Dr S. Lin Er Chow

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Presidential Graduate Fellow | Research Fellow | National University of Singapore

h-index: 8 | Google Scholar page: https://scholar.google.com/slec

Year of Birth: 1997

Education

Doctor of Philosophy (Ph.D.) in Physics ***Presidential Graduate Fellowship	Best Graduate Researcher Award (2022)***	*National University of Singapore* *2021 – 2024*
B.Sc. in Physics (Highest Distinction) B.Eng. in Materials Science & Engineering (Highest Distinction) ***ASEAN Undergraduate Scholarship	Senior Mentor in Special Programme in Science	Dean's list***	*2016 – 2020* *National University of Singapore*
• Research attachment	*Cambridge University*
• Master Exchange	*KTH Royal Institute of Technology*

Invited Positions – *Premier Conferences*

• **Discussion Leader** – GRC Gordon Research Superconductivity Seminar	*Switzerland, May 2025*
• **Invited Speaker** – GRC Gordon Research Topological and Correlated Matter Seminar	*Spain, May 2025*
• **Invited Speaker** – Workshop on High-T_c Nickelate Superconductor	*China, Nov 2023*
• **Invited Speaker** – European Conference on Applied Superconductivity (EUCAS)	*Italy, Sep 2023*
• **Invited Speaker** – Institute of Physics Singapore (IPS) Meeting	*Singapore, Aug 2023*

Invited *Seminar Talks (Institutional Visits)*

• Institute of Physics, Chinese Academy of Science	*Beijing, China, Jan 2025*
• Department of Physics, Chinese University of Hong Kong	*Hong Kong, Jan 2025*

Invited (featured) *Interview & News*

• Physics World (physicsworld.com), UK Institute of Physics *news story about the paper "High-temperature Superconducting Oxide without Copper at Ambient Pressure"*	*Dr Isabelle Dumé* *Contributing editor,* *Physics World Materials*

Professional Experience

• List of PhD student mentees: Zhaoyang Luo, Nurul Fitriyah	*2022 – now*
• List of Master / undergraduate student mentees: Xiaomeng Du, Deqi Kong, Peize Li	*2021 – now*
• Teaching Assistant & Senior Mentor in Special Programme in Science *Courses: SP 2171, SP 2173, SP 3172, SP3175, SP 3176*	*2019 – 2022*
• Teaching Assistant at Department of Computer Science, School of Computing *Courses: CS 1010E, CS1010S*	*2019 – 2020*
• Lab Demonstrator at Department of Physics *Courses: PC 3193, PC 1222*	*2019 – 2022*

List of Publications

• High-temperature Superconducting Oxide without Copper at Ambient Pressure ***lead author, corresponding author***	*under review in (**accepted**)* *Nature* *Impact Factor (IF) = 50.5*
• Unconventional spin-symmetric Cooper pairs in a superconducting infinite-layer nickelate ***lead author, corresponding author***	*under review in* *Science*

	IF = 47.73
• Nickel Age of High-Temperature Superconductivity ***lead author, <u>corresponding</u> author*** **invited contribution*	*Advanced Materials Interfaces* *IF = 5.4*
• Extensive hydrogen incorporation is not necessary for superconductivity in topotactically reduced nickelates ***co-lead author***	*Nature Communications* *IF = 14.7*
• Observation of perfect diamagnetism and interfacial effect on the electronic structures in infinite layer $Nd_{0.8}Sr_{0.2}NiO_2$ superconductors ***co-lead author***	*Nature Communications* *IF = 14.7*
• Superconductivity in infinite-layer nickelate $La_{1-x}Ca_xNiO_2$ thin films ***co-lead author***	*Science Advances* *IF = 14.136*
• Charge and Spin Order Dichotomy in $NdNiO_2$ Driven by the Capping Layer	*Physical Review Letters* *IF = 8.1*
• Origin of a topotactic reduction effect for superconductivity in infinite-layer nickelates	*Physical Review Letters* *IF = 8.1*
• Angular Dependence of Hump-Shape Hall Effects for Distinguishing between Karplus–Luttinger and Geometrical Origins	*Advanced Electronic Materials* *IF = 5.3*
• Infinite-layer nickelate superconductors: A current experimental perspective of the crystal and electronic structures ***lead author*** **invited contribution | special collections*	*Frontiers in Physics* *IF = 3.1*
• Pairing symmetry in infinite-layer nickelate superconductors ***lead author***	*submitted*
• Dimensionality control and rotational symmetry breaking superconductivity in square-planar layered nickelates ***lead author***	*submitted*

List of Oral Presentations at International Conferences

• (**Invited –** ***introduction by Discussion Leader***) GRC Gordon Research Superconductivity Seminar	*Switzerland, May 2025*
• (**Invited**) GRC Gordon Research Topological and Correlated Matter Seminar	*Spain, May 2025*
• (**Invited**) Workshop on High-T_c Nickelate Superconductor	*China, Nov 2023*
• (**Invited**) European Conference on Applied Superconductivity (EUCAS)	*Italy, Sep 2023*
• (**Invited**) Institute of Physics Singapore (IPS) Meeting	*Singapore, Aug 2023*
• Materials Research Society (MRS) Spring Meeting	*United States, Apr 2025, May 2024, May 2022*
• Advanced Materials Research Grand Meeting MRM2023	*Japan, Dec 2023*
• American Physics Society (APS) March Meeting	*United States, Mar 2024, Mar 2023, Mar 2022*
• ICMAT International Conference on Materials for Advanced Technologies	*Singapore, June 2023*
• International Workshop on Oxide Electronics	*United States, Oct 2022*

List of Approved Proposals, International Synchrotrons / Facilities

• (*assistance in the preparation of research proposal*) Ministry of Education Tier 2 (T2EP50123-0038)	*Singapore*
• Diamond Light Source – *beamtime proposal approved for 15 shifts*	*United Kingdom, Nov 2024*
• ANSTO Australian Synchrotron – *beamtime proposal approved for 15 shifts*	*Australia, July 2023*
• NHMFL National High Magnetic Field Lab – *multiple proposals approved*	*United States, 2025*
• LNCMI National High Magnetic Field facility, CNRS Europe – *multiple proposals approved*	*France, 2023 – 2024*