Akash Jain

Updated: October 6, 2025

DIEP Postdoctoral Fellow
Institute for Theoretical Physics, University of Amsterdam
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Employment

from Sep 2025 — ERC Postdoctoral Fellow
- University of Oxford, United Kingdom
  - Advisor: Prof. Mark Mezei (Assoc. Prof. of Mathematical Physics)
  - Funded by European Research Council Consolidator Grant (PI Prof. Mark Mezei)

Sep 2021 –Aug 2025 — DIEP Postdoctoral Fellow
- University of Amsterdam and Dutch Institute for Emergent Phenomena (DIEP), Netherlands
  - Advisor: Prof. Jay Armas (Asst. Prof. of Theoretical Physics and Coordinator of DIEP)
  - Funded by DIEP Postdoctoral Fellowship

Sep 2021 –Aug 2023 — Marie Curie Postdoctoral Fellow
- University of Amsterdam and Dutch Institute for Emergent Phenomena (DIEP), Netherlands
  - Advisor: Prof. Jan de Boer (Head of Theoretical Physics)
  - Funded by the EU's *Marie Skłodowska-Curie Actions – Individual Fellowship*

Sep 2018 –Aug 2021 — Postdoctoral Fellow
- University of Victoria, Canada
  - Advisor: Prof. Pavel Kovtun (Prof. of Physics & Astronomy)
  - Funded by Canada's NSERC Discovery Grant

Educational Qualifications

Oct 2014 –Jun 2018 — PhD in Mathematics
- Durham University, UK
  - Thesis: A Universal Framework for Hydrodynamics
  - Supervisor: Prof. Ruth Gregory (currently Head of Physics, Kings College London, UK)
  - Fully funded by the Durham Doctoral Scholarship

Sep 2009 –Jun 2014 — BS-MS (Dual Degree) in Physics (major) and Mathematics (minor)
- Indian Institute of Science Education and Research (IISER) Bhopal, India
  - Thesis: Holographic Ferromagnetism & Non-Relativistic Charged Hydrodynamics
  - Supervisor: Dr. Suvankar Dutta (Assoc. Prof. of Physics)
  - CGPA: 9.41/10 (highest in the graduating batch), *Gold Medallist*
  - Fully funded by the INSPIRE Scholarship, Government of India

Research Experience

Research Funding

Sep 2021 –Aug 2023 — Marie Skłodowska-Curie Actions (MSCA) Fellowship – European Commission
- Award: €175,572.48 for 2 years (Grant Agreement ID: 101027527).
- Host: Institute of Physics, University of Amsterdam.
- Evaluation score: 96.8% (excellence: 4.9/5, impact: 4.9/5, implementation: 4.6/5)

Fellowships & Distinctions

2021–2025 POSTDOCTORAL FELLOWSHIP – University of Amsterdam and Dutch Institute for Emergent Phenomena (DIEP), Netherlands

2018–2021 POSTDOCTORAL FELLOWSHIP – University of Victoria, Canada

2014–2018 DURHAM DOCTORAL SCHOLARSHIP – Durham University, UK: funding PhD tuition fees, living expenses, and research travel expenses for 3.5 years

2012 DAAD-WISE SCHOLARSHIP – DAAD (German Academic Exchange Service): funding a 3-month summer internship at RWTH Aachen University, Germany

2012 IASC-INSA-NASI FELLOWSHIP (declined) – Indian Academy of Sciences (IAS): funding a 2-month summer internship at Jamia Millia Islamia University, India

2014 PHYSICS PROFICIENCY GOLD MEDAL – IISER Bhopal: for the best academic performance in the graduating BS-MS batch

2014 DIRECTOR'S GOLD MEDAL – IISER Bhopal: for outstanding all-round achievement and leadership skills during the BS-MS program

2009–2014 INSPIRE SCHOLARSHIP – Government of India: funding BS-MS tuition fees and living expenses for 5 years

2013 All-India rank 45 in the IIT-GATE graduate entrance examination conducted by the Indian Institute of Technology (IIT)

2013 All-India rank 23 in the CSIR-UGC NET graduate entrance examination conducted by the Council of Scientific & Industrial Research (CSIR), Govt. of India

2013 Scored perfect 990/990 in the Graduate Record Examinations (GRE) – Physics

2009 Qualified the IIT-JEE entrance examination with All-India 98th percentile

Declined postdoctoral fellowships: U. Utrecht, Netherlands (2025), U. Oxford, UK (2023), TIFR Mumbai, India (2021), École Polytechnique, France (2021), ICTS Bangalore, India (2018), and Tsinghua U., China (2018).

