
Marie Curie Postdoctoral Fellow
Institute for Theoretical Physics, University of Amsterdam
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► Academic Timeline & Education

- [Sep 2021 onward] **Marie Skłodowska-Curie Postdoctoral Fellow** at INSTITUTE FOR THEORETICAL PHYSICS, UNIVERSITY OF AMSTERDAM, Netherlands.
– Adviser: PROF. JAN DE BOER, Head, Institute for Theoretical Physics Amsterdam (ITFA).
- [Sep 2021 onward] **Fellow** at DUTCH INSTITUTE FOR EMERGENT PHENOMENA (DIEP), Netherlands.
– Host: DR. JAY ARMAS, Coordinator, Dutch Institute for Emergent Phenomena (DIEP).
- [Sep 2018–Aug 2021] **Postdoctoral Fellow** at UNIVERSITY OF VICTORIA, British Columbia, Canada.
– Adviser: PROF. PAVEL KOVTUN, Department of Physics & Astronomy.
– Co-adviser: PROF. ADAM RITZ, Chair, Department of Physics & Astronomy.
- [Oct 2014–Jun 2018] **PhD (Mathematics)** at CENTRE FOR PARTICLE THEORY, DURHAM UNIVERSITY, UK.
– Thesis: *A Universal Framework for Hydrodynamics*. [[ePrint](#)]
– Supervisor: PROF. RUTH GREGORY, Department of Mathematical Sciences (currently Head of Department of Physics, Kings College London, UK).
- [Sep 2009–Jun 2014] **BS-MS (Dual Degree)** — Physics major and Mathematics minor at INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH (IISER) BHOPAL, India.
– Dissertation: *Holographic Ferromagnetism and Non-Relativistic Charged Hydrodynamics*. [[ePrint](#)]
– Supervisor: DR. SUVANKAR DUTTA, Department of Physics.
– CGPA: **9.41/10** (highest in the graduating batch). *Gold Medallist*.

► Fellowships & Funding

- [Sep 2021–Aug 2023] **Marie Skłodowska-Curie Actions – Individual Fellowship** — offered by the EUROPEAN UNION’S HORIZON 2020 RESEARCH AND INNOVATION PROGRAMME (grant agreement “NonEqbSK” ID: [101027527](#)), covering postdoctoral salary and research travel expenses at University of Amsterdam for 2 years.
– The grant proposal scored 96.80% in the European Commission evaluation report, with 4.90/5 in excellence, 4.90/5 in impact, and 4.60/5 in implementation.
- [Sep 2021–Aug 2024] **Postdoctoral Fellowship** — at UNIVERSITY OF AMSTERDAM, Netherlands for 2 + 1 years.
[from Sep 2021] **Postdoctoral Fellowship** (declined) — at TATA INSTITUTE OF FUNDAMENTAL RESEARCH, Mumbai, India for 2 + 1 years.
[from Sep 2021] **Postdoctoral Fellowship** (declined) — at CENTRE DE PHYSIQUE THÉORIQUE - ÉCOLE POLYTECHNIQUE, France for 2 + 1 years.
- [Sep 2018–Aug 2021] **Postdoctoral Fellowship** — at UNIVERSITY OF VICTORIA, Canada for 3 years.
[from Sep 2018] **Postdoctoral Fellowship** (declined) — at INTERNATIONAL CENTRE FOR THEORETICAL SCIENCES (ICTS), Bangalore, India for 2 + 1 years.
[from Sep 2018] **Postdoctoral Fellowship** (declined) — at YAU MATHEMATICAL SCIENCES CENTER (YMSC), TSINGHUA UNIVERSITY, Beijing, China for 2 + 1 years.
- [Oct 2014–Jun 2018] **Durham Doctoral Scholarship** — offered by DURHAM UNIVERSITY, UK covering full doctoral tuition, living, and research travel expenses for 3.5 years.
[May–Jul 2012] **DAAD-WISE Scholarship** — offered by DAAD (German Academic Exchange Service) for a funded 3-month undergraduate internship at RWTH AACHEN UNIVERSITY, Germany.
[from May 2012] **IASc-INSA-NASI Summer Research Fellowship** (declined) — offered by Indian Academy of Sciences (IAS) for a funded 2-month undergraduate internship at JAMIA MILLIA ISLAMIA UNIVERSITY, Delhi, India.
- [Aug 2009–Apr 2014] **INSPIRE Scholarship** — offered by Ministry of Human Resource Development (MHRD), Government of India covering full undergraduate tuition and living expenses at IISER BHOPAL, India for 5 years.

