

Unit Name

pi-Conjugated Polymers Unit

Collaborations

Term 1 2024 - Term 1 2024

Alessandro Troisi, University of Liverpool, UK, Understanding the performance of donor-acceptor semiconducting polymers

Chad Snyder, NIST, USA, The Development of Mixed Ionic-Electronic Conducting Polymers

Tien Thuy Quach, Aston University, UK, Polymerization Terminology

Marloes Peeters, University of Manchester, UK, Polymerization Terminology

Peter Mallon, Stellenbosch University, South Africa, Polymerization Terminology

Romain Lucas-Roper, University of Limoges, France, Polymerization Terminology

Michael Hess, University of North Texas, USA, Polymerization Terminology

Michael Walter, University of North Carolina at Charlotte, USA, Polymerization Terminology

Marcos Lopes Dias, Federal University of Rio de Janeiro, Brazil, Polymerization Terminology

Yvonne Shuen Lann Choo, Xiamen University, Malaysia, Polymerization Terminology

Patricia Targon Campana, University of São Paulo, Brazil, Polymerization Terminology

Rameshwar Adhikari, Tribhuvan University, Nepal, Polymerization Terminology

Claudio G. Dos Santos, Federal University of Ouro Preto, Brazil, Polymerization Terminology

Jiří Vohlídal, Charles University, Czech Republic, Polymerization Terminology

Research Personnel

Sep 2024 - Present Charis Winder, Research Unit Technician
Robin Troiville Cazilhac, Postdoctoral Scholar

May 2023 - Present Yuan-Qiu-Qiang Yi, Postdoctoral Scholar

Jan 2023 - Present Fathy Hassan, Postdoctoral Scholar

May 2022 - Present Wissem Khelifi, Postdoctoral Scholar
Baitan Chakraborty, Postdoctoral Scholar
Nadege Bonnet, Research Unit Technician

Jan 2022 - Present Samantha Phan, Postdoctoral Scholar
Isha Sanskriti, Postdoctoral Scholar

Sep 2021 - Present Preeti Yadav, Postdoctoral Scholar

Mentorship / Supervision

Sep 2024 - Present Host (RI, SRS, VRS, VS), Yifei He, Visiting Research Student
Mentor, Shuk Ying Kwan, OIST Student

May 2024 - Dec 2024 Host (RI, SRS, VRS, VS), Gabriel Alejandro Aspden, Research Intern

May 2024 - Present Mentor, Hend Samniya, OIST Student

Jan 2024 - Apr 2024 Host (RI, SRS, VRS, VS), Jonathan Josh Ramtahal, Visiting Research Student

Jan 2024 - Present Thesis Supervisor, Syeda Bakhtawar Zahra, OIST Student
Thesis Supervisor, Makiko Emori, OIST Student

Jan 2024 - Dec 2024 Host (RI, SRS, VRS, VS), Moena Maeyama, Research Intern

Sep 2023 - Present Mentor, Yuxiang Guan, OIST Student
Thesis Supervisor, Abdulrahman Ibrahim Abdulrahman Abdallah Bakry, OIST Student

May 2023 - Present Mentor, Kaede Kawaguchi, OIST Student

Jan 2023 - Present Thesis Supervisor, Tom Tassilo Wilfling, OIST Student
Mentor, Callum James Hudson, OIST Student
Thesis Supervisor, Nivedha Velmurugan, OIST Student
Mentor, Thomas Johannes Hasiweder, OIST Student

Jan 2022 - Present Third Committee Member, Amy Stanton Gooch, OIST Student

Scholarly Contributions and Creative Productions

Journal Article

Completed/Published

Lin, A.; LeCroy, G.; Lo, S.; Sharif, A.; Wang, Y.; Salleo, A.; Gu, X.; Luscombe, C. K.; Tran, H. Soft and Stretchable Thienopyrroledione-Based Polymers via Direct Arylation. *Advanced Electronic Materials* **2025**, Early view, 2400756.

<http://doi.org/10.1002/aelm.202400756>

Hassan, F.; Velmurugan, N.; Yamane, Y.; Nic Chormaic, S.; Luscombe, C. K. One-Step Palladium-Catalyzed Heterocyclic Ring Closure of Benzofurans with Aryl Iodides through a Heck-Type Pathway. *Organic Letters* **2024**, 26, 9741–9745.

