

10
YEARS OF
ASHOKA

Enquiry

A REPOSITORY OF
ASHOKA'S RESEARCH

VOLUME 1



ashoka
UNIVERSITY

Enquiry

VOLUME 1

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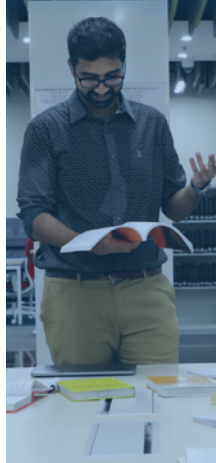
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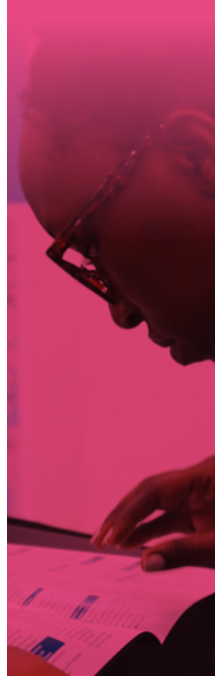
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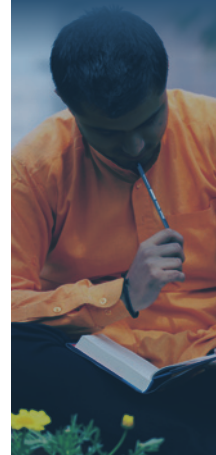
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LETTER FROM THE VICE-CHANCELLOR



**ASHOKA IS
ESTABLISHING ITSELF
AS A HUB FOR CUTTING-
EDGE RESEARCH AND
THE CREATION OF
KNOWLEDGE.**

In addition to being the leading Liberal Arts and Sciences university in India, at Ashoka we recognise the importance of research in solving complex challenges and pushing the frontiers of human understanding across all areas of knowledge. Since the University's inception in 2014, we have been aspiring to create a transformative learning environment that champions multidisciplinary and interdisciplinary pedagogy and encourages critical thinking. Now in its tenth year, Ashoka is well on its way to establishing itself, not just as a leading teaching institution, but also as a hub for cutting-edge research and the creation of knowledge.

To nurture a thriving research culture, we have made significant investments in building state-of-the-art infrastructure, establishing collaborative partnerships with institutions all over the country and the world, and recruiting renowned scholars from across the world. These efforts are already bearing fruit, evidenced by the rapid increase in the output from research involving both faculty and students.

As we continue on this journey of becoming a globally recognised research institution, we remain committed to our foundational values of academic excellence and societal impact.

— Somak Raychaudhury

LETTER FROM THE CHAIR, SCIENTIFIC ADVISORY COUNCIL

**THE UNIVERSITY
AIMS TO BE THE MOST
ATTRACTIVE PLACE
IN SCIENCE FOR
UNDERGRADUATES,
GRADUATE STUDENTS
AND FACULTY ALIKE.**



Ashoka University has comprehensive undergraduate programmes in the Natural Sciences, Mathematics and Computer Science. The faculty are excellent teachers and researchers at the cutting-edge of their fields. Graduate students and post-doctoral fellows come into a truly flexible and interdisciplinary environment. Infrastructure and facilities for research are comprehensive and well-maintained, and collaborations, both national and international, ensure access to facilities as well as intellectual partnerships.

Yet, there is no room for complacency in a fast-changing world with many demands by society on Science. Science at Ashoka aims to tackle the most complex and formidable problems of the day. The Science Advisory Council draws leading scientists, from India and abroad, committed to the development of excellence, to advise on shaping the growth and competitiveness of Science at Ashoka. Working with the Vice-Chancellor, the Chair of the Board of Trustees, the founders, and the research community at the University, the Council

will help Ashoka reach its key goals. The University aims to be the most attractive place in Science for undergraduates, graduate students and faculty alike. Its welcoming campus and intellectual environment will be further amplified by hosting the best scientific meetings, workshops and courses through the year, bringing the brightest and best students and teachers to campus.

Ashoka's on-campus Science resources will steadily scale up and access to national and international facilities will ensure that ambitious research is not constrained. Just as Ashoka will attract the best, the research and training at Ashoka must ensure that students are linked to opportunities so that their ambitions can fructify and they can serve larger societal purposes too. I am very pleased to say that the members of the Science Advisory Council continue to engage and look forward to working with everyone to achieve these goals.

— K VijayRaghavan





01

Overview

BRINGING TEACHING AND RESEARCH TOGETHER

Ashoka has pioneered an education model that weaves teaching and research under one roof. The University has today emerged as a hub for cutting-edge research across a range of disciplines.

MILESTONES IN ACADEMIC EXCELLENCE

2011

The Young India Fellowship, Ashoka's flagship postgraduate programme in Liberal Studies, is launched

2014

The first undergraduate batch joins Ashoka – programmes in Sociology and Anthropology, Economics, English, History, Mathematics, Philosophy, Political Science and Psychology are introduced





2014-15

The Centre for Writing and Communication is established

The Centre for Studies in Gender and Sexuality is set up

2015-16

The Science Advisory Committee is instituted

The Centre for Social Impact and Philanthropy is set up

The Trivedi Centre for Political Data is established

2016-17

As plans for the expansion in Sciences are put in place, faculty recruitment becomes a major focus

Ashoka Scholars Programme is launched

PhD programmes are initiated in four disciplines: Biology, Computer Science, Economics and English

IN ADDITION TO BUILDING A RIGOROUS ACADEMIC PROGRAMME, ASHOKA ADDRESSES DISCIPLINES RELEVANT TO CONTEMPORARY INDIA THROUGH ITS CENTRES OF EXCELLENCE.



2017-18

The Undergraduate Natural Sciences (Biology and Physics) programme is launched

The Research and Development Office is established

A cohort of 21 PhD students is admitted in five disciplines (Biology, History, Computer Science, Economics and English)

The Centre for Social and Behaviour Change is established, with support from the Bill and Melinda Gates Foundation and in partnership with the Harvard T.H. Chan School of Public Health

The Archives of Contemporary India is instituted at Ashoka

2018-19

The Departments of Psychology and Physics initiate PhD programmes

2019-20

Chemistry is introduced to the existing range of Science majors

The Trivedi School of Biosciences is launched

The Centre for Economic Data and Analysis is established

The Ashoka Centre for China Studies is established

The Centre for Climate Change and Sustainability is established

LS Shashidhara (Biology) becomes the first Indian to be elected as the President of the International Union of Biological Sciences

Mphasis partners with Ashoka to build the Mphasis Laboratory for Machine Learning and Computational Thinking

ASHOKA IS INVESTING SIGNIFICANT RESOURCES IN RESEARCH ACROSS DISCIPLINES.



2020-21

The first phase of the Ashoka campus is completed and construction of the second phase begins

First batch of Science students graduate, securing admissions to the University of Stuttgart, University of Erlangen-Nuremberg, University of Geneva, University of Waterloo and Virginia Tech

2021-22

The Science Advisory Council is established at Ashoka, to advise the Vice-Chancellor on enhancing research, teaching and training in the Sciences.

K VijayRaghavan, former Principal Scientific Advisor to the Government of India, is appointed as Chair

The Sunanda and Santimay Basu Chair for Astrophysics is established to accelerate cutting-edge work in Astrophysics. Dipankar Bhattacharya is appointed as Chair

The Centre for Interdisciplinary Archaeological Research is established

2022-23

Ashoka partners with Simons Foundation to launch the Simons-Ashoka Early Career Fellowship in Quantitative Biomedical Sciences

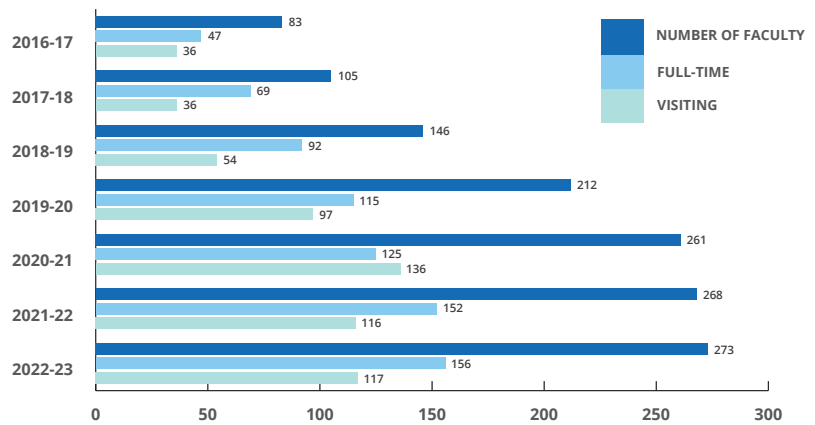
**THE DEPARTMENT OF
ECONOMICS IS RANKED
FIRST IN RESEARCH
EXCELLENCE IN INDIA
(RESEARCH PAPERS IN
ECONOMICS 2020).**

NUMBERS BEHIND THE STORY

Over the years, the University has enabled both faculty and students to undertake rigorous and collaborative research projects.

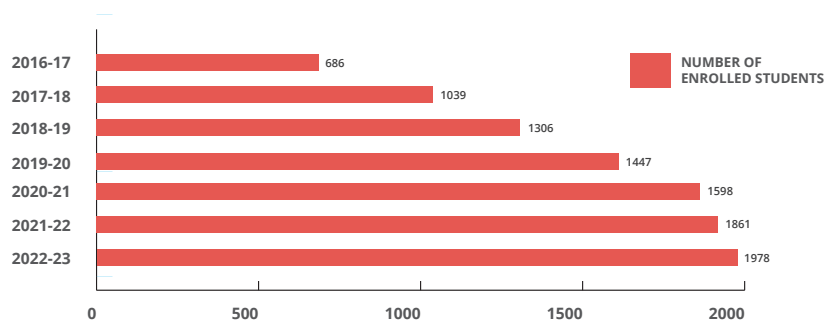
FACULTY RECRUITMENTS

Faculty strength has tripled in the last five years.



UNDERGRADUATE ADMISSIONS

Undergraduate student enrolments have crossed the 1,900 mark.

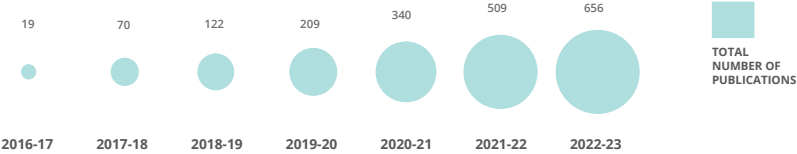


ASHOKA HAS A STUDENT-TO-FACULTY RATIO OF 11:1

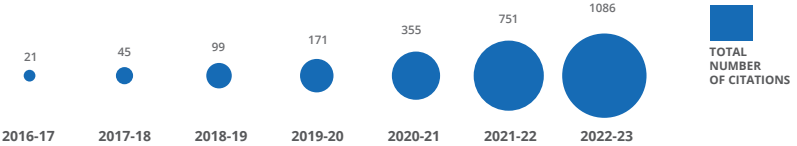
RESEARCH CREDITS

Ashoka has published 500+ research pieces.

NUMBER OF PUBLICATIONS



NUMBER OF CITATIONS



MILESTONES FOR 2022-23

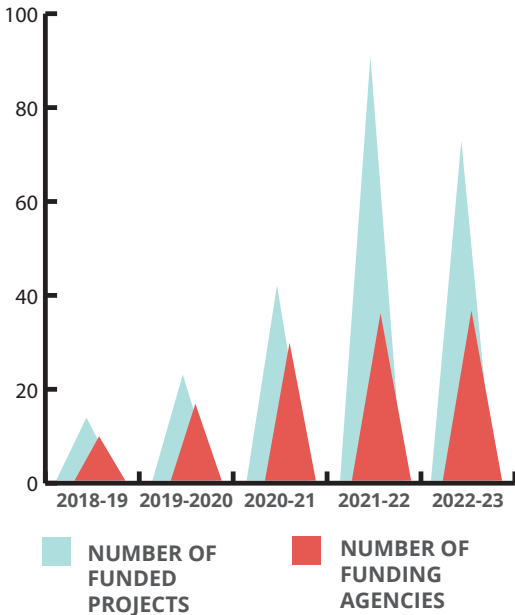
73
FUNDED
RESEARCH PROJECTS

37
RESEARCH
FUNDING AGENCIES

₹ 34.91
CRORE IN
RESEARCH FUNDING

PROJECT FUNDING

Funded research saw 6.5x growth over a four-year period.





