

# CHITI ARVIND

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Dept. of Biology, IISER Tirupati, Karkambadi Road, Andhra Pradesh - 517507

## EDUCATION

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<b>Ph.D.</b> , Indian Institute of Science Education and Research, Tirupati, India   CGPA – 9.8/10 Supervisor – Dr. V. V. Robin Thesis – Using birdsong variation to examine individual species fitness and evolutionary consequences.	2021-present
<b>MRes. Ecology Evolution and Conservation</b> Imperial College London, United Kingdom   Merit <i>Thesis I</i> “Sexual selection and the evolution of birdsong complexity”, Supervisor - Dr. Joseph Tobias <i>Thesis II</i> “The role of pre-natal maternal investment in buffering against environmental stress”, Supervisors - Dr. Sandra Bouwhuis, Dr. Oscar Vedder, Dr. Julia Schroeder	2018
<b>MSc. Life Sciences</b> Mount Carmel College, Bangalore, India   82.67%   CGPA – 9.16/10   Rank 2 <i>Thesis</i> – “A comparative study of phytochemicals and anti-microbial activity of <i>Pongamia pinnata</i> ”, Supervisor – Dr. Suba G Manuel	2016
<b>Diploma – Biology (Project Oriented Biological Education)</b> Jawaharlal Nehru Center of Advanced Scientific Research (JNCASR), Bangalore, India Supervisor – Dr. T N C Vidya	2014
<b>BSc. Life Sciences</b> Sophia College, Mumbai, India   80.51%   CGPA – 7/7   Rank 1	2014

## RESEARCH AND WORK EXPERIENCE

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<b>Indian Institute of Science Education and Research- Tirupati, India   Junior Research Fellow</b> Advisor: Dr. V. V. Robin 1) Ministry of Environment, Forest and Climate Change funded - Avian Malaria Project. 2) Examining song complexity and cultural differentiation in songs of the White-bellied sholakili ( <i>Sholicola albiventris</i> ). 3) Creating a method using bioacoustics to monitor the Critically Endangered Jerdon’s courser ( <i>Rhinoptilus bitorquatus</i> ) endemic to central India.	2019-21
<b>Imperial College London, Silwood Park, UK   Graduate Research Assistant</b> Advisor: Dr. Joseph Tobias Global birdsong project involving evolution of song in suboscine passerine birds.	2018- 19
<b>Bombay Natural History Society, Mumbai, India   Research Fellow</b> Conducted a baseline survey of avifauna at the proposed Navi Mumbai International Airport (NMIA).	2016- 17
<b>Royal Holloway - University of London, UK   Intern</b> Advisor: Dr. Steve Portugal Studied the developmental analysis between cuckoo chicks and their hosts.	2016
<b>Smithsonian Tropical Research Institute (STRI), Panama   Summer Fellow</b> Advisor: Dr. Christina Riehl (Princeton University) Studied the incubation behaviour of the Greater ani by characterizing their nesting activities.	2015
<b>JNCASR, Bangalore, India   Summer Fellow</b> Advisor: Dr. T. N. C. Vidya 1) Investigated communal roosting behaviour and foraging habits of the Indian myna with respect to the recruitment centre hypothesis as well as carried out roosting call playback experiments. 2) Scrutinized the diet preference of the Asian elephant from different age groups using micro-histological analysis techniques.	2013-14

## PUBLICATIONS

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**Arvind, C.**, Joshi, V., Charif, R., Jeganathan, P., & Robin, V. (2022). Species detection framework using automated recording units: A case study of the Critically Endangered Jerdon's courser. *Oryx*, 1-8. <https://doi.org/10.1017/S0030605321000995>

Sawant, S., **Arvind, C.**, Joshi, V., & Robin, V. V. (2022). Spectrogram cross-correlation can be used to measure the complexity of bird vocalizations. *Methods in Ecology and Evolution*, 00, 1-14. <https://doi.org/10.1111/2041-210X.13765>

