

#### Award

- 2008/2009 National University of Singapore Annual Teaching Excellence Award

#### Faculty level

- 2010/2011 Faculty of Engineering Teaching Commendation List
- 2009/2010 Faculty of Engineering Teaching Honors List
- 2008/2009 Faculty of Engineering Teaching Honors List
- 2007/2008 Faculty of Engineering Teaching Commendation List
- 2006/2007 Faculty of Engineering Teaching Honors List
- 2004/2005 Faculty of Engineering Teaching Commendation List
- 2003/2004 Faculty of Engineering Teaching Commendation List
- 2003/2004 Faculty of Engineering Innovative Teaching Award (Silver)
- 2002/2003 Faculty of Engineering Teaching Commendation List
- 2001/2002 Faculty of Engineering Innovative Teaching Award (Silver)
- 2001/2002 Faculty of Engineering Teaching Honors List

## **Research**

### Research Interests

Energy efficient circuits and systems, especially on low voltage circuit techniques and low power signal processing systems. The research covers following topics:

- Low power circuits for flexible electronics and miniaturized devices.
- Self-powered wireless sensors for Internet-of-Things, healthcare applications, green building, environmental sensing, and power grid.
- Power management systems for energy harvesting devices, self-powered systems, and remote powering solutions.
- Energy efficient signal processing platform for low voltage and low power circuits and systems, especially in event-driven/asynchronous signal processing techniques.
- Ultra low power circuit design techniques using novel devices, and sub-threshold asynchronous circuits.
- CMOS radio frequency integrated circuit design techniques, especially in digital implementation of wireless communication systems and body channel communications.

### Research Grants

Dr. Lian's research has attracted more than \$28 million research funds from various sources. The largest grant is SG\$10M (~\$10M) from National Research Foundation of Singapore under Competitive Research Program.

### Publications (Refer to Publication List in Appendix for details)

Published a book, 4 book chapters, 279 papers in peer reviewed international journals and international conferences. Recipient of the 1996 IEEE Circuits and Systems Society's Guillemin-Cauer Award for the best paper published in the IEEE Transactions on Circuits and Systems Part I and Part II in two years preceding the award, the 2008 Multimedia Communications Best Paper from the IEEE Communications Society for the best paper published in the IEEE Transactions on Multimedia, 2011 IES Prestigious Engineering Achievement Award, and many more.

### List of patents

- [1] R.S.Rana, X.D.Zhou and Y.Lian, "Low Supply-Sensitive and Wide Tuning-Range CMOS LC-Tank Voltage-Controlled Oscillator Monolithic Integrated Circuit", USA Patent US 7,075,379 B2, July 2006.
- [2] Y. Lian, L.B. Yao, X. Y. Xu, and X. D. Zou, "Fully Tunable, Low-Voltage, Low-Power, High Dynamic Range CMOS Amplifier," Singapore Patent 167310 [WO2009/151406], 23 June 2013, Licensed to ClearBridge Vital Signs Pte Ltd in Jan. 2011.
- [3] Y. Lian, L.B. Yao, X. Y. Xu, and X. D. Zou, "Fully Tunable, Low-Voltage, Low-Power, High Dynamic Range CMOS Amplifier," US Patent US8,344,810 B2, 1 January 2013, Licensed to ClearBridge Vital Signs Pte Ltd in Jan. 2011.
- [4] Y. Lian, WS Liew, XD Zou, "Multiplexing Scheme for Multiple-Channel Signal Acquisition System", USA Patent USA Patent US8,981,985 B2, 17 March 2015.
- [5] Y. Lian, WS Liew, XD Zou, "Multiplexing Scheme for Multiple-Channel Signal Acquisition System", Singapore Patent 11201400401Q, 5 July 2016.
- [6] ZH Luo, B Lau, CH Heng and Y Lian, "Ultra Low Voltage Ring Oscillator With Redundant Inverter", US Patent No. US9,698,763 B1, 4 July 2017.

### Graduate Supervisions

Completed: 38 M.Eng (Research based with thesis), 34 Ph.D.

In progress: 5 Ph.D.

### Invited Keynotes and Technical Talks

1. System-on-Chip in the Age of AI, Keynote Speech, IEEE 14<sup>th</sup> International Conference on Solid-State and Integrated Circuit Technology, Oct. 31 – Nov. 3, 2018, Qingdao, China.
2. Energy Efficient System Architecture for Edge Devices in IoT, Keynote Speech, The 13<sup>th</sup> International Conference on Green, Pervasive and Cloud Computing, May 11-13, 2018, Hangzhou, China.
3. AI and Healthcare, Panellist, 2017 Future Chip, Tsinghua University, Dec. 19, 2017.
4. Steps to Become IEEE Fellow, Tsinghua University, Dec. 12, 2018, Beijing, China.
5. Energy Efficient System Architecture for Sensor SoCs in IoT, Keynote Speech, 2017 IEEE Conference on Intelligent Media Computing, Aug. 3-5, 2017, Wuhan, China.
6. Steps to Become IEEE Fellow, Forum at 2017 IEEE Conference on Intelligent Media Computing, Aug. 3-5, 2017, Wuhan, China.
7. Energy Efficient System Architecture for Wireless Wearable Sensors in Health IoT, Invited Talk, South University of Science and Technology of China, May 16, 2017, Shenzhen, China
8. Energy Efficient System Architecture for Wireless Wearable Biomedical Sensors, Tutorial, 2017 IEEE Custom Integrated Circuits Conference (CICC2017), April 30 – May 3, 2017, Austin, TX, USA
9. Panel on Artificial Intelligence (AI) and System-on-Chip (SoC), Panellist, 2016 IEEE Asian Solid-State Circuits Conference, Nov. 8, 2016, Toyama, Japan.
10. The Future of Wearable Electronics, Keynote Speech, 13<sup>th</sup> International System-on-Chip Design Conference (ISOCC 2016), 23-26 Oct. 2016, Jeju, Korea.
11. Panel on Internet of Things, Panellist, 29<sup>th</sup> IEEE International System-on-Chip Conference (SOCC2016), 6-9 Sep. 2016, Seattle, WA, USA.

12. The Design Challenges for Self-Powered Wireless Wearable ECG Sensor SoC, Tutorial, 29<sup>th</sup> IEEE International System-on-Chip Conference (SOCC2016), 6-9 Sep. 2016, Seattle, WA, USA.
13. Design Considerations of Self-Powered Wearable Wireless ECG Sensors, Tutorial, 2016 IEEE International Symposium on Circuits and Systems (ISCAS2016), 22-25 May 2016, Montreal, Canada.
14. Self-Powered Wireless Wearable Biomedical Sensors for Personalized Healthcare, Invited Talk, Shenzhen Institutes of Advanced Technology, China Academy of Science, Apr. 28, 2016, Shenzhen, China.
15. Self-Powered Wireless Wearable Biomedical Sensors for Personalized Healthcare, Invited Talk, Chongqing Institute of Green and Intelligent Technology, China Academy of Science, Apr. 19, 2016, Chongqing, China.
16. Self-Powered Wireless Sensors for Internet-of-Things, Keynote Speech, 2016 Asia Workshop on Smart Sensor Systems (AWSSS2016), Mar. 27-29, 2016, Beijing, China.
17. Self-Powered Wearable Biomedical Sensors: Challenges and Future, Invited Talk, Institute of Microelectronics, Feb. 23, 2016, Singapore.
18. Self-Powered Wearable Biomedical Sensors: Challenges and Future, Invited Talk, Xi'an Jiao Tong University, Jan. 15, 2016, Xi'an, China.
19. Challenges in the Design of Wireless Wearable ECG Sensors, Tutorial, 2015 IEEE International Conference on Biomedical Circuits and Systems (BioCAS2015), Oct. 22-24, 2015, Atlanta, Georgia, USA.
20. Wearable Wireless Biomedical Sensors: Challenges and Future, Keynote Speech, 2015 Symposium on Engineering, Medicine and Biology Applications (SEMBA'2015), Jan. 30 – Feb. 1, 2015, Kaohsiung, Taiwan.
21. Self-Powered Wearable Wireless Biomedical Sensors: Challenges and Future, Invited Talk, Oct. 2, 2014, Ryerson University, Toronto, ON, Canada.
22. Ultra Low Power SoC for Self-Powered Wearable ECG Sensor, Forum Talk, 2014 IEEE Custom Integrated Circuits Conference (CICC'2014), Sept. 15-17, 2014, DoubleTree Hotel, San Jose, CA, USA.
23. Self-Powered Wireless Biomedical Sensors: Challenges and Future, Plenary Speech, 2013 International Symposium on Wearable Health Care Sensors, Oct 25, 2013, Yokohama, Japan.
24. Self-Powered Wireless Biomedical Sensors: Challenges and Future, Invited Talk, Shanghai Jiao Tong University, July 22, 2013, Shanghai, China.
25. Self-Powered Wireless Biomedical Sensors: Challenges and Future, Keynote Speech, 2012 International Conference on BioElectronics, BioSensors, BioMedical Devices, BioMEMS/NEMS and Applications (Bio4Apps'2012), Nov 19-20, 2012, Singapore.
26. Wireless Biomedical Devices for Neural Engineering, Invited Talk, IEEE Summer Camp, Shanghai JiaoTong University, July 6, 2012.
27. Self-Powered Wireless Biomedical Device for Future Healthcare, Plenary Speech in Medical Deep Dive Workshop organized by Maxim Integrated Products, Dallas, USA, May 15, 2012.
28. Google, iPhone, What Comes Next?, Invited Talk, Med-X Research Institute and School of Microelectronics of Shanghai Jiao Tong University, Shanghai, Dec. 29, 2011.
29. Google, iPhone, What Comes Next?, Invited Talk, Universite du Quebec a Montreal, Canada, Dec. 21, 2011.
30. Google, iPhone, What Comes Next?, Invited Talk, The University of British Columbia, Vancouver, Canada, Dec. 8, 2011.
31. SoC for Biomedical Applications: Trends and Challenges, Panel Talk, 19<sup>th</sup> IFIP/IEEE International Conference on Very Large Scale Integration, Hong Kong, China, Oct 3-5, 2011. (an event for celebrating 30-year anniversary of the conference).
32. Google, iPhone, What Comes Next?, Inaugural Lecture of the NUS Engineering Lecture Series, Faculty of Engineering, NUS, Sept. 22, 2011.