► Achievements & Distinctions

- [Jun 2014] Recipient of the PHYSICS PROFICIENCY GOLD MEDAL for best academic performance in the graduating batch at IISER Bhopal.
- [Jun 2014] Recipient of the DIRECTOR'S GOLD MEDAL for outstanding all round achievement and leadership skills at IISER Bhopal.
- [Jun 2013] Secured all India **23rd** rank in the CSIR-UGC NET entrance examination conducted by the Council of Scientific & Industrial Research (CSIR), Govt. of India.
- [Jan 2013] Secured all India **45th** rank in the IIT-GATE entrance examination conducted by the Indian Institute of Technology (IIT).
- [Oct 2013] Scored **990/990** in the PHYSICS GRE Test administered by ETS.
- [Apr 2009] Qualified the IIT-JEE entrance examination with All India **98th percentile**.

Research & Teaching Experience

► Publications

27 research articles: 22 published or accepted for publication, 3 submitted for peer-review, and 2 soon to appear. 4 single authored.

- [Dec 2022] J. Armas, A. Jain, R. Lier, *Hydrodynamics of unidirectional charge density waves*, to appear.
- [Dec 2022] J. Armas, A. Jain, *Hydrodynamics with approximate higher-form symmetries*, to appear.
- [Jul 2022] J. Armas, E. van Heumen, A. Jain and R. Lier, *Hydrodynamics of plastic deformations in electronic crystals, preprint (2022)* [[2211.02117](#)], submitted to Phys. Rev. E.
- [Dec 2021] J. Armas, A. Jain and R. Lier, *Approximate symmetries, pseudo-Goldstones, and the second law of thermodynamics, preprint (2021)* [[2112.14373](#)], submitted to Phys. Rev. Lett.
- [Nov 2021] A. Jain and K. Jensen, *Fractons in curved space*, *SciPost Phys.* **12** (2022) 142 [[2111.03973](#)].
- [Sep 2021] A. Jain, *Notes on symmetries in particle physics, preprint (2021)* [[2109.12087](#)], submitted to SciPost Phys. Lect. Notes.
- [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 can be found on the INSPIRE-HEP database: <https://inspirehep.net/authors/1264732>.

► 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.

- [Jun 2021] Taught the graduate course STRING THEORY II – ADS/CFT CORRESPONDENCE in the summer 2022 term at University of Amsterdam.
- [Nov 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.
- [Jan-Apr 2021] Taught the graduate course STANDARD MODEL PHENOMENOLOGY (PHYS 509) in the spring 2021 term at University of Victoria. [Lecture Notes]
- [Sep-Nov 2019] Delivered mini lecture series on HYDRODYNAMICS AND FLUID/GRAVITY CORRESPONDENCE aimed at MSc and PhD students at University of Victoria.
- [Sep 2018–Dec 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.
- [Jan 2018] Supervised a week-long workshop on ENTANGLEMENT SHADOW OF VACUUM BUBBLES at the PSI Winter School organised by Perimeter Institute.
- [Oct 2016–Mar 2018] Tutor and marker for second year undergraduate courses ANALYSIS IN MANY VARIABLES II and MATHEMATICAL MODELLING II, and first year courses PROGRAMMING I, SINGLE MATHS A, SINGLE MATHS B, and CALCULUS at Durham University.