Publications

33 research articles (29 published/accepted + 4 preprints), including 4 single-authored articles*.

Jun 2025 J. Armas, A. Jain and R. Lier, *On the temperature of an active nematic*, *preprint* (2025) [2506.20602], submitted to PRL

Jan 2025 R. Lier, A. Jain, J. Armas and O. Porth, *Resistive relativistic magnetohydrodynamics without Amperes Law*, *preprint* (2025) [2501.04638], submitted to PRL

Jun 2024* A. Jain, *Fractonic solids*, *preprint* (2024) [2406.07334], submitted to PRL

May 2024 J. Armas, A. Jain and R. Lier, *Hydrodynamics of thermal active matter*, *preprint* (2024) [2405.11023], submitted to PRX

Feb 2024 J. Armas, G. Batzios and A. Jain, *Higher-group global symmetry and the bosonic M5 brane*, *JHEP* **08** (2024) 003 [2402.19458]

Jan 2024 A. Jain, K. Jensen, R. Liu and E. Mefford, *Dipole superfluid hydrodynamics. Part II.*, *JHEP* **07** (2024) 197 [2401.16385]

Sep 2023 A. Jain and P. Kovtun, *Schwinger-Keldysh effective field theory for stable and causal relativistic hydrodynamics*, *JHEP* **01** (2024) 162 [2309.00511]

Apr 2023 A. Jain, K. Jensen, R. Liu and E. Mefford, *Dipole superfluid hydrodynamics*, *JHEP* **09** (2023) 184 [2304.09852]

Jan 2023 J. Armas and A. Jain, *Approximate higher-form symmetries, topological defects, and dynamical phase transitions*, *Phys. Rev. D* **109** (2024) 045019 [2301.09628]

Jul 2022 J. Armas, E. van Heumen, A. Jain and R. Lier, *Hydrodynamics of plastic deformations in electronic crystals*, *Phys. Rev. B* **107** (2023) 155108 [2211.02117]

Dec 2021 J. Armas, A. Jain and R. Lier, *Approximate symmetries, pseudo-Goldstones, and the second law of thermodynamics*, *Phys. Rev. D* **108** (2023) 086011 [2112.14373]

Nov 2021 A. Jain and K. Jensen, *Fractons in curved space*, *SciPost Phys.* **12** (2022) 142 [2111.03973]

Nov 2020 A. Jain, P. Kovtun, A. Ritz and A. Shukla, *Hydrodynamic effective field theory and the analyticity of hydrostatic correlators*, *JHEP* **02** (2021) 200 [2011.03691]

Oct 2020 J. Armas and A. Jain, *Effective field theory for hydrodynamics without boosts*, *SciPost Phys.* **11** (2021) 054 [2010.15782]

Sep 2020 A. Jain and P. Kovtun, *Late Time Correlations in Hydrodynamics: Beyond Constitutive Relations*, *Phys. Rev. Lett.* **128** (2022) 071601 [2009.01356]

Aug 2020⋆ A. Jain, *Effective field theory for non-relativistic hydrodynamics*, *JHEP* **10** (2020) 208 [2008.03994]

Jan 2020 J. Armas and A. Jain, *Hydrodynamics for charge density waves and their holographic duals*, *Phys. Rev. D* **101** (2020) 121901 [2001.07357]

Jan 2020 M. Ammon, M. Baggioli, S. Gray, S. Grieninger and A. Jain, *On the Hydrodynamic Description of Holographic Viscoelastic Models*, *Phys. Lett. B* **808** (2020) 135691 [2001.05737]

