

30 August 2026

PJ Sullivan
Faculty of Science
UNSW Sydney

Re: Application for Lecturer (Level B) / Senior Lecturer (Level C), Strategic Research Cluster Initiative (Job no. 542135)

Dear PJ Sullivan,

I am writing to apply for a continuing academic appointment at Lecturer, Level B, under the Faculty of Science Strategic Research Cluster Initiative. I nominate Cluster 1, Digital-led Discovery and Design of New Materials, with the School of Materials Science and Engineering as my host School. I am currently a Research Fellow and AEA Ignite Project Lead at Monash University, with nine years of experience using computation to discover, understand and translate functional materials.

My research directly aligns with the Cluster's priorities in computational modelling, functional materials, high-throughput screening and AI-enabled discovery. I use first-principles calculations, tight-binding theory and large-scale computing to study magnetic thin films, two-dimensional materials, topological systems and low-energy electronic devices. I work closely with experimental physicists, materials scientists and engineers to ensure that computational predictions can be tested in real materials and devices. I have published 43 refereed articles, including 15 in the past three years and six in journals with impact factors above 10. My work has attracted more than 1,200 citations, with an h-index of 19.

I am now translating this research into next-generation low-energy electronics. Since 2024, I have worked with academic and industry partners to secure more than A\$3.4 million for materials discovery, device design, prototyping and manufacturing development. This includes a A\$650,000 project that I conceived and lead, a A\$1.7 million ARC Linkage Project as Key Participant, and A\$1.04 million in direct industry funding as Co-PI. I am also lead inventor on a US patent application with TQ Transistors and have independently secured major national computing allocations through NCI and Pawsey.

At UNSW, I would establish a connected research program in disorder-tolerant magnetic materials, topological materials for low-energy devices, and data-driven materials discovery. A central goal would be to develop AI agents that connect first-principles calculations, high-throughput data and experimental feedback. Working across Materials Science, Physics, Chemistry, Mathematics and Statistics, I would build a shared digital capability that helps researchers identify promising materials faster and test predictions against experiment.

I would also contribute actively to teaching and supervision. I have designed and delivered a university course in computational materials science and mentored or co-supervised nine PhD candidates. At UNSW, I would help students use modelling and AI to deepen their understanding of materials science and apply that knowledge to solve real-world problems.

UNSW is already part of my research network through FLEET, the Gordon Godfrey Workshop and previous research visits. I would bring a strong record of research, interdisciplinary collaboration, competitive funding, student development and industry translation. I would welcome the opportunity to help build a distinctive Faculty-wide capability for digital materials discovery.

Yours sincerely,

Dr Yuefeng Yin

AEA Ignite Project Lead / Research Fellow
Monash University