

# Agnibha Banerjee

5<sup>TH</sup> (FINAL) YEAR BS-MS DUAL DEGREE STUDENT

Indian Institute of Science Education and Research, Kolkata, India

✉ ab16ms076@iiserkol.ac.in | 🏠 <https://students.iiserkol.ac.in/~ab16ms076>

## Education

### Indian Institute of Science Education and Research (IISER), Kolkata

2016 - Present

B.S. - M.S. Dual Degree in Physics

- 8th Semester CGPA: 8.89/10

### Adamas International School, Kolkata

2016

Class XII, Council for the Indian School Certificate Examinations (CISCE)

- Percentage: 97.0%

### Adamas International School, Kolkata

2014

Class X, Council for the Indian School Certificate Examinations (CISCE)

- Percentage: 96.0%

## Research Experience

### McGill University, Montreal

May 2019 - Aug. 2019

Supervised by: Dr. Nicolas B. Cowan

- Implemented analytical models for calculating the incident light map on ultra-short period exoplanets.
- Developed a Python code to calculate the incident and reflected light maps from the model.
- Explored the possibility of using Slepian functions as basis maps for hemispheres to get more accurate thermal maps of exoplanets.

### Indian Institute of Technology (IIT), Indore

Jun. 2018 - Jul. 2018

Supervised by: Dr. Bhargav Vaidya

- Developed a Monte Carlo radiative transfer code in Python to generate output images when a light beam passes through an optical density grid.
- Gained experience in creating Monte Carlo Simulations, working with different geometries of grids and visualizing large amounts of data.

## Publication

NGUYEN, T.G.; COWAN, N.B.; **BANERJEE, A.**; MOORES, J.E. (2020), ACCEPTED TO MNRAS

”Modelling the atmosphere of lava planet K2-141b: implications for low and high resolution spectroscopy”

## Awards & Recognitions

### MITACS Globalink Research Internship

May 2019 - Aug. 2019

Competitive program for international undergraduates to pursue a summer research internship in Canada

### Top 1% (Top 25) in the National Graduate Physics Examination

Jun. 2018

National examination conducted by the Indian Association of Physics Teachers for Indian undergraduates

### Kishore Vaigyanik Protsahan Yojana (KVPY) Fellowship

Aug. 2017

National program of fellowship in basic sciences, funded by the Government of India

<b>Jagadis Bose National Science Talent Search Senior Scholarship</b> <i>Scholarship awarded to creative undergraduates in West Bengal for science and technology</i>	Oct. 2016
<b>DST INSPIRE Scholarship</b> <i>Scholarship program implemented by the Department of Science and Technology, Government of India</i>	Aug. 2016
<b>Top 1% all-India in Class XII Examinations</b>	Mar. 2016

## Skills

<b>Programming</b>	Python, Java, C, SQL, JavaScript, LaTeX, Git/GitHub
<b>Software</b>	MATLAB, Mathematica, Inkscape
<b>Operating Systems</b>	Linux, Windows
<b>Languages</b>	English, Bengali, Hindi

## Conferences & Schools Attended

### INTERNATIONAL

<b>Exoplanets III, Heidelberg (Online)</b>	Jul. 2020
<b>2020 Sagan Exoplanet Summer Virtual Workshop, NExScl, California Institute of Technology (Online)</b>	Jul. 2020
<b>MOBSTER-1 Virtual Conference, Online</b>	Jul. 2020
<b>Canadian Astronomy Society (CASCA) Annual General Meeting 2019, McGill University, Montreal</b>	Jun. 2019

### DOMESTIC

<b>Finesse Hackathon: Hands-on Interferometer Modelling, IUCAA, Pune</b>	Mar. 2020
<b>Data Science in Astrophysics and Gravitational Wave Research, IIIT, Allahabad</b>	Nov. 2019
<b>Nvidia GPU Based High Performance Computing Workshop, IISER, Kolkata</b>	Oct. 2019
<b>Introductory Summer School on Astronomy and Astrophysics, IUCAA, Pune</b>	May 2018 - Jun. 2018
<b>Astronomy Camp and Sky Observation Training, JBNSTS, Kolkata</b>	Mar. 2018
<b>Young Talent Nurture Mathematics Summer School, IIST, Trivandrum</b>	May 2017
<b>Vijyoshi Science Camp, IISER, Kolkata</b>	Dec. 2016
<b>JBSNTS Seminar "Those Who Make Us Proud", JBNSTS, Kolkata</b>	Oct. 2016
<b>DST INSPIRE Science Camp, Adamas University, Kolkata</b>	May 2014

## Presentations

<b>Adaptive Optics and Its Applications in Astronomy, IISER, Kolkata</b>	Nov. 2019
<b>Exoplanets Very Close to Their Host Star, McGill Space Institute (Summer Student Talks), Montreal</b>	Aug. 2019

## Institute Service & Volunteering

### Data Analyst and Website Designer

<b>CESSI IISER Kolkata outreach initiative on COVID-19</b>	Jun. 2020 - Jul. 2020
<ul style="list-style-type: none"> <li>Created self-updating plots representing several aspects of the impact of COVID-19 in India.</li> <li>Assisted in the design of the website: <a href="http://www.cessi.in/coronavirus">http://www.cessi.in/coronavirus</a>.</li> </ul>	

## Volunteer Teacher

*Ek Pehal: Student initiative to empower children of the less privileged members of society*

Sep. 2019 - Feb. 2020

- Taught English to middle and high school students.
- Designed and graded tests.

## Volunteer Trainer

*Student Solar Ambassador: Outreach initiative to increase awareness about solar energy*

Oct. 2019

- Organized a Solar Energy Workshop for high school students.
- Guided students in the assembly of a Solar Study Lamp.

## Class Representative

*Department of Physical Sciences, IISER Kolkata*

Aug. 2019 - Jul. 2020

- Represented the issues of students to the faculty.
- Collaborated with faculty and students to schedule online examinations during the COVID-19 Lockdown.

## Volunteer

*Institute for Research on Exoplanets (outreach kiosk), Eureka festival, Montreal*

Jun. 2019

- Guided children on telescope usage.
- Communicated general information about exoplanets to the public.

## Convener

*Self Defence Club, IISER Kolkata*

Aug. 2018- Apr. 2019

- Served as an office bearer of the club.
- Organized belt upgradation tests.

## Event Organizer

*Inquivesta (IISER Kolkata college fest)*

Feb. 2018

- Managed the logistics of a water rocket event.
- Led the team members in hosting the event.

## Extra Curricular Activities

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**Silver Honor (Top 10%),** *International Astronomy and Astrophysics Competition*

Jul. 2020

**Red Belt,** *Martial Arts and Sports Karate Organization*

Mar. 2019

**Finalist,** *School State Level Swimming Competition, IIT Kharagpur*

2015

## References

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AVAILABLE UPON REQUEST.