Supakorn (Nikko) Juengsophonvitavas

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My research interests centre on high-energy astrophysical transients, active galactic nuclei (AGN) variability, and survey science to uncover populations of objects using advanced data analysis, machine learning, and multiwavelength observational techniques to explore the nature of transient phenomena in large-scale astronomical surveys.

Education

University of St Andrews, UK | Management Masters **September 2025 - Present**
University of St Andrews, UK | Astrophysics Integrated Masters (Hons) **September 2020 - June 2025**
Graduated with *Upper Second Class*
Final Year Project: "Investigating AGN variability in the LSST" (*First Class Grade)*
Relevant Modules: ***Master Level***: Advanced Data Analysis, Monte Carlo Radiation Transport Techniques, Knowledge Discovery & Datamining, Cosmology, Contemporary Astronomy; ***Undergraduate Level*****:** Computational Astrophysics & Physics, Data Handling, Object Oriented Programming, Extragalactic Astronomy, Observational Astrophysics, Physics of Nebulae and Stars 1&2

Research Experience

Synthetic Optic Group, University of St Andrews **July 2025 - August 2025**
Visiting Scholar/Research Intern - Supervisor: Prof Andrea Di Falco **June 2024 - August 2024**

- Developed fabrication protocols for high-precision microfluidic devices using DLP-based additive manufacturing
- Designed and iteratively optimised micron-scale test structures to benchmark resin performance
- Led technical training on 3D printing workflows, enhancing efficiency and lab hardware utilisation

University of St Andrews Observatory **May - June 2024**
Research Intern - Supervisor: Dr Alexander Scholz

- Calibrated robotic telescope systems for sub-arcminute tracking precision, optimising observational accuracy for photometric time-series acquisition
- Integrated and updated telescope control software, enhancing operational reliability and automation
- Diagnosed and fine-tuned optical alignment of imaging components

Laidlaw Scholarship Research - Galaxies Group, University of St Andrews **May 2022 - December 2022**
Scholar/Research Intern - Supervisor: Dr Juan V. Hernández Santisteban

- Designed a scalable data processing pipeline integrating multi-wavelength photometry to identify AGN candidates across ~2.6 million archival survey sources in the north ecliptic cap
- Applied feature engineering, data imputation, and cross-matching techniques using ADQL and Python
- Pipeline outcomes were approved by Las Cumbres Observatory for follow-up analysis in preparation for the SPHEREx mission

Grants and Awards

School of Physics and Astronomy Internal Research Grant (£3780)
May 2024,2025 | Awarded to undertake a research project
Laidlaw Foundation Research and Leadership Scholarship (£7700)
February 2022-2024 | Awarded to undergraduate students to undertake a research and leadership project
University of St Andrews Dean's List
June 2021, 2022, 2025 | Awarded to Students with a mean grade over 16.5 on the university's non-linear scale

Work Experience & Courses

Phupha Tutor - Online **July 2021 - Present**
Private Tutor

- Delivered personalised STEM instruction to international students, emphasising conceptual understanding and problem-solving in physics and mathematics.
- Adapted digital learning tools for interactive content delivery across diverse curricula, including A-Level, IGCSE, and BMAT Physics.

Laidlaw Scholarship Leadership Project - Timothy Smith Network **July - August 2023**
Coding Assistant Instructor

- Co-developed and instructed a project-based coding curriculum using Arduino and Python to teach fundamental programming and electronics concepts to middle and high school students.
- Integrated Firmata protocols to streamline hardware-software interfacing for student-led prototyping.
- Mentored students through final projects, fostering skills in algorithmic thinking, 3D modelling, and embedded systems.

National Astronomical Research Institution of Thailand (NARIT) **July 2020**
Student Attendee - Advance Engineering Workshop

- Studied the available technology for the development of engineering projects
- Observed the technology and construction of the Thai National Radio Telescope
- Visited the production plant of the mirrors for the Cherenkov Telescope Array

Astronomy Data Handling Python Course - Newton Fund Program/NARIT **October 2019**
Attendee

- Attended lectures on astrophysical concepts ranging from planetary orbits to stellar evolution
- Focused on Python coding for data visualisation and handling astronomical data
- Created stellar structure simulations using astronomical data queried from ASTROHUB

National Astronomical Research Institution of Thailand **June 2018**
Intern

- Trained in basic astronomical observation and how to set up different types of telescopes
- Trained on SalsaJ software and wrote a report on finding the distance to the M100 Galaxy
- Shadowed Astrophysicists and gained insight into the research across different fields

Extracurricular & Leadership Roles

School Ambassador - University of St Andrews, School of Physics and Astronomy
May 2021 - May 2025| Represent the school at official events.
Lead Organiser - St Andrews Interdisciplinary Science Conference
March 2023 - May 2024| Organise and chair meetings and act as the primary point of contact
President - University of St Andrews Astronomical Society
March 2023 - March 2024| Chair committee meetings and represent the society
Senior Observing Director - University of St Andrews Astronomical Society
May 2022 - March 2023| Operate the telescopes during observation sessions for the society
Event Convenor - University of St Andrews Astronomical Society
May 2021 - May 2022| Organise and run events for the society
First Year Astronomy Student Representative - University of St Andrews
September 2020 - December 2020 | Represent the students in the Astronomy modules

Professional Engagement

Membership: Fellow of the Royal Astronomical Society, Associate Member of the Institute of Physics
Conference Attended: IOP FUSE 2024, Laidlaw Conference 2023, National Astronomy Meeting 2022
Conference Talk:

- **Running an Academic Conference,** IOP Forum of University Societies Event, University of St Andrews, St Andrews, UK, 29-30 November 2024
- **[Accepted Abstract] Investigating continuum reverberation mapping of AGN with the LSST,** Galactic and Extragalactic Astrophysics in the UK, E.A. Milne Centre for Astrophysics, Hull, UK, 22-23 January 2026
- **[Accepted Abstract] Investigating continuum reverberation mapping of AGN with the LSST,** DEX-XXII, University of Edinburgh, Edinburgh, UK, 8-9 January 2026

Skills

Computer Skills: ***Basic*****:** Java, OOP, Git, Bash; ***Advanced*****:** Python, SQL/ADQL, LaTeX, Fortran, TOPCAT
Language: ***Fluent*****:** English, Thai; ***Beginner*****:** Japanese, German

References

Academic

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Professional

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