33. Towards Self-Powered Wireless Biomedical Devices, Invited Talk, Concordia University, Montreal, Canada, June 6, 2011.
34. The Design of Sub-mW Wireless Implantable EEG Device, Keynote Speech, *IEEE CAS-FEST Workshop on Brain-Machine/Brain-Computer Interfaces*, Rio de Janeiro, Brazil, May 15, 2011.
35. Expanding the Frontiers of Biomedical Circuits & Systems, Inaugural Professorial Lecture, NUS, Mar. 8, 2011.
36. Towards Self-Powered Wireless Biomedical Devices, Invited Talk, Shanghai Jiao Tong University, Shanghai, China, Dec. 27, 2010.
37. Towards Self-Powered Wireless Biomedical Devices, Invited Talk, University of Toronto, Toronto, Canada, Dec. 20, 2010.
38. Towards Self-Powered Wireless Biomedical Devices, Invited Talk, The University of British Columbia, Vancouver, Canada, Dec. 14, 2010.
39. The Design of ECG-on-Chip, Invited Talk, Simon Fraser University, Vancouver, Canada, Dec. 3, 2010.
40. Towards Self-Powered Biomedical Devices, Keynote Speech, *The 28<sup>th</sup> Norchip Conference(Norchip 2010)*, Tampere, Finland, 15-16 Nov. 2010.
41. Towards Sub-mW Wireless Implantable EEG Sensors, Panel Talk, The 3<sup>rd</sup> International Forum on Systems and Mechatronics, Singapore, 6-9 Sept. 2010.
42. An ECG-on-Chip for Wearable Cardiac Monitoring Devices, Invited Talk, 5<sup>th</sup> IEEE International Symposium on Electronic Design, Test & Applications, Ho Chi Min city, Vietnam, 13-15 Jan. 2010.
43. Towards Self-Powered Wireless Biomedical Devices, Invited Talk, 9<sup>th</sup> International Conference on Solid-State and Integrated-Circuit Technology, Beijing, China, 20 – 23 Oct. 2008
44. Towards Self-Powered Wireless Biomedical Devices, Plenary Speech, Symposium on Low Power Biomedical System-on-Chip Design and Application, IC China 2008, Suzhou International Expo Center, Suzhou, China, 19 Sept 2008.
45. Wireless Biomedical Sensors for Body Area Network, Invited Talk, Tsinghua University, Beijing, 18 December 2007.
46. An IEEE Circuits and Systems Society Distinguished Lecturer talk, The Wireless Biomedical Sensor, University of Oslo, Norway, June 2005.
47. An IEEE Circuits and Systems Society Distinguished Lecturer talk, The Development of Wireless Biomedical Sensor, Linköping University, Sweden, June 2005.
48. An IEEE Circuits and Systems Society Distinguished Lecturer talk, The Wireless Biomedical Sensor, Tampere University of Technology, Finland, June 2005.
49. An IEEE Circuits and Systems Society Distinguished Lecturer talk, The VLSI Implementation of High-Speed Low Power Digital Filters, Tsing Hua University, Beijing, 2 Sept. 2004.
50. Two IEEE Circuits and Systems Society Distinguished Lecturer talks, (1) The VLSI implementation of high-speed low-power digital filters, (2) The design of high-speed low-power digital FIR filters based on frequency-response masking technique, Shanghai Jiao Tong University, Shanghai, 1-2 July 2004.
51. Low Power Digital Filter Designs, Invited Talk, Tsinghua University, Nov. 2002.
52. Filter Implementation Session, Invited Talk, The 2001 International Conference on ASIC, Shanghai, China.
53. Frequency-response Masking Technique, Invited Talk, Shanghai JiaoTong University, Nov. 2000.

## **Professional Activities**

### Services in Professional Societies

2018 – 2019: President, IEEE Circuits and Systems Society.  
 2018: Member, IEEE Division I Nomination Committee.

2016 – 2017: President-Elect, IEEE Circuits and Systems Society.  
 2016 – present: Member, IEEE Fellow Committee.  
 2017 – present: Member, IEEE Biomedical Engineering Award Committee.  
 2013 – 2016: Vice President for Publications, IEEE Circuits and Systems Society.  
 2013 – 2016: Chair, Editor-in-Chief Selection Committee, IEEE Circuits and Systems Society.  
 2013 – 2016: Chair, Prize Paper Award Committee of the IEEE Circuits and Systems Society for selecting the best paper awards from the IEEE Transactions published by the IEEE CAS Society.  
 2013 – 2015: Member, IEEE Publication Services and Production Board Strategic Planning Committee.  
 2011 – 2015: Member, IEEE Life Sciences New Initiative Committee.  
 2010 – 2012: Member, IEEE Fellow Evaluation Committee of the IEEE Circuits and Systems Society.  
 2010 – 2012: Member, Prize Paper Award Committee of the IEEE Circuits and Systems(CAS) Society for selecting the best papers from the IEEE Transactions published by the IEEE CAS Society  
 2010: Panel Judge for the Best Student Paper Awards in the IEEE International Symposium on Circuits and Systems, May 2010, Paris, France.  
 2010 – 2012: Chair, Digital Signal Processing Technical Committee, IEEE Circuits and Systems Society.  
 2009 – 2012: Member, the IEEE Medal for Innovations in Healthcare Technology Committee, IEEE Awards Board.  
 2008: Panel Judge for the Best Student Paper Awards in the IEEE International Symposium on Circuits and Systems, May 2008, Seattle, USA.  
 2008 – 2009: Administrative Committee Member, the IEEE Biometrics Council.  
 2008 – 2010: Secretary, Digital Signal Processing Technical Committee, IEEE Circuits and Systems Society.  
 2007 – 2008: Vice President, Asia Pacific Region, IEEE Circuits and Systems Society.  
 2007 – 2008: Member, Chapter of the Year Award subcommittee, IEEE Circuits and Systems Society.  
 2007 – 2008: Member, Regional Activities and Membership Development Division of the IEEE Circuits and Systems Society.  
 2007 – 2009: Chair, Biomedical Circuits and Systems Technical Committee, IEEE Circuits and Systems Society.  
 2007 – 2009: IEEE Circuits and Systems Society's Representative to the BioTechnology Council.  
 2007 – 2008: Chair, International Steering Committee of Asia Pacific Conference on Circuits and Systems.  
 2007: Member, Prize Paper Award Subcommittee for the 2007 VLSI Transactions Best Paper Award, IEEE Circuits and Systems Society.  
 2005 – 2007: Vice Chair, Biomedical Circuits and Systems Technical Committee, IEEE Circuits and Systems Society.  
 2007 – present: Steering Committee Member, IEEE Transactions on Biomedical Circuits and Systems.  
 2007 – 2008: Secretary Elected, Digital Signal Processing Technical Committee, IEEE Circuits and Systems Society.  
 2005 – 2007: Founder and Founding Chair, Education Chapter, IEEE Singapore Section.  
 2005 – present: Member, Awards Committee, IEEE Education Society.  
 2005 – 2006: Member, Ad-hoc committee for preparing the new IEEE Transactions on Biomedical Circuits and Systems.  
 2004 – 2005: Distinguished Lecturer, IEEE Circuits and Systems Society  
 2004: Review Panel Member, IEEE Admission & Advancement Committee.

- 2003 – 2005: Secretary, Biomedical Circuits and Systems Technical Committee, IEEE Circuits and Systems Society.
- 2002 – present: Committee Member, Digital Signal Processing Technique Committee, IEEE Circuits and Systems Society.
- 2002 – 2004: Chairman, IEEE Circuits and Systems Chapter, Singapore Section.
- 2000 – 2002: Treasurer, IEEE Circuits and Systems Chapter, Singapore Section.
- 2000 – 2002: Committee Member, IEEE Consumer Electronics Chapter, Singapore Section.
- 1997 – 1999: Chairman, IEEE Circuits and Systems Chapter, Singapore Section.

#### Membership of editorial boards

##### ▪ Editorial Boards

- 2010 – 2013: Editor-in-Chief, IEEE Transactions on Circuits and Systems Part II. (Two terms)
- 2013 – 2015: Steering Committee Member, IEEE Transactions on Multimedia.
- 2007 – present: Steering Committee Member, IEEE Transactions on Biomedical Circuits and Systems.
- 2015 – present: Associate Editor, Science China: Information Sciences
- 2013 – present: Associate Editor, Analog Integrated Circuits and Signal Processing
- 2011 – present: Associate Editor, IEEE Technology News
- 2008 – 2009: Associate Editor, IEEE Transactions on Circuits and Systems Part I.
- 2007 – present: Associate Editor, IEEE Transactions on Biomedical Circuits and Systems.
- 2006 – 2007: Associate Editor, IEEE Transactions on Circuits and Systems Part II.
- 2004 – 2005: Associate Editor, IEEE Transactions on Circuits and Systems Part I.
- 2002 – 2003: Associate Editor, IEEE Transactions on Circuits and Systems Part II.
- 2000 – 2009: Associate Editor, Circuits, Systems and Signal Processing.

##### ▪ Guest Editors

- 2014 – 2015: Guest Editor for IEEE Transactions on Circuits and Systems I, Special Issue on Selected Papers from ISCAS'2014.
- 2013 – 2014: Guest Editor for IEEE Transactions on Circuits and Systems I, Special Issue on Selected Papers from ISCAS'2013, published in May 2014.
- 2010 – 2011: Guest Editor for the IEEE Transactions on Circuits and Systems I, Special Issue on Selected Papers from ISCAS'2010, published in July 2011.
- 2010 – 2011: Guest Editor for the IEEE Transactions on Biomedical Circuits and Systems, Special Issue on Selected Papers from BSN'2010, published in August 2011.
- 2007 – 2010: Guest Editor for the journal of Circuits Systems and Signal Processing, Special Issue on Low Power Digital Filter Design Techniques and Their Applications, published in Jan 2010.
- 2007 – 2008: Guest Editor for the IEEE Trans. on Biomedical Circuits and Systems, Special Issue on Selected Papers from ISCAS'2007, published in Sept. 2008.

- 2004 – 2005: Guest Editor for the IEEE Trans. on Circuits and Systems Part I: Regular Papers, Special Issue on Biomedical Circuits and Systems: A New Wave of Technology, published in Dec. 2005.
- 2004 – 2006: Guest Editor for the journal of Circuits Systems and Signal Processing, Special Issue on Computationally Efficient Digital Filters: Design Techniques and Applications, published in April 2006.
- 2002 – 2003: Guest Editor of the journal of Circuits Systems and Signal Processing, Special Issue on Frequency Response Masking Technique and Its Applications, published in March 2003.

