Dr.-Ing. Sian Lun Lau

curriculum vitae

✉ *sianlun@wahlau.org*
http://wahlau.org/research
Sian Lun Lau
@wahlau

Education

Nov. 2011 **Dr.-Ing. in Computer Science (PhD)**, *University of Kassel*, Kassel, Germany.

Nov. 2004 **MSc in Electrical Communication Engineering**, *University of Kassel*, Kassel, Germany.

June 2000 **BEng in Electronics and Telecommunications (Hons)**, *Universiti Malaysia Sarawak*, Kota Samarahan, Sarawak, Malaysia.

Experience

Jan. 2015 - present **Head of Department/Associate Professor**, *Department of Computing and Information Systems, Faculty of Science and Technology, Sunway University*, Bandar Sunway, Selangor, Malaysia.

Feb. 2013 - Dec. 2014 **Head of Department/Senior Lecturer**, *Department of Computer Science and Networked Systems, Department of Information Systems (since Aug. 2014), Faculty of Science and Technology, Sunway University*, Bandar Sunway, Selangor, Malaysia.

Nov. 2011 - Jan. 2013 **Postdoctoral Researcher**, *Chair for Communication Technology, University of Kassel*, Kassel, Germany.

Oct. 2004 - Nov. 2011 **Researcher**, *Chair for Communication Technology, University of Kassel*, Kassel, Germany.

May. 2003 - Aug. 2004 **Technical Assistant**, *Networking Concepts GmbH*, Kassel, Germany.

Dec. 2001 - Sept. 2004 **Technical Documentation**, *Cobion AG/Internet Security Systems*, Kassel, Germany.

Research Interests

My research interests are in the area of mobile computing, specifically dealing with topics such as context awareness, user-centric computing and activity recognition. I am particularly interested in applying unobtrusive approaches in bringing future technology to everyday life. I have been involved in projects and research related to various application domains such as telemedicine, communication, energy consumption optimisation and car2x. I am also interested in applying and improving algorithms for context awareness, such as meta-level classifiers and density-based clustering approaches.

Teaching and Research Supervision Experience

Taught lectures at the Department of Computer Science and Networked Systems, Sunway University:

- Diploma level: Advanced Programming, Web Engineering
- Bachelor degree level: Concurrent Programming, Software Architecture and Design Patterns
- Postgraduate level: Research Methodology.
- Currently supervising four Masters students.

Participated undergraduate and graduate level lectures at the Chair for Communication Technology (ComTec), University of Kassel:

- Communication Technologies I/II, Introduction to Communications, Java Code Camp.
- Taught and coordinated the Cisco Certified Network Associate (CCNA) courses at ComTec from year 2003 - 2006.
- Supervised over 20 students thesis, projects and seminar (Masters and Bachelor level).

Professional Services

Organizer/Chair/Co-Chair for:

- Technical Programme Chair for the 2015 IEEE Conference on e-Learning, e-Management and e-Services (IC3e 2015)
- Organising Committee for the 2015 IEEE Conference on Open Systems (ICOS2015)
- Organising Committee for the 2015 IEEE Conference on Wireless Sensors (ICWiSE 2015)
- Publicity Chair for the IET International Conference on Frontiers of Communications, Networks and Applications (IET ICFCNA 2014)
- Co-chair for the AwareCast2014: 3rd Workshop on recent advances in behavior prediction and pro-active pervasive computing
- Co-chair for the AwareCast2013: 2nd Workshop on recent advances in behavior prediction and pro-active pervasive computing

Reviewer for the following journal:

- HIMAA Health Information Management Journal
- MDPI Sensors — Special Issue "Ubiquitous Sensing"
- Higher Education Evaluation and Development (HEED)

Book editorial advisory board member:

- Book Assistive Technologies for Physical and Cognitive Disabilities (to be published in 2014/2015) (http://www.igi-global.com/publish/call-for-papers/call-details/1117)

Invited Talks/Guest Lecturesr:

- 2nd August 2014, Wernigerode - Guest Lecture "Software Dev. @ Sunway University - Strategy, Rationale and Beyond", CodeCamp48 – Organized by Harz University of Applied Sciences, Germany
- 5th September 2014, Bandar Sunway - Guest Lecture "Machine Impossible", Lancaster-Sunway Summer School.