RESEARCH AT ASHOKA

Research at Ashoka is driven by innovation, with the aim to push the frontiers of knowledge across a range of disciplines. The unique interdisciplinary ecosystem at the University facilitates the coming together of the Natural Sciences with Humanities and the Social Sciences – creating a vibrant environment for researchers.

Ashoka is home to some of the best intellectual minds in the country and the world. The diversity of experience



and research in Ashoka's faculty reflects the University's foundational goals – of building a world-class institution of teaching and research excellence. Each of them have contributed to relevant and high-quality research in their respective fields.

The University also houses 14 Centres of Excellence. The Centres create new avenues of multidisciplinary research; advancing the frontiers of knowledge across a diverse range of subjects –

including Gender Studies, Economic Data, Behavioural Studies, Climate Change and Social Philanthropy, amongst others.

The culture of collaboration – between faculty and students, Centres and the academic departments, and with institutions across the world – is what makes the research enterprise at Ashoka stand out.

BOOKS BY FACULTY

Since Ashoka's establishment, the University has been a catalyst for in-depth research. Here are some of the books and papers that our faculty published in the academic year 2021-22.



WAITING FOR SWARAJ

by Aparna Vaidik

Set in British India of the 1920s, *Waiting for Swaraj* follows the cadence and tempo of the lives of the intrepid revolutionaries of the Hindustan Republican Association and the Hindustan Republican Socialist Association who challenged the British Raj. It seeks to comprehend the revolutionaries' self-conception – what does it mean to be a revolutionary?

Unlike most historical analyses, the book locates the essence of being a revolutionary in everyday conversations, banter, anecdotes and stray fragments of life underground. It does so by drawing from the revolutionaries' memoirs. The book demonstrates how the time spent 'waiting for freedom' was the crucible that forged a revolutionary.



FINDING THE RAGA: AN IMPROVISATION ON INDIAN MUSIC

by Amit Chaudhuri

Finding the Raga is Amit Chaudhuri's singular account of his discovery of, and enduring passion for, North Indian music. The book combines the forms of memoir, practical and cultural criticism and philosophical reflection, to trace the art form's development, dwelling on its most distinctive and mysterious characteristics.

Starting with a highly personal introduction to Indian music, the book chronicles the author's journey with Indian classical music, and how it has continued to affect not only how he listens to and makes music, but also how he listens to and thinks about the world at large. At the same time, *Finding the Raga* is also a meditation on the differences between Indian and Western music and art-making as well as the ways in which they converge.

FACULTY FROM THE HUMANITIES AND SOCIAL SCIENCES ARE PROLIFIC AUTHORS, AND PUBLISH BOOKS ON A RANGE OF SUBJECTS. THE SCIENCES FACULTY PUBLISH CUTTING-EDGE RESEARCH IN LEADING ACADEMIC JOURNALS.



LAW OF DESIRE: RULINGS ON SEX AND SEXUALITY IN INDIA

by Madhavi Menon

Madhavi Menon's *Law of Desire: Rulings on Sex and Sexuality in India* is an insightful and well-argued book, which calls into serious question the wisdom – and intent – of lawmakers and the judiciary when it comes to regulating the forms desire can take.

Law of Desire touches upon some of the important High Court and Supreme Court judgments that have shaped the way desire is understood, interpreted and acted upon by not just the judiciary, but also the media, the legislature and the executive. The book demonstrates that in declaring an expression of desire as 'immoral', 'criminal', 'obscene' or 'unnatural', courts and laws often build upon weak casteist and patriarchal assumptions.

A BEGUM AND A RANI: HAZRAT MAHAL AND LAKSHMIBAI IN 1857

by Rudrangshu Mukherjee

Chancellor Rudrangshu Mukherjee has authored six books on the Revolt of 1857, the most recent one being *A Begum and A Rani*. The book talks about the unusual circumstances that catapulted Begum Hazrat Mahal of Awadh and Rani Lakshmibai of Jhansi into the rebellion of 1857. In doing so, it captures the different trajectories of their lives and struggles.

While Rani Lakshmibai was made a nationalist icon, the Begum remains a relatively forgotten figure. By placing the two women in the same narrative, the book revisits the Revolt from a unique perspective. It tells the story of two women in a rebellion.



B10

RESEARCH PAPERS

SHIVANI KRISHNA (Biology) and **SOMENDRA BHATTACHARJEE** (Physics) published an insightful study titled 'Ordering and topological defects in social wasps' nests' in *Nature Scientific Reports*.

KANIKA MAHAJAN (Economics) co-authored the paper 'The gendered effects of droughts: Production shocks and labor response in agriculture' which was published in *Labour Economics*.

SRAMANA MAJUMDAR (Psychology) published her research "You don't know me so don't try to judge me": Gender and identity performance on social media among young Indian users' in *Frontiers of Psychology*.

ERIC SNYDER (Philosophy) co-authored a paper titled 'Computability, notation, and *de re* knowledge of numbers' in *Philosophies (MDPI)*.

ANIRBAN MONDAL (Computer Science) published the following papers and lecture notes: 'A framework for itemset placement with diversification for retail businesses'; 'Air quality data collection in Hyderabad using low-cost sensors: Initial experiences'; 'Visualising spatio-temporal variation of ambient air pollution in four small towns in India'.



RAJENDRA BHATIA (Mathematics) published a paper titled 'Eigenvalues and diagonal elements' in *Indian Journal of Pure and Applied Mathematics*.

PALLAVI RAGHAVAN (International Relations) published an insightful article titled 'The limits of decolonisation in India's international thought and practice: An introduction' in *International History Review*.

SHUBHASIS HALDAR (Biology) published an impactful paper titled 'Direct observation of chaperone-modulated talin mechanics with single-molecule resolution' in *Nature Communications Biology*.

BHARAT RAMASWAMI (Economics) published a paper titled 'International risk sharing for food staples' in the *Journal of Development Economics*.

BOOK CHAPTERS

'THE ORIGINS AND EFFECTS OF AFFIRMATIVE ACTION POLICIES IN INDIA' IN *MAKING MERITOCRACY: LESSONS FROM CHINA AND INDIA, FROM ANTIQUITY TO THE PRESENT*

by *Ashwini Deshpande*

Written as a part of an anthology that explores the philosophical underpinnings of meritocracy in China and India, this chapter traces the evolution of India's affirmative action policy, discussing the rationale for the policy as well as the objective basis for its continuing relevance. Additionally, it discusses the validity of caste status as an indicator for contemporary backwardness.

Recently, the Indian affirmative action policy has added a component that targets family income and not social group identity. The chapter critically assesses the justification for this shift in the policy. It argues that this shift dilutes the original intent of the affirmative action policy which was put into place to address systematic discrimination and exclusion from elite positions.

'CARTOGRAPHIES OF SINDH: RELIGION, REGION, LANGUAGE' IN THE *ROUTLEDGE HANDBOOK OF REFUGEES IN INDIA*

by *Rita Kothari*

Rita Kothari writes about the community of Hindu Sindhis who left the region of Sindh in newly formed Pakistan and arrived as refugees in India as a linguistic minority. While on one hand, they were subsumed into the mainstream 'Hindu' identity, this process led to them moving away from Sindh as a region, and Sindhi the language.

Written in this particular context, the chapter builds itself upon exchanges about Sindhi language within the community to examine how language continues to be divorced from ideas of self and region.

STUDENT RESEARCH

By encouraging original thinking, the University is building up a steady stream of committed research scholars.

Ashoka aspires to be a global leader in the production of knowledge, by creating an unrivalled research ecosystem that produces the next generation of world-class PhD scholars and undergraduate researchers.

PHD PROGRAMME: ON A GROWTH PATH

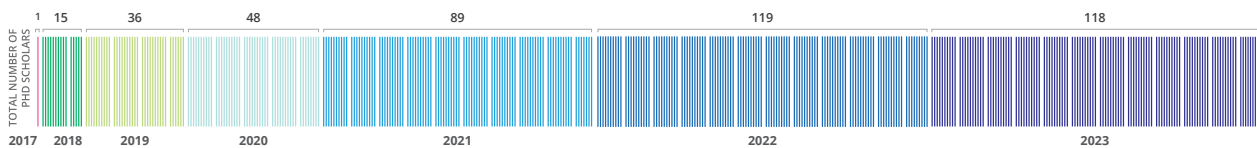
Ashoka's PhD programme was introduced in 2017. The University currently offers doctoral programmes in ten disciplines – English, Economics, Computer Science, Chemistry, Biology, History, Physics, Psychology, Mathematics and Sociology and Anthropology.

The PhD programme carries a strong emphasis on foundational knowledge, academic research

and hands-on experiences. Interdisciplinary research, partnerships with industry and policymakers, and integrating teaching with research are key facets of the programme. Ashoka envisions a future where researchers combine their intellectual pursuits with a strong commitment to solving societal issues.

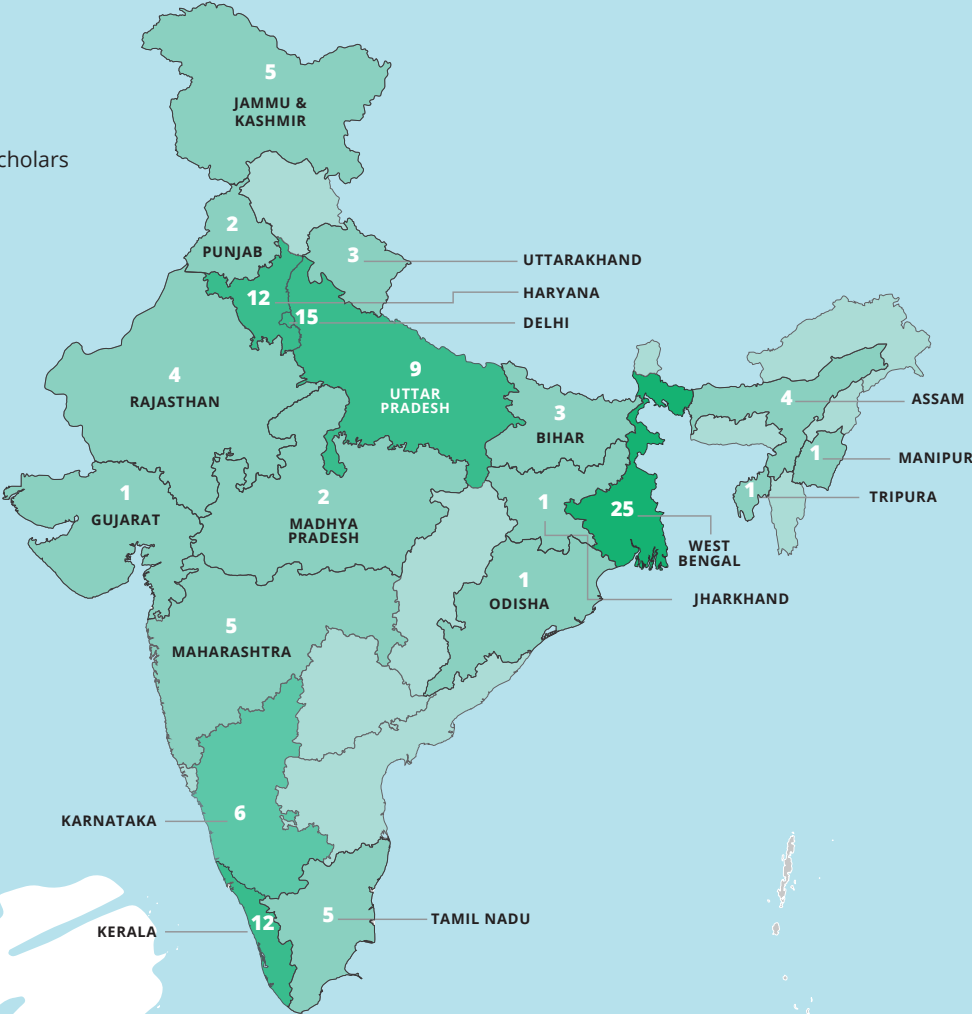
NUMBER OF PHD STUDENTS

Increase in the number of PhD scholars admitted to Ashoka over the years



GEOGRAPHIC DISTRIBUTION

State-wise distribution of PhD scholars



INVESTMENT IN PHD PROGRAMME

Over the years, the University has taken many steps to enable PhD scholars to undertake rigorous research projects.