Sawant, S., **Arvind, C.**, Joshi, V., & Robin, V. V. (2021). Song Richness Index: A measure to understand the diversity and repetition of notes in a birdsong. *bioRxiv*. <https://doi.org/10.1101/2021.12.18.472638>

Sarangi M, Ganguly P, Zenia, **Arvind C**, Lakshman A, Vidya TNC. 2014. Common Myna roosts are not recruitment centers. *PLoS One* 9: e103406. <http://dx.doi.org/10.1371/journal.pone.0103406>

## SCIENTIFIC PRESENTATIONS [INTERNATIONAL AND NATIONAL]

Oral presentation – **Chiti Arvind\***, Suyash Sawant, VV Robin. Exploring population-level song signatures an endemic bird of the Shola Sky Islands in India. *American Ornithological Society, London, Ontario, Canada*. 8<sup>th</sup> -12<sup>th</sup> August, 2023.

Oral presentation – **Chiti Arvind\***, Suyash Sawant, VV Robin. Cultural dialects in birdsong in the Shola Sky Islands of the Western Ghats, India. *Animal Behaviour Society, Portland, Oregon, USA*. 9<sup>th</sup> -15<sup>th</sup> July, 2023.

Oral presentation – **Chiti Arvind\***, Suyash Sawant, VV Robin. Cultural dialects in songs of a bird endemic to the Shola Sky Islands of the Western Ghats in India. *Association for Tropical Biology and Conservation conference, Coimbatore, India*. 2-6<sup>th</sup> July, 2023. [ATREE award for best presentation].

Talk - **Chiti Arvind\***, Viral Joshi, Russel Charif, P. Jeganathan, V. V. Robin. Creating a detection framework for the Critically Endangered Jerdon's courser. *Bird Monitoring Symposium*. March 2023

Talk – **Chiti Arvind\***, Suyash Sawant, VV Robin. Cultural variation in songs of an endemic bird in the Shola Sky Islands of the Western Ghats in India. *Indian Society for Evolutionary Biologists, Ahmedabad*. 9-11<sup>th</sup> February, 2023.

Poster – **Chiti Arvind\***, Suyash Sawant, VV Robin. Cultural variation in songs of an endemic bird in the Shola Sky Islands of the Western Ghats in India. *National Symposium on Avian Biology, Gaya, Bihar*. 9 – 12<sup>th</sup> November, 2022. [Awarded 1<sup>st</sup> position for best poster].

Poster - **Chiti Arvind\***, Viral Joshi, Russel Charif, P. Jeganathan, V. V. Robin. Species and habitat-specific detection framework using Automated Recording Units: A case study on the Critically Endangered Jerdon's courser (*Rhinoptilus bitorquatus*). *International Ornithological Congress - Durban* August 2022. [Secured Student Scholarship awarded by the Leventis Conservation Foundation.]

Talk - **Chiti Arvind\***, Viral Joshi, Russel Charif, P. Jeganathan, V. V. Robin. Creating an automated recorder detection framework for the Critically Endangered - Jerdon's Courser (*Rhinoptilus bitorquatus*). *Eastern Ghats Symposium 2022 – Tirupati*, April 30 – May 1, 2022.

Poster - **Chiti Arvind\***, Viral Joshi, Russel Charif, P. Jeganathan, V. V. Robin. Species and habitat-specific detection framework using Automated Recording Units: A case study on the Critically Endangered Jerdon's courser (*Rhinoptilus bitorquatus*). *Students Conference for Conservation Science Bangalore*, September 2021.

Poster - **Chiti Arvind\***, Harikrishnan CP, Amrutha Rajan, Suyash Sawant, Shomita Mukherjee, P. Jeganathan, Viral Joshi & V.V. Robin. Bioacoustics to explore birdsong complexity and bird biodiversity. *Biology Annual Talks, IISER Tirupati*, March 2020.

Talk - **Chiti Arvind\***, Suyash Sawant, Viral Joshi, V. V. Robin. Exploring birdsong complexity in the White-bellied sholakili across 10 years. *National Symposium on Avian Biology, IISER Tirupati*, Dec 2019.

