Dr Deepak Venkateshvaran

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Profile

I am a University Research Fellow of the Royal Society, the UK's National Academy of Sciences. Based at the University of Cambridge, I lead a research consortium that works on energy materials and nanoscale measurement techniques. I hold a joint appointment at Selwyn College Cambridge, as a Fellow, College Lecturer, and Director of Studies in Physics. In 2024, I was seconded to the Department for Science Innovation and Technology of the UK Government. This was a government advisory role focused on policy around energy, advanced materials, and lower dimensional materials. I've published in highly visible and respected scientific journals throughout my research career and delivered invited seminars at prominent international conferences and at leading research institutes globally. I hold a PhD degree in Physics from the University of Cambridge, and a Master degree from the Indian Institute of Technology (IIT) Madras, where I graduated top of class with an IIT Merit Prize and Medal.

Employment

01/2021 –	**Principal Investigator (Royal Society University Research Fellow)** Cavendish Laboratory, University of Cambridge, Cambridge, United Kingdom
10/2018 –	**College Lecturer in Physics** Selwyn College, Cambridge, United Kingdom
10/2017 –	**Director of Studies in Physics** Selwyn College, Cambridge, United Kingdom
10/2015 – 09/2018	**Isaac Newton Trust Teaching Fellow** Fitzwilliam College, Cambridge, United Kingdom
07/2014 – 12/2020	**Research Associate (Funded through a European Research Council Synergy Grant 2014-2020)** Cavendish Laboratory, University of Cambridge, Cambridge, United Kingdom
10/2008 – 10/2010	**Staff Scientist** (Wissenschaftlicher Mitarbeiter) Walther-Meissner-Institute, Bavarian Academy of Sciences and Humanities, Garching, Germany

Education

10/2010 – 05/2014	**PhD in Physics**, Cavendish Laboratory, University of Cambridge [fully funded through a scholarship] Cambridge, United Kingdom
08/2006 – 08/2008	**Master of Technology in Solid State Technology**, Indian Institute of Technology (IIT) Madras, India CGPA: 9.17/10.00; graduated top of class
06/2004 – 06/2006	**Master of Science in Physics,** Sri Sathya Sai Institute of Higher Learning Prasanthi Nilayam, India CGPA: 5.00/5.00; graduated top of class

Grants for Academic Research

1.	Royal Society University Research Fellowship (URF) Renewal 2026-2029:	£ 871,571
2.	Costed Extension for the Royal Society Policy Associate Scheme 2026:	£ 30,255
3.	Royal Society University Research Fellowship (URF) 2021-2026:	£ 722,621
4.	Royal Society Enhancement Expenses 2023, 2024 and 2025:	£ 297,758
5.	Royal Society Enhancement Expenses 2021/2022 and 2022/2023:	£ 243,828
6.	Wiener-Anspach Foundation Research Grant 2024/2025:	€ 30,000
7.	Royal Society Additional Research Expenses 2021, 2022, 2023:	£ 17,000
8.	Park Systems Special Subsidy on Equipment in 2021:	£ 47,000
9.	Royal Society Research Grant 2021:	£ 24,948

10. Selwyn College Academic Grants: £ 5000+
11. Isaac Newton Trust Teaching Fellowship: £ 15,000
12. Microsoft grant to attend the Lindau Nobel Laureates Meeting 2012: £ 5000
13. Fitzwilliam College Travel Grants: £ 1000
14. Overseas PhD Scholarship from Cambridge Commonwealth Trusts 2010-2013: £ 75,000+
15. IIT-DAAD Scholarship 2007/2008: € 10,000
16. IIT Madras Teaching Fellowship 2006/2007: ₹ 60,000

