Petropoulou M. and Mastichiadis A., "On the connection of radio and γ -ray emission", *Galaxies*, 2019

Proceedings:

1. **Boula S.**, Niemiec J., Amano T. and Kobzar O., *Electron acceleration at merger shocks of galaxy clusters in generalized hybrid kinetic simulations*, PoS(ICRC2023)409
2. **Boula S.** *Investigating the Physical Mechanisms of Blazar Emission: A Multi-Zone Emission Model*, PoS(ICRC2023)890
3. SST-1M collaboration, *Analysis of commissioning data from SST-1M : A Prototype of Single-Mirror Small Size Telescope*, PoS(ICRC2023)741
4. SST-1M collaboration, *Mono and stereo performance of the two SST-1M telescope prototypes*, PoS(ICRC2023)592
5. **Boula S.**, Mastichiadis A. and Kazanas D., *An Expanding Model to Explain Blazars Emission*, Acta Phys. Pol. B Proc. Suppl. 15, 3-A12, 2022
6. **Boula S.**, Mastichiadis A. and Kazanas D., *"A two-zone emission model for Blazars and the role of Accretion Disk MHD winds"*, PoS(ICRC2021)678
7. Batziou E., **Boula S.** et.al., *2' science: A Science Communication Project for Astrophysics*, PoS(ICRC2021)1388
8. **Boula S.**, Kazanas D. and Mastichiadis A., *"MHD Accretion Disk Winds And The Blazar Sequence"*, PoS(HEPRO VII)009

Invited seminars

- 06/2023 Understanding blazar emission, from radio to gamma-rays. Weekly Seminar in Astronomy and Applied Mathematics, Research Center for Astronomy and Applied Mathematics of the Academy of Athens
- 12/2022 The many faces of cosmic accelerators: from blazars to galaxy clusters, Institute of Astrophysics, FORTH
- 10/2022 Modeling the non-thermal emission from blazars, MPIfR Radio Astronomy/VLBI Group, Max Planck
- 01/2022 Modeling the non-thermal emission from blazars, Institute of Nuclear Physics, Polish Academy of Science
- 11/2019 Modeling the non-thermal emission from blazars, Weekly Seminar in Astronomy and Applied Mathematics, Research Center for Astronomy and Applied Mathematics of the Academy of Athens

Contributed Talks

- 07/2023 Electron acceleration at merger shocks of galaxy clusters in generalized hybrid kinetic simulations, ICRC 2023, Nagoya
- 06/2023 Generalized Hybrid Kinetic Simulations of Particle Acceleration at Merger Shocks in Galaxy Clusters, in the "16th Hellenic Astronomical Conference", Athens
- 04/2023 Generalized Hybrid Kinetic Simulations of Particle Acceleration at Merger Shocks in Galaxy Clusters, in the fifteenth Conference of High Power Computer Users, Zakopane
- 07/2022 An expanding one-zone model for studying blazars emission, COSPAR 2022, Athens
- 01/2022 An expanding one-zone model to explain blazars emission, Epiphany 2022, Krakow

- 07/2021 A two-zone emission model for Blazars and the role of Accretion Disk MHD winds, ICRC 2021, Berlin
- 07/2021 A two-zone emission model for Blazars and the role of Accretion Disk MHD winds, in the "15th Hellenic Astronomical Conference", Patras
- 03/2021 On the connection of radio and γ -ray emission of blazars in RATOP 2021, Warsaw
- 07/2019 MHD Accretion Disk Winds And The Blazar Sequence in HEPRO VII, Barcelona
- 07/2019 On the connection of radio and gamma-ray emission from Blazars, in the "14th Hellenic Astronomical Conference", Volos
- 06/2019 Modeling the non-thermal emission from AGN in 59th Cracow School of theoretical physics, Zakopane
- 01/2019 MHD Accretion Disks and the Blazar Sequence in eXtreme19, Padova
- 09/2018 On the connection of radio and γ -ray emission of blazars in HAP Workshop | Monitoring the Non-thermal Universe, Cochem
- 12/2016 The Blazar Sequence and Accretion Disk Winds in HAP Workshop | Monitoring the Non-thermal Universe, Cochem
- 07/2016 Is the Blazar Sequence related to accretion disk winds? in 2nd Summer School of Hellenic Astronomical Society, "Nuclear Activity in Galaxies", Athens