► Student Supervision

Co-supervised or co-supervising 5 master's and 3 PhD students.

- [Sep 2022 onward] JOP DE JONG, Master's student, University of Amsterdam — co-supervising master's thesis project on *Schwinger-Keldysh effective field theory for hydrodynamics on branes*.
- [Sep 2022 onward] TOMMASO PETTINARI, Master's student, University of Amsterdam — co-supervising master's thesis project on *Gravitational interpretation of crystalline defects*.
- [Sep 2022 onward] BRYAN FLEMING, Master's student, University of Amsterdam — co-supervising master's thesis project on *Numerical simulations of relativistic magnetohydrodynamics from generalised global symmetries*.
- [Sep 2021 onward] GEORGE BATZIOS, PhD Student, University of Amsterdam — co-supervising a research project related to *Schwinger-Keldysh effective field theory formalism of hydrodynamics*.
- [Apr 2019–Oct 2020] KATE TAYLOR, PhD Student, University of Victoria — co-supervised a research project related to *Magnetohydrodynamics and force-free electromagnetism*.
- [Sep 2018–Oct 2020] RUOCHUAN LIU, PhD Student, University of Victoria — co-supervised a research project related to *Newton-Cartan formulation of Galilean hydrodynamics*.
- [Sep 2018–Apr 2019] KATE TAYLOR, Master's Student, University of Victoria — co-supervised master's thesis project on *Exploring energy extraction from Kerr magnetospheres*.
- [Jan–Jun 2018] AURORA IRELAND, Master's Student, Perimeter Institute — co-supervised master's thesis project on *Entanglement phases in exotic flows*.

Academic Travel and Scientific Communication

► Academic Visits

11 academic visits to research institutions worldwide with at least one week stay.

- [Jul 2019] UNIVERSITY OF AMSTERDAM, Netherlands — invited by Dr. Jay Armas for three weeks.
- [Jul 2019] DURHAM UNIVERSITY, UK — invited by Prof. Ruth Gregory for a week.
- [Mar 2019] PERIMETER INSTITUTE, Canada — invited by Prof. Ruth Gregory for two weeks.
- [Jan-Mar 2016-18] PERIMETER INSTITUTE, Waterloo, Canada — invited by Prof. Ruth Gregory for 3 months every year for 3 years.
- [Jun 2017] INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH (IISER) PUNE, India — invited by Dr. Nabamita Banerjee for a week.
- [Dec 2015] INTERNATIONAL CENTRE FOR THEORETICAL PHYSICS (ICTP), Italy — invited by Dr. Suvankar Dutta for a week.
- [Aug 2014] INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH (IISER) PUNE, India — invited by Dr. Nabamita Banerjee for a month.
- [May-Jul 2012] INSTITUTE FOR THEORETICAL PARTICLE PHYSICS AND COSMOLOGY, RWTH AACHEN UNIVERSITY, Germany — invited by Prof. Björn Garbrecht for a undergraduate research internship lasting 3 months.
- [Jun 2011] CENTER FOR THEORETICAL PHYSICS, JAMIA MILLIA ISLAMIA UNIVERSITY, Delhi — invited by Prof. Mohd. Sami for a summer internship lasting a month.

► Invited Talks & Seminars

26 invited seminars at research institutions worldwide and 5 talks at international conferences.