Major Fellowships and Awards

United Kingdom

2023 Royal Society Science Policy Secondment at the UK Government
2018 – Fellowship, Selwyn College, Cambridge
2017 – 2018 Bye Fellowship, Selwyn College, Cambridge
2016 – 2018 Isaac Newton Trust Teaching Fellowship, Fitzwilliam College, Cambridge
2015 – 2018 Bye Fellowship, Fitzwilliam College, Cambridge
2013 Lundgren Research Award, University of Cambridge
2012 UK/India representative at the 62nd Lindau Nobel Laureate Meeting for Physics [1of 4 students from the UK]
2012 Fitzwilliam College Senior Scholarship
2010 – 2013 Cambridge International Student Scholarship [Fully funded international PhD scholarship at Cambridge Uni]

Germany

2008 Wilhelm und Heraeus-Stiftung Fellowship [travel grant to attend the DPG Tagungen 2008]
2007 – 2008 Deutscher Akademischer Austausch Dienst (DAAD) Fellowship

India

2008 Institute Merit Prize and Medal, Indian Institute of Technology Madras [class first in MTech degree]
2006 Council of Scientific and Industrial Research Fellowship (CSIR-UGC JRF NET) - Qualified
2006 – 2007 Indian Institute of Technology Half Time Teaching Assistantship
2006 Rank 56/4904 in all India Graduate Admission Test in Engineering (GATE) for Physics
2006 Dr. G Venkataraman Gold Medal, Sri Sathya Sai Institute of Higher Learning [class first in MSc degree]
2005 Indian Academy of Sciences Summer Research Fellowship

Talks

Delivered over 15 invited talks at major global conferences such at MRS Boston, SPIE San Diego, Spintech, SpinOS, NSFE Europe, MRS Seattle, and the Annual Meeting of the Japanese Physical Society.
Delivered over 15 invited seminars at world class institutions such as KTH Stockholm, University of Tokyo, TU Delft, TU Munich, Oxford University, Durham University, Queen Mary University, and the Jozef Stefan Institute.

Teaching

As of 2024, I co-lecture an MPhil course (NE.10) on Energy Harvesting (Thermoelectrics, Pyroelectrics, Piezoelectrics) at the Department of Materials Science and Metallurgy at Cambridge University, as well as a Part III Physics course (IDP3) at the Cavendish Laboratory on the theme of Energy Science (Hydrogen Technologies). I've also taught undergraduate courses within the Part 1B, Part II, and Part III NST Physical Sciences at Cambridge University. I've co-supervised up to three master thesis projects, up to six doctoral projects, and three postdoctoral projects within the Physics department.

Management Training – Innovation and the Business of Science

02/2023 – Introduction to Management* – Imperial College Business School Executive Education
03/2023 – Leadership Effectiveness* – Imperial College Business School Executive Education
03/2023 – Royal Society Science Policy Primer* – Introduction to Government Policy and Science based Decision Making
*Course fully funded by the Royal Society

Science Policy in Government

I work on a variety of policy topics around advanced materials within the Department of Science Innovation and Technology (DSIT) of the UK Government. My position is organised through DSIT's expert exchange secondment scheme and funded through a Royal Society science policy associate scheme. Five salient responsibilities of mine in government are as follows: (a) I have written policy papers on energy harvesting technologies for DSIT, (b) I liaise with UKRI to evaluate government funded programs for energy materials and energy harvesting, and proposed new funding schemes, (c) I represented government in visits to UKRI-funded companies such as Paragraf and Levidian, (d) I internally review documents and policy briefs submitted by the Henry Royce Institute to the UK Government, (e) I engage with external bodies such as ScotChem Ltd and identify emerging themes and developments around advanced materials to be included in the National Materials Innovation Strategy. In addition, I led the effort within government to put together a policy report analysing the last 20 years of funding for graphene research and innovation within the UK, including successes, failures, and lessons learned.

