

## Academic Positions

- 2021–Present **The Photonics Initiative, Advanced Science Research Center, City University of New York**, *Junior Fellow of the Simons Society of Fellows*, "Tailoring Light with Temporal Structure", Developing fundamentally new wave-scattering concepts enabled by temporal symmetry-breaking.
- 2020–2021 **Imperial College London**, *EPSRC Doctoral Prize Fellowship*, "Waves in time-varying media", Developing theory of time-modulated media in photonics and other wave realms for novel theoretical concepts and experimental modelling in Epsilon-Near-Zero materials..

## Education

- 2016–2020 **Imperial College London**, *EPSRC Centre for Doctoral Training (CDT) in Theory and Simulation of Materials (TSM)*, PhD Student, EPSRC Scholarship recipient, Thesis defended on November 4th 2020. Advisors: Prof. Sir John Pendry, Dr Paloma A. Huidobro.
- 2014–2015 **University of Heidelberg**, *Exchange Physics Student (Erasmus bursary recipient for 1-Year Exchange)*.
- 2012–2016 **Imperial College London**, *MSci Physics with a Year in Europe*, First Class Honours.

## Academic Research Experience

- 2021–present **Experimental Collaboration**, *Low-symmetry polaritons*, Under development with groups of Prof. A. Alú, Prof. A. Paarmann and Prof. P. Li..
- 2020–present **Experimental Collaboration**, *Time-Varying Indium-Tin-Oxide Metasurfaces*, Paper under review - with the group of Dr. R. Sapienza (ICL), Prof. S. Maier (LMU), Prof. A. Alú and Prof. J.B. Pendry.
- 2021–present **Collaborative Theory Project**, *Phased Wood Anomalies in Double Floquet Sheets*, Carried out with Ya-wen Tsai and Dr. Yao-Ting Wang.
- 2021 **Collaborative Theory Project**, *Temporal Parity-Time Symmetry*, Carried out in collaboration with Huanan Li, Shixiong Yon and Prof. A. Alú.
- 2019–2020 **Independent Research Project**, *Dynamical Wood anomalies for surface-wave excitation*, Independently designed, managed and carried out, proactively establishing new collaborations where further expertise was needed.
- 2017–2020 **PhD Project**, *Part 1: Singularities in Graphene-Plasmonic Metasurfaces; Part 2: Dynamical Metamaterials*, IMPERIAL COLLEGE LONDON - CDT IN TSM, Advisors: Prof. Sir J.B. Pendry, Dr. P. A. Huidobro - Condensed Matter Theory Group.
- 2020–2021 **Collaborative Theory Project**, *Revealing Topology with Transformation Optics*, Carried out with L. Lu and K. Ding, under the supervision of Prof. Sir J.B. Pendry.
- 2018–2019 **Collaborative Theory Project**, *Plasmon Localisation Assisted by Conformal Symmetry*, Carried out with L. Lu and K. Ding, under the supervision of Prof. Sir J.B. Pendry.

- 2020-present **Experimental Collaboration**, *Graphene-Plasmonic Absorbers*, Under development with the group of Prof. C. Soukoulis, Prof. E. Economou and Prof. Kocabas (Univ. Manchester).
- 2014–2015 **MSci Project**, *Quantum Reflection in Two Dimensions*, UNIVERSITY OF HEIDELBERG and UNIVERSITY OF PARMA, Advisor: Prof. Sandro Wimberger.

## Project-writing experience

- 2022 **Contribution to ONR grant-writing (awarded)**, *Floquet Polaritonics* - Led by Prof. A. Alú, \$550k.
- 2020 **Contribution to (awarded) EPSRC New Horizons grant-writing**, *Space-time metasurfaces for light waves* - Led by Prof. R. Sapienza, Dr S. Vezzoli, Prof. Sir J.B. Pendry and Prof. S. Maier, £200k.

## Awards

- 2021-2024 **Junior Fellowship of the Simons Society of Fellows** \$460k indep. funding over 3 yrs
- 2021 **Johnson Matthey Prize for Best PhD thesis within CDT in TSM** £1000
- 2021 **URSI-GASS 2021 Young Scientist Award** €740 fee waiver
- 2021 **1st Prize - Student Paper Constest - Marina Forum on EMetamaterials** \$800
- 2020-2021 **EPSRC Doctoral Prize Fellowship** (1 Year of independent funding) - Total: £114k
- 2021 **TSM Outreach Prize**
- 2021 **Invited Review Paper "Photonics of Time-Varying Media"** for SPIE Advanced Photonics
- 2020 **1st Prize - Student Paper Competition - Metamaterials '20** \$450 waiver + \$300
- 2020 **URSI-GASS 2020 Young Scientist Award** €510 waiver
- 2020 **TSM Materials Design Advanced Graduate Research Prize** £600
- 2019 **Carlsberg Foundation Scholarship (SPP9)** 5000 DKK
- 2018 **Invited paper "Nonlocality in Singular Graphene Metasurfaces"** for Nanophotonics
- 2019 **Julian Walsh Prize for Outstanding Contribution to Life of the CDT** £65
- 2019 **Nominated for Student Academic Choice Award for Teaching**
- 2019 **Poster Prize at 2019 Thomas Young Centre Student Day** £40
- 2018 **Invited paper on "Singular Graphene Metasurfaces"** for European Physical Journal - Applied Metamaterials
- 2018 **Finalist - Student Paper Comp. - Metamaterials 2018, Espoo, Finland** €400
- 2018 **SPIE Travel Grant to attend Photonics Europe, Strasbourg** \$1500