- [Apr 2023] (Scheduled) Eurostrings 2023, Gijon, Spain (Conference Talk).
- [Apr 2022] University of Genoa, Italy: *Theory of pinned viscoelastic hydrodynamics*. [[Slides](#)]
- [Apr 2022] Nordic Institute for Theoretical Physics (NORDITA), Sweden: *Theory of pinned viscoelastic hydrodynamics*. [[Slides](#)]
- [Mar 2022] Institute of Theoretical Physics, University of Wroclaw, Poland: *Fractons in curved space*. [[Slides](#)]
- [Feb 2022] Rencontres Théoriciennes, Institut Henri Poincaré (IHP), Sorbonne University, France: *Fractons in curved space*. [[Abstract/Slides](#)] [[Video](#)]
- [Oct 2021] Center for Nuclear Theory, Stony Brook University, USA: *Aspects of Schwinger-Keldysh hydrodynamics*. [[Slides](#)]
- [Oct 2021] Institute for Theoretical Physics (ITFA), University van Amsterdam, Netherlands: *Aspects of Schwinger-Keldysh hydrodynamics*. [[Slides](#)]
- [Nov 2020] Non-Lorentzian Zoom Meeting, NORDITA, Sweden (Conference talk): *Effective field theory for non-Lorentzian hydrodynamics*. [[Abstract](#)] [[Slides](#)]
- [Nov 2020] Nordic Institute for Theoretical Physics (NORDITA), Sweden: *Non-universality of hydrodynamics*. [[Slides](#)]
- [Oct 2020] Centre for Particle Theory (CPT), Durham University, UK: *Non-universality of hydrodynamics*. [[Slides](#)]
- [Sep 2020] Edinburgh Mathematical Physics Group (EMPG), University of Edinburgh, UK: *Non-universality of hydrodynamics*. [[Slides](#)]
- [Sep 2020] Institute of Theoretical Physics (IFT), Autonomous University of Madrid, Spain: *Non-universality of hydrodynamics*. [[Slides](#)] [[Video](#)]
- [Dec 2019] Université Libre de Bruxelles, Belgium: *Generalised global symmetries and magnetohydrodynamics*. [[Slides](#)]
- [Dec 2019] Institute of Theoretical Physics (IFT), Autonomous University of Madrid, Spain: *Generalised global symmetries and magnetohydrodynamics*. [[Slides](#)]
- [Dec 2019] University of Barcelona, Spain: *Generalised global symmetries and magnetohydrodynamics*. [[Slides](#)]
- [Nov 2019] Utrecht University, Netherlands: *Generalised global symmetries and magnetohydrodynamics*. [[Slides](#)]
- [Nov 2019] Center for Theoretical Physics (CPhT), École Polytechnique, Paris, France: *Generalised global symmetries and magnetohydrodynamics*. [[Slides](#)]
- [Nov 2019] Hydrodynamics at All Length Scales: From High-Energy to Hard and Soft Matter, Lorentz Center, Netherlands (Conference talk): *Hydrodynamic framework for viscoelasticity*. [[Slides](#)]

- [Mar 2019] Perimeter Institute for Theoretical Physics, Canada: *Magnetohydrodynamics and generalised superfluids*. [[Slides/Video](#)]
- [Mar 2019] University of British Columbia, Canada: *Magnetohydrodynamics and generalised superfluids*. [[Slides](#)]
- [Aug 2018] Harish-Chandra Research Institute (HRI) Allahabad, India: *Magnetohydrodynamics and one-form superfluidity*. [[Slides](#)]
- [Aug 2018] Indian Institute of Science Education and Research (IISER) Bhopal, India: *Magnetohydrodynamics and one-form superfluidity*. [[Slides](#)]
- [Aug 2018] Tata Institute of Fundamental Research (TIFR) Mumbai, India: *Magnetohydrodynamics and one-form superfluidity*. [[Slides](#)]
- [Aug 2018] Indian Institute of Science Education and Research (IISER) Pune, India: *Magnetohydrodynamics and one-form superfluidity*. [[Slides](#)]
- [Dec 2017] Durham University, UK (HEP Student Seminar): *A field theorist's take on fluid dynamics*. [[Slides](#)]
- [Mar 2017] Perimeter Institute for Theoretical Physics, Canada: *Holographic reconstruction of gravitational instantons*.
- [Dec 2015] International Centre for Theoretical Physics (ICTP), Italy: *Galilean fluids through null reduction*. [[Slides](#)]
- [Dec 2015] Galileo Galilei Institute for Theoretical Physics, Italy (Gong show): *Anomalies and Null Reduction*.
- [Oct 2015] Centre for Particle Theory (CPT), Durham University, UK (HEP Student Seminar): *Galilean fluids through null reduction*. [[Slides](#)]
- [Jun 2015] STRINGS Conference & Advanced Strings School, International Centre for Theoretical Sciences (ICTS), Bangalore, India (Conference poster): *Non-relativistic fluids through light cone reduction*. [[ePrint](#)]
- [Dec 2014] Young Theorists Forum, Durham University, UK (Conference talk): *Entropy current of non-relativistic fluid*. [[Slides](#)]
- [Mar 2014] Inter-IISER and NISER Physics Meet, IISER Pune, India (Conference talk): *Study of charged non-relativistic fluids using light cone reduction*. [[Slides](#)]

