Research School of Engineering
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PEI H. LEONG

Education and Qualifications

Feb. 2011 – present **PhD in Engineering**, *ANU*, Canberra, Australia.
Thesis: Advanced Techniques for Multiple Target Localisation and Tracking

2007 – 2010 **Bachelor of Engineering (Research and Development)**, *ANU*, Canberra, Australia, *Average mark 86.69/100*.
Majoring in Electronics and Telecommunications Systems
1^{st} Class Honours and University Medal

2006 **NSW Higher School Certificate**, *INTI International College*, Penang, Malaysia, *University Admission Index (UAI): 99.50*.

Research Interests

- Array signal processing
- Target geolocation systems
- Bayesian filtering algorithms

Publications

Journal Articles

J1 **P. H. Leong**, T. A. Lamahewa, and T. D. Abhayapala, "Framework to calculate level-crossing rate and average fade duration in two-dimensional and three-dimensional scattering environments," *IET Communications*, vol. 6, no. 15, pp. 2474–2479, Oct. 2012.

J2 **P. H. Leong**, S. Arulampalam, T. A. Lamahewa, and T. D. Abhayapala, "A Gaussian-sum based cubature Kalman filter for bearings-only tracking," *IEEE Trans. Aerosp. Electron. Syst.*, vol. 49, no. 2, pp. 1161–1176, Apr. 2013.

J3 **P. H. Leong**, T. D. Abhayapala, and T. A. Lamahewa, "Multiple target localization using wideband echo chirp signals," *IEEE Trans. Signal Processing*, vol. 61, no. 16, pp. 4077–4089, Aug. 2013.

J4 **P. H. Leong**, S. Arulampalam, T. A. Lamahewa, and T. D. Abhayapala, "Gaussian-sum cubature Kalman filter with improved robustness for bearings-only tracking," *IEEE Signal Processing Lett.*, vol. 21, no. 5, pp. 513–517, May 2014.

J5 **P. H. Leong**, T. D. Abhayapala, and T. A. Lamahewa, "Multiple 3D far-field/near-field moving target localization using wideband echo chirp signals," *submitted to IEEE Trans. Signal Processing*.

Conference Proceedings

C1 **P. H. Leong** and T. D. Abhayapala, "Single target detection and tracking using direction-of-arrival spectrum," in *Proc. Inter. Conf. on Acoustics, Speech, and Signal Processing (ICASSP)*, Vancouver, Canada, May 2013, pp. 4041–4045.

C2 **P. H. Leong**, S. Arulampalam, T. A. Lamahewa, and T. D. Abhayapala, "Gaussian-sum cubature Kalman smoothers for bearings-only tracking," *Accepted for presentation at IEEE Intelligent Sensors, Sensor Networks and Information Processing (ISSNIP) 2014*.

Awards and Achievements

2014 Associate Fellowship of the Higher Education Academy (AFHEA) under the ANU Educational Fellowship Scheme

2013 Vice-Chancellor's HDR Travel Grant to present a paper at ICASSP 2013

2011 ANU PhD Scholarship (International)

2011 ANU Higher Degree Research (HDR) Merit Scholarship (International)

2011 H. A. Jones Medal for Excellence in Engineering Studies at the ANU

2011 Dean's Prize from ANU College of Engineering and Computer Science

2010 ANU University Medal

2008 – 2010 Terrell International Undergraduate Scholarship at the ANU

2007 Mavis Prater Prize for Women in Mathematics

University Visit

Jun. 2013 Prof. Simon Haykin, McMaster University, Canada

Work Experience

Nov. 2009 – Jan. 2010 **Summer Research Scholarship**, *ANU/NICTA*.
Project: 3D space-time model for wireless body area networks
Supervisor: Dr. Leif Hanlen

Nov. 2008 – Feb. 2009 **Summer Research Scholarship**, *ANU*.
Project: Wireless channel modelling for ultra-wide band communications
Supervisor: Prof. Thushara Abhayapala

Teaching Experience

Sem 1 2013	ENGN 2218 Electronic Systems and Design, ANU	*Lab demonstrator*
Sem 1 2013	ENGN 3226/6626 Digital Communications, ANU	*Lab demonstrator and tutor*
Sem 1 2012	ENGN 3226/6626 Digital Communications, ANU	*Lab demonstrator*
Sem 1 2011	ENGN 3226/6626 Digital Communications, ANU	*Lab demonstrator*

Research Student Supervision

B. Eng (honours)

Sem 2 2013 – Sem 1 2014: Tianhang Zhu (co-supervised with Dr Wen Zhang).
Project: Investigations of co-prime arrays in modal domain

Sem 2 2012 – Sem 1 2013: Fangning Wu (co-supervised with Dr Wen Zhang).
Project: Broadband DOA estimation using eigenbeam processing

Professional Activities

- Reviewer for IEEE Signal Processing Letters
- Reviewer for Journal of Electromagnetic Waves and Applications
- Reviewer for European Signal Processing Conference (EUSIPCO), 2012

Continued Professional Development

Oct. 2013 – Dec. 2013: Completed an online open course "Machine Learning" offered by Stanford University through Coursera

Sem 1 2013: Attended the "Resilience of Women Research Students (RoWRS)" program organized by the Centre for Higher Education, Learning & Teaching (CHELT), ANU

Sem 1 2013: Completed "Principles of Tutoring and Demonstrating" program organized by the Centre for Higher Education, Learning & Teaching (CHELT), ANU

Summer 2014: Completed "Foundations of University Teaching & Learning" program organized by the Centre for Higher Education, Learning & Teaching (CHELT), ANU

Membership

- Golden Key International Honour Society, since 2008
- Student Member, The Institution of Engineers Australia, 2008 – 2011
- Student Member, IEEE, 2011 – present
- IEEE Signal Processing Society, 2013 – present

Referees

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