#### Membership of international conference committees

- 2018: Technical Program Co-Chair, IEEE 14<sup>th</sup> International Conference on Solid-State and Integrated Circuit Technology, Oct. 31 – Nov. 3, 2018, Qingdao, China.
- 2017: Technical Program Chair, 2018 IEEE International Symposium on Circuits and Systems (ISCAS 2018), May 2018, Florence, Italy.
- 2017: General Co-Chair, 12<sup>th</sup> IEEE International Conference on ASIC (ASICON2017), Oct. 25-28, 2017, Guiyang, China.
- 2017: Technical Program Committee Member, the 2017 IEEE Asian Solid-State Circuits Conference (A-SSCC'2017), Nov. 5-8, 2017, Seoul, South Korea.
- 2016: General Chair, The First International Workshop on Brain Circuits and Systems, Oct. 20-21, Hangzhou, China.
- 2016: General Chair, 2016 IEEE Biomedical Circuits and Systems Conference (BioCAS 2016), Oct. 17-19, 2016, Shanghai, China.
- 2016: Technical Program Committee Member, the 2016 IEEE Asian Solid-State Circuits Conference (A-SSCC'2016), Nov. 7-9, 2016, Toyama, Japan.
- 2015: Technical Program Committee Member, the 2015 IEEE Asian Solid-State Circuits Conference (A-SSCC'2015), Nov. 9-11, 2015, Xia'men, China.
- 2015: General Co-Chair, 11<sup>th</sup> International Conference on ASIC (ASICON 2015), Nov. 3-6, 2015, Chengdu, China.
- 2015: Technical Program Chair, 20<sup>th</sup> IEEE International Conference on Digital Signal Processing (DSP 2015), July 21-24, 2015, Singapore.
- 2014: Technical Program Chair, 2014 IEEE Asia Pacific Conference on Circuits and Systems, Nov. 17 – 20, Okinawa, Japan.
- 2014: Technical Program Committee Member, the 2014 IEEE Asian Solid-State Circuits Conference (A-SSCC'2014), Nov. 10-12, 2014, Kaohsiung, Taiwan.
- 2014: Technical Committee member, the 12<sup>th</sup> International Conference on Solid-State and Integrated Circuit Technology (ICSICT'2014), Oct. 28-31, 2014, Guilin, China.
- 2014: International Liaison, 2014 IEEE Biomedical Circuits and Systems Conference (BioCAS'2014), Lausanne, Switzerland, Oct. 22-24, 2014.
- 2013: Steering Committee member, 2013 IEEE Life Science Grand Challenges Conference, Dec. 7-9 2013, Singapore.
- 2013: Technical Program Committee Member, the IEEE Asian Solid-State Circuits Conference (A-SSCC'2013), Nov. 11-13, 2013, Singapore.
- 2013: Technical Program Committee Member, 2013 IEEE Biomedical Circuits and Systems Society (BioCAS'2013), Oct. 31- Nov. 2, 2013, Rotterdam, the Netherlands.
- 2013: Technical Program Committee Member, the 10th International Conference on ASIC (ASICON'2013), Oct.28-31, 2013, Shenzhen, China.
- 2012: General Chair, 19<sup>th</sup> Asia and South Pacific Design Automation Conference(ASP-DAC2014), Jan. 20-23, 2014, Singapore.
- 2012: Technical Program Committee Member, the 39<sup>th</sup> European Solid-State Circuits Conference ESSCIRC'2013, September 16-20, 2013, Bucharest, Romania.

- 2012: International Advisory Committee Co-Chair, 2013 IEEE MTT-S International Microwave Workshop Series on RF and Wireless Technologies for Biomedical and Healthcare Applications, Aug 1-3, 2013, Singapore.
- 2012: Technical Program Chair, 2013 IEEE Symposium on Circuits and Systems(ISCAS'2013), May 2013, Beijing, China.
- 2012: Track Chair, 2012 IEEE International Conference on Electronics, Circuits, and Systems (ICECS2012), Dec 9-12, 2012, Seville, Spain.
- 2012: International Liaison, 2012 IEEE Biomedical Circuits and Systems Conference, Nov 28-30, 2012, Hsinchu, Taiwan.
- 2012: General Chair, 2012 International Conference on BioElectronics, BioSensors, BioMedical Devices, BioMEMS/NEMS and Applications(Bio4Apps'2012), Nov. 19-20, 2012, Singapore.
- 2011: Technical Program Committee Member, the 38<sup>th</sup> European Solid-State Circuits Conference ESSCIRC'2012, September 17-21, 2012, Bordeaux, France.
- 2010: Special Session Chair, 2012 IEEE Symposium on Circuits and Systems (ISCAS'2012), May 2012, Korea.
- 2010: Technical Program Committee Member, the 9<sup>th</sup> International Conference on ASIC (ASICON 2011), October 25-28, 2011, Xiamen, China.
- 2010: Technical Program Committee Member, the 37<sup>th</sup> European Solid-State Circuits Conference ESSCIRC'2011, September 12-16, 2011, Helsinki, Finland.
- 2010: Technical Program Committee Member, the 20<sup>th</sup> European Conference on Circuit Theory and Design (ECCTD 2011), August 29 – 31, 2011, Linköping, Sweden.
- 2010: DSP Track Chair and TPC Member, 2011 IEEE Symposium on Circuits and Systems(ISCAS'2011), May 15-18, 2011, Rio De Janeiro, Brazil.
- 2009: Founder and Technical Program Chair, 2010 International Conference on Green Circuits and Systems(ICGCS2010), June 2010, Shanghai, China.
- 2009: General Chair, 2010 Asia Pacific Conference on Postgraduate Research in Microelectronics & Electronics(PrimeAsia'2010), September 22-14, 2010, Shanghai, China.
- 2009: Technical Program Committee Member, 2010 International Conference on Solid-State and Integrated Circuit Technology (ICSICT2010), Nov. 2010, Shanghai, China.
- 2009: International Advisory Committee Member, 2010 IEEE International Conference on Ultra-Wideband(ICUWB'2010), September 20-23, 2010, Nanjing, China.
- 2009: Technical Program Committee Member, the 36<sup>th</sup> European Solid-State Circuits Conference ESSCIRC'2010, September 13-18, 2010, Seville, Spain.
- 2009: Plenary Session Chair, International Conference on Body Sensor Networks(BSN'2010), June, 2010, Singapore.
- 2009: DSP Track Chair and TPC member, 2010 IEEE Symposium on Circuits and Systems(ISCAS'2010), May 2010, Paris, France.
- 2009: Biomedical Circuits and Systems Track Review Committee Member, 2010 IEEE Symposium on Circuits and Systems(ISCAS'2010), May 2010, Paris, France.
- 2008: Member of International Organizing Committee, The 4<sup>th</sup> International Symposium on Biomedical Engineering(ISBME'2009), December 14 -18, 2009, Bangkok, Thailand.
- 2008: General Co-Chair, 2009 IEEE Biomedical Circuits and Systems Conference (BioCAS'2009), November 26-28, 2009, Beijing, China.
- 2008: Founder and General Chair, 2009 Asia Pacific Conference on Postgraduate Research in Microelectronics & Electronics(PrimeAsia'2009), November 19-21, 2009, Shanghai, China.
- 2008: Technical Program Committee Member, IEEE 8<sup>th</sup> International Conference on ASIC(ASICON'2009), October 20-23, Changsha, China.



- 2008: Track Chair, 2009 European Conference on Circuit Theory and Design(ECCTD'2009), August 23 – 27, 2009, Antalya, Turkey.
- 2008: International Coordinator, 2009 IEEE International Symposium on Circuits and Systems (ISCAS'2009), May 24-27, 2009, Taiwan.
- 2008: DSP Track Chair and TPC member, IEEE 2009 International Symposium on Circuits and Systems (ISCAS'2009), May 24-27, 2009, Taiwan.
- 2008: Biomedical Circuits and Systems Track Chair, 2009 IEEE International Symposium on Circuits and Systems (ISCAS'2009), May 24-27, 2009, Taiwan.
- 2007: Technical Program Co-Chair, 2008 IEEE Biomedical Circuits and Systems Conference (BioCAS'2008), November 18-21, 2008, Baltimore, USA.
- 2007: Technical Program Committee Member, 9<sup>th</sup> International Conference on Solid-State and Integrated-Circuit Technology (ICSICT'2008), October 20-23, 2008, Beijing, China.
- 2007: International Program Committee Member, 2008 IASTED Signal and Image Processing (SIP'2008), August 18 – 20, 2008, Hawaii, USA.
- 2007: International Advisory Committee Co-Chair, 2008 IEEE International Conference on Neural Networks and Signal Processing (ICNNSP08), June 3 – 7, 2008, Nanjing, China.
- 2007: International Coordinator, 2008 IEEE International Symposium on Circuits and Systems (ISCAS'2008), May 18 – 21, 2008, Seattle, USA.
- 2007: Biomedical Circuits and Systems Track Chair and TPC member, 2008 IEEE International Symposium on Circuits and Systems (ISCAS'2008), May 18 – 21, 2008, Seattle, USA.
- 2007: DSP Track Co-Chair, 2008 IEEE International Symposium on Circuits and Systems (ISCAS'2008), May 18 – 21, 2008, Seattle, USA.
- 2007: International Advisory Committee Member, The International Conference on Computer and Communication Engineering(ICCCE'2008), May 13 – 15, 2008, Kuala Lumpur, Malaysia.
- 2006: Technical Program Committee Member, 7<sup>th</sup> International Conference on ASIC (ASICON'2007), October 22-25, 2007, Guilin, China.
- 2006: Review Committee Member, BioCAS and DSP Tracks, 2007 IEEE International Symposium on Circuits and Systems (ISCAS'2007), May 27 – 30, 2007, New Orleans, USA.
- 2006: Technical Program Committee Member, 2007 IEEE International Workshop on Radio-Frequency Integration Technology (RFIT'2007), December 9 -11, 2007, Singapore.
- 2006: Tutorial Chair, 2007 IEEE Biomedical Circuits and Systems Conference(BioCAS'2007), November 27 – 30, 2007, Montreal, Canada.
- 2006: International Program Committee Member, 2007 IASTED Signal and Image Processing (SIP'2007), August 20 – 22, 2007, Hawaii, USA.
- 2005: Technical Program Co-Chair, 2006 IEEE Asia Pacific Conference on Circuits and Systems (APCCAS'2006), December 4 – 7, 2006, Singapore.
- 2005: Technical Program Co-Chair, 2006 IEEE Biomedical Circuits and Systems Conference(BioCAS'2006), November 29 –December 1, 2006, London, UK.
- 2005: International Program Committee Member, 2006 IASTED Signal and Image Processing (SIP'2006), August 14 – 16, Hawaii, USA.
- 2005: International Advisory Committee Member, International Conference on Computer and Communication Engineering (ICCCE'2006), May 9 – 11, 2006, Kuala Lumpur, Malaysia.
- 2005: Technical Program Committee Member, 2005 IEEE International Workshop on Radio-Frequency Integration Technology (RFIT), November 30 – December 2, 2005, Singapore.
- 2005: Finance Chair, 2005 IEEE International Conference on FPGA Technology, (FPT'2005), December 11 – 14, 2005, Singapore.
- 2005: Technical Program Committee Member, the 2005 International Conference on ASIC (ASICON'2005), October 24 – 27, 2005, Shanghai, China.