Technical Program Committee reviewer for conferences, such as:

- IEEE International Conference on Control System, Computing and Engineering (ICCSCE) since 2012
- International Conference on IT Convergence and Security (ICITCS 2013)
- 2013 IEEE Conference on Clean Energy and Technology (CEAT 2013)
- 2013 IEEE Conference on Wireless Sensors (ICWiSe 2013)
- 2013 IEEE Symposium on Computers & Informatics (ISCI 2013)
- 2013 IEEE Symposium on Wireless Technology & Applications (ISWTA) 2013
- 7th International Conference on Computing and Convergence Technology (ICCCT 2012)

External Role/Membership/Services:

- Adjunct Research Fellow, Swinburne University of Technology Sarawak Campus - since 2014
- Judge, CodeCamp48 2014, organized by Harz University of Applied Sciences, 1st Aug - 3rd Aug 2014
- Judge, Young Inventors Challenge 2014 organized by Association of Science, Technology and Innovation (ASTI), 20th September 2014
- MyUniBus Shuttle Bus tracking web portal – System designer and maintainer, Aug 2013 to present

Affiliations

IEEE member since 2009 - Computer Society member

Recent and Completed Externally Funded Research Projects

Sep. 2014 - Aug. 2015 **Principal Investigator - A crowd-source based mobile application system for future smart city**, *Sunway-Lancaster Small Grant Scheme (£7500).*

Jul. 2014 - Nov. 2015 **Principal Investigator - Sunway Indoor GPS System**, *Sunway University- ITSSC MOU Collaboration R&D Grant (RM100,000).*

Jun. 2014 - Nov. 2015 **Principal Investigator - Applying SAX-based Time Series Analysis to classify EEG signal using a COTS EEG device**, *Sunway Internal Grant scheme (RM31,600).*

Jul. 2014 - Oct. 2014 **Co-investigator - Digital Office**, *MDEC Innovation Voucher (RM 15,000).*

Sep. 2013 - Aug. 2014 **Co-investigator - Assistive Caretaker: A model for recognition of challenging behaviors for special children**, *Swinburne Sarawak Research Grant 2013.*

Oct. 2011 - Jan. 2013 **Project Manager/ Principal Investigator - SEAM4US (Sustainable Energy mAnageMent for Underground Stations)**, *EU FP7 (Energy-Efficient Buildings) funded project. (Full duration of project - Oct. 2011 - Sept. 2014).*
Website: http://www.seam4us.eu/

Jan. 2009 - Mar. 2012 **Project Manager/ Principal Investigator - MATRIX (Middleware-Plattform für die Realisierung internetbasierter telemedizinischer Dienste)**, *German Federal Ministry of Education and Research (BMBF) funded project.*
Website: http://www.forschungsprojekt-matrix.de/de/start.htm

Apr. 2006 - Feb. 2008 **Team member/ Co-investigator - S4ALL (Services for All)**, *EU ITEA/German Federal Ministry of Education and Research (BMBF) funded project.*
Website: http://www.comtec.eecs.uni-kassel.de/s4all/

Oct. 2004 - Dec. 2006 **Team member/ Co-investigator - MobiLife**, *EU CORDIS FP6 funded project.*
Website: http://www.ist-mobilife.org

Awards

Nov. 2014 **Special mention award in Sunway Group Innovation Challenge 2014**, *POTS for beans.*

Nov. 2014 **Special mention award in Sunway Group Innovation Challenge 2014**, *Brownie Points.*

Feb. 2014 **Silver Medal in Silver Medal in Invention & Innovation Awards, Malaysia Technology Expo 2014 (MTEX2014)**, *Smartphone Based Auxiliary System for Drivers.*

Nov. 2013 **2013 UK-SE Asia Knowledge Partnership-Collaborative Development Awards 2013 (together with Assoc. Prof. Dr. Yau Kok Lim, Dr Pu Chuan Chin)**, *Award: £2000 to support research visit to UK universities..*

Nov. 2013 **Grand prize in Sunway Group Innovation Challenge 2013**, *The student-for-student (S4S) playground.*

Nov. 2013 **2nd runner-up in Sunway Group Innovation Challenge 2013**, *The Sunway CarPool System.*

Oct. 2013 **1st prize for the MyUniBus project in the McKinsey Youth Leadership Academy 2013**, *Technical partner for the MyUniBus project, led the development of the realtime web-based bus tracking system.*

Professional Certifications

2014 iTrain iOS Developer Certificate

2013 Huawei Certified Datacom Associate

Languages

Malay **Fluent**

English **Fluent**

Mandarin **Native**

German **Good**

Selected List of Publications

Conferences and Workshops

[C1] S. L. Lau and S. M. S. Ismail, "Towards a real-time public transport data framework using crowd-sourced passenger contributed data," in *First International Workshop on Mobile and Context Aware Services (MOCS2015)*, Sept. 6-9 2015.

[C2] Z. Q. Ik, S. L. Lau, and J. B. Chan, "Mobile Cataract Screening App Using a Smartphone," in *2015 IEEE Conference on e-Learning, e-Management and e-Services (IC3e 2015)*, Aug. 24-26 2015.

[C3] K. Y. Tey and S. L. Lau, "Evaluation of unsupervised indoor localisation algorithm using real-environment data," in *2015 IEEE Conference on Wireless Sensors (ICWiSE 2015)*, Aug. 24-26 2015.

