Ki Fung Kelvin Foo

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Career Goal

To develop a career as a power engineer, who achieves a sustainable environment by improving the stability and quality of power

Job Experience

University of British Columbia (Vancouver, BC, Canada)

Research Assistant May 07 to Present
Department of Electrical and Computer Engineering

- Developed a method for real time voltage stability monitoring for power systems
- Improved voltage stability monitoring from traditional methods
- Performed modeling and simulations in power systems for voltage stability analysis
- Applied digital signal processing technique to improve measurements in VTs and CTs

Teaching Assistant in Power System courses Jan 07 to Present
Department of Electrical and Computer Engineering

- Honed communication and presentation skills through holding tutorial sessions to help student to understand the concepts of power system analysis and computer applications for power systems

University of Twente (Enschede, The Netherlands)

Project Coordinator/ Research Assistant Apr to Aug 05
Condensed Matter Physics and Devices Group

- Managed and organized a project which involved research groups between Netherlands and Germany
- Fabricated a superconducting computer chip with a new designed Toggle Flip-Flop
- Developed different techniques in thin-film fabrication (Photolithography, Sputtering, Pulse laser deposition)
- Performed low temperature measurements under 4 Kelvin and data analysis

Research Assistant Jun to Dec 04
Low Temperature Physics Research Group

- Designed a new type of superconducting Toggle Flip-Flop chip
- Presented and explained technical physics to audiences with different academic background
- Developed an animation with flash for presenting the project to audiences without strong physics background
- Demonstrated communication skills by working with engineers and scientists with different nationalities and academic backgrounds

Technical Projects

Simulation and Modeling of Electrical Machine and Power System Sep 06 to Present

- Created a MATLAB simulation program with the theory of EMPT to simulate the transient response of power transmission networks
- Performed modeling and simulation for power system components and electric devices with Simulink
- Executed numerical analysis and machine modeling

Renewable Power Market Research Sep to Dec 06

- Developed communication and teamwork skills by working as a team of six with MBA and engineering students
- Prepared a business plan to start a business promoting and marketing renewable energy
- Researched the renewable power market and technology in North America

Transmission Line Diagnostic May to Aug 06

- Measured characteristics of transformer in Powertech laboratory

- Compare measurement results and simulation results to estimate condition for transformer for equipment monitoring

Education

Master of Applied Science in Electrical Engineering, Management Subspecialization May 06 to Present
- University of British Columbia (Vancouver, BC, Canada)

Bachelor of Applied Science in Engineering Physics, Electrical Option Sept 01 to Apr 06
- University of British Columbia (Vancouver, BC, Canada)

Skills

Computer:
C++, C, MATLAB, Simlink, PowerWorld, MicroTran, Windows, PowerPoint, Excel, MS Word

Language Skills
Fluent (verbal and written) in English, Cantonese, and Mandarin

Power System Analysis:
Electrical power transmission, voltage regulation and power flow, fault current, transient stability, protective relaying HVDC transmission, software architectures for large networks, dynamic modeling and analysis of power systems components

Awards

Apr 05 European Science Foundation Research Grant
Aug 01 First Place in Chemistry 12 Provincial Exam
Aug 01 BC Provincial Scholarship
Jun 01 University Hill Academic Award

Publications

Flip-Flopping Fractional Flux Quanta
Thomas Ortlepp, Ariando Ariando, O. Mielke, C. J. M. Verwijs, K. F. K. Foo, H. Rogalla, F. H. Uhlmann, and H. Hilgenkamp
Science 9 June 2006: Vol. 312. no. 5779, pp. 1495 – 1497

RSFQ Circuitry Using Intrinsic π-Phase Shifts
Ortlepp, T. Ariando, Mielke, O. Verwijs, C. J. M. Foo, K. F. K. Andreski, A. Rogalla, H. Uhlmann, F. H. Hilgenkamp, H.
Applied Superconductivity, IEEE Transactions June 2007: Volume: 17, Issue: 2, Part 1 page(s): 659-663

Volunteer Experience

Vancouver Chinese Evangelical Free Church Dec 07 to Present
- Served the Chinese convocation and the community around the church
- Organized, directed and designed outreach programs for youth groups

Mother Hastings Aug 02
- Worked as an inner city volunteer to provide food for the homeless
- Demonstrated problem solving skills and creativity by working with limited resources in the East Downtown

Professional Affiliations

Active participant of PES (Power Engineering Society) activities 2006 to 07
Student member of the Association of Professional Engineer and Geoscientists of B.C. 2001 to 07

References

References Available Upon Request