- 2005: International Program Committee Member, 2005 IASTED Signal and Image Processing (SIP'2005), August 15 – 17, Hawaii, USA.
- 2005: Review Committee Member for BioCAS and DSP Tracks, 2006 IEEE International Symposium on Circuits and Systems (ISCAS'2006), May 21-24, 2006, Greece.
- 2004: Technical Committee Member, 2005 International Workshop on VLSI Design and Video Technology (IWVDVT'2005), May 28 – 31, 2005, Suzhou, China.
- 2004: General Chair and Founding Member, The First IEEE International Workshop on Biomedical Circuits and Systems (BioCAS'2004), December 1 – 3, 2004, Singapore.
- 2004: Technical Program Committee Member, 2004 IEEE Asia Pacific Conference on Circuits and Systems (APCCAS'2004), December 6 – 9, Tainan, Taiwan.
- 2004: International Program Committee Member, 2004 IASTED Signal and Image Processing (SIP'2004), August 23 – 25, 2004, Hawaii, USA.
- 2004: Review Committee Member, BioCAS and DSP Tracks, 2005 IEEE International Symposium on Circuits and Systems, May 23-26, 2005, Kobe, Japan.
- 2003: Technical Program Committee Member, The 2003 International Conference on ASIC (ASICON'2003), October 21 – 24, 2003, Beijing, China.
- 2003: Review Committee Member, BioCAS and DSP Tracks, 2004 IEEE International Symposium on Circuits and Systems, May 23-26, 2004, Vancouver, Canada.
- 2002: Technical Program Committee Member, 2002 IEEE Asia Pacific Conference on Circuits and Systems (APCCAS'2002), December 16 – 18, 2002, Singapore.
- 2001: Technical Program Committee Member, The Third IEEE International Workshop on Networked Applications, March 1 – 2, 2001, Singapore.

#### Invited/Special Session Organized

- 2007: Special Session, EHS-II: A Wireless Body Area Network Platform for Healthcare Applications I & II, 2007 IEEE Biomedical Circuits and Systems Conference, November 27 – 30, 2007, Montreal, Canada.
- 2006: Invited Session, Digital Signal Processing Techniques for Biomedical Circuits and Systems, 2006 IEEE International Symposium on Circuits and Systems, May 21-24, 2006, Island of Kos, Greece.
- 2005: Invited Session, Computationally Efficient Digital Filter Design, 2005 IEEE International Symposium on Circuits and Systems, May 23-26, 2005, Kobe, Japan.
- 2004: Invited Session, Frequency-Response Masking Technique, 2004 IEEE International Symposium on Circuits and Systems, May 23-26, 2004, Vancouver, Canada.
- 2003: Invited Session, Frequency-Response Masking Technique, 2003 IEEE International Symposium on Circuits and Systems, May 25-28, 2003, Bangkok, Thailand.
- 2003: Special Session, RF IC Design, The 2003 International Conference on ASIC, October 21 – 24, 2003, Beijing, China.
- 2002: Special Session, Frequency-Response Masking Technique, 2002 IEEE International Symposium on Circuits and Systems, May 26-29, 2002, Phoenix, USA.

## **Services**

### University Service

- Department Services

2017 – present: Chair, T&P Adjudication, York University.

2013 – 2017: Member, Department Executive Committee, York University.  
 2015 – 2016: Member, Awards & Scholarships, York University.  
 2013 – 2015: Chair, Engineering Search Committee, York University.  
 2013 – 2015: Member, T&P Adjudication, York University.  
 2013 – 2014: Member, CE/EE/SE Engineering Program Committee, York University.  
 2013 – 2014: Member, Graduate Admissions Committee, York University.  
 2010 – 2012: Area Director, Integrated Circuits and Embedded Systems, Dept. of ECE, NUS  
 2008 – 2009: Deputy Head for Research, managing 105 Academic Staff and more than 700 postgraduate students, Dept. of ECE, NUS.  
 2007 – 2008 : Engineering Accreditation Board Task Force, Dept. of ECE.,NUS  
 2005 – 2006 : ECE Design Task Force, Dept. of ECE., NUS  
 2004 – 2005: Engineering Accreditation Board Task Force, Dept. of ECE.,NUS  
 2002 – 2007: Year 4 Coordinator, Dept. of ECE., NUS

▪ Faculty Services

2017 – now: Member, Lassonde Planning, Academic Resources and Research Committee, York University  
 2001 – 2002: Industry Attachment Committee Member, Faculty of Engineering, NUS  
 1999 – 2002: Committee Member, Professional Activities Centre.  
 1999 – 2000: Member, Faculty Task Force on Distance Education.  
 1996 – 2000: Committee Member, Faculty of Engineering Research News.  
 1996 – 1999: Committee Member, Engineering Faculty News.  
 1998: Secretary, Tender Evaluation Committee for major server and workstation upgrading of CAE/CAD/CAM Centre (S\$3 million).

▪ University Services

2011-2012: Member, University Tenure and Promotion Committee, NUS.  
 2011-2012: Member, University Senate Delegacy, NUS  
 2010: Member, University Research Committee Expert Panel, NUS  
 1998: Member, Tender Evaluation Committee for Supercomputing & Visualisation Unit of Computer Centre (S\$1 million), NUS

Service as a reviewer

Books

- Book proposal reviewer for Cambridge University Press.
- Book chapter reviewer for International Network for Engineering Education's book : Innovations 2005 World Innovations in Engineering Education and Research.

International journals

- IEEE Transactions on Circuits and Systems Part I.
- IEEE Transactions on Circuits and Systems Part II.
- IEEE Transactions on Biomedical Circuits and Systems.
- IEEE Journal of Solid-State Circuits.
- IEEE Transactions Signal Processing.
- IEEE Transactions Signal Processing Letter.
- IEEE Microwave and Wireless Components Letters.
- IEE Proceedings on Circuits, Devices and Systems.
- Signal Processing

- Circuits, Systems and Signal Processing.
- Journal of Circuits, Systems and Computers.

#### Service to Profession/Industry

- 2015 – present: Member, RTI Review Committee, NSERC.
- 2015 – present: Expert Reviewer, Fonds de la Recherche Scientifique, Belgium.
- 2012 – present: Expert Reviewer, National Agency for the Evaluation of Universities and Research Institutes, Italy.
- 2012 – present: Expert Reviewer, Engineering and Physical Sciences Research Council of UK.
- 2007 – present: Expert Reviewer, The Research Council of Norway.
- 2007 – present: Expert Reviewer, Canada Natural Sciences and Engineering Research Council.
- 2011 – present: Expert Reviewer, Qatar National Research Fund.
- 2011 Research Evaluator, Singapore Israel Industrial R&D Foundation.
- 2011 Reviewer, 2011 The Young Scientist Awards, Singapore.
- 2010 – 2012: Founder and Director, ClearBridge VitalSigns Pte Ltd. A NUS spin-off focuses on commercialize plaster based biomedical devices.
- 2009 Reviewer, SPRING's Technology Enterprise Commercialisation Scheme (TECS) Technical Panel, Singapore.
- 2009 Reviewer, National Technology Award, Singapore.
- 2009 External reviewer, Research Grants Council, Hong Kong.
- 2005 – present: International Expert Panel Member, China National Natural Science Foundation.
- 2004 – 2012: Consultant, Temasek Lab, NTU.
- 2002: Visiting Committee Member, Course Review for Diploma in Electronics, Computer & Communication Engineering, Singapore Polytechnic.
- 2002: Panel Member, Course Review for Diploma in Electronics, Computer & Communication Engineering, Singapore Polytechnic.
- 1998: Member, Technical Evaluation Committee for high performance computer of Institute of High Performance Computing (S\$1 million).

# Publication List of Prof. Yong Lian

## Book

1. XH Tian, TM Le, and Y Lian, Entropy Coders of the H.264/AVC Standard: Algorithms and VLSI Architectures, *Springer*, 2010 (ISBN 978-3-642-14703-6).

## Book Chapters

1. Y Lian, "Teaching Large Class Effectively Using Adaptive Technique," *Innovations 2004: World Innovations in Engineering Education and Research*, INEER, 2004.
2. Y Lian and YP Hu, "Enabling Learning-by-Doing in a Large Class with the Help of an e-Learning Platform", *Innovations 2005: World Innovations in Engineering Education and Research*, INEER, 2005.
3. XY Zhang, YF Li, L Wang, W Zou, YN Sun, YP Liu, HZ Yang, Y Lian, and B Zhao, "Design of Ultra-Low-Power Electrocardiography Sensors," *Smart Sensors and Systems*, Springer, 2015.
4. WS Liew, and Y Lian, "Low-Power Design Technique for Multi-Channel Neural Recording Interface," *Handbook of Biochips*, Springer, 2017

## Journal Papers

1. M Atef, KF Duan, G Li, GX Wang, and Y Lian, "Towards a Continuous Non-invasive Cuffless Blood Pressure Monitoring System Using PPG: Systems and Circuits Review", *IEEE Circuits and Systems Magazine*, in press.
2. YT Hou, JL Qu, ZZ Tian, M Atef, K Yousef, Y Lian, and GW Wang, "A 61-nW Level-Crossing ADC with Adaptive Sampling for Biomedical Applications", *IEEE Transactions on Circuits and Systems II: Express Briefs*, in press (June 2018).
3. Z Zhang, YF Li, K Mouthaan, and Y Lian, "A Miniature Mode Reconfigurable Inductorless IR-UWB Transmitter-receiver for Wireless Short-range Communication and Vital-sign Sensing", *IEEE Journal on Emerging and Selected Topics in Circuits and Systems*, in press (Jan. 27, 2018).
4. W Mao, YF Li, CH Heng, and Y Lian, "High Dynamic Performance Current-Steering DAC Design with Nested-Segment Structure", *IEEE Transactions on Very Large Scale Integration Systems*, in press (Jan. 5, 2018).
5. L Wang, C Wu, L Zhang, L Feng, J li, A Chang, and Y Lian, "An ADPLL Based PSK Receiver for VHBR 13.56 MHz Contactless Smartcards and NFC Applications", *IEEE Transactions on Circuits and Systems II: Express Briefs*, in press (Oct. 2017).
6. L Wang, KH Teng, Y Lian, and CH Heng, "A 4X4 IR UWB Timed-Array Radar Based on 16-Channel Transmitter and Sampling Capacitor Reused Receiver", *IEEE Transactions on Circuits and Systems II*, in press.
7. KJ Huang, R Zhao, and Y Lian, "Racetrack Memory Based hybrid Look-up Table (LUT) for Low Power Reconfigurable Computing", *Journal of Parallel and Distributed Computing*, vol. 117, July 2018, pp. 127-137.
8. ZH Luo, L Zeng, B Lau, Y Lian, and CH Heng, "A sub-10mV Power Converter with Fully Integrated Self-Start, MPPT and ZCS Control for Thermoelectric Energy Harvesting", *IEEE Transactions on Circuits and Systems I*, Vol.65, No.5, pp.1744-1757, May 2018.
9. JN Mao, HZ Yang, Y Lian, and B Zhao, "A 5-Tissue-Layer Human Body Communication Circuit Model Tunable to Individual Characteristics", *IEEE Transactions on Biomedical Circuits and Systems*, Vol.12, No.2, pp.302-312, Apr. 2018.
10. Y Chen, XY Zhang, Y Lian, R Manohar, and Y Tsvividis, "A Continuous-Time Digital IIR Filter with Signal-Derived Timing and Fully Agile Power Consumption", *IEEE*

*Journal on Solid-State Circuits*, Vol.53, No.2, pp.418-430, Feb. 2018.