Aug 2019 J. Armas and A. Jain, *Viscoelastic hydrodynamics and holography*, *JHEP* **01** (2020) 126 [1908.01175]

Nov 2018 J. Armas and A. Jain, *One-form superfluids & magnetohydrodynamics*, *JHEP* **01** (2020) 041 [1811.04913]

Aug 2018 J. Armas and A. Jain, *Magnetohydrodynamics as superfluidity*, *Phys. Rev. Lett.* **122** (2019) 141603 [1808.01939]

Apr 2018 P. Burda, R. Gregory and A. Jain, *Holographic reconstruction of bubble spacetimes*, *Phys. Rev. D* **99** (2019) 026003 [1804.05202]

Mar 2018 J. Armas, J. Gath, A. Jain and A. V. Pedersen, *Dissipative hydrodynamics with higher-form symmetry*, *JHEP* **05** (2018) 192 [1803.00991]

Nov 2017 N. Banerjee, S. Atul Bhatkar and A. Jain, *Second order Galilean fluids and Stokes' law*, *Phys. Rev. D* **97** (2018) 096018 [1711.09076]

Dec 2016 J. Armas, J. Bhattacharya, A. Jain and N. Kundu, *On the surface of superfluids*, *JHEP* **06** (2017) 090 [1612.08088]

Dec 2016 N. Banerjee, S. Dutta and A. Jain, *First Order Galilean Superfluid Dynamics*, *Phys. Rev. D* **96** (2017) 065004 [1612.01550]

Oct 2016⋆ A. Jain, *Theory of non-Abelian superfluid dynamics*, *Phys. Rev. D* **95** (2017) 121701 [1610.05797]

Sep 2015⋆ A. Jain, *Galilean Anomalies and Their Effect on Hydrodynamics*, *Phys. Rev. D* **93** (2016) 065007 [1509.05777]

Sep 2015 N. Banerjee, S. Dutta and A. Jain, *Null Fluids - A New Viewpoint of Galilean Fluids*, *Phys. Rev. D* **93** (2016) 105020 [1509.04718]

May 2015 N. Banerjee, S. Dutta and A. Jain, *Equilibrium partition function for nonrelativistic fluids*, *Phys. Rev. D* **92** (2015) 081701 [1505.05677]

Feb 2015 N. Banerjee, S. Dutta and A. Jain, *Higher Derivative Corrections to Charged Fluids in 2n Dimensions*, *JHEP* **05** (2015) 010 [1502.00142]

May 2014 N. Banerjee, S. Dutta, A. Jain and D. Roychowdhury, *Entropy current for non-relativistic fluid*, *JHEP* **08** (2014) 037 [1405.5687]

Oct 2013 S. Dutta, A. Jain and R. Soni, *Dyonic Black Hole and Holography*, *JHEP* **12** (2013) 060 [1310.1748]

More details on INSPIRE-HEP: https://inspirehep.net/authors/1264732.

Review Articles and Lecture Notes

Fall 2025 Invited to write a review on "Hydrodynamics and effective field theories of relativistic fluids" with P. Kovtun, J. Noronha, A. Yarom for Reviews of Modern Physics, to appear in Fall 2025.

Sep 2021 A. Jain, *Notes on symmetries in particle physics*, *preprint* (2021) [2109.12087]

Teaching and Supervision Experience

Undergraduate and Postgraduate Teaching

Taught or scheduled to teach 2 graduate courses. Delivered 2 mini-lecture series. Administered a graduate workshop and a graduate reading group. Tutored small groups of undergraduates.

2025 Taught a mini-course on "Hydrodynamics in Quantum Field Theory" at Advanced Lectures in Physics in Switzerland (ALPS) PhD School, SwissMap Switzerland.

2022 Taught the graduate course String Theory II – AdS/CFT Correspondence in the summer 2022 term at the University of Amsterdam.

2021 Delivered mini-lecture series on Hydrodynamics and Schwinger-Keldysh effective field theories aimed at PhD students at Amsterdam-Brussels-Geneva-Paris Doctoral School organised by the International Solvay Institutes.