## TEACHING

<b>NPTEL course on Wildlife Ecology – NPTEL, IIT Madras (online)</b>	2023
Carried out a weekly two-hour discussion/tutorial session for a 12-week course on modules in wildlife Ecology.	ongoing
<b>Conservation Genomics – Salim Ali Centre for Ornithology and Natural History, Coimbatore</b>	27 <sup>th</sup>
Conducted a 4 hr module on Population Genetics in conservation including theory, practicals and paper reading for Masters cohort.	October
<b>Workshop of Bioacoustics for conservation – Association for Tropical Biology and Conservation</b>	July 2023
Conducted a lecture on equipment used in terrestrial bioacoustics and a hands-on training session on software used to analyze acoustic data.	
<b>Basic Course in Ornithology – NPTEL, IIT Madras (online)</b>	2023
Carried out a weekly problem-solving session for a 12-week course on modules in Ornithology.	Jan - Apr
<b>NPTEL course on Wildlife Ecology – NPTEL, IIT Madras (online)</b>	2022
Carried out a weekly discussion/tutorial session for a 12-week course on modules in wildlife Ecology	Aug - Oct

<b>Course in Methods of field Ecology, Undergraduate, IISER-KIS Field-station Kodaikanal</b>	2022
Co-created a 10-week curriculum on field methods in ecology involving theoretical and practical modules.	May - June
<b>Introductory Biology III: Ecology and Evolution, Undergraduate Course, IISER – Tirupati</b>	2021
Conducted tutorials on various modules taught; involved in designing questions for quizzes and examinations; evaluated papers for over 150 students in the cohort.	(Monsoon)
<b>Introductory Biology II: Genetics and Molecular Biology, Undergraduate Course, IISER – Tirupati</b>	2021
Conducted weekly tutorials on taught modules for the entire semester; involved in designing questions for examinations; evaluated papers for 150 students in the cohort.	(Spring)
<b>Behavioural Ecology, Undergraduate Course, Imperial College London</b>	2018
Re-designed coursework for the practical module on parental provisioning behaviour; assisted with the 'Introduction to R' graduate course. Delivered a lecture on life-history trade-offs in parental investment and survival for a graduate field course.	

## SELECTED GRANTS/SCHOLARSHIPS/AWARDS

<b>Prime Ministers Research Fellowship (PMRF) – Govt. of India – Ministry of Education</b>	2022-25
<b>Academic Excellence Award, IISER Tirupati</b> For exemplary performance in PhD coursework (Biology)	2022
<b>National Geographic Society</b> (Ecology of Shola Sky Island Birds: How do Narrow Specialist birds respond to novel invasive habitats)- Team member on a grant awarded to Dr V. V. Robin (IISER Tirupati) [20,000 USD]	2022
<b>National Geographic Society</b> (Testing Anthropause in soundscapes of natural and urban habitats across India's cities) – Team member on a grant awarded to Dr V. V. Robin (IISER Tirupati) [20,000 USD]	2020
<b>WCT - Small Grant</b> , Wildlife Conservation Trust, Mumbai [5 Lakh = ~7000 USD]	2019
<b>Teaching Grant</b> , Imperial College London [936.18 GBP = ~1300 USD]	2018
<b>Khorana Program for Scholars</b> , Govt. of India, IUSST Forum and WINStep Forward [2000 USD + Airfare]	2015
<b>Post Graduate Indira Gandhi Scholarship</b> , Govt. of India	2015
<b>Summer Research Fellowship</b> - Project Oriented Biological Program (POBE), JNCASR, Bangalore	2012-14
<b>Mahindra Search for Talent Honour Scholarship</b> , Sophia College, Mumbai	2014
Awarded for receiving the first position for three consecutive years for the Excellence in Science Program in 2012, '13 and '14.	

## SCIENTIFIC ADMINISTRATION

<b>Field station management</b>   IISER-KIS Bombay Shola Field Station – Kodaikanal	(2020- present)
Overall administrative role including managing accounts, logistics, and internship curriculum.	
<b>Organising Committee member</b>   2 <sup>nd</sup> National Symposium on Avian Biology – Tirupati	(11-13 <sup>th</sup> December 2019)
In-charge of logistics - travel and accommodation.	