## Selected Contributions

- 2022 **Talk Invitation (accepted, to be delivered) at Metamaterials 2022** Siena, Italy
- 2022 **Talk Invitation (accepted, to be delivered) at META 2022** (virtual)
- 2021-2022 **Talk Invitation (accepted, to be delivered) at PIERS 2021** (virtual, postponed to 2022)
- 2022 **Oral Presentation (to be delivered) Nanometa 2022** Seefeld, Austria
- 2021 **Two Oral Presentations at Metamaterials' 2021** (virtual)
- 2021 **Oral Presentation at MetaNano 2021** (virtual)

2021	<b>Talk Invitation (delivered) at URSI GASS 2021</b>	(virtual)
2021	<b>Oral Presentation at CLEO Europe 2021</b>	(virtual)
2021	<b>Invited Talk at SPIE Photonics Europe 2021</b>	(virtual)
2021	<b>Oral Presentation at CLEO 2021</b>	(virtual)
2021	<b>Oral Presentation (SPC Finalist) at Marina Forum on EMetamaterials</b>	(virtual)
2020	<b>Oral Presentation at Metamaterials 2020</b>	(virtual)
2020	<b>Oral Presentation at Metanano 2020</b>	(virtual)
2020	<b>Oral Presentation at CMD 2020 GEFES</b>	(virtual)
2020	<b>Oral Presentation at Nanophotonics of 2D Materials</b>	(virtual)
2020	<b>Invited Speaker at URSI-GASS 2020</b>	(virtual)
2020	<b>Invited Research Seminar</b>	<i>Centre for Metamaterials Research, Birmingham, UK</i>
2019	<b>Invited Research Seminar</b>	<i>ASRC, CUNY, New York, US</i>
2019	<b>Oral Presentation at META19</b>	<i>Lisbon, Portugal</i>
2019	<b>Invited Carlsberg Foundation Student Speaker at SPP9</b>	<i>Copenhagen, Denmark</i>
2019	<b>Invited Research Seminar at Universidad Autonoma</b>	<i>Madrid, Spain</i>
2018	<b>Oral Presentation at Metamaterials 2018</b>	<i>Espoo, Finland</i>
2018	<b>Oral Presentation at SPIE Photonics Europe 2018</b>	<i>Strasbourg, France</i>

## Teaching

2022-present	<b>PhD Student co-supervision</b>	<i>Direction and day-to-day guidance on implementing Transfer Matrix calculations for highly anisotropic structures</i>
2020	<b>Rapid Feedback (Year 4)</b>	<i>Design and solo delivery of practical lecture-style classes working through "Quantum Theory of Matter" problem sets</i>
2018-present	<b>Innovative-Teaching Assistant</b>	<i>Design and delivery of live experimental Nanophotonics demonstrations and interactive Mathematics lectures</i>
2017-present	<b>Tutorials and marking</b>	<i>Solid-State Physics, Electromagnetism, Quantum Mechanics, Fourier Analysis and Differential Equations</i>
2017-present	<b>Undergraduate Project Co-Supervision</b>	<i>Designed and co-supervised 1 Bachelor and 3 undergraduate summer projects</i>

## Engagement & Outreach

2021	<b>General Chair of "Waves in Time-Varying Media"</b>	<i>Pioneering event on new field</i>
2020	<b>Organiser - <u>London Hub for POM</u> (The first photonics online conference)</b>	<i>\$250</i>
2018	<b>Royal Society Summer Science Exhibition</b>	<i>Executive Director of the "<u>Code For Creation</u>" stand (ICL): managed £20,000 project over 6-months</i>
2018-2019	<b><i>Pint of Science</i> (London) Outreach Event</b>	<i>Organiser (2018); <u>Invited speaker</u> (2019)</i>
2018-2019	<b>President of <i>Imperial College Optics Society</i></b>	<i>More than \$6,000 funding raised for outreach, invited lectures and seminars</i>

## Peer reviewing

2021-present	<b>Nature Publishing Group (NPJ)</b>	<i>NPJ 2D Materials and Applications</i>
2021-present	<b>De Gruyter</b>	<i>Nanophotonics</i>
2020-present	<b>American Chemical Society (ACS)</b>	<i>ACS Photonics</i>

2019-present	<b>American Institute of Physics (AIP)</b>	<i>Appl. Phys. Lett.; J. App. Phys.; AIP Advances</i>
2020-present	<b>IEEE</b>	<i>Trans. Ant. Prop.; Ant. and Wireless Prop. Lett.</i>
2021-present	<b>Institute of Physics</b>	<i>New Journal of Physics</i>
2018-present	<b>Wiley</b>	<i>International Journal of Numerical Modelling</i>