International Research Collaborations

I've independently built a research consortium of international academics working on supporting themes that bolster my research activities within Cambridge around nanomechanics of energy materials. Within this consortium, I conceive and direct research projects, including the supervision of PhDs and postdocs both in Cambridge and beyond.
The major partners together with their contributed theme of expertise within my consortium are as follows:

1. Prof Per Claesson at KTH Stockholm (Nanomechanical Measurement Techniques)
2. Prof Yoann Olivier at University of Namur (Micromechanical Molecular Dynamics)
3. Prof Erin R Johnson at the University of Cambridge (Density Functional Theory of Crystal Mechanics)
4. Dr Guillaume Schweicher at ULB Belgium (Chemistry of Molecular and Chiral Organic Semiconductors)
5. Prof Taishi Takenobu at Nagoya University (Organic Polymer Semiconductors)
6. Park Systems UK (AFM Instrumentation)
7. Prof Luca Catalano at University of Modena (Chemistry of Molecular Phase Transitions)
8. Dr Ulrike Kraft at the Max Planck Institute in Mainz (Electrolyte Gated Organic FET Devices)

Publications from our consortium are under review or in preparation as documented in my accompanying publications list.

Leadership in Academia: Impact, Management, Service, Outreach

Impact

1. My PhD work at the Cavendish Laboratory (2010 – 2014) spun out multiple new projects, either completed or ongoing. Over 10 PhDs and Postdocs were hired at the Cavendish Laboratory based on the outcomes of my PhD in organic thermoelectrics. The intellectual property, I understand, has generated several million pounds in follow-on research funding for Cambridge University.

Laboratory Startups

2. Setup a new Nanomechanics Laboratory at the University of Cambridge (2021 – 2022)
3. Setup a new Spintronics Laboratory together with scientists at Hitachi Cambridge Laboratories (2014 – 2015)

People Management

4. Trained and supervised multiple Master, PhD, and Postdoc projects at the University of Cambridge (2014 – present)
5. Organised and lead research activity between Cambridge University, ULB Belgium, and KTH Stockholm (2021 – present)
6. Trustee and Governing Body Member, Selwyn College, Cambridge (2018 – present)
7. Coordinated regular meetings between academics working on a 10-million-euro ERC Synergy Grant (2014 – 2021)

Service

8. Grant Proposal Reviewer – Global Excellence Initiative, Canada (2025)
9. Grant Proposal Reviewer – National Science Center, Poland (2025)
10. Official Nominator for the annual VinFuture Prize for breakthrough research and technological innovations
11. Panel Member – Cavendish Laboratory Graduate Funding Committee that decides funding for PhD applicants (2023 –)
12. Selection Committee Member – Henslow Research Fellowship at Cambridge University (2022)
13. Selection Committee Member – Trevelyan Research Associates at Selwyn College at Cambridge University (2019 –)

14. Grant Proposal Reviewer – Czech Science Foundation, Czech Republic (2021)
15. Selection Committee Member – Gavin Boyle Fellowship in Cosmology and Exoplanetary Research (2019)
16. Selection Committee Member – Henslow Research Fellowship at Cambridge University (2018)
17. Selection Committee Member – Master of Advanced Study (MAST) in Physics at Cambridge University (2018 – now)
18. Grant Proposal Reviewer – Ser Cymru II Rising Stars Fellowship, Wales (2017)
19. Assessor – Undergraduate, Masters, and PhD theses at Cambridge University (2014 – now)

Outreach

20. Winner, Rank Prize Seeing in Science Photography Competition (2021)
21. Member of the Access Committee at Selwyn College
22. Delivered talks to high school students on open days, and in financially deprived areas of England's North
23. Delivered talks to the public on the physics of Indian Drums
24. Delivered outreach talks on organic electronics to the public of all age groups
25. Written articles on the Physics of Indian Drums and on Organic Electronics for the Selwyn College Calendar

Patent and Machine Learning (ML) Certification

Artificial Synapse - Patent with Hitachi Cambridge Laboratories (published in March 2021)

Antiferromagnetic memristor based synapses for neuromorphic computing – John Armitage, Deepak Venkateshvaran, Joerg Wunderlich (European Patent Application EP19199322A)

ML Certification

DeepLearning.AI TensorFlow Developer Professional Certificate on Coursera. Certificate earned in June 2020.
Using Python for Research by Harvard University on edX. Certificate earned in January 2020.
Machine Learning by Stanford University on Coursera. Certificate earned in July 2016.