## SCIENCE COMMUNICATION AND FEATURES

<b>Featured – BBC Sounds podcast- <u>Unexpected Elements - Migrate ideas</u></b> – 1 <sup>st</sup> June, 2023
<b>Featured - Kodai Chronicle – <u>Many songs of the Sholakili</u></b> – 31 <sup>st</sup> August, 2022.
<b>Blog – Oryx - <u>Using bioacoustics to detect the elusive Endangered Jerdon's courser: a cryptic, nocturnal and endemic Indian bird</u></b> – 29 <sup>th</sup> June, 2022.
<b>Featured - Ornithology.in – <u>Researcher's corner: Chiti Arvind</u></b> – 5 <sup>th</sup> March, 2022.
<b>Interactive Lecture</b> – Wonder Girls Academy - Foundation Program with students from the Teach for India Pune Program, March 2021. <a href="https://youtu.be/juTux8t7lgw">https://youtu.be/juTux8t7lgw</a>
<b>Article</b> - Right or Left: Elephant calves pick their 'trunk handedness' early on in life. <i>Research, Matters</i> - July, 2020. <a href="http://disq.us/t/3qidiqg">http://disq.us/t/3qidiqg</a>
<b>Article</b> - Researchers find three new species of geckos lurking under granite rocks in the Mysore Plateau - <i>Research Matters</i> June, 2020. <a href="http://shorturl.at/buEQV">shorturl.at/buEQV</a> .

## MENTORSHIP

Rohith Srinivasan	BS- MS student - Ahmedabad University, Master's thesis	2023-
Aditya Panigrahy	BS-MS student - IISER Tirupati, Semester project	2023-
Arpitha G P	Project student – IISER Tirupati	2023-
Aparna Rao	Project student – IISER Tirupati	2023-
Madhumitran M	BS-MS student - IISER Tirupati, Semester Project	2023
Suyash Sawant	BS-MS student - IISER Tirupati, Masters thesis	2019-2022

## INVITED TALKS

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**Chiti Arvind** - Role of internships in shaping career opportunities: exploring avenues in animal behaviour and ecology. *Mount Carmel College – Alumni Talk Series*, October 22, 2022.

**Chiti Arvind\***, Viral Joshi, Russel Charif, P. Jeganathan, V. V. Robin. Detection framework using Automated Recording Units: A case study on the Critically Endangered Jerdon's courser (*Rhinoptilus bitorquatus*). *Indira Gandhi Zoological Park, 68<sup>th</sup> Wildlife Week* - October 6<sup>th</sup>, 2022.

**Chiti Arvind\***, Viral Joshi, Russel Charif, P. Jeganathan, V. V. Robin. Creating an automated recorder detection framework for the Critically Endangered - Jerdon's Courser (*Rhinoptilus bitorquatus*). *Cotton University - Guwahati*, March 27th 2022.

Talk - **Chiti Arvind\***, Viral Joshi, Russel Charif, P. Jeganathan, V. V. Robin. Creating a detection framework for the Critically Endangered Jerdon's Courser. Invited for *Nature Conservation Foundation - Tuesday Talks*, August 2020.

## SKILLS

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**Field skills** – Mist-netting, bird-handling, and blood extraction, terrestrial automated recording unit monitoring.

**Wet lab skills:** DNA extraction, PCR, gel electrophoresis, ddRAD library preparation and sequencing.

**Software skills:** Programming languages - R Programming, Shell Scripting; acoustic analysis - RavenPro, Kaleidoscope Pro; geospatial data analysis – QGIS; design - Adobe Photoshop, Adobe Illustrator, CorelDraw

**Languages:** Proficient in English and Hindi, elementary Spanish (A2 level certified), basic spoken Malayalam.

**Others:** Open water PADI - Diver # 1605AD20682016 (Lifetime certification).