11. JN Mao, HZ Yang, Y Lian, and B Zhao, "A Self-Adaptive Capacitive Compensation Technique for Body Channel Communication," *IEEE Transactions on Biomedical Circuits and Systems*, Vol.11, No.5, pp.1001-1012, Oct. 2017.
12. CJ Deepu, CH Heng, and Y Lian, "A Hybrid Data Compression Scheme for Power Reduction in Wireless Sensors for IoT", *IEEE Transactions on Biomedical Circuits and Systems*, Vol. 11, No.2, pp. 245-254, April 2017.
13. W Mao, YF Li, CH Heng, and Y Lian, "Area efficient non-fractional binary-weighted split-capacitive-array DAC for successive-approximation-register ADC", *Electronics Letters*, Vol.53, No.7, pp. 452-454, Mar. 2017
14. J Zhang, H Zhang, JT Xu, Y Zhao, J Li, GY Hu, JL Wang, RZ Zhang, and Y Lian, "A Low Energy ASIC for Triple-Chamber Cardiac Pacemakers with Contact Resistance Measurement", *Microelectronics Journal*, Vol. 60, pp.65-74, Feb. 2017.
15. CJ Deepu, XY Zhang, CH Heng, and Y Lian, "A 3-Lead ECG-on-Chip with Joint QRS Detection and Lossless Compression for Wearable Sensors", *IEEE Transactions on Circuits and Systems II (Invited Paper)*, Vol. 63, No.12, pp.1151-1155, Dec. 2016. **(Ranked as the Most Popular article since published in IEEE Xplore in Oct. 2016)**
16. XY Zhang, Z Zhang, YF Li, CR Liu, YX Guo, and Y Lian, "A 2.89- $\mu$ W Dry-Electrode Enabled Clockless Wireless ECG SoC for Wearable Applications," *IEEE Journal of Solid-State Circuits (Invited Paper)*, Vol.51, No.10, pp.2287-2298, Oct.2016. **(Ranked as the Most Popular article since published in IEEE Xplore in Oct. 2016)**
17. YF Li, XY Zhang, Z Zhang, Y Lian, "A 0.45-to-1.2-V Fully-Digital Low-Dropout Voltage Regulator with Fast-Transient Controller for Near/Subthreshold Circuits," *IEEE Transactions on Power Electronics*, Vol.31, No.9, pp.6341-6350, Sept. 2016.
18. KJ Huang, R Zhao, Y Lian, "Racetrack Memory Based Non-Volatile Storage Elements for Multi-context FPGAs", *IEEE Transactions on Very Large Scale Integration Systems*, Vol.24, No.5, 1885-1894, May 2016.
19. WW Shi, YX Zhu, T Huang, GH Sheng, Y Lian, GX Wang, and YF Chen, "An Integrated Data Preprocessing Framework Based on Apache Spark for Fault Diagnosis of Power Grid Equipment", *Journal of Signal Processing Systems*, March 2016.
20. T Wu, J Wu, Y Lian, A Khalili, A Rastegarnia, C Guan, and Z Yang, "A 16-Channel Nonparametric Spike Detection ASIC Based on EC-PC Decomposition", *IEEE Transactions on Biomedical Circuits and Systems*, Vol. 10, No. 1, pp.3-17, Feb. 2016.
21. DG Chen, MK Law, Y Lian, and A Bermak, "Low-Power CMOS Laser Doppler Imaging Using Non-CDS Pixel Readout and 13.6-Bit SAR ADC", *IEEE Transactions on Biomedical Circuits and Systems*, Vol.10, No.1, pp.186-199, Feb. 2016.
22. KJ Huang, R Zhao, Y Lian, "High Density and High Reliability Non-volatile Field Programmable Gate Array (FPGA) with Stacked 1D2R RRAM Array", *IEEE Transactions on Very Large Scale Integration Systems*, Vol.24, No.1, pp.139-150, Jan. 2016.
23. Y Li, Y Lian, K Yao, and G Samudra, "Evaluation and Optimization of Short Channel Ferroelectric MOSFET for Low Power Circuit Application with BSIM4 and Landau Theory", *Solid State Electronics*, Vol.114, pp.17-22, Dec. 2015.
24. YH Tao, A Hierlermann, Y Lian, "A Frequency-Domain Approach to Latch Comparator Offset due to Load Capacitor Mismatch," *IEEE Transactions on Circuits and Systems II*, Vol.62, No.6, pp.527-532, Jun. 2015.
25. YB Hong, Y Lian, "A Memristor-Based Continuous-Time Digital FIR Filter for Biomedical Signal Processing," *IEEE Transactions on Circuits and Systems I*, Vol.62, No.5, pp.1392-1401, May 2015.
26. M Bernardo, G Setti, W Serdijn, and Y Lian, "Guest Editorial: Special Section on the 2014 IEEE International Symposium on Circuits and Systems (ISCAS

- 2014),” *IEEE Transactions on Circuits and Systems I*, Vol.62, No.5, pp.1217-1219, May 2015.
27. H Liu, S Gudla, F A Hassami, CH Heng, Y Lian, and C Lee, “Investigation of the Nonlinear Electromagnetic Energy Harvesters From Hand Shaking,” *IEEE Sensors Journal*, vol. 15, no.4, pp.2356-2364, April 2015.
  28. Y Li, Y Lian, and G S Samudra, “Quantitative Analysis and Prediction of Experimental Observations on Quasi-Static Hysteretic Metal-Ferroelectric-Metal-Insulator-Semiconductor FET and Its Dynamic Behaviour Based on Landau Theory”, *Semiconductor Science and Technology*, vol.30, No. 4, April 2015.
  29. KJ Huang, R Zhao, Y Lian, “A Low Power and High Sensing Margin Non-volatile Full Adder Using Racetrack Memory”, *IEEE Transactions on Circuits and Systems I*, Vol.62, No.4, pp.1109-1116, April 2015.
  30. YH Tao, and Y Lian, “A 0.8-V, 1-MS/s, 10-bit SAR ADC for Multi-Channel Neural Recording,” *IEEE Transactions on Circuits and Systems I*, vol. 62, No.2, pp.366-375, Feb. 2015.
  31. CJ Deepu, and Y Lian, “A Joint QRS Detection and Data Compression Scheme for Wearable Sensors”, *IEEE Transactions on Biomedical Engineering*, Vol.62, No.1, pp.165-175, Jan. 2015.
  32. X Zhang, and Y Lian, “A 300-mV 220-nW Event-Driven ADC with Real-Time QRS Detection for Wearable ECG Sensors”, *IEEE Transactions on Biomedical Circuits and Systems*, Vol.8, No.6, pp.834-843, Dec. 2014.
  33. CJ Deepu, XY Zhang, WS Liew, D Wong, and Y Lian, “An ECG-on-Chip with 535-nW/Channel Integrated Lossless Data Compressor for Wearable Sensors”, *IEEE Journal of Solid-State Circuits*, vol.49, No.11, pp.2435-2448, Nov. 2014 (Invited paper).
  34. YF Li, Z Zhang, DJ Chua, and Y Lian, “Placement for Binary-Weighted Capacitive Array in SAR ADC Using Multiple Weighting Methods”, *IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems*, Vol. 33, No.9, pp.1277-1287, Sept. 2014.
  35. KJ Huang, R Zhao, N Ning, Y Lian, “A Low Power Localized 2T1R STT-MRAM Array with Pipelined Quad-Phase Saving Scheme for Zero Sleep Power Systems,” *IEEE Transactions on Circuits and Systems I*, Vol.61, No.9, pp.2614-2623, Sept. 2014.
  36. KJ Huang, YJ Ha, R Zhao, K Akash, Y Lian, “A Low Active Leakage and High Reliability Phase Change Memory (PCM) based Non-Volatile FPGA Storage Element”, *IEEE Transactions on Circuits and Systems I*, Vol.61, No.9, pp. 2605-2613, Sept. 2014.
  37. L Wang, CH Heng, and Y Lian, “A Sub-GHz Mostly Digital Impulse Radio UWB Transceiver for Wireless Body Sensor Networks”, *IEEE Journal on Emerging and Selected Topics in Circuits and Systems*, Vol. 4, No.3, pp.344-353, Sept. 2014.
  38. YF Li, and Y Lian, “An Improved Binary-Weighted Split Capacitive-Array DAC for High Resolution SAR ADCs”, *Electronics Letters*, Vol. 50, No. 17, pp. 1194-1195, Aug. 2014.
  39. J Tan, WS Liew, CH Heng, and Y Lian, “A 2.4GHz ULP Reconfigurable Asymmetric Transceiver for Single-Chip Wireless Neural Recording IC”, *IEEE Transactions on Biomedical Circuits and Systems*, Vol.8, No.4, pp. 497-509, Aug. 2014.
  40. KJ Huang, N Ning, Y Lian, “Optimization Scheme to Minimize Reference Resistance Distribution of spin-transfer-torque MRAM”, *IEEE Transactions on VLSI Systems*, Vol.22, No.5, pp.1179-1182, May 2014.
  41. M. Khayatzadeh, and Y Lian, “An Average-8T Differential-Sensing Subthreshold SRAM with Bit Interleaving and 1K Bits per Bitline”, *IEEE Transactions on VLSI Systems*, Vol.22, No.5, pp.971-982, May 2014.
  42. Y. Lian, S. Theodoridis, G. Yuan, and S. Pavan, “Guest Editorial – Special Section on the 2013 IEEE International Symposium on Circuits and Systems (ISCAS 2013)”, *IEEE Transactions on Circuits and Systems I*, Vol.61, No. 5, pp.1301-1303, May 2014.
  43. N Ravanshad, H R Dehsorkh, R Lotfi, and Y Lian, “A Level-Crossing Based QRS

Detection Algorithm for Wearable ECG Sensors", *IEEE Journal of Biomedical and Health Informatics*, Vol.18, No.1, pp.183-192, Jan. 2014.