<https://doi.org/10.1021/acs.orglett.4c03602>

Xie, L.; Shi, J.; Wang, T.; Li, Q.; Yi, Y.-Q.-Q.; Zhang, Q.; Liu, Y.; Su, W.; Bae, B. S.; Onwudiwe, D. C.; Lei, W.; Cui, Z.; Luscombe, C. K. A Novel Crosslinked Hole Transport Layer with Enhanced Charge Injection Balance for Highly Efficient Inkjet-Printed Blue Quantum Dot-Based Light-Emitting Diodes. *ACS Applied Materials and Interfaces* **2024**, 16, 49563–49573.

<https://dx.doi.org/10.1021/acsami.4c08943>

- Herzing, A. A.; Flagg, L. Q.; Snyder, C. R.; Richter, L. J.; Onorato, J. W.; Luscombe, C. K.; Li, R. Correlation of Processing and Structure in an Ethylene-Glycol Side-Chain Modified Polythiophene via Combined X-Ray Scattering and 4D Scanning Transmission Electron Microscopy. *Small Methods* **2025**, *9*, 2400801.
<https://dx.doi.org/10.1002/smt.202400801>
- Hu, Z.; Tang, X.; Yi, Y.-Q.-Q.; Nie, S.; Chen, X.; Xu, W.; Huang, C.; Mu, X.; Ma, Z.; Tang, P.; Wu, X.; Su, W.; Luscombe, C. K. A General Strategy to Achieve See-through Devices through the Micro-Structuring of Colored Functional Materials. *Nature Communications* **2024**, *15*, 10836.
<https://dx.doi.org/10.1038/s41467-024-55133-w>
- Aitchison, C. M.; Albrecht, K.; Awaga, K.; Cameron, J.; Data, P.; Fukazawa, A.; Glöcklhofer, F.; Ie, Y.; Luscombe, C. K.; Marcilla, R.; Nakatsuka, N.; Nishide, H.; Schroeder, B.; Singh, M.; Skabara, P.; Takeda, Y.; Tani, Y.; Uematsu, T.; Xie, G.; Yadav, D.; Yakiyama, Y. Organic Batteries: General Discussion. *Faraday Discussions* **2024**, *250*, 145–161.
<https://dx.doi.org/10.1039/d4fd90007c>
- Hassan, F.; Velmurugan, N.; Yamane, Y.; Nic Chormaic, S.; Luscombe, C. One-Step Palladium-Catalyzed Heterocyclic Ring Closure of Benzofurans with Aryl Iodides through a Heck-Type Pathway. *Organic Letters* **2024**, *26*, 9741.
- Adhikari, R.; Targon Campana, P.; Choo, Y. S. L.; Lopes Dias, M.; Dos Santos, C. G.; Fellows, C. M.; Hess, M.; Lucas-Roper, R.; Luscombe, C. K.; Mallon, P. E.; Merna, J.; Peeters, M.; Quach, T. T.; Theato, P.; Topham, P. D.; Vohlidal, J.; Walter, M. An Exercise-Based International Polymer Syllabus. *Pure and Applied Chemistry* **2024**, *96*, 1027–1033.
<https://doi.org/10.1515/pac-2024-0029>
- Yi, Y.-Q.-Q.; Su, F.; Xu, W.; Zhang, Q.; Zhang, S.; Xie, L.; Su, W.; Cui, Z.; Luscombe, C. K. Nondestructive Direct Patterning of Both Hole Transport and Emissive Layers for Pixelated Quantum-Dot Light-Emitting Diodes. *ACS Nano* **2024**, *18*, 15915–15924.
<https://dx.doi.org/10.1021/acsnano.4c03458>
- LeCroy, G.; Ghosh, R.; Sommerville, P.; Burke, C.; Makki, H.; Rozylowicz, K.; Cheng, C.; Weber, M.; Khelifi, W.; Stingelin, N.; Troisi, A.; Luscombe, C.; Spano, F. C.; Salleo, A. Using Molecular Structure to Tune Intrachain and Interchain Charge Transport in Indacenodithiophene-Based Copolymers. *Journal of the American Chemical Society* **2024**, *146*, 21778–21790.
<https://dx.doi.org/10.1021/jacs.4c06006>
- He, Y.; Luscombe, C. K. Quantitative Comparison of the Copolymerisation Kinetics in Catalyst-Transfer Copolymerisation to Synthesise Polythiophenes. *Polymer Chemistry* **2024**, *15*, 2598–2605.
<https://dx.doi.org/10.1039/d4py00009a>
- Khelifi, W.; Luscombe, C. K. Recent Developments in Indacenodithiophene and Indacenodithienothiophene-Based Donor-Acceptor Conjugated Polymers: From Design to Device Performance in Organic Electronics. *Progress in Polymer Science* **2024**, *151*, 101804.
<https://doi.org/10.1016/j.progpolymsci.2024.101804>
- Guo, J.; Chen, S. E.; Giridharagopal, R.; Bischak, C. G.; Onorato, J. W.; Yan, K.; Shen, Z.; Li, C.-Z.; Luscombe, C. K.; Ginger, D. S. Understanding Asymmetric Switching Times in Accumulation Mode Organic Electrochemical Transistors. *Nature Materials* **2024**, *23*, 656–663.
<https://dx.doi.org/10.1038/s41563-024-01875-3>
- Aitchison, C. M.; Albrecht, K.; Awaga, K.; Bergmann, K.; Calbo, J.; Cameron, J.; Clark, J.; Collins, M.; Data, P.; dos Santos, P.; Fujigaya, T.; Fujino, T.; Fukazawa, A.; Glöcklhofer, F.; Guo,