My knowledge and training in ML support an ongoing PhD thesis that I supervise on the subject of machine vision of Atomic Force Microscopy Nanomechanics. It has relevance within the Physics Department's MPhil program on Data Intensive Science and opens new project modules that combine nanomechanics and image vision.

Noteworthy Extracurricular Interest

Music

I have played the Indian Tabla for over 30 years and have made contributions to three studio-recorded music CDs. I've also 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 and the language of the Tabla to broad spectrum audiences. One example of a talk I gave on the Physics of the Tabla at Selwyn College in Cambridge can be viewed here: https://youtu.be/SOlPKuPtFfs

Top 5 peer-reviewed publications including a description.
* indicates my position as corresponding author.

1. Illia Dobryden, V. V. Korolkov… & Deepak Venkateshvaran*, **Nature Communications 13**, 3076 (2022)

   In this work, we demonstrated the highest resolution nanomechanical property measurement in an organic polymer using acoustic frequency comb generation and intermodulation techniques. We combined it with a technique called Higher Eigen Mode (HEM) imaging for sub-nanometer spatial resolution of organic polymers. This work contributed to changing the narrative around the nanostructure of the high mobility polymer IDTBT, from being amorphous to having nanosized domains of order. This work complemented the work of Prof Alberto Salleo at Stanford University (ACS Macro Lett. 2021, 10, 10, 1306–1314) and was given significant visibility at four international conferences between 2023 and 2024. It was a collaboration between our group in Cambridge, my industrial partner Park Systems UK ltd, and the surface science group of Prof Per Claesson at KTH in Stockholm.

2. Shu-Jen Wang, Deepak Venkateshvaran* *et al.*, **Nature Electronics 2**, 98-107 (2019)

In this work, I carried out several nanofabricated device-based experiments in the field of organic spintronics to attempt all-electrical spin injection and detection into organic semiconductor systems. Much of the supplementary information (SI) accompanying this work contained work from my postdoctoral stint in the group of Prof Henning Sirringhaus at the Cavendish Laboratory in Cambridge. In the end, it proved very difficult to inject and detect spin currents in organic semiconductors for a variety of reasons that we documented both in this paper as well as in a follow-on paper, namely Physical Review Materials 6, 024601 (2022). The SI of this paper is an example of carefully done science that does not always yield a successful result.

I highlight this paper among my top 5 not because it is one published by the Nature Publishing Group, but because it illustrates my tenacity to be comprehensive in research, by chasing several possible routes to understand fundamental phenomena in materials physics. The paper documents very careful experiments that did not yield a successful outcome.

3. Deepak Venkateshvaran *et al.*, **Nature 515**, 384–388 (2014)

   This work constituted the crux of my PhD thesis. When I arrived in Cambridge, I was fully funded by the Cambridge Commonwealth Trusts. Prof Henning Sirringhaus gave me complete freedom to pursue a project of my choosing on this account. I chose to measure Seebeck coefficients within organic transistor channels modulated by a gate voltage and to quantify the extent of disorder within organic polymer systems based on thermoelectric measurements. This work together with my PhD thesis, I believe, was the original seed upon which several projects in organic thermoelectrics were developed within Prof Sirringhaus's group in Cambridge since the year 2014.

4. Deepak Venkateshvaran *et al.*, **APL Materials 2**, 032102 (2014)

   This article was the first ever demonstration of gate voltage modulated Seebeck coefficients in organic semiconducting polymers. It was an early article from my PhD work that demonstrated how Seebeck coefficients within organic semiconductors can be gate voltage modulated. It illustrated the potency of microfabricating new organic electronic devices for thermoelectrics with tandem thermal and voltage drives on-chip. Although such measurements were done in inorganic nanowires at the time, we showed its potential in organic electronics.