[C4] Y. Xu, S. L. Lau, R. Kusber, and K. David, "DCCLA: Automatic Indoor Localization Using Unsupervised Wi-Fi Fingerprinting," in *Modeling and Using Context* (P. Brézillon, P. Blackburn, and R. Dapoigny, eds.), vol. 8175 of *Lecture Notes in Computer Science*, pp. 73–86, Springer Berlin Heidelberg, 2013.

[C5] S. L. Lau, "Comparison of orientation-independent-based movement recognition system using classification algorithms," in *2013 IEEE Symposium on Wireless Technology and Applications (ISWTA)*, pp. 322–326, IEEE, 2013.

[C6] A. Q. Memon, S. L. Lau, and K. David, "Investigation and compensation of the magnetic deviation on a magnetometer of a smartphone caused by a vehicle," in *2013 IEEE 78th Vehicular Technology Conference (VTC Fall)*, pp. 1–5, 2013.

[C7] Y. Xu, S. L. Lau, R. Kusber, and K. David, "An experimental investigation of indoor localization by unsupervised Wi-Fi signal clustering," in *Future Network and Mobile Summit 2012*, (Berlin, Germany), pp. 1 –8, Jul. 4-6 2012.

[C8] S. L. Lau, Y. Xu, and K. David, "Novel Indoor Localisation using an Unsupervised Wi-Fi Signal Clustering Method," in *Future Network and Mobile Summit 2011*, (Warsaw, Poland), pp. 1 –8, Jun. 15-17 2011.

[C9] S. L. Lau, I. König, K. David, B. Parandian, C. Carius-Düssel, and M. Schultz, "Supporting patient monitoring using activity recognition with a smartphone," in *7th International Symposium on Wireless Communication Systems (ISWCS), 2010*, pp. 810 – 814, Sept. 19-22 2010.

[C10] S. L. Lau and K. David, "Movement recognition using the accelerometer in smartphones," in *Future Network and Mobile Summit 2010*, (Florence, Italy), pp. 1–9, Jun. 16-18 2010.

Journal

[J1] T. Y. Sim, S. L. Lau, P. Zipf, and K. Kimm, "Design and development of a supported tiered software for teaching and learning using a connected mobile learning application," *World Applied Sciences Journal 30 (Innovation challenges in Multidisciplinary Research & Practice)*, vol. 30, pp. 247–255, 2014.

[J2] K. David, S. L. Lau, and B. N. Klein, "Social Link App - A New Communication Paradigm Empowering Mobile Users," *IEEE Vehicular Technology Magazine*, vol. 6, pp. 80 –87, Sept. 2011.

[J3] S. L. Lau, N. Klein, A. Pirali, O. Droegehorn, and K. David, "Evaluation of the technology agnostic service creation approach," *Electronic Communications of the EASST (ECEASST)*, vol. 27, 2010.

[J4] S. L. Lau, N. Klein, A. Pirali, I. König, and K. David, "Implementation of a user-centric context-aware playground," *Electronic Communications of the EASST (ECEASST)*, vol. 17, 2009.

Books/Book Chapters

[B1] S. L. Lau, A. Ahmed, and Z. Ruslan, "A Review for Unobtrusive COTS EEG-Based Assistive Technology," in *Assistive Technologies for Physical and Cognitive Disabilities* (B. T. Lau, ed.), ch. 13, pp. 262–277, Hershey, PA: IGI Global, 2015.

[B2] S. L. Lau, *Towards a user-centric context aware system: empowering users through activity recognition using a smartphone as an unobtrusive device*. kassel university press GmbH, Jan. 2012.

[B3] S. L. Lau and K. David, *Enabling Context Aware Services in the Area of AAC*, ch. 6, pp. 159–192. IGI Global, Feb. 2011.

[B4] A. Battestini, A. Flanagan, P. Floréen, S. Gessler, J. Koolwaaij, E. Lagerspetz, S. L. Lau, M. Luther, M. Martin, J. Millerat, B. Mrohs, P. Nurmi, M. Paolucci, J. Robinson, J. Suomela, and M. Wagner, *Enabling Technologies for Mobile Services: The MobiLife Book*, ch. 4. Context Awareness and Management. John Wiley & Sons, Oct. 2007.

[B5] D. Bonnefoy, M. Boussard, N. Brgulja, A. Domene, O. Drögehorn, G. Giuliani, R. Kernchen, S. L. Lau, J. Millerat, B. Mrohs, P. Nurmi, P. J. Ollikainen, M. Radziszewski, C. Räck, , M. Salacinski, A. Salden, and M. Sutterer, *Enabling Technologies for Mobile Services: The MobiLife Book*, ch. 5. Multimodality and Personalisation. John Wiley & Sons, Oct. 2007.