

The GU IEEE PES Student Branch proudly organized the **HDR Research Insights: IEEE PES Talk at Griffith University – Advancing Industry through Academic Innovation**. We were honored to visit **Professor Junwei Lu's** Power Electronics Laboratory at Griffith University (Gold Coast), where the event commenced with a presentation by **Dr. Weichong Yao**. He provided an in-depth overview of the theoretical foundations underpinning the design of high-power, high-frequency transformers for isolated DC-DC converters, followed by a live laboratory demonstration of his transformer prototype in operation.

Subsequently, **Mr. Nafis Subhani** presented his cutting-edge research on integrating these transformers into compact, high-power, and cost-effective isolated DC-DC converters designed specifically for renewable energy systems. His presentation, titled "Compact, High-Power, Low-Cost Isolated DC-DC Converter Design for Renewable Energy Applications," highlighted the real-world impact of advanced hardware design on the clean energy sector.

The session concluded with a laboratory walkthrough, during which both presenters showcased their hardware and elaborated on the potential industry applications of their research. Attendees had the opportunity to observe the testing of a high-frequency (100 kHz) transformer—patented by Prof. Lu—within a dual-active-bridge DC-DC converter. Witnessing the converter achieve approximately 98% efficiency.

The GU IEEE PES Student Branch extends its sincere gratitude to the presenters for their outstanding contributions. We also thank the **School of Engineering and Built Environment** for their support in facilitating industry-relevant research and practical work. Special appreciation goes to the **IEEE Queensland PES/DEIS Chapter** for their ongoing support, and to **Mr. Frank Cole** and **Mr. Derek Brown** for their invaluable and continued assistance.