► Conferences, Schools, and Workshops Attended

Attended or scheduled to attend 16 international conferences, schools, or workshops.

- [Jun 2023] (Scheduled) THE MANY FACES OF RELATIVISTIC FLUID DYNAMICS organised by Kavli Institute for Theoretical Physics, UC Santa Barbara, USA.
- [Apr 2023] (Scheduled) EUROSTRINGS 2023, Gijon, Spain.
- [Feb 2023] (Scheduled) EYOND LORENTZIAN GEOMETRY II, Edinburgh, UK.
- [Jul 2022] AMSTERDAM STRING WORKSHOP organised by University of Amsterdam, Netherlands.
- [Feb 2022] HOLOGRAPHY: TRIANGLE MEETING organised by Delta Institute for Theoretical Physics, Netherlands.
- [Nov 2020] NON-LORENTZIAN ZOOM MEETING organised by NORDITA, Sweden.
- [Jun 2020] STRINGS 2020 organised by University of Cape Town, South Africa.
- [Nov 2019] HOLOGRAPHY: TRIANGLE MEETING organised by Delta Institute for Theoretical Physics, Netherlands.
- [Nov 2019] HYDRODYNAMICS AT ALL LENGTH SCALES: FROM HIGH-ENERGY TO HARD AND SOFT MATTER organised by Lorentz Center, Leiden, Netherlands.
- [Jul 2019] AMSTERDAM STRING WORKSHOP 2019 organised by University of Amsterdam, Netherlands.
- [Jan 2019] TESTING GRAVITY 2019 organised by Simon Fraser University, Canada.
- [Jul 2017] GRAVITY AND BLACK HOLES – STEPHEN HAWKING 75TH BIRTHDAY CONFERENCE organised by Centre for Theoretical Cosmology, University of Cambridge, UK.
- [Nov 2016] V POSTGRADUATE MEETING ON THEORETICAL PHYSICS organised by University of Oviedo, Spain.
- [Dec 2015] LEZIONI AVANZATE DI CAMPI E STRINGHE (LACES) 2015 organised by Galileo Galilei Institute for Theoretical Physics (GGI), Florence, Italy.
- [Oct 2015] HOLOGRAPHY: ENTANGLED, APPLIED, AND GENERALISED organised by Niels Bohr Institute (NBI), Copenhagen, Denmark.
- [Jun 2015] STRINGS 2015 organised by Indian Institute of Science (IISc), Bangalore and International Centre for Theoretical Sciences (ICTS), Bangalore, India.
- [Jun 2015] ADVANCED STRINGS SCHOOL 2015 organised by Indian Institute of Science (IISc), Bangalore and International Centre for Theoretical Sciences (ICTS), India.
- [Dec 2011] 6TH WINTER SCHOOL ON ASTROPARTICLE PHYSICS (WAPP) organised by Bose Institute Kolkata and Tata Institute for Fundamental Research (TIFR) Mumbai, India.

[Dec 2010] INDIGO SCHOOL ON GRAVITATIONAL WAVE ASTRONOMY (ISGWA) organised by IndIGO (Indian Initiative on Gravitational Oscillations) Programme, IUCAA Resource Centre at Delhi University, India.

