Dr Deepak Venkateshvaran
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Research Interests

Energy Materials Physics and Devices: Nanomechanics, Thermoelectrics & Spintronics of Organic Semiconductors

Professional Experience

Principal Investigator [01/2021 – Present]
Cavendish Laboratory, University of Cambridge, Cambridge, United Kingdom

- Awarded a highly competitive University Research Fellowship from the Royal Society in London
- Independently raised over 1.25 million British pounds in research funding
- Developed and lead a global research consortium with over 15 members in Sweden, Belgium, Netherlands, Mexico & the UK
- Setup and run a new measurement facility for high-resolution nanomechanics at the University of Cambridge
- Established and managed an academia-industry collaboration with Park Systems UK Ltd and raised industry funding
- Published several cutting-edge science papers including a corresponding author paper in the journal Nature Communications
- Delivered several invited research talks at conferences such as the SPIE, MRS in the USA and at NSFE in Europe

Director of Studies in Physics [10/2017 – Present]
Selwyn College, University of Cambridge, United Kingdom

- Fully responsible for all physics-related academic activities at Selwyn College for over a hundred undergraduate students
- Conducted undergraduate interviews and taught undergraduate physics courses at Selwyn College of Cambridge University
- Served as a Fellow and a Trustee at Selwyn College of Cambridge University
- Held a College Lectureship at Selwyn College to teach Part 1B, Part II and Part III of the NST Tripos (2018 onwards)
- Served on the Access committee and delivered outreach talks on Physics to high school students across the country

Research Associate [07/2014 – 12/2020]
Cavendish Laboratory, University of Cambridge, Cambridge, United Kingdom

- Managed the daily operations of a 10-million-euro European Research Council Synergy Grant of Prof Henning Sirringhaus
- Collaborated with research scientists from Hitachi Cambridge Laboratories to set up a Spintronics Laboratory
- Awarded an Isaac Newton Trust Teaching Fellowship at Fitzwilliam College of Cambridge University (2015-2018)
- Awarded Teaching Bye-Fellowships at Fitzwilliam College and at Selwyn College of Cambridge University
- Supervised 5 PhD Students, 2 Masters Students and 1 Postdoctoral Scholar
- Published several high impact research papers including a first and corresponding author paper in the journal Nature Electronics
- Delivered several invited research talks at conferences such as the SPIE, MRS and the Japanese Physical Society

Wissenschaftlicher Mitarbeiter (Staff Scientist) [10/2008 – 10/2010]
Walther-Meissner-Institute, Bavarian Academy of Sciences and Humanities, Garching, Germany

- Conducted research in thin film deposition and characterization of functional magnetic oxide materials
- Discovered a universal scaling law and a so-called 'dirty limit' for magnetic oxide materials that has now become physics textbook material
- Published two papers in the journal Physical Review B as the first author from work done in these two years

Education

PhD in Physics [10/2010 – 05/2014]
Cavendish Laboratory, University of Cambridge, Cambridge, United Kingdom

- Awarded a fully-funded international scholarship from the Cambridge Commonwealth Trusts for three years (over £75,000 in total)
- Initiated a new research program on Organic Thermoelectrics at the Cavendish Laboratory that continues 10 years later with a large team
- Awarded a Fitzwilliam College Senior Scholarship for excellence in the PhD program
- Awarded a Lundgren Research Award of the University of Cambridge for excellence in the PhD program
- Selected as a UK/India representative at the 62nd Lindau Nobel Laureate Meeting for Physics [1 of 4 students from the UK]
- Published several high impact research papers including a first author paper in the journal Nature

Master of Technology in Solid State Technology [08/2006 – 08/2008]
Indian Institute of Technology (IIT), Madras, India

- Rank 56/4904 in all India Graduate Admission Test in Engineering (GATE) for Physics
- Qualified in the Nationwide Council of Scientific and Industrial Research Fellowship (CSIR-UGC JRF NET)
- Graduated top of class with a cumulative GPA of 9.17/10.00 and an IIT Merit Prize and Medal
- Awarded a merit-based scholarship at IIT Madras
- Awarded a fully-funded DAAD scholarship to spend a research stint at the TU in Munich for 9 months
- Awarded a Wilhelm und Heraeus-Stiftung Fellowship [travel grant to attend the DPG Tagungen in 2008]
- Awarded the Dr. G Venkataraman Gold Medal, Sri Sathya Sai Institute of Higher Learning [for excellence in postgraduate studies]
- Grew up in an Indian Ashram on free education from age 8 till the age of 22 and lived on merit-based scholarships throughout incl. at IIT

Publishing Statement and Academic Community Service

Published Over 30 impactful publications in the field of organic electronics with 2000+ citations cumulative including 5 papers in Nature Publishing Group Journals. Reviewer for manuscripts submitted to AAAS, Nature Publishing Group, AIP, Elsevier, MDPI and RSC. Panel Member of the Graduate Funding Committee at the Cavendish Laboratory that decides funding for PhD applicants. Selection Committee Member at the Henslow Research Fellowship at Cambridge University (2022, 2018), Trevelyan Research Associates at Cambridge University (2019), Gavin Boyle Fellowship in Cosmology and Exoplanetary Research at Cambridge University (2019), Welsh Government's Ser Cymru II Rising Stars Fellowship (2017). Assessor of Master of Advanced Study in Physics at Cambridge University (2018 – now), and Undergraduate, Masters and PhD work at Cambridge (2014 – now)

Noteworthy Interest in Music I have played the Indian Tabla for over 30 years and have made contributions to studio-recorded music in Germany and the UK. I've composed scores for modern art films that premiered in the UK, performed with a Celtic Harpist, a Japanese Tsugaru Shamisen player, and a Flamenco Guitarist. I routinely deliver outreach talks that showcase the physics of the Tabla to broad spectrum audiences.