SUCCESS STORIES

HIMANI UPADHYAY (RESEARCH SCHOLAR, DEPARTMENT OF HISTORY)

Awarded the prestigious **Inlaks Research and Travel Grant (IRTG)***.

Himani's thesis examines mapping and surveying practices in the Himalayas in the colonial period. With the help of this grant, she will be able to access archival material available in the collections of the Royal Geographical Society, Royal Botanic Gardens and the British Library.

* IRTG is a grant awarded to PhD students in Indian universities for short-term research visits abroad.

SRIJAN SEAL (RESEARCH SCHOLAR, DEPARTMENT OF BIOLOGY)

Awarded the **Graduate Research Excellence Grant-RC Lewontin by the Society for the Study of Evolution**.

Srijan is the first Indian student to win this globally recognised award, since its inception in 2018. He works in the field of Evolutionary Biology and is a part of the Evolutionary Immunology Lab at Ashoka.

SHREYA KUNDU (RESEARCH SCHOLAR, DEPARTMENT OF HISTORY)

Received the **Charles Wallace Trust Fellowship** for short-term research visits to the UK.

Shreya's thesis is on child labour in the jute mills of colonial Bengal from the late nineteenth to the early twentieth century. This grant allows her to access various journals integral to her research, which are not available in the Indian archives.



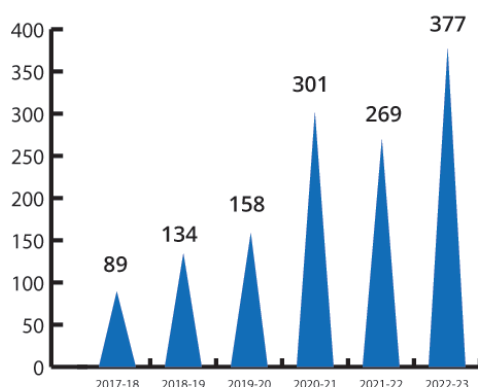
UNDERGRADUATE RESEARCH AT ASHOKA

ASHOKA SCHOLARS PROGRAMME (ASP)

At the end of their third year, all undergraduate students have the option to pursue a year-long Diploma in Advanced Studies and Research.

The majority of students choose to work on a capstone thesis. They are closely overlooked by faculty acting as academic advisors.

The fourth year equips students to address and solve complex problems with a multi and interdisciplinary lens. The thesis in the ASP is an academically rigorous exemplar of undergraduate research.



■ NUMBER OF STUDENTS ENROLLED UNDER ASP

TRAJECTORIES

Academic advisors not only support mentees in constructing thesis arguments but also help them choose the right programme for their graduate studies.

A significant percentage of ASP students have been admitted to graduate programmes in renowned international universities, including the University of Oxford, Columbia University, Yale University, Harvard University, Massachusetts Institute of Technology, Sciences Po and the University of Cambridge.







02.

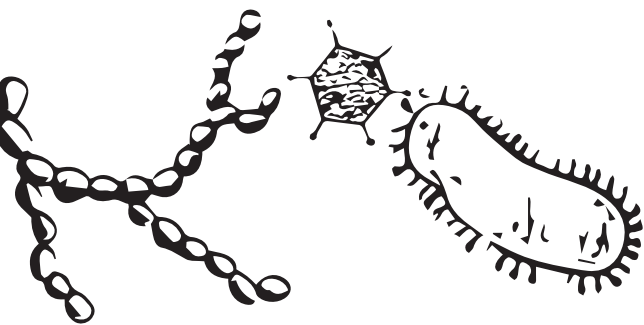
Ashoka at a Glance

POWERING EXCELLENCE IN RESEARCH

The University fosters a deep culture of research across departments and centres. Ashoka's multidisciplinary ethos positions it at the forefront of academic scholarship in the country.

DIVERSE AREAS OF RESEARCH

Departments at Ashoka specialise in a growing number of sub-fields within disciplines, which often interact with other subjects. This provides aspiring researchers the opportunity to pursue unique pathways in their respective fields.



01. BIOLOGY

Biophysics and Biochemistry
Cell and Developmental Biology
Computational and Mathematical Biology
Ecology and Evolutionary Biology

02. CHEMISTRY

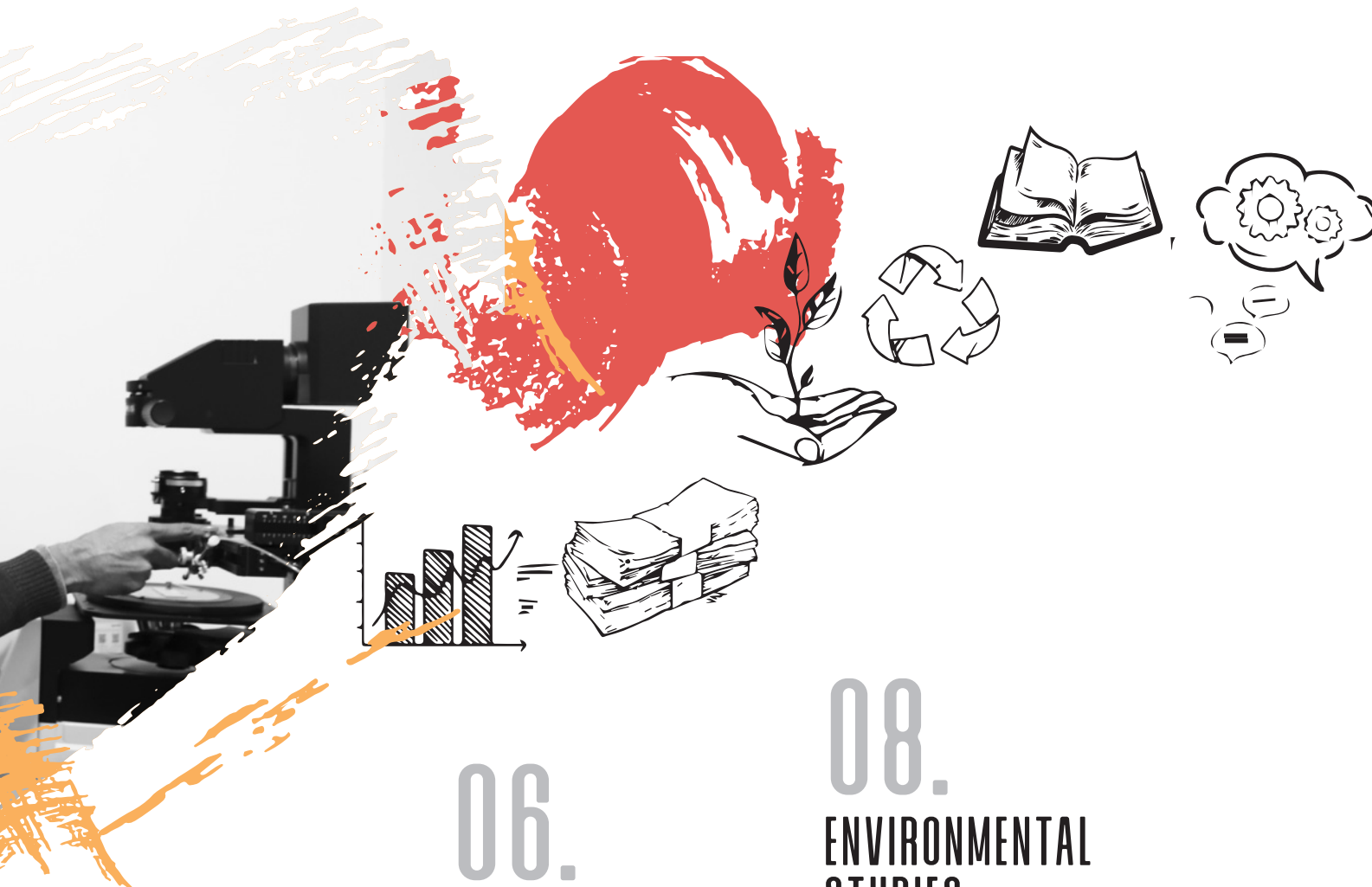
Molecular Catalysis
Computational Catalysis
Material Science
Clean Energy
Chemical Reactivity
Sustainable Energy Cycle

03. COMPUTER SCIENCE

Digitisation and Data Questions in Health
Education and Welfare
Cryptography
Privacy and Security
Data Science and AI for Public Good
Epidemiology and Modelling
Molecular and Systems Biology
Quantum Computing
Artificial Intelligence and Machine Learning

04. CREATIVE WRITING

Translation
Poetry
Fiction



05. ECONOMICS

Economic Theory
Game Theory
Behavioural Economics
Experimental Economics
Theoretical and Empirical
Macroeconomics
Monetary Economics
Economic Growth
Development Economics
Time-series Econometrics
Applied Microeconomics
Financial Economics

06. ENGLISH

Critical and Literary Theory
South Asian Literature
Gender and Sexuality
Shakespearean Literature
Digital Humanities
Translation Studies
Performance Studies

07. ENTREPRENEURSHIP

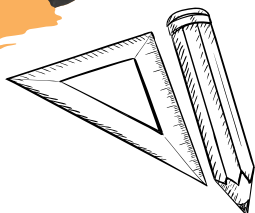
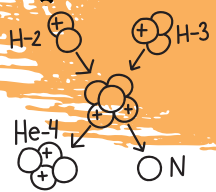
Startup Incubation
Investments
Social and Sustainable Ventures

08. ENVIRONMENTAL STUDIES

Wildlife Conservation
Sustainable Food Systems
Urban Planning
Environmental Movements

09. HISTORY

History of Modern India
Histories of Political Violence
Spatial Histories
History of Modern South Asia
Indian Archaeology and Heritage Studies
Environment and Intellectual Histories



10.

INTERNATIONAL RELATIONS

- Regional Expertise of South Asia
- South Asian Thinking in International Relations
- Decolonisation
- Gender
- Globalisation
- Diplomacy
- International Conflict

11.

MATHEMATICS

- Algebra and Number Theory
- Analysis
- Combinatorics
- Mathematical Physics
- Probability Theory
- Topology

12.

MEDIA STUDIES

- News-writing
- Audio-visual Production
- Digital Storytelling
- Investigative Journalism
- Media Literacy

13.

PERFORMING ARTS

- Bharatanatyam
- Forms of Theatre
- Classical Music
- Yoga

14.

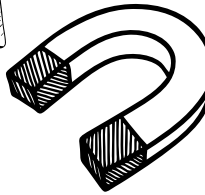
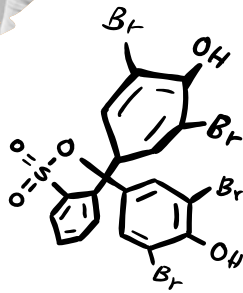
PHILOSOPHY

- Meaning and Acquisition of Number Words and Concepts
- Plato and Pre-Platonic Philosophers
- Metaphysical Explanation
- Issues in Political Philosophy
- Workings of Karma

15.