X.; Heeney, M.; Hudson, Z. M.; Ie, Y.; Ishii, W.; Luscombe, C. K.; Marcilla, R.; Matsuo, T.; Miyazaki, S.; Nakagawa, S.; Nakanishi, T.; Nakatsuka, N.; Nishide, H.; Sasaki, Y.; Schroeder, B. C.; Singh, M.; Skabara, P.; Takeda, Y.; Tanaka, Y.; Tani, Y.; Tsuchiya, Y.; Tsutsui, Y.; Uematsu, T.; Xie, G.; Yanai, N. Excitonic Organic Materials for Photochemical and Optoelectronic Applications: General Discussion. *Faraday Discussions* **2024**, 250, 298–334.

Aitchison, C. M.; Albrecht, K.; Awaga, K.; Cameron, J.; Data, P.; Glöcklhofer, F.; Guo, X.; Heeney, M.; Hudson, Z.; Ie, Y.; Luscombe, C.; Matsuo, T.; Nakanishi, T.; Nakatsuka, N.; Nishide, H.; Sasaki, Y.; Schroeder, B. C.; Singh, M.; Skabara, P.; Takeda, Y.; Tani, Y.; Torsi, L.; Tsuchiya, Y.; Uematsu, T.; Yadav, D.; Yanai, N. Organic Neuromorphics and Bioelectronics: General Discussion. *Faraday Discussions* **2024**, 250, 83–95.

<https://dx.doi.org/10.1039/d4fd90006e>

Other Scholarly Work

Completed/Published

Luscombe, C. K.; Southall, M. E. Fifteen Years of Polymer Chemistry. *Polymer Chemistry* **2025**, 16, 7–10.

Poster Presentation at Conference

Completed/Published

Yi, Y.-Q.-Q.; Su, W.; Luscombe, C. K. Nondestructive Direct Patterning of Both Hole Transport and Emissive Layers for Pixelated Quantum-Dot Light-Emitting Diodes. *The 13th International Symposium on Dynamic Exciton (ISDyEx)* **2025**.

Velmurugan, N.; Hassan, F.; Yamane, Y.; Luscombe, C. K. One-Step Palladium-Catalyzed Heterocyclic Ring-Closure of Benzofurans with Aryl Iodides through a Heck-Type Pathway. *The 13th International Symposium on Dynamic Exciton (ISDyEx)* **2025**.

Bakry, A.; Luscombe, C. K. Exploring Fast Polymerization of Glycolated Polythiophenes for Organic Electrochemical Transistor Applications. *The 14th International Gel Symposium (Gel Sympo 2024)* **2024**.

Yi, Y.-Q.-Q.; Su, W.; Luscombe, C. K. Nondestructive Direct Patterning of Both Hole Transport and Emissive Layers for Pixelated Quantum-Dot Light-Emitting Diodes. *OIST Researcher Appreciation Month (RAM)* **2024**.