2021 Taught the graduate course Symmetries in Particle Physics (PHYS 509) in the spring 2021 term at the University of Victoria.

2019 Delivered mini-lecture series on Hydrodynamics and Fluid/Gravity Correspondence aimed at MSc and PhD students at the University of Victoria.

2018–2019 Supervised reading projects and semi-weekly seminars for MSc and PhD students on advanced topics such as Thermal Field Theory, Quantum Field Theory in Curved Spacetime, 2D Conformal Field Theory, Conformal Bootstrap, Neutrino Physics, and Thermal Freeze-out of Dark Matter at University of Victoria.

2018 Supervised a week-long workshop on Entanglement Shadow of Vacuum Bubbles at the PSI Winter School organised by Perimeter Institute.

2015–2018 Tutor for small groups for second-year undergraduate courses Analysis in Many Variables II and Mathematical Modelling II, and first-year courses Programming I, Single Maths B, and Calculus and Probability I at Durham University.

Student Supervision

Co-supervised or co-supervising 6 MSc and 3 PhD students

since 2021 George Batzios (PhD, University of Amsterdam) co-supervising w/ Dr. Jay Armas
"Higher-group global symmetries in supergravity" – 1 joint publication

2023–2024 Ioannis Vogiatzis (MSc, University of Amsterdam) co-supervised w/ Dr. Jay Armas
"Membrane Galilean algebra in supergravity"

2022–2023 Jop de Jong (MSc, University of Amsterdam) co-supervised w/ Dr. Jay Armas
"Schwinger-Keldysh hydrodynamics on branes" – paper under preparation

2022–2023 Tommaso Pettinari (MSc, University of Amsterdam) co-supervised w/ Dr. Jay Armas
"Gravitational interpretation of crystalline defects" – paper under preparation

2022–2023 Bryan Fleming (MSc, University of Amsterdam) co-supervised w/ Dr. Jay Armas
"Numerical simulations of magnetohydrodynamics from 1-form symmetry"

2019–2020 Kate Taylor (PhD, University of Victoria) co-supervised w/ Prof. Adam Ritz
"Magnetohydrodynamics and force-free electromagnetism"

2018–2020 Ruochuan Liu (PhD, University of Victoria) co-supervised w/ Prof. Pavel Kovtun
"Hydrodynamics with dipole symmetry" – 2 joint publications

2018–2019 Kate Taylor (MSc, University of Victoria) co-supervised w/ Prof. Adam Ritz
"Exploring energy extraction from Kerr magnetospheres"

2017–2018 Aurora Ireland (MSc, Perimeter Institute) co-supervised w/ Prof. Ruth Gregory
"Holographic entanglement in AdS bubble geometries"

Academic Travel and Scientific Communication

Academic Visits

14 academic visits to research institutions worldwide lasting 1 week or longer

2023	NORDITA Stockholm, Sweden (4 weeks) – Dr. Jay Armas
2023	KITP, UC Santa Barbara, USA (3 weeks) – Prof. Pavel Kovtun
2023	University of Oxford, Netherlands (1 week) – Dr. Mark Mezei
2019	University of Amsterdam, Netherlands (3 weeks) – Dr. Jay Armas
2019	Durham University, UK (1 week) – Prof. Ruth Gregory
2019	Perimeter Institute, Canada (2 weeks) – Prof. Ruth Gregory
2016–2018	Perimeter Institute, Canada (12 weeks $\times$ 3 years) – Prof. Ruth Gregory
2017	IISER Pune, India (1 week) – Dr. Nabamita Banerjee
2015	ICTP Trieste, Italy (1 week) – Dr. Suvankar Dutta
2014	IISER Pune, India (4 weeks) – hosted by Dr. Nabamita Banerjee
2012	RWTH Aachen University, Germany (12 weeks) – Prof. Björn Garbrecht
2011	Jamia Millia Islamia University, India (4 weeks) – Prof. Mohd. Sami

Invited Talks & Seminars

45 invited seminars at research institutions worldwide.
9* of these were invited talks at international conferences or workshops.