VISUAL ARTS

- Sculpture
- Painting
- Print-making
- Art History
- Visual Cultures



16. POLITICAL SCIENCE

Political Theory
Constitutionalism
Political Economy
Voter Behaviour
Minority Politics
Democratic Theory
Political Conflict

17. SOCIOLOGY AND ANTHROPOLOGY

Study of Language
Law
Religion
Agrarian Change
Democracy
Political Economy
Ethnographic Writing

18. SANSKRIT STUDIES

Indian Philosophy
Linguistics
Sanskrit Literature
Sanskrit Theatre

19. PHYSICS

Condensed Matter Physics
Biophysics
Astrophysics
Cosmology
Quantum Field Theory

20. PSYCHOLOGY

Human Cognitive Neuroscience
Social and Political Psychology
Developmental Psychology
Animal Neuroethology
Clinical and Counselling Psychology





CENTRES OF EXCELLENCE

Ashoka is one of the first universities in the country to establish Centres of Excellence. The Centres encourage research-oriented collaborations by generating knowledge and building capacity in areas of social relevance.



**THE CENTRES WORK ON
A RANGE OF SUBJECTS,
INCLUDING GENDER
STUDIES, SOCIAL
PHILANTHROPY, ACADEMIC
WRITING, BEHAVIOURAL
SCIENCES, ECONOMICS
AND POLITICAL DATA.**

01.

CENTRE FOR CLIMATE CHANGE AND SUSTAINABILITY

Builds a shared interest in studying, communicating and mitigating the effects of future climate change on society, health and the environment

KEY FOCUS AREAS:

- Ecology, Conservation and Climate Change
- One Health
- Climate and Society
- Economics of Climate Change and Sustainability
- Climate Change Communication
- Environmental Humanities
- Sustainable Communities

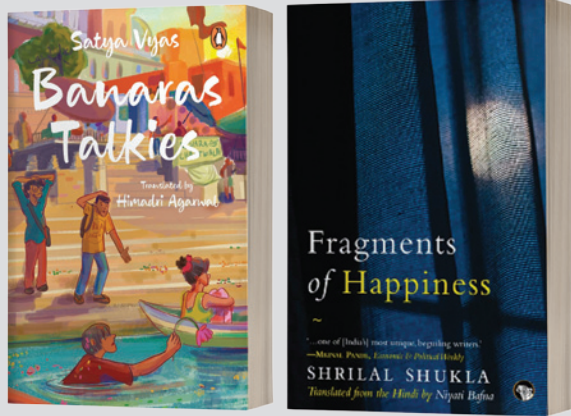
02.

ASHOKA CENTRE FOR WELL-BEING

A non-aligned Centre offering counselling support to students, staff and faculty at Ashoka. The Ashoka Centre for Well-Being (ACWB) is the first centre of its kind in India, working towards capacity-building at every level of the organisation – by focusing on the preventive, clinical and promotional aspects of mental health

KEY PROGRAMMES:

- **Trainings and Workshops** to generate awareness towards mental health and related issues amongst students, faculty and staff
- **Research Collaborations and Outreach** with institutions such as University of Cambridge, Central University of Kashmir, amongst others



Books translated by Ashoka students



Jacqueline Novogratz, Founder and CEO, Acumen in conversation with Ashoka Founder, Ashish Dhawan at a Fireside Chat organised by the Centre for Social Impact and Philanthropy

03.

ASHOKA CENTRE FOR TRANSLATION

Aims to foster, nurture and foreground India's multilingual ethos by unlocking knowledge and aiding its dissemination through translation of material across Indian languages, including English

KEY PROJECTS:

- **Translating Bhakti** has been conceptualised as a project that will take the compelling words of Bhakti saint-poets to as many Indian languages as possible. A translation of Kabir's selected poems is the first in this series
- **Women Translating Women**, a project consisting of 12 translated books to share stories written by women
- **State of Indian Translations Report**, a report cataloguing published translations across regional languages and English

04.

ASHOKA SCIENCE POLICY INITIATIVE

Set up to facilitate the framing of evidence-based policies to address societal problems. It has worked on some independent white-papers, policy briefs and other reports

KEY PUBLICATIONS:

- **Enabling a \$5 trillion Indian economy: A policy framework to catalyse AI-centric technology ecosystem**
- **Rare diseases in India: Time for cure-driven policy initiatives and action**
- **A Collection of Policy Briefs on Artificial Intelligence**



The Centre for Writing and Communication Team



Centre for Studies in Gender and Sexuality Director, Madhavi Menon (left) during a panel discussion organised by the Centre

05.

ASHOKA CENTRE FOR CHINA STUDIES

The Centre aims to build China Studies as an interdisciplinary programme with a strong commitment to language learning. It hopes to establish itself as a leading institute on China-related research

KEY PROGRAMMES:

- **China Studies Postdoctoral Fellowship**, offered in partnership with Harvard Yenching Institute
- **Minor and Concentration in China Studies** for undergraduate students
- **Mandarin Language Scholars Programme** for young scholars and practitioners to help develop a working knowledge of Mandarin for research and teaching

06.

CENTRE FOR ECONOMIC DATA AND ANALYSIS

Focused on developing a data repository on economic and social developments in India – a centralised hub accessible to researchers, journalists and students alike

KEY PROJECTS:

- **CEDA Data Portal** allows users to generate and download data visualisations on a range of socio-economic and demographic indicators
- **CEDA Data Narratives** are published every week, providing data-driven analyses of socio-economic developments in the country
- **Collaborating with the Centre for Monitoring Indian Economy** to produce fortnightly data-based bulletins to highlight noteworthy trends and developments

07.

CENTRE FOR INTERDISCIPLINARY ARCHAEOLOGICAL RESEARCH

First-of-its-kind facility in India that brings Archaeology and the Sciences together to offer new perspectives that deepen the study of the Indian past. This is being done through interdisciplinary field-based projects led by Ashoka faculty

KEY PROJECTS:

- **Forests as Protectors of Heritage: The Interface of Archaeology and Science for Framing Public Policy**, wherein archaeological remains from Bandhavgarh National Park were mapped and documented, and human interaction with nature was analysed from a historical perspective
- **The Archaeology of Foodways, Culture and Climate in South Asia**, a project that seeks to understand human-environment interaction using the lens of foodways and culture
- **Ashoka Fellowships in Ancient and Medieval History**, funded by Anupa Sahney

The Centre for Interdisciplinary Archaeological Research team during a field visit to Bandhavgarh forest, Madhya Pradesh



08.

INFOEDGE CENTRE FOR ENTREPRENEURSHIP

A creative hub that fosters the entrepreneurial endeavours of Ashokans. The Centre inspires, inculcates and incubates an entrepreneurial mindset amongst students, while also supporting them in their ventures

KEY PROGRAMMES:

- **Over 30 courses** offered in Entrepreneurship and Management Studies
- **'Entrepreneur in Residence'** programme with an in-house Startup Incubation Lab
- Events like **Startup Bootcamp** and podcasts like **'Guftagu with Shark Tank India Entrepreneurs'**

The Big Idea serves as an open space for budding entrepreneurs on campus to convene and host events



09.

TRIVEDI CENTRE FOR POLITICAL DATA

A non-partisan research centre promoting data-driven research, policy work and journalism

KEY PROJECTS:

- **Gender and Politics** is a project charting women’s participation in the 2019 general elections
- **Municipal Data**, a project in collaboration with CASI (UPenn) that released the first public repository of municipal elections data, currently covering seven Indian states
- **Lok Dhaba** acts as a repository of Indian election results – both national and state level – from 1962
- **Coverage of State Elections** in 2019-20, collecting data on political party candidates across Haryana, Maharashtra, Jharkhand and Delhi

Participants at the Trivedi Centre for Political Data Summer School



10.

CENTRE FOR SOCIAL IMPACT AND PHILANTHROPY

South Asia’s first academic centre focused on strategic philanthropy for social impact, with support from the Bill and Melinda Gates Foundation

KEY PROJECTS:

- **How India Gives 2020-21**, launched in collaboration with the World Panel Division of Kantar to provide a deeper understanding on how Indians donate to philanthropic causes
- **Talent Management in the Indian Social Sector**, a study on creating a conducive environment to attract, nurture and grow talent in the Indian social sector
- **The Impact of COVID-19 on India’s Nonprofit Organisations: A Snapshot Report**, on challenges and opportunities presented to India’s non-profits in the wake of the pandemic

Asha Curran, CEO of GivingTuesday, at the Social Innovation Summit organised by Centre for Social Impact and Philanthropy





A session with Ashoka's undergraduate students being led by Ashoka Centre for Well-Being Director, Arvinder Singh



Centre for Social and Behaviour Change associates conducting field work in Uttar Pradesh

11.

CENTRE FOR STUDIES IN GENDER AND SEXUALITY

The first-of-its-kind centre in India studying a broad spectrum of issues in gender and sexuality

KEY PROJECTS:

- **Mapping Sexuality in India**, a one-stop directory on institutions, publications and other resources on gender and sexuality in India
- **Sex, Sexuality and the Law**, an Experiential Learning Module facilitated by the Centre for Young India Fellows that analysed significant judgements in the discourse on sex, sexuality and social justice in India
- **Qurbatein**, a bi-annual publication covering scholarly and creative queer engagements from a non-Western point of view

12.

THE CENTRE FOR THE CREATIVE AND THE CRITICAL

Provides a forum to raise and address questions to do with both creative practice and critical argument, bringing together novelists, poets, translators, artists, scholars, journalists and publishers

HIGHLIGHTS:

- **'Is There A Modern Literature?'**, an online course taught by Prof Amit Chaudhuri, in partnership with the Oxford Research Centre for the Humanities
- **Symposium: 'On Not Mentioning the Modern'** was held in February 2022
- **Symposium papers: 'Against Storytelling'**, published on literaryactivism.com



An English Language Teaching session organised by the Centre for Writing and Communication



An associate at a Behaviour Science workshop at the Centre for Social and Behaviour Change office

13.

CENTRE FOR WRITING AND COMMUNICATION

A pioneering space for teaching critical thinking, writing and communication

KEY PROGRAMMES:

- English Language Teaching support offered to students, critical to Ashoka's inclusion and diversity objectives
- Summer and Winter Schools are organised, with courses on research, academic and creative writing. These are open to postgraduate students and research scholars from all disciplines and universities
- Annual Research Conferences which critically examine ideas such as inclusive pedagogy, learning practices in higher education and writing in university spaces, amongst others
- Workshops on Plagiarism and Citation for first-year undergraduate students

14.

CENTRE FOR SOCIAL AND BEHAVIOUR CHANGE

A centre that designs and tests behavioural change interventions in areas such as nutrition, sanitation, maternal health, family planning and financial services

KEY PROJECTS:

- Scaling COVID-19-appropriate behaviour campaigns for over one crore self-help group members across Bihar with JEEVIKA and Bihar Behavioural Insights Unit
- Promoting Iron & Folic Acid supplement uptake in over a hundred Aspirational Districts with NITI Aayog and the NITI Behavioural Insights Unit, based on CSBC experiments with counselling cards and tracking calendars

Special Feature

WHY WOMEN'S PARTICIPATION IS DECLINING IN INDIA'S WORKFORCE

Ashwini Deshpande



The declining levels of female labour force participation (FLFP) have been the subject of intense academic and policy debates. There is a great deal of attention on social norms that might constrain women's labour supply or their ability to work – the overwhelming burden of domestic work, pressures of child and elderly care, the stigma attached to working outside the home, fears of sexual violence and so forth.

The focus on a binary indicator – in or out of the labour force – implicitly leads us to think about labour force participation (LFP) as a labour supply issue. Women typically report lower rates of unemployment as compared to men. Therefore, when they are not employed, the default assumption is that they must have voluntarily chosen to exit the labour force.