44. K Huang, and Y. Lian, "A Low Power Low VDD Non-Volatile Latch Using Spin Transfer Torque MRAM", *IEEE Transactions on Nanotechnology*, Vol.12, No.6, pp. 1094-1103, Nov. 2013.
45. M. Khayatzadeh, WS Liew, X Zhang, J Tan, and Y Lian, "A 0.7-V 17.4- $\mu$ W 3-Lead Wireless ECG SoC", *IEEE Transactions on Biomedical Circuits and Systems*, Vol.7, No.5, pp.583-592, Oct. 2013.
46. D Lau, ZH Chen, JT Teo, SH Ng, H Rumpel, Y Lian, H Yang, and PL Kei, "Intensity-Modulated Micro-bend Fiber Optic Sensor for Respiratory Monitoring and Gating During MRI", *IEEE Transactions on Biomedical Engineering* Vol.60, No.9, pp. 2655-2663, Sept 2013.
47. B Zhao, GM Yu, Y Lian, Y Wang, HZ Yang, "A 1.9GHz ADPLL with 130 Reference Cycles Settling Time in 0.18 $\mu$ m CMOS Technology," *Analog Integrated Circuits & Signal Processing*, Vol.76, No.1, pp.81-89, July 2013.
48. B Zhao, Y Lian, HZ Yang, "A Low Power Fast-Settling Bond-Wire Frequency Synthesizer with a Dynamic-Bandwidth Scheme", *IEEE Transactions on Circuits and Systems I (Invited Paper)*, vol.60, No. 5, pp. 1188-1199, May 2013.
49. Y Li, Z Zhang, and Y Lian, "Energy-Efficient Charge-Recovery Switching Scheme for Dual-Capacitive Arrays SAR ADC", *Electronics Letters*, Vol. 49, No. 5, pp. 330-332, Feb. 2013.
50. L Wang, Y Lian, and CH Heng, "3-5 GHz 4-Channel UWB Beamforming Transmitter with 1° Scanning Resolution Through Calibrated Vernier Delay Line in 0.13- $\mu$ m CMOS", *IEEE Journal of Solid-State Circuits*, vol.47, No. 12, pp.3145-3159, Dec 2012. (**Invited Paper**)
51. J Tan, CH Heng, and Y Lian, "Design of Efficient Class-E Power Amplifiers for Short-Distance Communications", *IEEE Transactions on Circuits and Systems I*, vol.59, No.10, pp.2210-2220, Oct 2012.
52. Z Yang, W Liu, M.R. Keshtkaran, Y Zhou, J Xu, V Pikov, C Guan, and Y Lian, "A New EC-PC Threshold Estimation Method for In-Vivo Neural Spike Detection", *Journal of Neural Engineering*, vol.9, No.4, Jul. 2012.
53. ZL Yang, L Yao, and Y Lian, "A 0.5-V 35- $\mu$ W 85-dB DR Double-Sampled  $\Delta\Sigma$  Modulator for Audio Applications", *IEEE Journal of Solid-State Circuits*, vol. 47, No. 3, pp. 722-735, March 2012.
54. YH Tao, L Yao, and Y Lian, "A 1-V, 82-dB, 2.5-MS/s, Single Loop, Single Bit Delta-Sigma Modulator in 0.13- $\mu$ m CMOS Technology", *Analog Integrated Circuits and Signal Processing*, vol. 71, No. 2, pp. 171-178, May 2012.
55. JH Zhang, Y Lian, L Yao, and B Shi, "A 0.6-V 82-dB 28.6- $\mu$ W Continuous-Time Audio Delta-Sigma Modulator", *IEEE Journal of Solid-State Circuits*, vol. 46, No. 10, pp. 2326-2335, Oct. 2011.
56. Y Lian, KV Ling, and WF Wong, "Guest Editorial - BSN 2010 Special Issue", *IEEE Transactions on Biomedical Circuits and Systems*, vol.5, no. 4, August 2011.
57. F. Zhang, and Y. Lian, "QRS Detection Based on Morphological Filter and Energy Envelope for Applications in Body Sensor Networks," *Journal of Signal Processing Systems*, vol.64, No. 2, pp.187-194, Aug. 2011.
58. M Ghoneima, Y Lian, G Manganaro, S Mirabbasi, C Piquet, W Serdijn, "Guest Editorial Special Issue on ISCAS 2010", *IEEE Transactions on Circuits and Systems I*, vol.58, No.7, pp.1457, July 2011.
59. M Nair, Y Zheng, CW Ang, Y Lian, X Yuan, and CH Heng, "A Low SIR Impulse-UWB Transceiver Utilizing Chirp FSK in 0.18 $\mu$ m CMOS," *IEEE Journal of Solid-State Circuits*, vol. 45, No. 11, pp. 2388-2403, Nov. 2010.
60. Y. Lian, and YJ Yu, "Guest Editorial: Low Power Digital Filter Design Techniques and Their Applications," *Circuits, Systems and Signal Processing*, Vol.29, No.1, pp. 1-5, Jan. 2010.
61. Y. Wei, and Y. Lian, "Frequency Response Masking Filters Based on Serial Masking Schemes," *Circuits, Systems and Signal Processing*, Vol.29, No. 6, pp. 7-24, Jan. 2010.
62. X. Tian, TM Le, X. Jiang, and Y. Lian, "Full RDO-Support Power-Aware CABAC



- Encoder with Efficient Context Access," *IEEE Transactions on Circuits and Systems for Video Technology*, Vol.19, No. 9, pp.1262-1273, Sept 2009.
63. F. Zhang, and Y. Lian, "QRS Detection Based on Multi-Scale Mathematical Morphology for Wearable ECG Device in Body Area Networks," *IEEE Transactions on Biomedical Circuits and Systems*, Vol.3, No.4, pp.220-228, Aug. 2009.
  64. XD Zou, XY Xu, LB Yao, and Y Lian, "A 1-V 450-nW Fully Integrated Programmable Biomedical Sensor Interface System," *IEEE Journal of Solid-State Circuits*, vol. 44, No. 4, pp.1067-1077, April 2009(**Invited Paper**).
  65. Y Lian, "Region 10: Designing Circuits Curriculum and Following Good Practices," *IEEE Circuits and Systems Magazine*, Vol.9, No. 1, pp.39-41, 2009.
  66. Y Lian and M. Sawan, "Guest Editorial - Special Section for Selected Papers from ISCAS 2007," *IEEE Transactions on Biomedical Circuits and Systems*, Vol. 2, No.3, pp.162-163, Sept 2008.
  67. M U Nair, Y J Zheng, and Y Lian, "1V, 0.18 $\mu$ m-Area and Power Efficient UWB LNA Utilising Active Inductors," *Electronics Letter*, Vol.44, No.19, pp.1127-1129, Sept 2008.
  68. Z Li, QB Sun, Y Lian and CW Chen, "Joint Source-Channel-Authentication Resource Allocation and Unequal Authenticity Protection for Multimedia Over Wireless Networks," *IEEE Transactions on Multimedia*, Vol.9, No. 4, pp.837-850, June 2007. (**2008 Multimedia Communications Best Paper Award from IEEE Communications Society**)
  69. Yu, JH and Y Lian, "Design Equations for Jointly Optimized Frequency-Response Masking Filters," *Circuits Systems and Signal Processing*, Vol.26, No.1, pp.27-42, Feb. 2007.
  70. Z Li, QB Sun and Y Lian, "Design and Analysis of a Scalable Watermarking Scheme for the Scalable Audio Coder," *IEEE Transactions on Signal Processing*, Vol.54, No. 8, pp.3064-3077, Aug. 2006.
  71. TB Deng, and Y Lian, "Weighted-Least Squares Design of Variable Fractional-Delay FIR Filters Using Coefficient-Symmetry," *IEEE Transactions on Signal Processing*, 54, No. 8, pp.3023-3038, Aug. 2006.
  72. Y Lian, and WS Lu, "Guest Editorial: Computationally Efficient Digital Filters: Design Techniques and Applications," *Circuits Systems and Signal Processing*, Vol. 25, No. 2, pp.125-130, April 2006.
  73. L Cen, and Y Lian, "Hybrid Genetic Algorithm for the Design of Modified Frequency-Response Masking Filters," *Circuits Systems and Signal Processing*, Vol.25, No. 2, pp.153-174, April 2006.
  74. TS Lande, Y Lian and C Toumazou, "Guest Editorial," *IEEE Transactions on Circuits and Systems Part I*, Vol.52, No. 12, pp.2511-2514, Dec. 2005.
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  77. D Liang, SW Foo and Y Lian, "A Two-Channel Training Algorithm for Hidden Markov Model and Its Application to Lip Reading," *EURASIP Journal on Applied Signal Processing*, Vol.2005, No. 9, pp.1382-1399, 2005.
  78. D Liang, SW Foo and Y Lian, "Maximum Separable Distance Estimation for Hidden Markov Model and the Application to Visual Speech Processing," *GESTS International Transactions on Speech Science and Engineering*, Vol.3, No. 1, Mar. 2005.
  79. Y Lian, "Adaptive Teaching: An Effective Teaching Strategy for Large Classes," *Ideas on Teaching*, Vol.3, pp. 20-21, 2005.
  80. D Liang, SW Foo and Y Lian, "Level-Building on AdaBoost HMM Classifiers and the Application to Visual Speech Processing," *IEICE Transactions on Information and Systems*, Vol.E87-D, No. 11, pp.2460-2471, 2004.
  81. SW FOO, Y Lian and D Liang, "Recognition of Visual Speech Elements Using

