CURRICULUM VITAE

PERSONAL

Name :	Swastik Chowbay
Institution :	Indian Institute of Astrophysics (IIA)
Age :	29
Gender :	Male
Nationality :	Indian
Languages :	English, Hindi, Bengali, Assamese, Spanish (elementary)
Email :	swastik.chowbay@iiap.res.in
Github :	SwastikC

EDUCATION/APPOINTMENTS

Postdoctoral Fellow July 2024–Present
Universitá degli Studi di Milano, Milan

Postdoctoral Researcher March 2024–June 2024
Indian Institute of Astrophysics, Bengaluru

Ph.D in Astrophysics July 2018–March 2024
Indian Institute of Astrophysics, Bengaluru

Intern at ESO Jan 2021–April 2021
European Southern Observatory, Santiago, Chile

Masters of Science in Physics July 2016– May 2018
University of Hyderabad, Hyderabad
CGPA : 8.67

Bachelor of Science in Physics July 2013– May 2016
University of Calcutta, Kolkata.
Percentage : 70.12

SKILLS

Programming Language	Python (main language), IDL, R, Java, C, C++, Fortran
Software	iSpec, IRAF, MOOG, Emcee, RADMC-3D, IRDAP, CASA (elementary)
Operating Systems	Linux, Macintosh, Windows

ACHIEVEMENTS

- Received a grant of INR 150,000 from Department of science and technology in order to attend an international conference in Porto, Portugal. 2023
- Best poster award in a conference on *Pressing for progress: Gender equity in physics* 2019
- Qualified the National Eligibility Test (NET-JRF) required for doing PhD in India 2017
- Ranked in top 15 out of 11535 in National Graduate Physics Examination conducted across India. 2016
- Obtained first rank in a class of 80 students in the 12th board examination. 2013
- Ranked 26th among 3000+ participants at the state level *Indian Science Olympiad* competition. 2009

MEETINGS AND CONFERENCES

Meetings, conferences, and workshops attended in last fifteen months (All international conferences listed here are attended online):

- COSPAR-2024, Busan, Korea Republic Contribution: Oral presentation 13–21 July 2024

- Exoplanet Conference at IISER Pune Contribution: Oral presentation — 17–19 August 2023
- Towards Other Earths III, Porto, Portugal Contribution: Poster presentation — 17–21 July 2023
- Protostar and Planets, Kyoto, Japan Contribution: Poster presentation — 10–15 April 2023
- Planet-Eslab-2023, Netherland Contribution: Poster Presentation — 20–24 Mar 2023
- 41th ASI, IIT Indore Contribution: Oral Presentation — 1–5 Mar 2023
- Alive Universe, Azerbaijan Contribution: Contributed Talk — 12–14 Oct 2022
- (Exo)Planet Diversity, Berlin Contribution: Flash Talk — 12–16 Sept 2022
- Stars, Planets, and Formosa, Taiwan Contribution: Contributed Talk — 15–19 August 2022
- Exoplanet Science in the Gaia Era, CA Contribution: Flash Talk — 25–29 July 2022
- GAIA symposium: DR3 and beyond, India Contribution: Flash Talk — 11–15 July 2022
- Rocky Worlds II, Oxford, UK Contribution: Flash Talk — 4–8 July 2022
- 40th ASI, IIT Roorkee Contribution: Poster Presentation — 25–29 Mar 2022
- 21st NSSS, IISER Kolkata Contribution: Contributed Talk — 31 Jan–4 Feb 2021
- 39th ASI Meeting Contribution: Contributed Talk — 18–23 Feb 2021
- Exoplanet Demographics, NASA Contribution: Poster Presentation — 9–13 Nov 2020
- GAIA symposium: DR2 and beyond, India — 2–6 Nov 2020
- 20 years of Himalayan Chandra Telescope, India — 29–30 Sept 2020
- Exoplanets in Southern California Conference (ExoSoCal), virtual — 14–15 Sept 2020
- Exoplanets III, Heidelberg, virtual — 27–31 July 2020
- Sagan exoplanets summer workshop, NASA, virtual — 20–24 July 2020
- 107^{th} Indian science congress, Bengaluru, India — 3–7 Jan 2020
- Chemical elements in the Universe: origin and evolution, Bengaluru, India — 16–19 Dec 2019
- Thirty Meter telescope: Mega science event, Kolkata, India — 3–9 Nov 2019
- Pressing for progress: Gender equity in physics (best poster award) — 19–21 Sept 2019

PUBLICATIONS

1. Host-star metallicity of directly imaged wide-orbit planets: implications for planet formation
C. Swastik, Ravinder K. Banyal, Mayank Narang, P. Manoj, T. Sivarani, Bacham E. Reddy, and S. P. Rajaguru, Astronomical Journal, 161 114 (2021)

2. Galactic chemical evolution of exoplanet host-stars: Are high-mass planetary systems young?
C. Swastik, Ravinder K. Banyal, Mayank Narang, P. Manoj, T. Sivarani, S. P. Rajaguru, Athira Unni and Bihan Banerjee, Astronomical Journal, 164 60 (2022)