Velmurugan, N.; Hassan, F.; Yamane, Y.; Luscombe, C. K. One-Step Palladium-Catalyzed Heterocyclic Ring-Closure of Benzofurans with Aryl Iodides through a Heck-Type Pathway. *ACS Qatar Chapter and RSC Regional MEA Conference* **2024**.

Bakry, A.; Yadav, P.; Chen, S. E.; Luscombe, C. K. Study the Effect of Grignard Reagent Type on the Polymerization of Glycolated Polythiophene. *Poly-char 2024* **2024**.

Hassan, F.; Truong, V.-G.; Sile, N. C.; Luscombe, C. K. Bioinspired Photonic Materials from Cellulose and Functionalization by Photochromic Molecular Switch. *OIST-Kyudai Joint Symposium Series 1: Bio-Inspired Wonders and Energy* **2024**.

Velmurugan, N.; Hassan, F.; Yamane, Y.; Luscombe, C. K. One Pot C-H Arylation and Ring Closures of Benzofurans at Room Temperature. *OIST-Kyudai Joint Symposium Series 1: Bio-inspired wonders and Energy Innovations* **2024**.

Presentation at Conference

Completed/Published

- Luscombe, C. K. Investigating Polaron Delocalization in Semiconducting Polymers. *Symposium on Dynamic Excitons* **2025**.
- Luscombe, C. K. A Post-Processing Approach to Unlock Mixed Conduction in Organic Semiconductors. *10th International Winterschool on Bioelectronics (BioEI2025)* **2025**.
- Luscombe, C. K. Controlling Polycondensation Reactions: A Case Study in Semiconducting Polymer Synthesis. *Polycondensation 2024* **2024**.
- Luscombe, C. K. The Fate of Microplastics in Marine Organisms. *International Symposium on Strategic Innovation Promotion Program (SIP) Circular Economy* **2024**.
- Luscombe, C. K. Unveiling Hidden Potentials: How Precise Synthesis Reveals Unexpected Behavior in Semiconducting Polymers. *ACS Qatar Chapter and RSC Regional MEA Conference 2024* **2024**.
- Luscombe, C. K. The Intriguing Characteristics of Indacenodithiophene-Based Polymers and Their Potential Use in Flexible Devices. *Gel Symposium 2024* **2024**.
- Luscombe, C. K. Understanding the Switching of Organic Electrochemical Transistors. *Materials for Sustainable Development Conference (MATSUS Fall 24)* **2024**.
- Luscombe, C. K. Dual-Catalytic Reactions to Promote Previously Inaccessible Reactions. *OIST-JAIST Joint Symposium* **2024**.
- Luscombe, C. K. The Fate of Microplastics in Marine Organisms. *11th Nagoya Biomimetics International Symposium* **2024**.
- Luscombe, C. K. Navigating Academia across Continents. *MRS Fall National Meeting* **2024**.
- Luscombe, C. K. Navigating Academia: From Application to Tenure. *MRS Fall National Meeting* **2024**.
- Luscombe, C. K. Panel Discussion with Journal Editors at the ACS/RSC Conference. *ACS Qatar Chapter and RSC Regional MEA Conference 2024* **2024**.
- Luscombe, C. K. Unveiling Hidden Potentials: How Precise Synthesis Reveals Unexpected Behavior in Semiconducting Polymers. *12th Singapore International Chemistry Conference* **2024**.
- Phan, S.; Ravasi, T.; Luscombe, C. K. Chemical Identification of Microplastics in Marine Organisms from the Ryukyu Archipelago, Japan. *MICRO2024: Plastic Pollution from Macro to Nano* **2024**.
- Luscombe, C. K. Investigating New Mechanisms for the Synthesis of Semiconducting Polymers. *International Conference on Science and Technology of Synthetic Electronic Materials (ICSM) 2024* **2024**.
- Luscombe, C. K. Unveiling Hidden Potentials: How Precise Synthesis Reveals Unexpected Behavior in Semiconducting Polymers. *IUPAC World Polymer Congress* **2024**.
- Luscombe, C. K. Towards the Efficient Syntheses of Semiconducting Polymers. *10th International Conference on Engineering for Waste and Biomass Valorisation (WasteEng2024)* **2024**.
- Phan, S.; Ravasi, T.; Luscombe, C. K. Chemical Identification of Microplastics in Marine Organisms from the Ryukyu Archipelago, Japan. *European Coral Reef Symposium* **2024**.
- Phan, S.; Luscombe, C. K. Microplastic Analysis Efforts in Okinawa, Japan. *Euromech Colloquium on Microplastic Dispersion Pathways* **2024**.