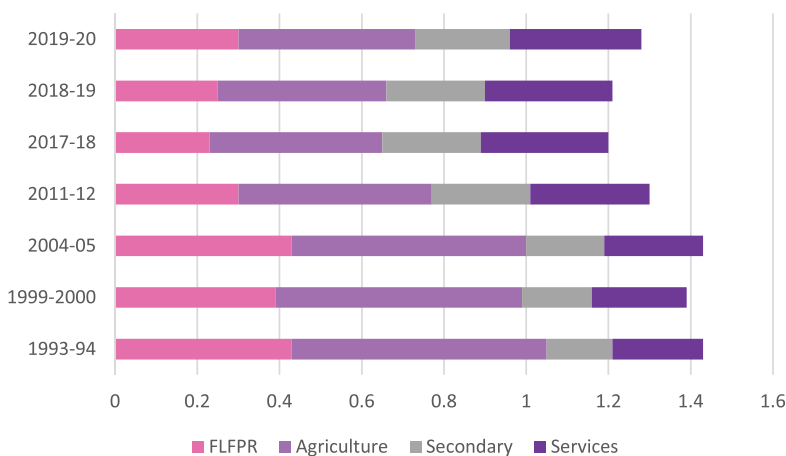
Cultural norms do matter: South Asia in general and India and Pakistan in particular,

are among regions that have the most unequal gender division of domestic chores. My research with Naila Kabeer (London School of Economics) shows that the social norm of being predominantly responsible for domestic chores is an important constraint to Indian women's ability to participate in paid work. However, national-level survey data has repeatedly documented Indian women's willingness to work, if work was available either at or near their homes.

The persistently low level of FLFP in India over the decades indicates a state of permanence or stationarity in women's LFP status. Additionally, the decline since 2004 suggests a transition in one direction (exit from the labour force from an already low level) but not in the other direction (entry into the labour force).

Using nationally representative longitudinal data, where the respondents are interviewed three times in a calendar year, Jitendra Singh (PhD student at Ashoka University) and I present novel evidence which shows that women frequently enter and exit the workforce over short intervals. This employment volatility is not explained by supply-side factors: marriage, motherhood or childcare. We show that women work when they find work, suggesting that the declining participation rate is an artefact of insufficient jobs and declining demand for women's work.

The graph shows that over time, the share of agriculture in total employment has declined. Between 1993-94 and 2019-20, the proportion of workers who were employed in agriculture fell from 63 per cent to 44 per cent. The share of manufacturing and services has risen. This reflects the process of structural transformation.



Agriculture employed over 75 per cent of female workers in the early 1990s. In 2019-20, this dropped to 58 per cent, a decline of 17 percentage points. The share of manufacturing among female workers has increased by one percentage point and that of services has risen with fluctuations but not sufficiently to absorb the declining agricultural opportunities.

The first-order issue related to employment in India over the last three decades is the lack of adequate job opportunities for men and women, described as 'jobless growth'. This is in addition to the precarity and informality of labour markets. The post-1991 economic growth was driven by sectors such as information and technology which are not labour-intensive. Since 2016, there has been a deceleration of economic growth, which means that both growth (jobless or not) and jobs are matters of concern.

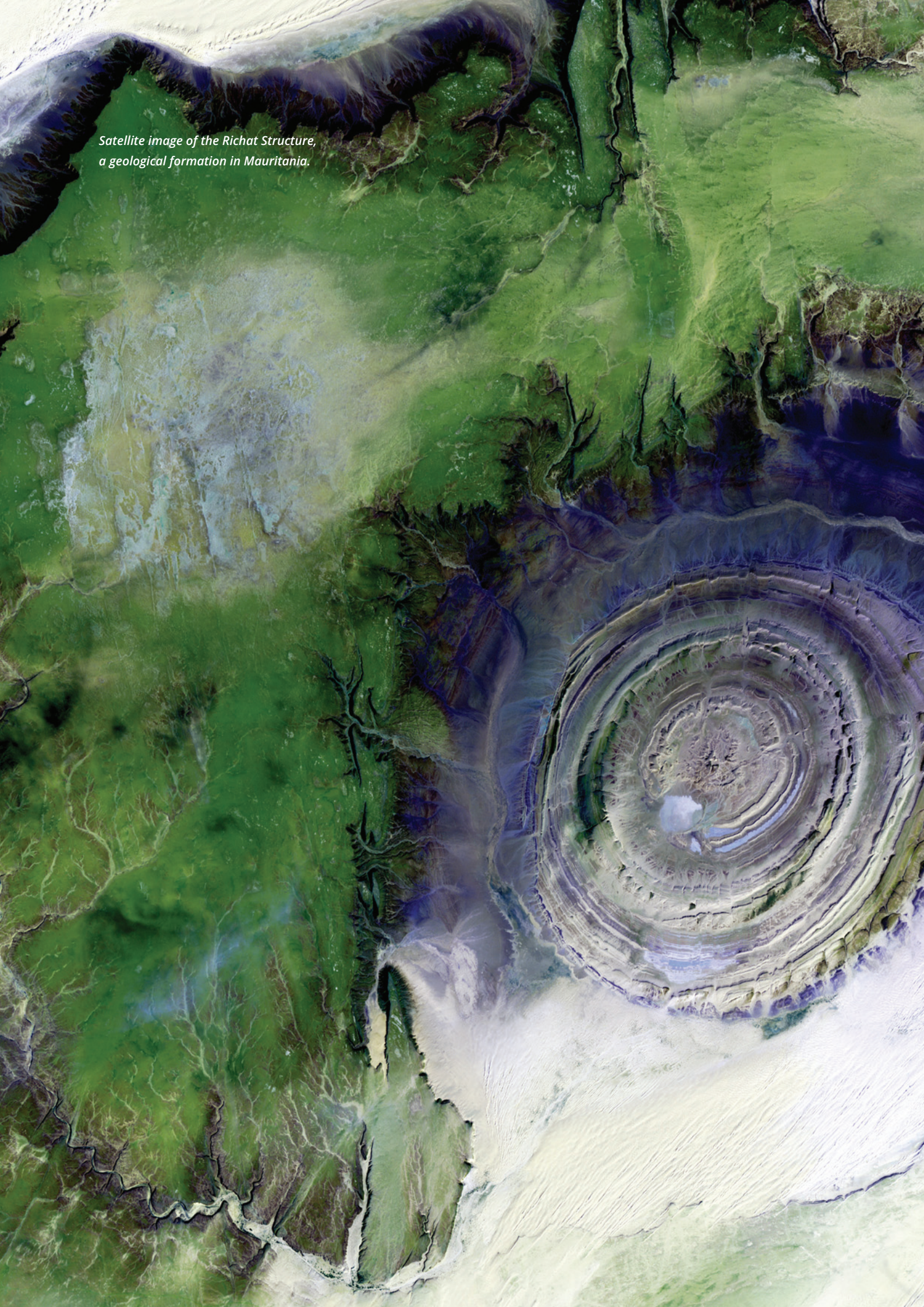
To increase the FLFP rate, we need to boost job creation as well as make employment opportunities accessible to women.

**WE SHOW THAT
WOMEN WORK WHEN
THEY FIND WORK,
SUGGESTING THAT
THE DECLINING
PARTICIPATION RATE
IS AN ARTEFACT OF
INSUFFICIENT JOBS
AND DECLINING
DEMAND FOR
WOMEN'S WORK.**

Ashwini Deshpande is Professor of Economics and Founding Director of the Centre for Economic and Data Analysis. Her work focuses on the economics of discrimination and affirmative action. She received the VKRV Rao Award for Indian Economists under 45, and the SKOCH Award for Gender Economics in 2022.



Satellite image of the Richat Structure, a geological formation in Mauritania.





03.

Spotlight

FOCUS ON SUSTAINABILITY AND THE ENVIRONMENT

The Centre for Climate Change and Sustainability is committed to awareness, research and advocacy on issues of the environment, climate crisis and sustainability.

TOWARDS A SUSTAINABLE WORLD

Established in 2019, the Centre for Climate Change and Sustainability (3CS) grew out of a shared concern for the future of our planet.

MULTIDISCIPLINARY BY NATURE

Conceptualised by Prof Malabika Sarkar, the 3CS brings together 30 members of the Ashoka community, from across nine departments. Faculty from disciplines as diverse as English, Biology, History, Media Studies, Psychology, Sociology and Anthropology, Environmental Science, Physics, Computer Science and Economics contribute to the centre.

The 3CS community holds a shared interest in studying, communicating and mitigating the effects of climate change on our society, health and environment. The Centre is committed to awareness, advocacy and research on issues of climate change and sustainability. To this end, it harnesses Ashoka's research and policy expertise.

7 FOCUS AREAS

01. ECOLOGY, CONSERVATION AND CLIMATE CHANGE

02. CLIMATE CHANGE COMMUNICATION

03. CLIMATE AND SOCIETY

04. ECONOMICS OF CLIMATE CHANGE AND SUSTAINABILITY

05. ONE HEALTH

06. ENVIRONMENTAL HUMANITIES

07. SUSTAINABLE COMMUNITIES

3CS MEDIA FELLOWSHIP

Envisioned as the Centre's flagship programme, the 3CS Media Fellowship aims to support climate journalism from marginalised communities on the climate change frontlines across the country.

UNIQUE FELLOWSHIP PROGRAMME

The Fellowship provides a platform to Dalit and Adivasi communities affected the most by climate change. It also promotes reportage, particularly in regional languages.

INAUGURAL EDITION OF THE 3CS MEDIA FELLOWSHIP

The inaugural 2022-23 edition focuses on original reportage done for and by those located in peninsular India, including the states of Andhra Pradesh, Telangana, Karnataka, Kerala, Tamil Nadu and the Andaman and Nicobar Islands. Seven Fellows have been chosen as the first cohort.

The group includes media persons, writers, ethnographers, researchers and community workers.

OUR PARTNERS

The Hindu and *News Minute* are the Centre's media partners. They conduct mentoring sessions for the Fellows and will also publish five original pieces of reportage each, in both print and video format.

3CS has also partnered with the Ashoka Centre for Translation to help the Fellows translate their pieces from the original languages to English.

“How the effects of climate change can be further magnified by social inequality is the special focus of this year's Media Fellowships. We hope to explore and understand the consequence of climate change in India by seeing them through the eyes of those who are most vulnerable, reflecting on the lessons they hold for communities across this diverse country.”

— **Gautam Menon**

Director,
Centre for Climate Change and
Sustainability



A training session with the Media Fellows underway at the Raman Research Institute, Bengaluru



CREATING A LIVING ARCHIVE ON PLANT LIFE

FOCUS AREA: ENVIRONMENTAL HUMANITIES

INDIAN PLANT HUMANITIES

The project aims to create a living archive of writing and art on plant life, the first-of-its-kind anywhere in the world. This archive will consist of works by writers, artists, philosophers and scientists from the Indian sub-continent over the last two millennia.

BUILDING A PLANT ARCHIVE

The Indian Plant Humanities project intends to celebrate the richness and diversity of thought on plant life created by Indians across various linguistic cultures. Envisioned as a living archive, it will help transform the way we think about climate change. The material will also be translated into English, making it accessible globally.

The archive will gather creative and critical thinking on the botanical from different genres of literature, including music and spiritual philosophy, to remind us of our ancestry in thought on what has come to be called the 'non-human' – a nomenclature that would not have existed in precolonial societies such as ours.

A HISTORIC TASK

To bring the plant archive to life, researchers from India, the UK and the US have started to collect a bibliography across languages and themes. Some of our researchers are working on themes such as plant life in the Indian Himalayan region and the Indian plantationocene (environment change caused by human beings).

Others are focused on languages such as Bangla, Sanskrit and Axomiya, and will soon begin research in Odia and some South Indian languages. These bibliographies and research will be translated into English and compiled as an anthology.

The archive will allow the Indian Humanities Project to curate an exhibition on contemporary Indian botanical at the Ashoka University campus, develop a section on Indian plant life in the Ashoka library, create a podcast on Indian Plant Humanities, and share research findings through talks by writers and scholars in the field, both online and on campus.

