

RAJ PANDYA

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WORK AND EXPERIENCE

Laboratoire Kastler Brossel, École Normale Supérieure (Paris) and University of Cambridge, Clare College/Cavendish Laboratory *April 2021 - April 2024*

Junior Research Fellow

Project: Imaging in Complex Media (with *Prof. Sylvain Gigan* and *Dr Hilton Barbosa de Aguiar*)

Durham Magneto Optics Ltd *October 2020 - present*

Consultant developing novel microscopy platforms

University of Cambridge, Wolfson College/Cavendish Laboratory *July 2020 - April 2021*

EPSRC Doctoral Prize and Junior Research Fellow

Project: Nanoscale Quasi-Particle Transport (with *Dr Akshay Rao*)

EDUCATION

University of Cambridge, Trinity College *October 2016 - July 2020*

PhD in Physics (Optoelectronics)

Thesis: ‘An Investigation of Exciton-Phonon and Exciton-Photon Coupling in Organic and Inorganic Nanostructures’ (*Dr Akshay Rao* and *Prof. Ulrich Keyser*)

Examiners: *Prof. Mete Atatüre* (University of Cambridge) and *Prof. Vahid Sandoghdar* (Max Planck Institute for the Science of Light, Erlangen) (*pass with no corrections*)

University of Oxford, Lincoln College *October 2012 - 2016*

Masters in Chemistry, First Class Honours

Ranked 8th/195 in year

Thesis: ‘Extreme Cooperative Swelling in Disordered Fibre Entanglements’ (*Prof. Andrew Goodwin*)

DISTINCTIONS AND FUNDING

- Junior Research Fellowship, Clare College, University of Cambridge (2020) - independent research funding - **c.£100,000**
- Abdus Salam/Cavendish Prize in Experimental Physics, University of Cambridge (2019) - **£500**
- EPSRC Doctoral Prize Fellowship, University of Cambridge/EPSRC (2019)
- European Magnetic Field Laboratory Funded Proposal - Principle Investigator (2017 and 2019)
- Winton Program for the Physics of Sustainability, Honorary stipend (2016-2020)
- EPSRC, PhD studentship (2016-2020)
- Gibbs Prize, Department of Chemistry, University of Oxford (2015) - **£100**
- EPSRC and CECAM, Summer studentship (2014)
- Oxford NVIDIA CUDA Centre of Excellence, Scholarship (2013)
- P. W. Atkins Award, Lincoln College (2012-2016) - **c.£10,000**

CONFERENCES

- Physical Chemistry of Semiconductor Materials and Interfaces IX Conference, SPIE - Talk (San Diego - 2020) - postponed due to COVID-19

- RSC Photophysics & Photochemistry Group at the Faraday Joint Interest Group Meeting - Talk (Sheffield - 2020) - postponed due to COVID-19
- Max Planck Institute for Science of Light - Talk (Erlangen - 2019)
- NanoGe - Oral (Berlin - 2019)
- Gordon Conference on Semiconductor Nanocrystals - Poster (Rhode Island - 2018)
- Ultrafast Phenomena - Oral (Hamburg - 2018)
- CECAM Workshop on Ultrafast Processes - Poster (Bremen - 2017)
- Optical Probes - Poster and Oral (Quebec City, 2017 and Vilnius, 2019) - ACS Energy Letters Best Poster Prize
- British Crystallographic Association - Poster (Nottingham, 2016)

PUBLICATIONS

20 Publications (December 2020), **100** citations, h-index **6** (since 2018)

See Google Scholar or Website for full and up-to-date list.

Key Publications:

- 7 **Pandya, R.**, Chen, R.Y.S., Gu, Q., Sung, J., *et al.* Ultrafast Long-Range Energy Transport via Light-Matter Coupling in Organic Semiconductor Films, *arXiv:1909.03220*
- 6 **Pandya, R.**, Gu, Q., Cheminal, A., Chen, R.Y.S., *et al.* Optical Projection and Spatial Separation of Entangled Triplet-Pairs from the S₁ State of π -Conjugated Systems, *Chem* **6** (10), pp 2826-2851
- 5 Xiao J., Chen, R.Y.S., Steinmetz V.,..., **Pandya, R.*** Optical and Electronic Properties of Colloidal CdSe Quantum Rings, *ACS Nano* **14**, (11), pp 14740–14760 *corresponding author
- 4 **Pandya, R.***, Caglar, M.*, Xiao, J., Foster, S., *et al.* All-Optical Detection of Neuronal Membrane Depolarization in Live Cells using Colloidal Quantum Dots, *Nano Lett.*, 2019, **19**, (12) pp 8539–8549 *equal contribution
- 3 **Pandya, R.**, Steinmetz, V., Puttisong, Y., Dufour, M., *et al.* Fine Structure and Spin Dynamics of Linearly Polarized Charge Transfer Excitons in Two-Dimensional CdSe/CdTe Colloidal Heterostructures *ACS Nano* 2019, **13** (9) pp 10140-10153
- 2 **Pandya, R.**, Chen, R.Y.S., Cheminal A., Dufour, M., *et al.* Exciton–Phonon Interactions Govern Charge-Transfer-State Dynamics in CdSe/CdTe Two-Dimensional Colloidal Heterostructures, *J. Am. Chem. Soc.*, 2018, **140** (43), pp 14097–14111
- 1 **Pandya, R.**, Chen, R.Y.S., Cheminal, A., Thomas, T. H., *et al.* Observation of Vibronic-Coupling-Mediated Energy Transfer in Light-Harvesting Nanotubes Stabilized in a Solid-State Matrix, *J. Phys. Chem. Lett.*, 2018, **9** (18), pp 5604–5611

TEACHING

- Cambridge Physics, Supervision of Part III Masters Project (2019)
- Cambridge Chemistry, Molecular Spectroscopy (A4) undergraduate supervisions - 6 colleges (2016-2018)

OUTREACH/VOLUNTEERING

- VigyanShaala Student Mentor - India (2020 - present)
- GT Scholars Student Mentor - London (2020 - present)

- Physics at Work - University of Cambridge (*2017-2018*)
- StreetBite Homeless Action - Cambridge (*2016-2017*)

COMPUTER SKILLS

- Advanced: MATLAB, Fortran90, bash, L^AT_EX, Microsoft Office, Inkscape, Origin
- Intermediate: HTML/CSS, C++, CUDA
- Basic: LabView, Python

LANGUAGES

- English (Native speaker)
- French (Professional working proficiency)
- Gujarati (Spoken proficiency)