Luscombe, C. K. Towards Sustainable Methods to Synthesize Semiconducting Polymers. *OIST-Kyushu Joint Workshop* **2024**.

Luscombe, C. K. The Unexpected Fast Polymerization during the Synthesis of a Glycolated Polythiophene. *ACS Spring National Meeting* **2024**.

Luscombe, C. K. The Intriguing Properties of Indacenodithiophene-Based Polymers. *Center for Polymers and Organic Solids (CPOS) - Center of Organic Photonics and Electronics (COPE) Workshop* **2024**.

Luscombe, C. K. Doping Glycolated Polythiophenes with Lithium Salts. *MRS Spring National Meeting* **2024**.

Seminars

Completed/Published

Hassan, F.; Nic Chormaic, S. G.; Luscombe, C. K. Development of Photonic and Electronic Materials Using Binaphthyl Derivatives. **2024**.

Luscombe, C. K. Side-Chain Engineering to Balance Ionic and Electronic Conductivities in Mixed Ionic/Electronic Conductors. **2024**.

Scholarly Contributions (by Unit Members)

Term 1 2024

Nivedha Velmurugan, Seminars, One-Step Palladium-Catalyzed Heterocyclic Ring-Closure of Benzofurans with Aryl Iodides through a Heck-type Pathway, National Institute of Technology (NIT) Trichy, India, 2024, Completed/Published

Charis Winder, Journal Article, Enzyme Activity Inhibition of α -Amylase Using Molecularly Imprinted Polymer (MIP) Hydrogel Microparticles, *Biomacromolecules*, ACS, 2024, Completed/Published

Term 3 2024

Fathy Hassan, Journal Article, Photochromic Carbon Nanomaterials: An Emerging Class of Light-Driven Hybrid Functional Materials, *Advanced Materials*, Wiley, 2024, Completed/Published

Yuan-Qiu-Qiang Yi, Journal Article, 2,5-dichloro-3,4-diiodothiophene as a versatile solid additive for high-performance organic solar cells, *Nano Energy*, 2024, Completed/Published

Yuan-Qiu-Qiang Yi, Journal Article, Rational design of flexible-linked 3D dimeric acceptors for stable organic solar cells demonstrating 19.2% efficiency, *Energy and Environmental Science*, 2024, Completed/Published

Term 2 2024

Fathy Hassan, Journal Article, Cost-effective synthesis of MIL-101(Cr) from recyclable wastes and composite with polyaniline as an ion-to-electron transducer for potentiometric Pb²⁺ sensing, *Chemical Engineering Journal*, Elsevier, 2024, Completed/Published

Fathy Hassan, Journal Article, State of the art on the magnetic iron oxide Nanoparticles: Synthesis, Functionalization, and applications in wastewater treatment, *Results in Chemistry*, 2024, Completed/Published

Fathy Hassan, Journal Article, Green preparation of antibacterial agents: MIL-101(Cr) synthesized from PET bottles recycling and its functionalization with silver nanoparticles, *Materials Today Communications*, 2024, Completed/Published

Yuan-Qiu-Qiang Yi, Journal Article, Optimizing thermal annealing temperatures towards improved and stable electrochromic polymeric films and devices, Thin Solid Films, 2024, Completed/Published

Yuan-Qiu-Qiang Yi, Journal Article, Bioinspired multi-dimensional anti-counterfeiting device by combining electrochromism and structural color, Chemical Engineering Journal, 2024, Completed/Published

Term 2 2025

Syeda Bakhtawar Zahra, Journal Article, Versatile biological activities of thiosemicarbazones and their metal complexes, Journal of Molecular Structure, 2025, Completed/Published