» HYDROSTATIC COMPATIBILITY OF SCHWINGER-KELDYSH EFFECTIVE FIELD THEORIES

Jul 2025	IsoQuant Seminar, University of Heidelberg, Germany
May 2025*	Foundations and Applications of Relativistic Hydrodynamics Workshop – GGI Florence, Italy

» CAUSAL AND STABLE FORMULATION OF RELATIVISTIC SCHWINGER-KELDYSH HYDRODYNAMICS

Nov 2024	University of Oviedo, Spain
Nov 2024	University of Bristol, UK
Nov 2023	Panel Discussion on “causal stable relativistic hydrodynamics” – HoloTube Seminar (Online)

» STOCHASTIC TRANSPORT COEFFICIENTS IN SCHWINGER-KELDYSH HYDRODYNAMICS

Sep 2023	Indian Institute of Technology (IIT) Madras, India (Online)
Sep 2023*	Hydrodynamics at All Scales Workshop – NORDITA Stockholm, Sweden
Oct 2021	Center for Nuclear Theory, Stony Brook University, USA (Online)
Oct 2021	University of Amsterdam, Netherlands
Nov 2020	NORDITA Stockholm, Sweden (Online)
Oct 2020	Durham University, UK (Online)
Sep 2020	University of Edinburgh, UK (Online)
Sep 2020	Autonomous University of Madrid, Spain (Online)

» HIGHER-FORM SYMMETRIES AND TOPOLOGICAL PHASE TRANSITIONS

Jul 2023*	The Many Faces of Relativistic Fluid Dynamics Workshop – KITP, UC Santa Barbara, USA
Apr 2023*	Eurostrings 2023 Conference – Gijon, Spain
Mar 2023	University of Oxford, UK
Feb 2023	Holography: Triangle Meeting – Delta Institute for Theoretical Physics, Netherlands
Feb 2023*	Beyond Lorentzian Geometry II Workshop – University of Edinburgh, UK
Feb 2023	University of Southampton, UK

» FRACTONS AND DIPOLE SYMMETRIES

May 2023	École Polytechnique, France
May 2023	University of Cambridge, UK
Mar 2022	University of Wroclaw, Poland

Feb 2022 Rencontres Théoriciennes, Institut Henri Poincaré (IHP), Sorbonne University, France

» PINNED VISCOELASTIC HYDRODYNAMICS

Apr 2022 University of Genoa, Italy

Apr 2022 NORDITA Stockholm, Sweden

» NON-RELATIVISTIC SCHWINGER-KELDYSH HYDRODYNAMICS

Nov 2020* Non-Lorentzian Zoom Meeting – NORDITA Stockholm, Sweden (Online)

» GENERALISED GLOBAL SYMMETRIES AND MAGNETOHYDRODYNAMICS

Dec 2019 Université Libre de Bruxelles, Belgium

Dec 2019 Autonomous University of Madrid, Spain

Dec 2019 University of Barcelona, Spain

Nov 2019 Utrecht University, Netherlands

Nov 2019 École Polytechnique, France

Mar 2019 Perimeter Institute for Theoretical Physics, Canada

Mar 2019 University of British Columbia, Canada

Aug 2018 Harish-Chandra Research Institute (HRI) Allahabad, India

Aug 2018 Indian Institute of Science Education and Research (IISER) Bhopal, India

Aug 2018 Tata Institute of Fundamental Research (TIFR) Mumbai, India.

Aug 2018 Indian Institute of Science Education and Research (IISER) Pune, India.

» GENERALISED GLOBAL SYMMETRIES AND VISCOELASTIC HYDRODYNAMICS

Nov 2019* Hydrodynamics at All Length Scales Workshop – Lorentz Center, Netherlands

» OFFSHELL FRAMEWORK OF HYDRODYNAMICS

Dec 2017 Durham University, UK (HEP Student Seminar)

» HOLOGRAPHIC RECONSTRUCTION OF GRAVITATIONAL INSTANTONS

Mar 2017 Perimeter Institute for Theoretical Physics, Canada

» NON-RELATIVISTIC HYDRODYNAMICS AND NULL REDUCTION

Dec 2015 International Centre for Theoretical Physics (ICTP), Italy

Dec 2015 LACES 2015 Workshop – Galileo Galilei Institute for Theoretical Physics, Italy