5. Deepak Venkateshvaran *et al.*, **Physical Review B 79**, 134405 (2009)

   This article was the outcome of my master's thesis work jointly undertaken at the Technical University of Munich and the Indian Institute of Technology (IIT) Madras. It remains a landmark paper in the field of magnetism as it experimentally discovered charge conduction within the so-called 'dirty limit' in magnetic oxides. This work has become the subject matter in textbooks (see Festkörperphysik by Rudolf Gross and Achim Marx). It also contributed to understanding the Anomalous Hall Effect (AHE) in Magnetism, as documented in Reviews of Modern Physics 82, 1539 (2010).

Selected Publications List in Chronological Order.
* indicates my position as corresponding author.

Below, I list my top 25 peer-reviewed journal publications on the themes of organic electronics, organic thermoelectrics, spintronics, and nanoscale mechanics.
These are publications in which I was a major contributor.

The complete list of my publications can be found on Google Scholar:
https://scholar.google.co.uk/citations?user=otuUyXIAAAAJ&hl=en

1. **Deepak Venkateshvaran**, Wolfgang Kaiser, Andrea Boger, Matthias Althammer, M. S. Ramachandra Rao, Sebastian T. B. Goennenwein, Matthias Opel, Rudolf Gross
   Universal scaling behavior of the anomalous Hall effect in $Fe_{3-x}Zn_xO_4$
   Physical Review B 78, 092405 (2008)

2. **Deepak Venkateshvaran**, Matthias Althammer, Andrea Nielson, Stephan Gepraegs, M. S. Ramachandra Rao, Sebastian T. B. Goennenwein, Matthias Opel, Rudolf Gross
   Epitaxial $Fe_{3-x}Zn_xO_4$ thin flms: A spintronic material with tunable electrical and magnetic properties
   Physical Review B 79, 134405 (2009)

3. Auke Jisk Kronemeijer, Vincenzo Pecunia, **Deepak Venkateshvaran**, Aditya Sadhanala, John Moriarty, Monika Szumilo, Henning Sirringhaus
   Two-dimensional carrier distribution in top gate polymer field-effect transistors: Correlation between width of density of states and Urbach energy
   Advanced Materials 26, 728 (2014)

4. **Deepak Venkateshvaran**, Auke Jisk Kronemeijer, John Moriarty, David Emin, Henning Sirringhaus
   Field-effect modulated Seebeck coefficient in organic polymers using a microfabricated on-chip architecture
   APL Materials 2, 032102 (2014)

5. **Deepak Venkateshvaran**, Mark Nikolka, Aditya Sadhanala, Vincent Lemaur, Mateusz Zelazny, Michal Kepa, Michael Hurhangee, Auke Jisk Kronemeijer, Vincenzo Pecunia, Iyad Nasrallah, Igor Romanov, Katharina Broch, Ian McCulloch, David Emin, Yoann Olivier, Jerome Cornil, David Beljonne, Henning Sirringhaus
   Approaching disorder-free transport in high mobility conjugated polymers
   Nature 515, 384 (2014)

6. Mathias Gruber, Seok-Heon Jung, Sam Schott, **Deepak Venkateshvaran**, Auke Jisk Kronemeijer, Jens Wenzel Andreasen, Christopher R McNeill, Wallace W. H. Wong, Munazza Shahid, Martin Heeney, Jin-Kyun Lee, Henning Sirringhaus
   Enabling high-mobility, ambipolar charge-transport in a DPP-Benzotriazole copolymer by side-chain engineering
   Chemical Science 6, 6949 (2015)

7. C. N. Warwick, **Deepak Venkateshvaran**, Henning Sirringhaus
   Accurate on-chip measurement of the Seebeck coefficient of high mobility small molecule organic semiconductors
   APL Materials 3, 096104 (2015)

8. Gueorgui O. Nikiforov, **Deepak Venkateshvaran**, Sebastian Mooser, Aurelie Meneau, Thomas Strobel, Auke Kronemeijer, Lang Jiang, Mi Jung Lee, Henning Sirringhaus
   Current-induced Joule heating and electrical field effects in low temperature measurements on TIPS pentacene thin film transistors
   Advanced Electronic Materials 2, 1600163 (2016)