Honors, Awards & Fellowships

- | | |
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| Jan 2024 - Apr 2024 | Industrial Chemistry and Materials Outstanding Reviewer 2023, Industrial Chemistry and Materials誌 優秀査読者 2023, 2024, Royal Society of Chemistry Outstanding Reviewer for Energy and Environmental Science, 優秀査読者, 2024, Energy and Environmental Science, Royal Society of Chemistry |
| May 2024 - Aug 2024 | 2024 IUPAC Stepto Lecture Award, 2024年 IUPAC ステプト講演賞, 2024, IUPAC Jean-Marie Lehn Award, ジャン＝マリー・レーン賞, 2024, Poly-Char 2024 |
| Jan 2024 - Present | Elected Member of the Board of Directors for the Materials Research Society, 材料研究学会の理事に選出されたメンバー, 2024, Materials Research Society
Elected Member of the IUPAC's Executive Board, IUPAC (国際純正・応用化学連合) 理事就任, 2024, International Union of Pure and Applied Chemistry (IUPAC) |

External Service

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| May 2022 - Present | Board member for the Society of Polymer Science Japan, Society of Polymer Science Japan |
| May 2012 - Present | Member of IUPAC Polymer Division Subcommittee of Polymer Terminology, IUPAC |
| May 2013 - Present | Member of IUPAC Polymer Division Subcommittee on Polymer Education, IUPAC |
| Jan 2014 - Present | International Advisory Board for Advanced Electronic Materials, Advanced Electronic Materials, Wiley
Editorial Advisory Board for Polymer International, Polymer International |
| Jan 2016 - Present | Editorial Advisory Board, Journal of Applied Physics, Journal of Applied Physics, American Institute of Physics |
| Jan 2019 - Present | Editorial Advisory Board, Annual Reviews of Materials Research, Annual Reviews of Materials Research
Editorial Advisory Board, Advanced Functional Materials, Advanced Functional Materials, Wiley |
| Jan 2020 - Present | Editorial Board, Polymer Journal, Society of Polymer Science Japan |

	Editorial Advisory Board, ACS Applied Polymer Materials, ACS
Jan 2021 - Present	Editorial Advisory Board for Synthetic Metals, Synthetic Metals Editorial Advisory Board for Chemical Reviews, ACS
Jan 2021 - Dec 2024	Chair of Editorial Advisory Board, Journal of Applied Physics, Journal of Applied Physics
Jan 2022 - Aug 2024	Editorial Advisory Board, Polymer Chemistry, Royal Society of Chemistry
Jan 2024 - Present	IUPAC Polymer Division Past President, IUPAC Board of Directors, Materials Research Society Executive Board Member, IUPAC [University-Led SDGs] Planning Committee for Coordinated Commissioned Work, University of Ryukyu
May 2024 - Present	Editor-in-Chief, Polymer Chemistry, Royal Society of Chemistry External Search Committee member for Professor in Macromolecular Chemistry, Uppsala University
May 2024 - Aug 2024	Career Panel, University of Florida ACS Polymer/Polymer Materials Science and Engineering Student Chapter, Gave 1 hour talk on career path.
Sep 2021 - Present	Reviewer, Regular reviewer for many journals, reviewing >100 papers a year Reviewer, Regular reviewer for funding agencies (National Science Foundation, Department of Energy, Hong Kong Research Grants Council, National Science Center (Poland), European Research Council, National Sciences and Engineering Research Council of Canada, Swiss National Science Foundation)
Sep 2024 - Dec 2024	Reviewer for Outstanding Research Award of Taiwan, National Science and Technology Council, Taiwan
Jan 2025 - Apr 2025	Reviewer for PMSE Early Investigator Award, ACS PMSE

Outreach Activities (by Unit Members)

Jan 2024	Samantha Phan , 2024 IUPAC GWB at OIST: Catalyzing diversity in science Samantha Phan, Workshop: Re-structuring, re-connecting, and re-thinking academic research using inclusive communication, 2024 C-Hub Symposium: Inclusive Communication Samantha Phan, OIST Science talk in Naha Okinawa prefectural library
May 2024	Samantha Phan, Onna elementary's science classroom outreach talk/event Nivedha Velmurugan, Mentor to Mai Miura, OIST-KEIO International Research Summer Camp Ian Johnson, Honeybee workshop at the Onna Fureai center
Jan 2025	Nivedha Velmurugan, Gave a public presentation for the Okinawa Electric Power Company's (OkiDen's) 47th Youth Science Exhibition

Sep 2024

Nivedha Velmurugan, Invited speaker at Women's Christian College "My Journey to the center of organic synthesis"

Abduhlrahman Bakry, Program Assistant for Yokohama Science Frontier High School visit