Scientific and Administrative Engagement

► Conferences, Schools, and Seminars Organised

- [Since Sep 2022] Co-organising STRING THEORY JOURNAL CLUB at the University of Amsterdam, Netherlands.
- [Jul 2022] Co-organised the Gong Show in the AMSTERDAM STRING WORKSHOP 2022 at the University of Amsterdam, Netherlands.
- [Sep 2018-Aug 2021] Organised and managed the invited HIGH-ENERGY PHYSICS SEMINAR series and local GROUP MEETINGS at the University of Victoria, Canada.
- [Jan 2016-18] Co-organised the annual graduate-level conference YOUNG THEORISTS FORUM (YTF) at Durham University, UK for three years.

► Editorial and Referee Experience

- [Mar 2020] Served as the POSTDOCTORAL REPRESENTATIVE during the faculty hiring process at the Dept. of Physics & Astronomy, University of Victoria.
- [May 2019] Invited referee for a grant proposal submitted to the Leverhulme Trust, UK.
- [2016-Present] Invited referee in international scientific journals: PHYSICAL REVIEW LETTERS (PRL), JOURNAL OF HIGH ENERGY PHYSICS (JHEP), SCIPOST PHYSICS, INTERNATIONAL JOURNAL OF MODERN PHYSICS D (IJMPD), and European Physical Journal C (EPJC).
- [Feb 2013] EDITOR of IISER Bhopal's physics newsletter, *Geodesics* (February 2013 issue).

► Outreach Activities

- [2021] Appeared as an invited guest in a video interview titled “Mapping the History of Singularity”, conducted by the science magazine of IISER Bhopal, *Chrysalis*.
- [2021] Appeared as an invited guest on the Shimla station of Doordarshan (national television of India), for a live interview in the programme “Inse Miliye”. [\[Video\]](#)
- [2018] Appeared as an invited guest on the Agra station of All India Radio (Akashvani – national radio of India), for a pre-recorded interview in the “Youth Section”.
- [2016] VOLUNTEER on behalf of the mathematics department for *Celebrate Science* — an annual event organised by Durham University, aiming to get primary school children excited and involved with science.
- [2014] FOUNDER and COORDINATOR of IISER Bhopal's first science fest, *Singularity*.
- [2013/14] STUDENT COORDINATOR of IISER Bhopal's *outreach program* aimed at providing scientific research exposure to high school students.
- [2010-11] FOUNDED 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.

► **mySpire**: I offer a free light-weight and entirely browser-implemented reference management system aimed at 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 L^AT_EX projects. Check it out at <https://myspires.ajainphysics.com>.

► Administration

- [2018-20] Coordinated graduate STUDY GROUP MEETINGS in the Particle Theory Group at the University of Victoria for two years.
- [2015-17] PG IT REPRESENTATIVE at Dept. of Mathematical Sciences, Durham University for two years.
- [2015-17] FRESHERS' REPRESENTATIVE for Hatfield College MCR, Durham University for three years, charged with management of new postgraduates arriving in the college.
- [2014-17] IT OFFICER at Hatfield College MCR, Durham University for three years.
- [2011-12] FOUNDED MEMBER of Students Activity Council (SAC), IISER Bhopal and SECRETARY of its Constitution Drafting Board in 2011. VICE-PRESIDENT of SAC in its first session.
- [2011] Member of the EDITORIAL BOARD of IISER Bhopal's annual magazine — Uday (2011 edition).
- [2010-13] WEBMASTER for SAC, IISER Bhopal for three years.

[2010/12] EVENT COORDINATOR for IISER Bhopal's second cultural fest — *Enthuzia* in 2012 and member of the organising team for its first instalment in 2010.

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 L^AT_EX.

► **Teaching & Collaboration:** I have experience using the online teaching platform Blackboard Learn 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.