3. Age Distribution of Exoplanet host-stars: Chemical and Kinematic Age Proxies from GAIA DR3
C. Swastik, Ravinder K. Banyal, Mayank Narang, Athira Unni, Bihan Banerjee, P. Manoj and T. Sivarani, Astronomical Journal, 166 91 (2023)

4. Carbon abundance of stars in the LAMOST-Kepler field
Athira Unni, Mayank Narang, Thirupathi Sivarani, Manoj Puravankara, Ravinder K Banyal, Arun Surya, SP Rajaguru, **C. Swastik**, Astronomical Journal, 164 181 (2022)

5. Age analysis of exoplanet hosting stars from isochrone models
C. Swastik, Ravinder K. Banyal, Mayank Narang, Athira Unni, and T. Sivarani, Astronomical Journal, 167 270 (2024)

6. Artefact-free total intensity and polarimetric imaging of the LkCa 15 system
C. Swastik, Z. Wahhaj, et al., under review in Astronomy & Astrophysics

7. PDS 70 unveiled by star-hopping: Total intensity, polarimetry, and millimeter imaging modeled in concert
Z. Wahhaj, M. Benisty, C. Ginski, S. Arora, **C. Swastik**, R. G. van Holstein, Rob de Rosa, B. Yang, J. Bae, and B. Ren, *A & A*, 687, A257 (2024)

8. Protoplanetary disks in K_s-band total intensity and polarized light.
Bin Ren, including **C. Swastik**, et al., accepted for publication in Astronomy & Astrophysics

EXPERIENCE WITH OBSERVATION

- I am awarded 4.5 hours as PI at VLT/SPHERE for observation of three faint disks in P116 cycle. I have also submitted a four proposals as PI for telescope time at VLT/SPHERE in the coming cycle.
- I am the CO-PI for three telescope time proposals at VLT/SPHERE which have been allotted time for observation. I have also submitted a proposal for telescope time at VLT/SPHERE in the coming cycle.
- Wrote three observing proposals for 2m and 3.6m telescopes in India.
- Got observing time for 3 cycles ($\sim$ 100 hours) on the Hanle Faint Object Spectrograph Camera (HFOSC) mounted at the Himalayan Chandra Telescope (HCT) at Hanle.
- HIP41378f proposal : A photometric and spectroscopic study of the transit of the system round the globe. From India, I took part in the observation as a PI from GROWTH, Hanle and JCBT, Kavalur
- Experienced in spectroscopic data reduction using IRAF/PyRAF and Astropy.

LIST OF STUDENTS MENTORED

- Catherine John, Masters in Physics, Christ University, Bengaluru
  Thesis title: Demographics of exoplanet: Analysis of the mass-radius relation.
- Aarthi Krishna, Masters in Physics, Indian Institute of Science Education and Research Tirupathi
  Thesis title: Understanding the brown-dwarf desert by analysing the host stars of directly imaged brown-dwarfs.
- Athul Rathnakar, Masters in Physics, St Xaviers University, Bangalore
  Thesis title: Investigating the stellar ages of FGK stars using stellar isochrone models.
- Satyam Soni, Masters in Physics, National Institute of Technology, Rourkela
  Thesis title: Investigating the brown-dwarf desert for the directly imaged exoplanets.
- Tisyagupta Pyne, Masters in Physics, Masters in Physics, Visva-Bharati University, Santiniketan
  Thesis title: The 10 pc stellar neighbourhood of habitable zone planetary systems.

MEDIA COVERAGE

Some of our research items which got highlighted in the media are listed below :

- Metal-rich environment crucial for light giant planets, but not necessary for heavy giant ones.
- Galactic chemical evolution plays a crucial role in planet formation.
- Ministry of Information and Broadcasting (India) press release

OTHER ACTIVITIES

- I am the students representative for the outreach astronomy committee in Indian Institute of Astrophysics.
- From last one year, I have been involved in
  - conducting various outreach and sky-watch programs for poor and underprivileged children.
  - teacher training program for govt school teachers in and around Bangalore. This programme was supported by IAU to promote astronomy education among school students and teachers.
  - This year our thematic proposal, *New Worlds: Are we alone?*, for the teacher's training programme 2020, has been selected under Open Astronomy Schools, IAU-100 Global Project.
- I have been a volunteer for various animal rights organization in India which seeks to provide food and medical care to the street animals.

LIST OF REFEREE DETAILS

- Dr Zahed Wahhaj (Lead Collaborator),
  Staff Astronomer, European Southern Observatory, email : zwahhaj@eso.org
- Dr Ravinder K Banyal (Supervisor),
  Associate Professor, Indian Institute of Astrophysics, email : banyal@iiap.res.in
- Dr Sivarani Thirupathi (Collaborator),
  Professor, Indian Institute of Astrophysics, email : sivarani@iiap.res.in
- Dr Maheswar Gopinath (Doctoral committee member),
  Associate Professor, Indian Institute of Astrophysics, email : maheswar.g@iiap.res.in