- Adaptively Boosted Hidden Markov Models," *IEEE Transactions on Circuits and Systems for Video Technology*, Vol.14, No. 5, pp.693-705, May 2004.
82. ZY Lou, MF Li, Y Lian and S Rustagi, "A New Low Voltage CMOS Transconductor for VHF Filtering Application," *Analog Integrated Circuits and Signal Processing*, Vol.37, No.3 pp.233-242, Dec. 2003.
  83. Y Lian, "FPGA Implementation of Programmable Sharp FIR Filters Using Modified Frequency Response Masking Structure," *Journal of Circuits, Systems and Computers*, Vol.12, No.5, pp. 643-654, Oct. 2003.
  84. Y Lian, "Complexity Reduction for Frequency-Response Masking Based FIR Filters via Prefilter-Equalizer Technique," *Circuits Systems and Signal Processing*, Vol.22, No.2, pp.137-155, April 2003.
  85. Y Lian, and C Yang, "Complexity Reduction by Decoupling the Masking Filters From Bandedge Shaping Filter in Frequency-Response Masking Technique," *Circuits Systems and Signal Processing*, Vol.22, No.2, pp.115-135, April 2003.
  86. T Saramäki, and Y Lian, "Guest Editorial: Frequency Response Masking Technique and Its Applications," *Circuits Systems and Signal Processing*, Vol.22, No.2, pp.III-VII, April 2003.
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  88. Y Lian, L Zhang and CC Ko, "An Improved Frequency Response Masking Approach for Designing Sharp FIR Filters," *Signal Processing*, Vol.81, No.12, pp.2573-2581, Dec. 2001.
  89. Y Lian, and Y C Lim, "Structure for Narrow and Moderate Transition Band FIR Filter Design," *Electronics Letters*, Vol.34, No. 1, pp.49-51, Jan. 1998.
  90. Y Lian, "The Optimum Design of Half-band Filter Using Multi-Stage Frequency-Response Masking Technique," *Signal Processing*, Vol.44, No. 3, pp.369-372, July 1995.
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  92. YC Lim, and Y Lian, "Frequency-Response Masking Approach for Digital Filter Design: Complexity Reduction via Masking Filter Factorization," *IEEE Transactions on Circuits and Systems. Part 2, Analog & Digital Signal Processing*, Vol.41, No. 8, pp.518-525, Aug. 1994. **(IEEE CAS Society' Guillemain-Cauer Award for the best paper published in two years)**
  93. Y Lian, and Y C Lim, "Linear-Phase Digital Audio Tone Control Using Multiplication-Free FIR Filter," *Journal of the Audio Engineering Society*, Vol.41, No.10, pp.791-794, Oct. 1993.
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  96. Y Lian, and Y C Lim, "Zeros of Linear Phase FIR Filter with Piece-Wise Constant Frequency Response," *Electronics Letters*, Vol.28, No.2, pp.203-204, Jan. 1992.

#### Conference Papers

1. ZX Shang, Y Zhao, and Y Lian, "Removal of Baseline Wander Noise in ECG Signal Using Asymmetrical Frequency-Response Masking Bandpass Filters", *The 40<sup>th</sup> Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC2018)*, July 17-21, 2018, Honolulu, HI, USA.
2. QS Xie, QR Zhang, GX Wang, and Y Lian, "Combining Adaptive Filter and Phase

- Vocoder for Heart Rate Monitoring Using Photoplethysmography During Physical Exercise", *The 40<sup>th</sup> Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC2018)*, July 17-21, 2018, Honolulu, HI, USA.
3. JN Mao, B Zhao, Y Lian, and HZ Yang, "Channel Loss in Contactless Human Body Communication", *The 40<sup>th</sup> Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC2018)*, July 17-21, 2018, Honolulu, HI, USA.
  4. ZH Luo, GX Wang, B Lau, Y Lian, and CH Heng, "A 0.0129 mm<sup>2</sup> 0.25~2.7 GHz Digital-Filter-Less ADPLL in 55nm CMOS", *2018 IEEE International Symposium on Circuits and Systems (ISCAS 2018)*, 27-30 May 2018, Florence, Italy. (**Late Breaking News, invited to IEEE TCAS-II Special Issue**).
  5. YX Luo, KH Teng, YF Li, W Mao, CH Heng, and Y Lian, "A 93  $\mu$ W 11Mbps Wireless Vital Signs Monitoring SoC with 3-Lead ECG, Bio-impedance, and Body Temperature", *IEEE Asian Solid-State Circuits Conference*, Nov. 6-8, 2017, Seoul, Korea.
  6. J Zhou, T Kim, and Y Lian, "Near-Threshold Processor Design Techniques for Power-Constrained Computing Devices", *The IEEE 12<sup>th</sup> International Conference on ASIC*, Oct. 25-28, 2017, Guiyang, China.
  7. ZX Shang, Y Zhao, and Y Lian, "Low Power FIR Filter Design for Wearable Devices Using Frequency-Response Masking Technique", *The IEEE 12<sup>th</sup> International Conference on ASIC*, Oct. 25-28, 2017, Guiyang, China.
  8. ZX Shang, Y Zhao, and Y Lian, "An APWM Controlled LLC Resonant Converter for a Wide Input Range and Different Load Conditions", *The IEEE 12<sup>th</sup> International Conference on ASIC*, Oct. 25-28, 2017, Guiyang, China.
  9. W Xu, TY Cheng, CD Wu, NS Lu, Y Lian, GX Wang, "Ultrathin Flexible Coils for Wireless Power and Data Link in Biomedical Sensors," *The IEEE 12<sup>th</sup> International Conference on ASIC*, Oct. 25-28, 2017, Guiyang, China.
  10. ZN Yan, M Atef, GX Wang, and Y Lian, "Low-Noise High Input Impedance 8-Channels Chopper-Stabilized EEG Acquisition System", *30<sup>th</sup> IEEE International System-on-Chip SoC Conference (SoCC2017)*, Sept. 5-8, 2017, Munich, Germany.
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  12. Y Chen, XY Zhang, Y Lian, R Manohar, and Y Tsvividis, "A Continuous-Time Digital IIR Filter with Signal-Derived Timing, Agile Power Dissipation and Synchronous Output", *2017 Symposia on VLSI Technology and Circuits*, 5-8 June 2017, Kyoto, Japan.
  13. W Mao, YF Li, CH Heng, and Y Lian, "Zero-bias True Random Number Generator using LFSR-based Scrambler", *2017 IEEE International Symposium on Circuits and Systems*, 28-31 May 2017, Baltimore, MD, USA.
  14. W Mao, YF Li, CH Heng, and Y Lian, "Dynamic Mapping Method for Static and Dynamic Performance Improvement on Current-Steering Digital-to-Analog Converter", *2016 IEEE Asia-Pacific Conference on Circuits and Systems*, 25-28 Oct. 2016, Jeju, Korea.
  15. L Wang, W Mao, CD Wu, A Chang, and Y Lian, "A Fast Transient LDO Based on Dual Loop FVF with High PSRR", *2016 IEEE Asia-Pacific Conference on Circuits and Systems*, 25-28 Oct. 2016, Jeju, Korea.
  16. CD Wu, WL Goh, W Mao, L Wang, YH Lam, A Chang, and Y Lian, "A Self Biased Full Range Current Sensor for Buck Regulator", *2016 IEEE Asia-Pacific Conference on Circuits and Systems*, 25-28 Oct. 2016, Jeju, Korea.
  17. Z Zhang, YF Li, and Y Lian, "A Clockless FSK Receiver Architecture with Scalable Data Rate for Epidermal Electronics", *2016 IEEE Biomedical Circuits and Systems Conference (BioCAS2016)*, 17-19 Oct. 2016, Shanghai, China.
  18. WW Shi, YX Zhu, P Yu, MY Liu, GX Wang, ZL Qian, and Y Lian, "Incomplete Electrocardiogram Time Series Prediction", *2016 IEEE Biomedical Circuits and Systems Conference (BioCAS2016)*, 17-19 Oct. 2016, Shanghai, China.

19. G Li, GX Wang, and Y Lian, "Live Demonstration: Evaluation of Consumer's Preference using Augmented Reality and EEG", *2016 IEEE Biomedical Circuits and Systems Conference (BioCAS2016)*, 17-19 Oct. 2016, Shanghai, China.
20. B Liang, KF Duan, QS Xie, M Atef, ZL Qian, GX Wang, and Y Lian, "Live Demonstration: A Support Vector Machine Based Hardware Platform for Blood Pressure Prediction", *2016 IEEE Biomedical Circuits and Systems Conference (BioCAS2016)*, 17-19 Oct. 2016, Shanghai, China.
21. XY Li, M Atef, GX Wang, and Y Lian, "PTT Based Continuous Time Non-Invasive Blood Pressure System", *The 2016 IEEE 59<sup>th</sup> International Midwest Symposium on Circuits and Systems (MWSCAS2016)*, 16-19 October 2016, Abu Dhabi, United Arab Emirates.
22. Y Zhao, H Farag, and Y Lian, "Dynamic Threshold Algorithm with Simplified Appliance Identification for Smart Meter Privacy", *The 2016 IEEE Electrical Power and Energy Conference (EPEC2016)*, 12-14 Oct. 2016, Ottawa, Canada.
23. ZZ Tian, RD Ying, PL Liu, GX Wang, and Y Lian, "A Low Power Level-Crossing ADC for Wearable ECG Sensors", *The 38<sup>th</sup> Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC2016)*, 16-20 Aug. 2016, Orlando, Florida, USA.
24. BX Liu, GX Wang, and Y Lian, "An Efficient ECG Baseline Removal Filter Based on Frequency Response Masking Technique for Wearable Applications", *The 38<sup>th</sup> Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC2016)*, 16-20 Aug. 2016, Orlando, Florida, USA.
25. CJ Deepu, XY Zhang, DLT Wong, and Y Lian, "An ECG-on-Chip with Joint QRS Detection & Data Compression for Wearable Sensors", *2016 IEEE International Symposium on Circuits and Systems (ISCAS 2016)*, 22-25 May 2016, Montreal, Canada. **(Late Breaking News, 18% acceptance rate, invited for IEEE Trans. on Circuits and Systems II ISCAS Special Issue)**
26. JN Mao, B Zhao, Y Lian, and HZ Yang, "A Self-Adaptive Body Channel Communication Scheme for Backward Path Loss Reduction", *2016 IEEE International Symposium on Circuits and Systems (ISCAS 2016)*, 22-25 May 2016, Montreal, Canada. **(Shortlisted for the Best Student Paper Award, invited for IEEE Trans. on Circuits and Systems I ISCAS Special Issue)**
27. XY Zhang, Z Zhang, YF Li, CR Liu, YX Guo, and Y Lian, "A 2.89- $\mu$ W Clockless Wireless Dry-Electrode ECG SoC for Wearable Sensors," *2015 IEEE Asian Solid-State Circuits Conference (A-SSCC 2015)*, 9-11 Nov. 2015, Xiamen, China. **(Invited for JSSCC Special Issue)**
28. T Kim, J Zhou, and Y Lian, "Opportunities and Challenges: Ultra Low Voltage Digital IC Design Techniques," *2015 IEEE International Conference on ASIC (ASICON'2015)*, 3-6 Nov. 2015, Chengdu, China.(Invited)
29. ZZ Tian, RD Ying, PL Liu, GX Wang, and Y Lian, "Event-Driven Analog-to-Digital Converter for Ultra Low Power Wearable Wireless Biomedical Sensors," *2015 IEEE International Conference on ASIC (ASICON'2015)*, 3-6 Nov. 2015, Chengdu, China. (Invited)
30. Y Lian, "Challenges in Design Wearable Wireless Sensors in Healthcare IoT," *2015 IEEE International Conference on ASIC (ASICON'2015)*, 3-6 Nov. 2015, Chengdu, China. (Invited)
31. JN Mao, B Zhao, Y Lian, HZ Yang, "Investigation on GND Electrodes in Capacitive-Coupling Body Channel Communication", *2015 IEEE International Conference on Biomedical Circuits and Systems (BioCAS2015)*, 22-24, October 2015, Georgia, USA.
32. YB Hong, and Y Lian, "Continuous-Time FIR Filters Based on Frequency-Response Masking Technique", *2015 IEEE International Conference on Digital Signal Processing(DSP2015)*, 21-24 July 2015, Singapore.
33. CJ Deepu, and Y Lian, "A Low Complexity Lossless Compression Scheme for Wearable ECG Sensors", *2015 IEEE International Conference on Digital Signal Processing(DSP2015)*, 21-24 July 2015, Singapore.
34. L Wang, CH Heng, and Y Lian, "A Sub GHz Mostly Digital BPSK IR UWB Transceiver", *2015 IEEE International Symposium on Circuits and Systems*