Oct 2015 Durham University, UK (HEP Student Seminar)

Jun 2015 STRINGS 2015 Conference (Poster) – ICTS Bangalore, India

Dec 2014* Young Theorists Forum Conference – Durham University, UK

Mar 2014* Inter-IISER and NISER Physics Meet Conference – IISER Pune, India

Conferences, Schools, and Workshops

Attended or scheduled to attend 30 international conferences, schools, and workshops.
Invited to speak at 9* of these.

Jun 2025 Black Holes and Strongly Coupled Dynamics Workshop – Simons Center, Stony Brook, USA

May 2025* Foundations and Applications of Relativistic Hydrodynamics Workshop – GGI Florence, Italy

Feb 2025 Hydrodynamics Across Scales Workshop – University of Amsterdam, Netherlands

Sep 2024 Eurostrings 2024 – University of Southampton, UK

Jun 2024 Amsterdam String Workshop – University of Amsterdam, Netherlands

Sep 2023* Hydrodynamics at All Scales Workshop – NORDITA Stockholm, Sweden

Jul 2023* The Many Faces of Relativistic Fluid Dynamics Workshop – KITP, UC Santa Barbara, USA

Apr 2023* Eurostrings 2023, Gijon – University of Oviedo, Spain.

Feb 2023* Beyond Lorentzian Geometry II – University of Edinburgh, UK

Jul 2022 Amsterdam String Workshop – University of Amsterdam, Netherlands

Nov 2020* Non-Lorentzian Zoom Meeting – NORDITA Stockholm, Sweden

Jun 2020 STRINGS 2020 – University of Cape Town, South Africa

Nov 2019* Hydrodynamics at All Length Scales – Lorentz Center, Leiden, Netherlands
Jul 2019 Amsterdam String Workshop 2019 – University of Amsterdam, Netherlands
Jan 2019 Testing Gravity 2019 – Simon Fraser University, Canada
Jan 2018 Young Theorists Forum 10 PhD Conference – Durham University, UK
Jul 2017 Stephen Hawking 75th Birthday Conference – University of Cambridge, UK
Jan 2017 Young Theorists Forum 9 PhD Conference – Durham University, UK
Nov 2016 V Postgraduate Meeting on Theoretical Physics – University of Oviedo, Spain
Jan 2016 Young Theorists Forum 8 PhD Conference – Durham University, UK
Dec 2015 LACES 2015 Workshop – Galileo Galilei Institute for Theoretical Physics (GGI), Florence, Italy
Oct 2015 Holography: Entangled, Applied, and Generalised – NBI Copenhagen, Denmark
Jun 2015 STRINGS 2015 Conference – IISc Bangalore and ICTS Bangalore, India
Jun 2015 Advanced Strings School 2015 – IISc Bangalore and ICTS Bangalore, India
Dec 2014* Young Theorists Forum 7 PhD Conference – Durham University, UK
Mar 2014* Inter-IISER and NISER Physics Meet Conference – IISER Pune, India
Dec 2011 6th Winter School on Astroparticle Physics – Bose Institute Kolkata, India
Jan 2011 Three Day Joint Academies Lecture Workshop on Frontiers in Physics – Delhi University, India
Dec 2010 IndIGO School on Gravitational Wave Astronomy – Delhi University, India
Dec 2010 National Science Camp (Vijyoshi) – IISc Bangalore, India

Scientific and Administrative Engagement

Conferences, Schools, and Seminars Organised

2025 Panel Chair at RELATIVISTIC HYDRODYNAMICS WORKSHOP, GGI Florence, Italy
2024 HYDRODYNAMICS ACROSS SCALES WORKSHOP at U. Amsterdam, Netherlands
2024 Panel Chair at AMSTERDAM STRING WORKSHOP, U. Amsterdam, Netherlands
2022–2023 STRING THEORY JOURNAL CLUB at the U. Amsterdam, Netherlands
2022 Gong Show at AMSTERDAM STRING WORKSHOP, U. Amsterdam, Netherlands
2018–2021 HIGH-ENERGY PHYSICS SEMINARS and local GROUP MEETINGS at U. Victoria, Canada
2016–18 Annual PhD conference YTF DURHAM, Durham U., UK for 3 years