Poster Presentations

- 07/2023 Investigating the physical mechanisms of blazar emission: multi-zone emission model, ICRC 2023, Nagoya
- 07/2023 Understanding blazars: Exploring the connection between gamma-ray and radio emission, EAS 2023, Krakow
- 02/2023 Hybrid-kinetic simulations of quasi-perpendicular shocks in high beta cosmic plasmas, **Boula S.**, Jacek Niemiec, Takanobu Amano, Particle Astrophysics in Poland 2023, Krakow
- 11/2022 Hybrid-kinetic simulations of the rippled low Mach number shocks in high beta cosmic plasmas, **Boula S.**, Jacek Niemiec, Takanobu Amano, Polish-German WE Heraeus-Seminar, The variable Multi-Messenger Sky, Krakow
- 09/2022 Hybrid-kinetic simulations of the rippled low Mach number shocks in high beta cosmic plasmas, **Boula S.**, Jacek Niemiec, Takanobu Amano, 14th International School for Space Simulations, Japan (online)
- 06/2021 Modeling blazars non-thermal emission: from radio to γ -rays, Jets2021, Heidelberg
- 09/2020 Poster Exhibition of Royal Astronomical Society: On the connection of radio and γ -ray emission of blazars <https://ras.ac.uk/poster-contest/stella-s-boula>
- 10/2018 Accretion Disk MHD Winds and Blazar Classification, Kazanas D., **Boula S.**, Mastichiadis A., in Eighth International Fermi Symposium, Baltimore, USA
- 07/2017 On the connection of radio and gamma-ray emission of blazars, **Boula S.**, Petropoulou M., Mastichiadis A., in "The 13th Hellenic Astronomical Conference", Heraklion, Greece

- 07/2016 Is the Blazar Sequence related to accretion disk winds?, **Boula S.**, Mastichiadis A. Kazanas D., in "EWASS 2016", Athens, Greece
- 07/2016 Is the Blazar Sequence related to accretion disk winds?, **Boula S.**, Mastichiadis A. Kazanas D., in ESO Workshop on Active Galactic Nuclei: What's in a Name? , Garching, Germany
- 06/2015 Spectral signatures of compact sources in the Inverse Compton Catastrophe limit, Petropoulou M., Piran T., **Boula S.**, Mastichiadis A., in "The 12th Hellenic Astronomical Conference", Thessaloniki, Greece

Attendance of Conferences & Workshops

- 06/2014 KICP Workshop, High-Energy Messengers : Connecting the Non-Thermal Extragalactic Backgrounds, Chicago Illinois
- 05/2014 Workshop on Relativistic Plasma Astrophysics, Purdue University
- 07/2013 4th High Energy Phenomena in Relativistic Outflows meeting (HEPRO IV) Heidelberg, Germany
- 05/2013 The Role and the Origin of Magnetic Field in Astrophysics, Research Center for Astronomy and Applied Mathematics of the Academy of Athens

Attendance of Schools

- 06/2022 Foundations of Cosmic Ray Astrophysics, Varena
- 06/2019 59th Cracow school of theoretical physics, Zakopane
- 07/2016 2nd Summer School of Hellenic Astronomical Society, "Nuclear Activity in Galaxies", Athens
- 12/2014 5th Winter School, "The Unification Model of Active Galactic Nuclei", National Observatory of Athens
- 12/2012 4th Winter School, "The XMM Newton satellite", National Observatory of Athens
- 07/2011 1st Summer School of Operators Theory, University of Aegean

Other Activities

Organizing

- 2020-now Co-founder of 2'science: Science Communication - Public Outreach Team
- 2015-now Interactive programs concerning Astrophysics, Astronomy, and Space Physics for students and adults in Greece
- 2015-2021 High Energy Astrophysics group meetings, NKUA
- 2013-2021 Friday astrophysics meetings in Astrophysics, Astronomy and Mechanics section, NKUA

Local Organizing Committee

- 07/2023 "EAS 2023" (European Astronomical Society Meeting), Krakow, volunteer
- 02/2023 "Particle Astrophysics in Poland 2023", Krakow
- 07/2022 "44th COSPAR scientific assembly", Athens, coordinator for the volunteers
- 06/2019 "Zooming in on Star Formation", Nafplion

07/2016 2nd Summer School of Hellenic Astronomical Society, "Nuclear Activity in Galaxies", Athens

07/2016 "EWASS 2016" (European Week of Astronomy and Space Science), Athens, volunteer
[Volunteering](#)

Member of Scouts of Greece. Indicatively:

2007 Scout of Nation - Award from the President of Greece

2007-present Volunteer in crisis management(refugees, fireworks, floods)

2007-2015 Adult volunteer, trained in the application of the Scout Program for underage and adult members

2013-2014 Planning, organization and implementation of a voluntary program courses for Primary and High School students

2012-2017 Member of Working Group regarding the Environment

2012-2017 Member of Working Group regarding the Adults Members, Rovers

Membership

Hellenic Astronomical Society (Hel.A.S.)

European Astronomical Society (E.A.S.)

High Energy Astrophysics Division (H.E.A.D.)

International Astronomical Union (I.A.U.)

Polish Astronomical Society (P.T.A.)