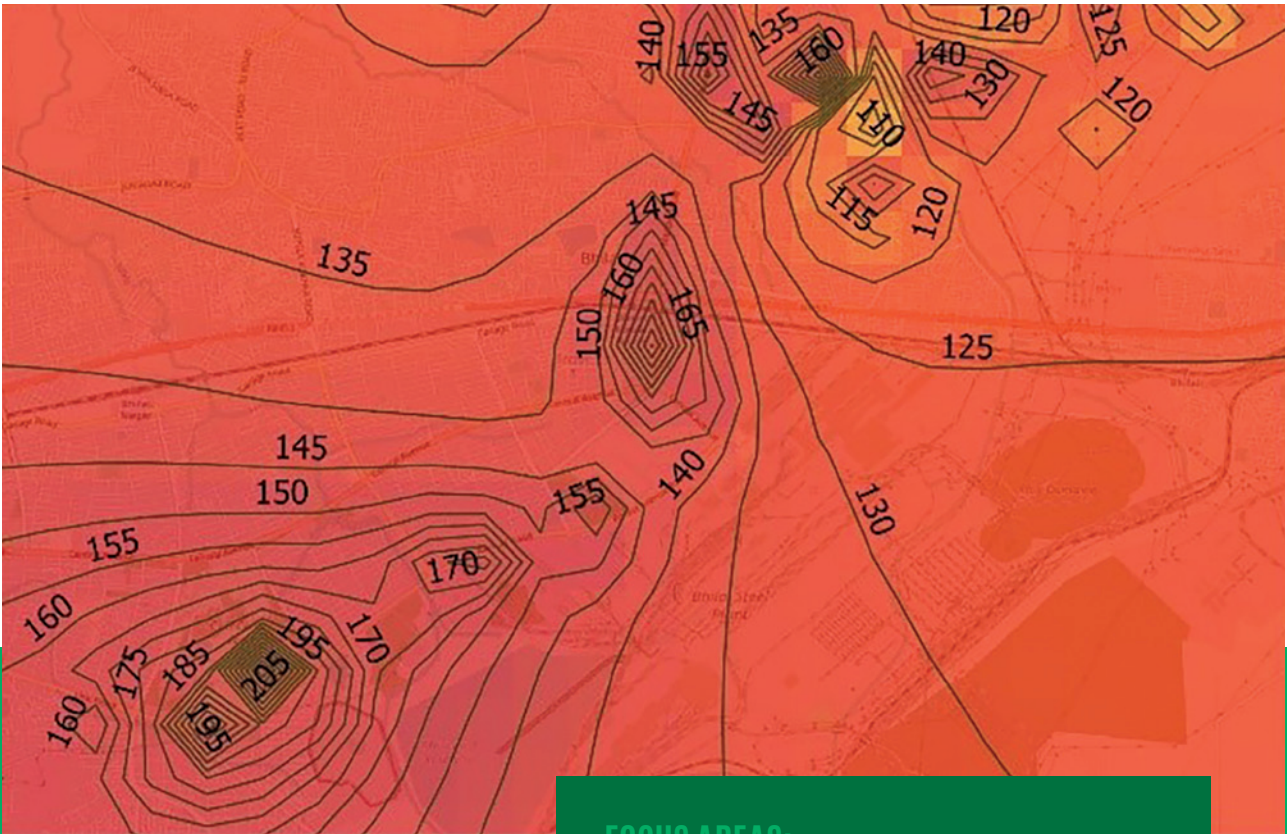
Most importantly, the discipline of Indian Plant Humanities does not exist in India – there is no organised or institutionalised system of thought on plant life outside the Botanical Sciences. The archive and the anthology will enable Ashoka to become the first university that offers academic programmes and courses on the Indian Plant Humanities.

OUR PLANT ARCHIVE WILL CELEBRATE THE RICHNESS, UNIQUENESS AND DIVERSITY OF THOUGHT ON BOTANICALS IN THE INDIAN SUB-CONTINENT ACROSS VARIOUS LANGUAGES.

ABOUT

This project is led by Prof Sumana Roy (Associate Professor of English and Creative Writing) with backing from the Centre for Climate Change and Sustainability. It was started with the support of renowned scholars in Plant Humanities from Harvard University, Syracuse University, the Linnean Society of London, the University of Sussex and the Yale Center for British Art.





COST-EFFECTIVE AIR QUALITY MONITORING WITH DECISION SUPPORT

FOCUS AREAS:

ONE HEALTH; ECOLOGY;
CONSERVATION AND CLIMATE CHANGE;
CLIMATE AND SOCIETY;
CLIMATE CHANGE COMMUNICATION;
SUSTAINABLE COMMUNITIES

AIR QUALITY ASSESSMENT MADE SIMPLE

As the levels of particulate matter in the air keep mounting, air pollution monitoring at the national level is not enough. The project focuses on a cost-effective and scalable tool that measures air quality at the local level, keeping in mind the needs of India's smaller cities and towns.

THE AIR WE BREATHE

As reported in the Global Burden of Disease study, poor air quality results in more than 1.5 million premature deaths in India. With the rapid growth in energy and transportation demands, in particular, people of the subcontinent face one of the highest annual average ambient particulate matter exposure levels in the world.

Existing tools to monitor air pollution such as the SDG India Dashboard launched by NITI Aayog measure goals and targets at the national level. While they do provide data-driven insights to support development plans, information available at the town and city levels is negligible. This project thus aims to develop a cost-effective and scalable one-stop system for air quality monitoring and assessment, along with decision-making capabilities. It is especially focused on small towns and cities because, despite poor air quality, monitoring is virtually absent in these areas.

AN AFFORDABLE TOOL THAT SCALES

Air quality assessment requires the collection and analysis of large volumes of heterogeneous, spatiotemporally varying data. This includes data from satellites, from a range of ground-based sensors, historical and contemporary land use and mapping data. Instead of the conventional, expensive environmental monitoring stations, this project uses low-cost air quality sensors, which have emerged as a cost-effective alternative.

The specific objective is also to collect and make air quality information available on an ongoing basis, in the form of a visual tool. This will allow stakeholders to evaluate the impact of interventions on air quality and achieve the Sustainable Development Goals (SDGs) related to improving public health.

The research team has been organising a series of international workshops centred on the challenges in assessing air quality. These workshops bring together researchers and practitioners in data analytics, urban planners, city administrators, transport planners and policy experts.

The project hopes to contribute to the growing efforts to confront and address the public health challenges arising from poor air quality in India. It also aims to have a direct impact on air quality in India, beyond the usual academic goal of improving the understanding of an issue.

POOR AIR QUALITY RESULTS IN MORE THAN 1.5 MILLION PREMATURE DEATHS IN INDIA, SAYS THE GLOBAL BURDEN OF DISEASE STUDY

ABOUT

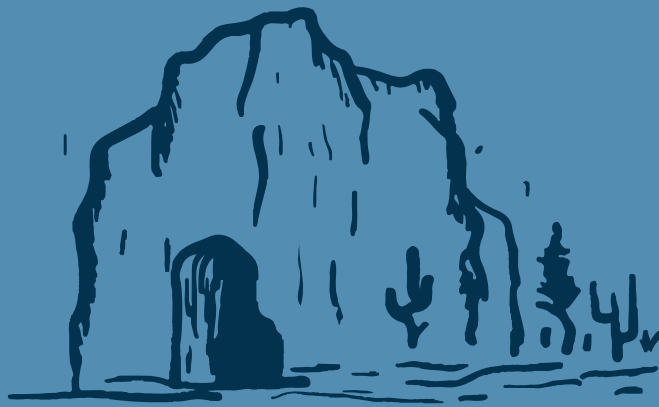
This project was spearheaded by Late Prof Anirban Mondal (Associate Professor of Computer Science), in collaboration with Prof Girish Agrawal (OP Jindal Global University) and Prof P Krishan Reddy (International Institute of Information Technology, Hyderabad). It is the first-of-its-kind academia-industry partnership, with funding from the Mphasis Lab for Machine Learning and Computational Thinking and the 3CS at Ashoka.



Special Feature

OLD PLACES IN WILD SPACES

Nayanjot Lahiri



It is a strange irony that while forests are present across the Indian subcontinent, they have not centrally figured in the archaeology of historical India, which has remained preoccupied with cities and villages. One question, thus, in my current research on the Bandhavgarh National Park and Tiger Reserve is this: how did the forest impact its ancient inhabitants?

It was in the second century CE that a cave first came to be created in Bandhavgarh by merchants and artisans. Some 80 more caves were eventually fabricated, many of them by people engaged in commerce, and rarely by rulers. These merged into the forest, their dark interior spaces created through a process of excavation into hillsides, with *in situ* walls and pillars, beds and benches carved out of the rock. Today, tree roots and branches embrace some of them, even as scorpions and Bandhavgarh's most famous resident, the tiger, have made these their homes. There is something about how the

jungle has taken over these caves which gives a sense of the human presence as being something temporary, a sense that I have got from many other archaeological journeys and encounters of structures from earlier epochs sinking back into the land.

Three elements, each revealing how the forest featured in the lives of those who lived there, can be described in brief. First, architectural features hint at the wilderness having been part and parcel of cave-using communities. For instance, in one of the caves, the exteriors intruded into the cave interiors since the small room attached to the long cave had a skylight on one side. One can imagine that this helped in the circulation of air, but along with occasional rain, birds and small animals would also have shown up through it. Perhaps it was the experience of unwanted guests like beasts and birds here which ensured that subsequently, hardly any caves were made with partially open rooftops.



Figure 1: Branches and roots embracing a cave

**TREE ROOTS AND BRANCHES
EMBRACE SOME OF THE CAVES, EVEN
AS SCORPIONS AND BANDHAVGARH'S
MOST FAMOUS RESIDENT, THE TIGER,
HAVE MADE THESE THEIR HOMES.**

Nayanjot Lahiri is Professor of History. Her research interests include ancient India, Indian archaeology and heritage studies. She was awarded the Infosys Prize in Humanities – Archaeology in 2013. Her book, Ashoka in Ancient India won the John F Richards prize of the American Historical Association for the best book in South Asian History in 2015.





Figure 2: Cave interior showing slots

BANDHAVGARH USED TO BE THE HUNTING GROUND OF THE RULERS OF REWA BUT THE PRACTICE OF ELITE HUNTING THERE GOES BACK TO ANTIQUITY.

Second, there are caves whose doorways have deliberately created niches on their long sides, as can be seen in Figure 2. These are slots into which bamboo and other wood pieces were fitted so as to keep wandering animals out. Many creatures today use those shelters as the pugmarks of tigers, the droppings of mongooses and the high-pitched sounds of flying bats reveal. Ancient inhabitants would not have wanted such creature companionship and thus, there were wooden bars across entrances to keep them out of the caves.

Finally, aristocracy hunted here. Bandhavgarh used to be the hunting ground of the rulers of Rewa but few are aware that this practice of elite hunting there goes back to antiquity. The visual design scheme, for instance, of Cave 4 strongly suggests this (Figure 3). The cave is a singular one: partly recording the donations of merchants on its long back wall and partly devoted to rock carvings that

THE CARVINGS REVEAL ENCOUNTERS WITH ANIMALS AND WITH FOREST PEOPLE.



Figure 3: Cave 4

evoke the forest, animals and hunting. There are tigers, monkeys and fish here, and an armed hunter is shown attacking a small animal, while another holds on to an unidentified animal. An epigraph on an adjacent wall which speaks of a hunting ground (*Mrigaya saila*) is an allusion to the carving. There are two other reliefs in the cave, of riders. Two riders can be seen on one horse, while the other equine has one rider. A third relief complicates a simple hunting scene trope in that it shows an elephant with two-armed people on it, with a man in front of the animal. Is this an allusion to an armed encounter between a person who lived in the forest and an elite weapon-wielding duo? If so, the carvings reveal encounters with animals and with forest people.

Whichever way one looks at this, old places in wild spaces have fascinating settlement signatures that are qualitatively different from ancient cities and villages, and are worth tracking for the wealth of information they provide about how ancient Indians used forests.



The Bandhavgarh team. From left: Chote Singh, Chhote Singh, Nayanjot Lahiri, Satyendra Tiwari, Debdutta Sanyal and Samayita Banerjee





04.