9. Riccardo Di Pietro, Iyad Nasrallah, Joshua Carpenter, Eliot Gann, Lisa Sophie Kölln, Lars Thomsen, **Deepak Venkateshvaran**, Kathryn O'Hara, Aditya Sadhanala, Michael Chabinyc, Christopher R. McNeill, Antonio Facchetti, Harald Ade, Henning Sirringhaus, Dieter Neher
   Coulomb enhanced charge transport in semicrystalline polymer semiconductors
   Advanced Functional Materials 26, 8011 (2016)

10. Katharina Broch*†, **Deepak Venkateshvaran***†, Vincent Lemaur, Yoann Olivier, David Beljonne, Mateusz Zelazny, Iyad Nasrallah, David J Harkin, Martin Statz, Riccardo Di Pietro, Auke Jisk Kronemeijer, Henning Sirringhaus
    Measurements of Ambipolar Seebeck Coefficients in High-Mobility Diketopyrrolopyrrole Donor–Acceptor

Copolymers
Advanced Electronic Materials 3, 1700225 (2017) – Editor's Invited Article
*joint first authors, †corresponding authors

11. M Statz, **D Venkateshvaran**, X Jiao, S Schott, CR McNeill, D Emin, H Sirringhaus, R Di Pietro
On the manifestation of electron-electron interactions in the thermoelectric response of semicrystalline conjugated polymers with low energetic disorder
Communications Physics 1, 16 (2018)

12. E. Pfitzner, X. Hu, H. W. Schumacher, A. Hoehl, **D. Venkateshvaran**, M. Cubukcu, J.-W. Liao, S. Auffret, J. Heberle, J. Wunderlich, B. Kästner
Near-field magneto-caloritronic nanoscopy on ferromagnetic nanostructures
AIP Advances 8, 125329 (2018)

13. Keehoon Kang, Sam Schott, **Deepak Venkateshvaran**, Katharina Broch, Guillaume Schweicher, David Harkin, Cameron Jellett, Christian Nielsen, Iain McCulloch, Henning Sirringhaus
Investigation of the Thermoelectric Response in Conducting Polymers Doped by Solid-State Diffusion
Materials Today Physics 8, 112 (2019)

14. Shu-Jen Wang*, **Deepak Venkateshvaran***†, M. R. Mahani, Uday Chopra, Erik R. McNellis, Riccardo Di Pietro, Sam Schott, Angela Wittmann, Guillaume Schweicher, Murat Cubukcu, Keehoon Kang, Remington Carey, Thomas J. Wagner, Janis N. M. Siebrecht, Daniel P. G. H. Wong, Ian E. Jacobs, Razan O. Aboljadayel, Adrian Ionescu, Sergei A. Egorov, Sebasitan Mueller, Olga Zadvorna, Piotr Skalski, Cameron Jellett, Mark Little, Adam Marks, Iain McCulloch, Joerg Wunderlich, Jairo Sinova, Henning Sirringhaus†
Long spin diffusion lengths in doped conjugated polymers due to enhanced exchange coupling
Nature Electronics 2, 98 (2019)
*joint first authors, †corresponding authors

15. Mark Nikolka, Katharina Broch, John Armitage, David Hanifi, Peer J. Nowack, **Deepak Venkateshvaran**, Aditya Sadhanala, Jan Saska, Mark Mascal, SeokHeon Jung, Jin-Kyun Lee, Iain McCulloch, Alberto Salleo, Henning Sirringhaus
High-mobility, trap-free space charge limited currents in low-disorder conjugated polymers enabled by small molecular additives
Nature Communications 10, 2122 (2019)