Editorial and Referee Experience

since 2016 Invited referee in international scientific journals: Physical Review Letters (PRL), Journal of High Energy Physics (JHEP), Physical Review D (PRD), SciPost Physics, Physics Letters B (PLB), International Journal of Modern Physics D (IJMPD), and European Physical Journal C (EPJC)
2020 POSTDOCTORAL REPRESENTATIVE for the faculty hiring committee at Dept. of Physics & Astronomy, U. Victoria, Canada
2019 Invited grant referee for the Leverhulme Trust, UK
2013 EDITOR of IISER Bhopal's physics newsletter, *Geodesics* (February 2013 issue)

Outreach Activities

2021 Invited guest for a video interview titled "Mapping the History of Singularity", conducted by *Chrysalis* – the science magazine of IISER Bhopal
2021 Invited guest for a live TV interview regarding "Research in Theoretical Physics" on the Shimla station of Doordarshan (Indian national television)
2018 Invited guest for a radio interview regarding "Research in Theoretical Physics" on the Agra station of All India Radio (Indian national radio)
2016 Volunteer with the mathematics department for *Celebrate Science* – an annual event organised by Durham University to get primary school children excited and involved with science
2014 Founder and Coordinator of *Singularity* – IISER Bhopal's science festival

2013–14 Student coordinator of IISER Bhopal's outreach program aimed at providing scientific research exposure to high school students for 2 years

2010–11 Founding Member and Secretary of IISER Bhopal's science club

2010 Volunteer for INSPIRE Internship Program aimed at providing hands-on scientific experience to high school students held at Miranda House College, Delhi University

Administration

2018–20 Coordinated graduate STUDY GROUP MEETINGS in the Particle Theory Group at the University of Victoria for 2 years.

2015–17 PG IT REPRESENTATIVE at Dept. of Mathematical Sciences, Durham University for 2 years.

2015–17 FRESHERS' REPRESENTATIVE for Hatfield College MCR, Durham University for three years, charged with the management of new postgraduates arriving in the college.

2014–17 IT OFFICER at Hatfield College MCR, Durham University for three years.

2011–12 Founding member and Vice-President of Students Activity Council (SAC) at IISER Bhopal, and Secretary of the SAC Constitution Drafting Board

2011 Member of the Editorial Board of IISER Bhopal's annual magazine – Uday (2011 edition)

2010–13 Web administrator for SAC, IISER Bhopal for 3 years

2010–12 Event Coordinator for IISER Bhopal's second cultural fest – *Enthuzia 2012* and member of the organising team for its first edition in 2010

MYSPIRES: I have designed a free, lightweight, and entirely browser-implemented reference management system aimed at the high-energy physics community. It allows users to add and manage references directly from INSPIRE-HEP, arXiv, or NASA/ADS databases, along with the websites of various publishers, without having to leave the browser. The system supports Dropbox integration to maintain a real-time updated BibTeX database ready to be imported into LaTeX projects. Check it out at myspires.ajainphysics.com.

Technical Skills

ACADEMIC PROGRAMMING: I am proficient with various programming environments used in academia, including Mathematica, Python, C, and C++. I am also proficient with Emacs and LaTeX.

TEACHING & RESEARCH COLLABORATION: I have experience using the online teaching platforms Blackboard Learn and Canvas, and am handy with various video-conferencing tools such as Skype, Google Meet, and Zoom. I am also proficient with various online collaborative platforms and forums such as Slack, Google Docs, Overleaf, and GitHub.

WEB DEVELOPMENT: I invest much of my free time experimenting with web technologies. I have taught myself various web languages, including HTML, CSS, JavaScript, JSON, Sass, PHP, and MySQL, along with third-party frameworks like Bootstrap, WordPress, Drupal, Dropbox API, and Google Apps Script.