Engagements and Partnerships

STRATEGIC COLLABORATIONS, GREATER IMPACT

By leveraging partnerships with academic institutions and industry stakeholders across the world, Ashoka is paving the way for seminal research and innovation to create meaningful and relevant outcomes.

MEET OUR PARTNERS

Multi-layered partnerships, forged across academia, industry, not-for-profits and government stakeholders, are integral to Ashoka's pursuit of academic and research excellence.

RECENT HIGHLIGHTS

The University has signed several agreements to drive systemic change through collaborations by producing high-impact research.

EXPANSION IN EUROPE

Memorandums of Understanding (MoUs) have been signed with the University of Cambridge, the University of Geneva, University College Maastricht, Linnaeus University and the University of Zurich.

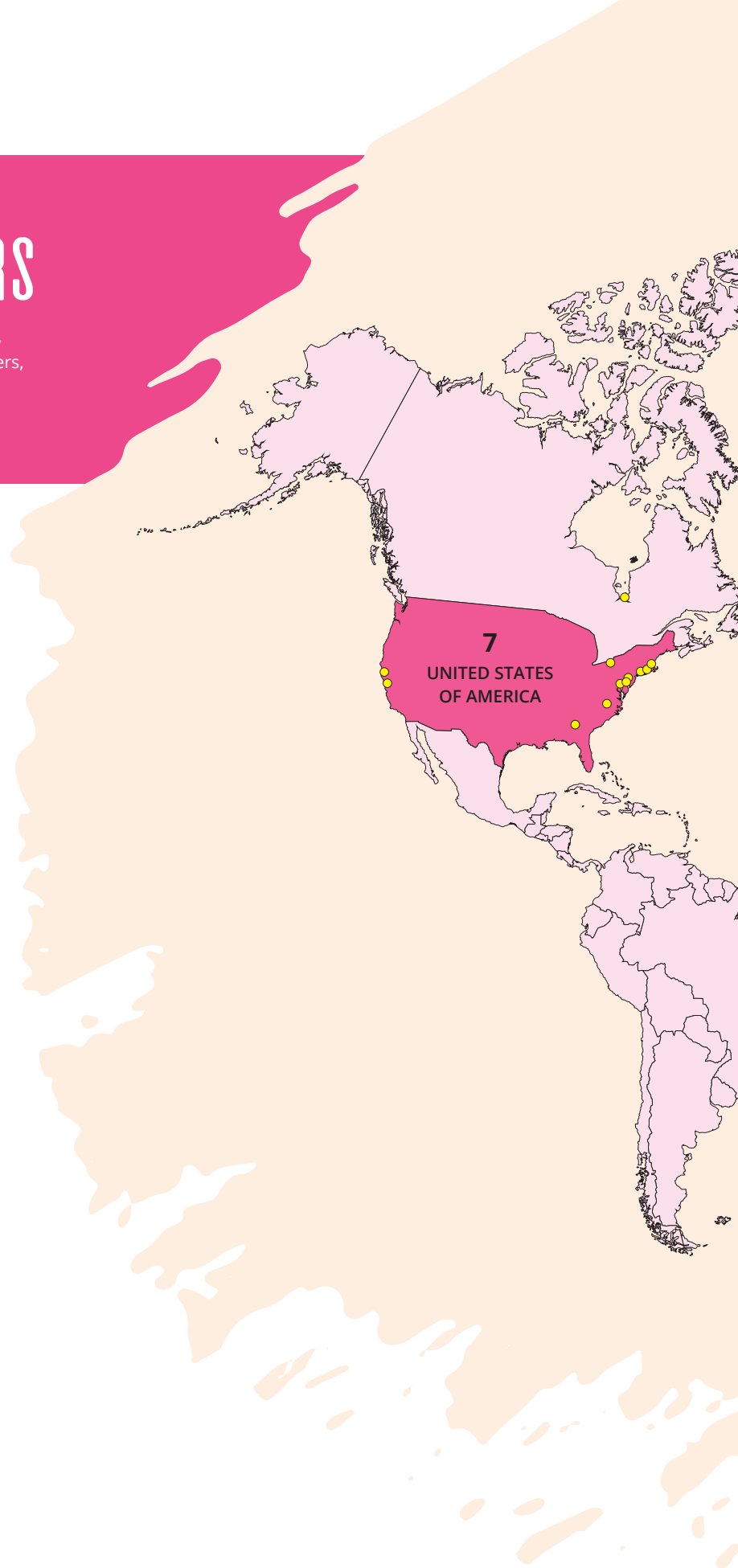
ALLIES IN SOUTH-EAST ASIA

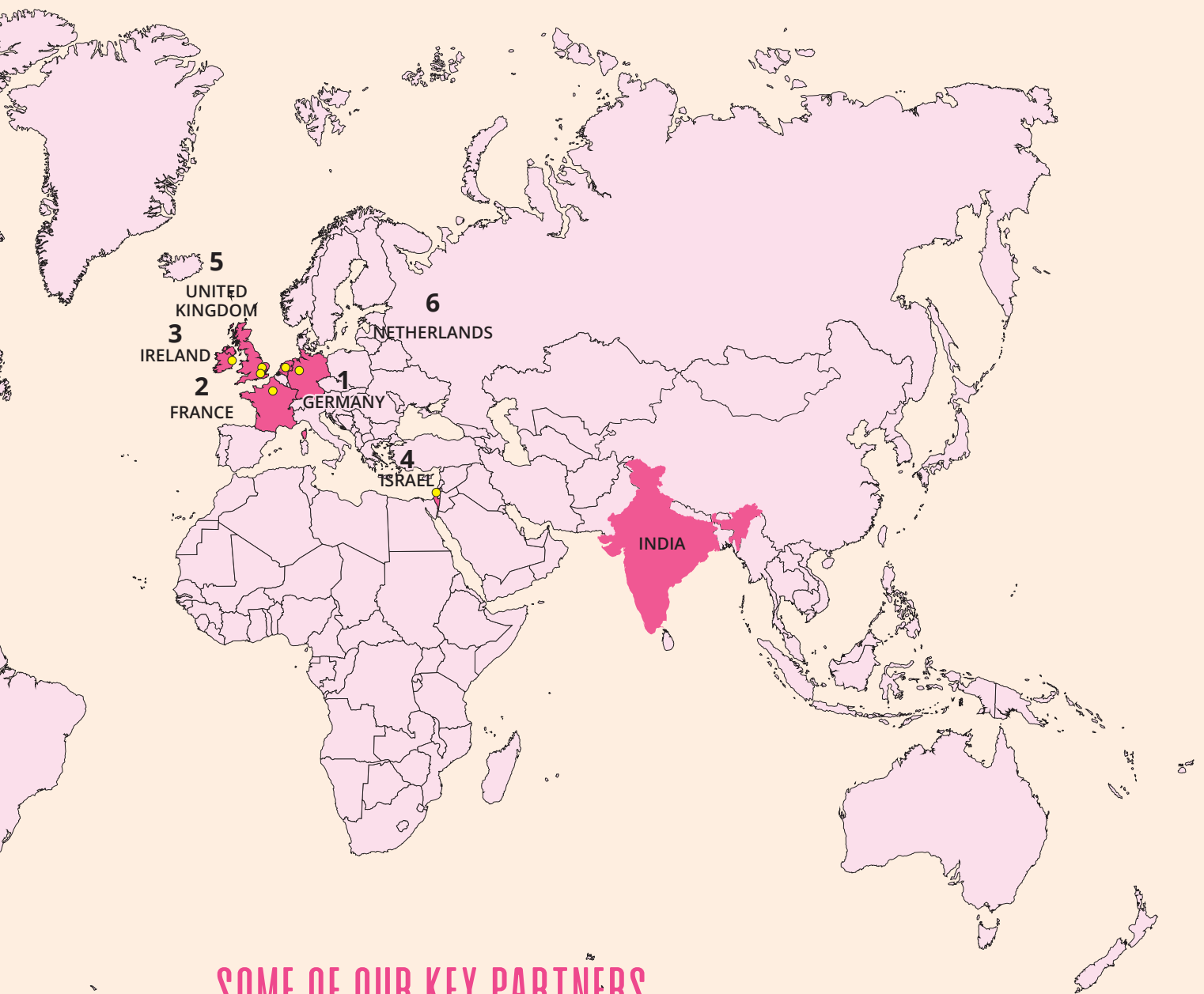
The University has partnered with leading educational institutions like the National University of Singapore and National Taiwan University.

DRIVING BIOSCIENCE RESEARCH

Ashoka has embarked on partnerships to promote research in the areas of life science, biomedical research, genomics and human immunology. Notable partner institutions include:

- Emory Vaccine Center
- CSIR-Institute of Genomics and Integrative Biology
- All India Institute of Medical Sciences
- CSIR-Centre for Cellular and Molecular Biology
- Max Healthcare
- Public Health Foundation of India
- Centre for Chronic Disease Control





SOME OF OUR KEY PARTNERS

1 University of Münster

2 Sciences Po

3 Trinity College Dublin

4 Tel Aviv University

5 University of Cambridge
King's College London

6 University of Groningen

7 Connecticut College

Duke University

Emory University

Harvard Business School

Johns Hopkins University

Lehigh University

Stanford University

University at Buffalo

University of California,
Berkeley

University of Pennsylvania

Yale University

GLOBAL HUMANITIES INITIATIVE IN AFFILIATION WITH THE UNIVERSITY OF CAMBRIDGE

Alex Watson



Emperor Akbar holds a religious assembly in Fatehpur Sikri; Illustration in the Akbarname by Nar Singh, c. 1605

In 2020, the University of Cambridge, recognising Ashoka's strength in the Humanities, asked if we would be their South Asian partner in the 'Global Humanities Initiative' (GHI). The GHI is an exciting and ambitious collaboration between Cambridge and seven universities from outside Europe and North America, aiming to reanimate and redirect the study of the Humanities.

The project was a response to two main factors. Many students at Cambridge had felt that Humanities tend to be taught from a narrowly Eurocentric point of view, its canonical works and presuppositions having been insufficiently decolonised. Second, the most pressing issues of the day – such as environment, migration, populism, the polarisation of society, violent conflict, economic inequality, and the impact of new technologies and new media – require genuinely global perspectives and collaboration between universities located in diverse contexts.

The aim of the project is to 'reimagine the future by rethinking the past and present', by focusing on big-picture questions from a plurality of global perspectives.

To this end, several activities have been conducted over the past year. These include monthly symposia with leading thinkers. A multitude of themes were engaged with, including the future of globalisation, the potentials and pitfalls that confront humanity, and the diverse cultural, historical and intellectual tools that might help forge a more hopeful future.

Ashoka is also developing a global humanities certificate programme aimed at master's students. This certificate will incorporate an online core course



*Class in Alexandra Native Girls' Institution, Bombay, 1873.
Albumen print. Photographer unknown; British Library*

co-taught by faculty from the various partner institutions. There are also plans in place for a summer institute or programme, wherein Ashoka students will get the opportunity to travel to Cambridge and collaborate with students from partner institutions on capstone projects. The idea is for students to graduate with a ready-made network of global connections, equipped to act as global leaders in their specialisation.

Additionally, a faculty mobility programme has already been instituted, which provides funding for the cross-exchange of faculty between Cambridge and Ashoka. Malvika Maheshwari, Assistant Professor of Political Science, was in Cambridge for Monsoon 2022. She worked on the politics and administration of aesthetics in postcolonial India, collaborating on joint teaching projects.

Kranti Saran, Assistant Professor of Philosophy, travelled to Cambridge in the Spring semester to co-teach a graduate-level seminar on Indian political thought with Prof Shruti Kapila from Cambridge. Their classes explored political ideas found in Indian epics like the *Ramayana* and the *Mahabharata* and brought them into dialogue with contemporary debates. The point is to read the texts as sources of new political ideas that reframe and reshape contemporary debates in political theory.

Martin Crowley and Subha Mukherji travelled from Cambridge to Ashoka to collaborate with Jonathan Gil Harris and Sumana Roy on a project entitled 'Migrant Ecologies', which investigated the manifold ways in which worlds are unmade and remade as a result of displacement.