16. Guillaume Schweicher, Michael T. Ruggiero, Gabriele D'Avino, David J. Harkin, Katharina Broch, **Deepak Venkateshvaran**, Guoming Liu, Audrey Richard, Christian Ruzié, Jeff Armstrong, Alan R. Kennedy, Kenneth Shankland, Kazuo Takimiya, Yves H. Geerts, J. Axel Zeitler, Simone Fratini, Henning Sirringhaus
Accurate, mode-resolved mapping of electron-phonon coupling for the rational design of high mobility molecular semiconductors
Advanced Materials 31, 1902407 (2019)

17. Georg Ulrich, Emanuel Pfitzner, Arne Hoehl, Jung-Wei Liao, Olga Zadvorna, Guillaume Schweicher, Henning Sirringhaus, Joachim Heberle, Bernd Kästner, Jörg Wunderlich, **Deepak Venkateshvaran**
Thermoelectric nanospectroscopy for the imaging of molecular fingerprints
Nanophotonics 9(14), 4347 (2020)

18. Piotr Skalski, Olga Zadvorna, **Deepak Venkateshvaran**, Henning Sirringhaus
Distinguishing spin pumping from spin rectification in lateral spin pumping device architectures based on doped organic semiconductors

Physical Review Materials 6, 024601 (2022)

19. Vishal Panchal, Illia Dobryden, Ude D. Hangen, Dimitrios Simatos, Leszek J. Spalek, Ian E. Jacobs, Guillaume Schweicher, Per M. Claesson, **Deepak Venkateshvaran***
    Mechanical Properties of Organic Electronic Polymers on the Nanoscale
    Advanced Electronic Materials 8, 2101019 (2022)

20. Illia Dobryden, Vladimir V. Korolkov, Vincent Lemaur, Matthew Waldrip, Hio-Ieng Un, Dimitrios Simatos, Leszek J. Spalek, Oana D. Jurchescu, Yoann Olivier, Per M. Claesson, **Deepak Venkateshvaran***
    Dynamic self-stabilization in the electronic and nanomechanical properties of an organic polymer semiconductor
    Nature Communications 13, 3076 (2022)

21. **Deepak Venkateshvaran***, Mateo T. R. Cervantes, Leszek J. Spalek, Ki-Hwan Hwang, Kaspars Pudzs, Martins Rutkis, Guillaume Schweicher, Pablo Padilla-Longoria
    Understanding the thermoelectric transport properties of organic semiconductors through the perspective of polarons
    Advanced Devices and Instrumentation 5, 0067 (2024) – Editor's Invited Article

22. Silvia Cristofaro, Dorothee Brandt, Vincent Lemaur, Ki-Hwan Hwang, Ljiljana Fruk, **Deepak Venkateshvaran**, Luca Muccioli, Silvia Orlandi, Yoann Olivier
    Assessing the influence of nanoscale morphology on the mechanical properties of semiconducting polymers
    Journal of Materials Chemistry C 13, 15506 (2025) – Editor's Invited Article

23. Ki-Hwan Hwang, Dorothée Brandt, Silvia Cristofaro, Cameron J. Nickerson, Federico Modesti, Mindaugas Gicevicius, Mateo T. R. Cervantes, Martina Volpi, Leszek J. Spalek, Luca Muccioli, Per M. Claesson, Ljiljana Fruk, Yves Geerts, Guillaume Schweicher, Yoann Olivier, Erin R. Johnson, **Deepak Venkateshvaran***
    Measuring the molecular origins of stiffness in organic semiconductor thin films
    Under Revision (2025)

24. Ki-Hwan Hwang, Shun-ichiro Ito, Osnat Z. Arteaga, Leszek J. Spalek, Mateo T. R. Cervantes, Guillaume Schweicher, Ljiljana Fruk, Derya Baran, Mariano Campoy-Quiles, Taishi Takenobu, **Deepak Venkateshvaran***
    Evolution of nanoscale mechanical tortuosity across thermal phase transitions in a semiconducting polymer
    In Preparation (2025)

25. Luca Catalano, Ki-Hwan Hwang, … **Deepak Venkateshvaran*** … Guillaume Schweicher, Yves Geerts
    Nanomechanical properties across co-operative phase transitions in organic polycrystals
    In Preparation (2025)