THE PROJECT FOCUSES ON BIG-PICTURE QUESTIONS FROM A PLURALITY OF GLOBAL PERSPECTIVES.

ABOUT

Alex Watson is Professor of Indian Philosophy. He previously worked at the Department of South Asian Studies at Harvard University and has held research fellowships at the University of Oxford, Kyushu University and the University of Vienna. His research interests include Buddhist philosophy, Indian philosophy, Sanskrit language and literature.



*Architect's rendering of the
Trivedi School of Biosciences*





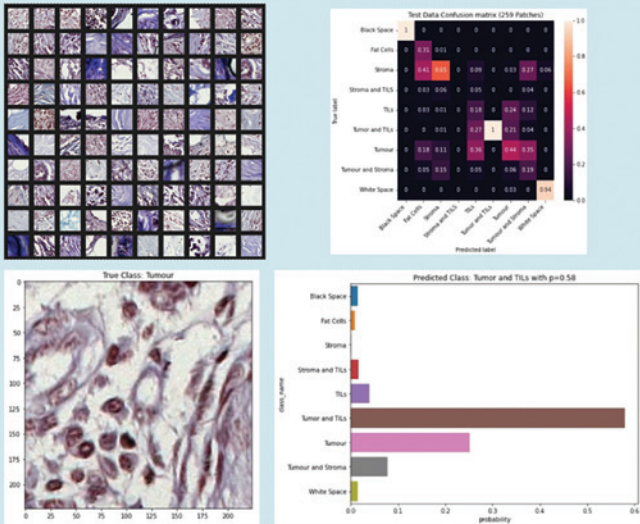
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Roadmap

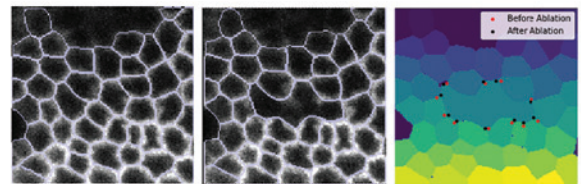
RESEARCH FOR A BETTER TOMORROW

Situated at the interface of the Social Sciences, Humanities and the Sciences, the research community at Ashoka is positioned to drive innovation, change and growth in the years ahead.

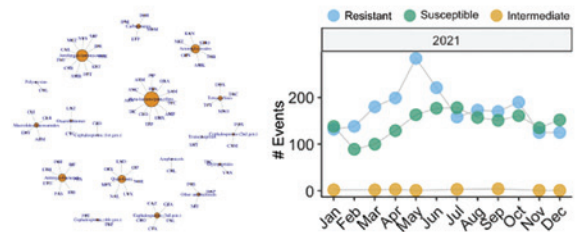
AI assistant for Cancer Pathologist



AI assistant for Cell Biologist



AI/ML for AMR



BIOSCIENCES IN THE CENTURY OF COMPLEXITY

BIOSCIENCE IS ENVISIONED AS THE CORNERSTONE OF ASHOKA'S
NATURAL SCIENCES PROGRAMMES.

The 21st century has paved the way for Science that focuses on finding order within highly complex, interconnected systems. The biggest transformation has been in Biology. From sensing changes in geo-planetary ecosystems to capturing the health trajectories of individuals and societies, there is a new interdisciplinary push that makes it likely that this will be the century of Biology.

The Trivedi School of Biosciences (TSB) recognises this need to bring together Biosciences, Advanced Computing, other Natural Sciences, Social Sciences and innovation into one ecosystem of advancement. The School includes the Department of Biology and associated centres for enabling education and research in Biosciences. Threads of Data Science and interdisciplinarity are woven into the fabric of TSB by design. While still a young department, the faculty has a diverse range of expertise and backgrounds ranging from Ecology to Medicine. A new state-of-the-art building to house TSB with world-class facilities is nearing completion. Critical partnerships are in place.

The critical need is then to define and nucleate complimentary centres, which may one day grow into institutes. The first such initiative, the Centre for Health Analytics Research and Trends (CHART), has already taken shape. Recognising the importance of diverse data types in the conceptualisation of One Health, CHART aims to collect, curate, integrate, analyse and disseminate such data. It recognises that solutions to most large problems, such as a pandemic, require an understanding of the surrounding socio-economic-political frameworks. It is thus a privilege for CHART to be co-located alongside ongoing Ashokan initiatives like the Centre for Economic Data, the Trivedi Centre for Political Data and the Centre for Social and Behaviour Change.

CHART is only the first of many centres. A Centre for Wellness and Nutrition is expected to complement CHART and enable further research into determinants of individual-level health, seen from molecular, physiological and health data-science perspectives.

The larger vision of TSB is to enable researchers to ask important questions cutting across the verticals represented by the Centres. For example, it is likely that complex sugars in foods, when metabolised by gut bacteria, lead to the release of metabolites that alter immune programming. It is also well known that poor nutrition can reprogramme immunity, leading to altered health risks. Yet, we have minimal understanding of these topics, whether at the fundamental level of mechanism or the higher level of application.

TSB, with its limited faculty, is not expected to solve the unsolved. Instead, it is expected to champion a different and unfettered way of working across disciplines to advance the field. This is the Ashokan vision.

THERE IS A NEW INTERDISCIPLINARY PUSH THAT MAKES IT LIKELY THAT THIS WILL BE THE CENTURY OF BIOLOGY.

ABOUT

Anurag Agrawal is Dean, Biosciences and Health Research, Trivedi School of Biosciences. He is the former director of the Institute of Genomics and Integrative Biology. His primary research is in respiratory biology, with broader interests in a new vision of health and healthcare seen through the lens of emerging technologies. He received the Shanti Swaroop Bhatnagar Prize in 2014 and the Sun Pharma Foundation Award in 2020 and is a Fellow of the Indian National Academy of Science.





BRINGING COMPUTATIONAL THINKING TO MULTIDISCIPLINARY RESEARCH

THE ASHOKA SCHOOL OF ADVANCED COMPUTING AIMS TO BE THE
FOREMOST SCHOOL FOR FUTURE-FOCUSED COMPUTER SCIENCE
RESEARCH IN THE COUNTRY.

The proposed School of Advanced Computing (ASAC) will be distinct from other academic establishments in the country. It will endeavour to introduce the epistemological methods of Computer Science – algorithmic problem solving, logic, impossibility results, universal computation and models of computations, complexity analysis, AI and data-driven models – into multidisciplinary research.

The School also intends to build a unique programme which exposes students to computational thinking with CS+X courses at all levels, while also training graduate leaders with strong ethical perspectives in addition to strengths in core computer science. ASAC will initially comprise three centres with focused research themes.

The first of these will be the Centre for Data Science and Analytics. It will provide a common infrastructure platform for all data initiatives at Ashoka University. Apart from well-established research centres like the Centre for Economic Data Analysis and the Trivedi Centre for Political Data, it will also host repositories for a variety of other data – ranging from health to epidemiology to satellite, GIS and remote sensing, data related to agriculture, food and nutrition, ecology, and even Humanities, languages and History. The Centre will share various standard tools and techniques for data cleaning, analysis and visualisation with various research verticals across Ashoka.

The second centre, in collaboration with the Trivedi School of Biosciences, is the Centre for Health Analytics, Research and Trends (CHART). The Centre is already engaging with data-driven health analytics questions. CHART will also focus on the epidemiology of both infectious and non-infectious diseases, and has done impactful work on understanding the spread of COVID-19. Going forward, it plans to initiate research into the socio-economic and environmental determinants of health, by trying to correlate – at the individual level – food, nutrition, lifestyle and environmental exposure to disease burden. One Health will be a major focus of the Centre.

The third proposed centre will focus on digitisation and society. The scale and scope of digitisation in public life in India are unmatched in the world, especially in large public service applications. The use of such technologies is also fast growing in the private sector. This provides a unique opportunity to generate new research questions around safe and secure design and the ethical deployment of such technologies.

Computer Science at Ashoka – situated in a Liberal Arts environment among strong departments of Economics, Sociology, Political Science and Philosophy – is ideally poised to undertake such research. We envisage that these centres will not only provide new and original research contexts but also help build partnerships with government and private entities, inform public policy and promote entrepreneurship.

THE SCHOOL WILL ENDEAVOUR TO INTRODUCE THE EPISTEMOLOGICAL METHODS OF COMPUTER SCIENCE INTO MULTIDISCIPLINARY RESEARCH.

ABOUT

Subhasis Banerjee is Head of Department and Professor of Computer Science. He was previously associated with the Indian Institute of Technology, Delhi. His primary areas of research include computer vision and machine learning, with a special emphasis on geometric algorithms. Recently, he has also developed an interest in policy issues – digitisation and society, digital identity, electronic voting, data and privacy protection and fairness and reliability of machine learning algorithms.



LETTER FROM THE DEAN OF RESEARCH



AS A RESEARCH UNIVERSITY, ASHOKA SUPPORTS RESEARCH THAT ADVANCES THE FRONTIERS OF OUR KNOWLEDGE.

Ashoka's 20 academic departments define its disciplinary strengths. In addition, Ashoka currently has 14 centres, while several more are in the process of being created. These blur the boundaries between departments, integrating skills that are not the preserve of any single discipline.

The Centre for Interdisciplinary Archaeological Research brings in a unique overlap of the History and Biology departments. The Ashoka Centre for Translation brings the wealth of literature in Indian languages to an English-reading audience, as well as to readers in other languages. Ashoka's Centre for China Studies brings Ashoka's trans-disciplinary scholarship to understanding China, especially in relation to India.

While Ashoka is often singled out for its strengths in the Social Sciences and Humanities, Science at Ashoka has come far since the departments of Biology and Physics were started in 2017. The Trivedi School of Biosciences will soon have a building of its own, housing many core facilities and laboratories for biological research and interdisciplinary work involving Biology.

A longer-term view of Science on campus involves the Science Park, a common location for Ashoka's

Science, Mathematics and Computer Science departments, together with an Innovation Centre and common spaces for interactions. The School of Advanced Computing at Ashoka will house three new centres – the Centre for Data Science and Analytics, the Centre for Health Analytics, Research and Trends (CHART) and the Centre for Digitisation and Society.

Collaborations are central to Ashoka's ethos. The Global Humanities Initiative is an ambitious collaboration between Cambridge and seven universities (including Ashoka) from outside Europe and North America, aiming to reanimate and redirect the study of the Humanities. The Simons Fellowship at Ashoka University is a first-of-its-kind fellowship, funded by the Simons Foundation. It is a unique model of collaborative research in the quantitative biomedical sciences and allied fields.

As a research university, Ashoka supports research that advances the frontiers of our knowledge. Many substantial challenges of the future lie in interdisciplinary problems, including several that lie at the interface of Social Sciences, Humanities and the Sciences, such as climate change. But there are, equally, similar frontiers in specific disciplines. Providing the right environment and support for all research at Ashoka, and at all levels, is the central priority of the Research Office.

— Gautam Menon

LETTER FROM THE CHAIRPERSON, BOARD OF TRUSTEES

**ASHOKA'S MISSION
IS TO BE A BEACON
OF EXCELLENCE IN
SCHOLARSHIP
FROM INDIA.**



One of the hallmarks of a great university is its ability to effectively communicate the knowledge and scholarship it generates.

Ashoka's mission is to carry out cutting-edge multidisciplinary research and be a beacon of excellence in scholarship from India. Ashoka is home to some of India's best minds among its

students and faculty. The University is well on its way to becoming India's finest research institution and one of the best in the world. I hope this magazine will not only spread awareness but also build the confidence of, and serve as an inspiration to, others who aspire to build thought leadership from India, for the world.

— Pramath Raj Sinha

Ashoka University has established itself as a hub for impactful research. From climate action to computational physics, from economic data to the digital humanities – innovation and collaboration are central to Ashoka’s research enterprise.

The inaugural edition of Enquiry captures the journey of a university that is walking the path of teaching and research excellence.