- (ISCAS2015), May 24-27, 2015, Lisbon, Portugal.
35. JN Mao, B Zhao, Y Lian, and HZ Yang, "A 5-Tissue-Layer Lumped-Element Based HBC Circuit Model Compatible to IEEE802.15.6", *2015 IEEE International Symposium on Circuits and Systems (ISCAS2015)*, May 24-27, 2015, Lisbon, Portugal.
  36. L Wang, CH Heng, and Y Lian, "CMOS UWB Beamforming Radar System", *21<sup>st</sup> IEEE International Conference on Electronics Circuits and Systems(ICECS'2014)*, Dec. 7-10, 2014, Marseille, France.
  37. CJ Deepu, X Zhang, WS Liew, DLT Wong, and Y Lian, "Live Demonstration: An ECG-on-Chip for Wearable Wireless ECG Sensor", *2014 IEEE Asia Pacific Conference on Circuits & Systems(APCCAS'2014)*, Nov. 17-20, 2014, Okinawa, Japan.
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  39. L Wang, Y Lian, and CH Heng, "A 1.44mm<sup>2</sup> 4-Channel UWB Beamforming Receiver with Q-Compensation in 65nm CMOS", *2014 IEEE Asian Solid-State Circuits Conference(A-SSCC2014)*, Nov. 10-12, 2014, Kaohsiung, Taiwan.
  40. M Khayatzadeh, and Y Lian, "A 4.28pJ/access High-Density Average-8T Sub Threshold SRAM with Reverse Narrow-Width Effect (RNWE)-Aware Sizing", *12<sup>th</sup> IEEE International Conference on Solid-State and Integrated Circuit Technology (ICSICT'2014)*, Oct. 28-31, 2014, Guilin, China. **(Invited)**
  41. Y Liu, B Zhao, YT Yang, and Y Lian, "A Novel Hybrid Two-Stage IM2 Cancelling Technique for IEEE 802.15.6 HBC Standard", *2014 IEEE Biomedical Circuits and Systems Conference (BioCAS'2014)*, Oct. 22-24, 2014, Lausanne, Switzerland.
  42. Y Lian, "Ultra Low Power SoC for Self-Powered Wearable ECG Sensor", *IEEE Custom Integrated Circuits Conference (CICC'2014)*, Sept. 15-17, 2014, San Jose, CA, USA. **(Invited)**
  43. KJ Huang, R Zhao, and Y Lian, "STT-MRAM Based Low Power Synchronous Non-Volatile Logic with Timing Demultiplexing", *IEEE/ACM International Symposium on Nanoscale Architectures (NANOARCH'14)*, July 8-10, 2014, Paris, France.
  44. B Zhao, HZ Yang, Y Lian, "A Novel Quasi-Static Channel Enhancing Technique for Body Channel Communication", *2014 IEEE International Symposium on Circuits and Systems(ISCAS'2014)*, Jun. 1-5, 2014, Melbourne, Australia.
  45. KK Nundy, NG Chen, and Y Lian, "Continuous Cuff-less Blood Pressure Monitoring and Measurement", *8<sup>th</sup> Student Workshop of East Asian Consortium on Biomedical Engineering*, Mar. 12-13, 2014, Sendai, Japan.
  46. YF Li, Y Lian, "A Dual-Channel 0.6-V 250-kS/s 4-to-10-bit Resolution-Reconfigurable SAR ADC for Biomedical Applications," *2014 IEEE International Solid-State Circuits Conference (ISSCC'2014)*, Student Research Preview, Feb 22-26, 2014, San Francisco, USA.
  47. Z Zhang, K Mouthaan, Y Lian, "A Miniature Inductorless IR-UWB Transceiver for Wireless Short-Range Communication and Vital-Sign Radar Sensor," *2014 IEEE International Solid-State Circuits Conference (ISSCC'2014)*, Student Research Preview, Feb 22-26, 2014, San Francisco, USA.
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  49. C Deepu, X Zhang, WS Liew, DLT Wong, and Y Lian, "An ECG-SoC with 535nW/Channel Lossless Data Compression for Wearable Sensors", *2013 IEEE Asian Solid-State Circuits Conference (A-SSCC 2013)*, 11-13 Nov. 2013, Singapore. **(Best Student Design Award, invited for JSSCC Special Issue)**
  50. P Chen, B Zhao, R Luo, Y Lian, and H Yang, "A Low-Power Robust GFSK Demodulation Technique for WBAN Applications", *2013 IEEE Biomedical Circuits and Systems Conference (BioCAS 2013)*, 31 Oct – 2 Nov 2013, Rotterdam, the Netherlands.

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52. L Wang, CH Heng, and Y Lian, "A Sub-GHz Mostly Digital IR UWB Transceiver for Wireless Body Sensor Networks", *2013 International Symposium on VLSI Design, Automation & Test (VLSI-DAT'2013)*, 22-24 April 2013, Hsinchu, Taiwan.
53. XY Zhang, Y Lian, "220-nW 300-mV Event-Driven ADC with QRS Detector," *2013 IEEE International Solid-State Circuits Conference (ISSCC'2013)*, Student Research Preview, Feb 17-21, 2013, San Francisco, USA.
54. M Khayatzaadeh, X Zhang, J Tan, WS Liew, Y Lian, "A 0.7-V 17.4 $\mu$ W 3-Lead Wireless ECG SoC", *IEEE International Conference on Biomedical Circuits and Systems (BioCAS'2012)*, 28-30 Nov. 2012, Hsinchu, Taiwan.
55. D Wong, Y Lian, "A Wearable Wireless ECG Sensor with Real-Time QRS Detection for Continuous Cardiac Monitoring", *IEEE International Conference on Biomedical Circuits and Systems (BioCAS'2012)*, 28-30 Nov. 2012, Hsinchu, Taiwan.
56. CJ Deepu, ZH Chen, JT Teo, SH Ng, XF Yang, Y Lian, "A Smart Cushion for Real-Time Heart Rate Monitoring", *IEEE International Conference on Biomedical Circuits and Systems (BioCAS'2012)*, 28-30 Nov. 2012, Hsinchu, Taiwan.
57. J Chen, L Xia, C Ma, Y Lian, X Su, P Yue, Z Hong, P Chiang, "A 0.56V Synchronized Multi-Node Wireless Body Area Network Powered by RF Energy Harvesting", *2012 IEEE Custom Integrated Circuits Conference (CICC2012)*, 9-12 Sept. 2012, San Jose, California, USA.
58. L Wang, YX Guo, Y Lian, CH Heng, "3-5GHz 4-Channel UWB Beamforming Transmitter with 1° Phase Resolution through Calibrated Vernier Delay Line in 0.13 $\mu$ m CMOS", *International Solid-State Circuits Conference(ISSCC2012)*, Feb. 2012 (**Highlighted in Press Kit**).
59. DR Zhang, CJ Deepu, XY Xu, Y Lian, "A Wireless ECG Plaster for Real-Time Cardiac Health Monitoring in Body Sensor Networks", *2011 IEEE International Conference on Biomedical Circuits and Systems*, Nov 10-12, 2011, San Diego, USA.
60. YB Hong, I Rajendran, Y Lian, "A New ECG Signal Processing Scheme for Low Power Wearable ECG Devices", *2011 Asia Pacific Conference on Postgraduate Research in Microelectronics and Electronics*, Oct 6-8, 2011, Macau, China.
61. WS Liew, XD Zou, and Y Lian, "A 0.5-V 1.13- $\mu$ W/Channel Neural Recording Interface with Digital Multiplexing Scheme", *37<sup>th</sup> European Solid-State Circuits Conference (ESSCIRC 2011)*, Helsinki, Finland, Sept 12-16, 2011.
62. Y Wang, CJ Deepu, and Y Lian, "A Computationally Efficient QRS Detection Algorithm for Wearable ECG Sensors", *33<sup>rd</sup> Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC2011)*, Boston, USA, Aug. 30 – Sept 3, 2011.
63. ZL Yang, LB Yao, and Y Lian, "A 0.7-V 100- $\mu$ W Audio Delta-Sigma Modulator with 92-dB DR in 0.13 $\mu$ m CMOS", *2011 IEEE International Symposium on Circuits and Systems*, Rio de Janeiro, Brazil, 15-18 May 2011.
64. Y Lian, "An Online Adaptive Tutoring System for Design-Centric Courses", *2011 IEEE International Symposium on Circuits and Systems*, Rio de Janeiro, Brazil, 15-18 May 2011.
65. MCM Munshi, and Y Lian, "A Novel Signal Processing Approach to Ultra Wideband Communication Systems," *Asia Pacific Signal and Information Processing Association Annual Summit and Conference*, Singapore, 14-17 Dec 2010.
66. XF Chang and Y Lian, "A Quasi-Delay-Insensitive Dual-Rail Low-Pass Filter Working in Subthreshold Region," *2010 IEEE Conference on Biomedical Circuits and Systems*, Nov. 2010, Cyprus.
67. JH Zhang, LB Yao, B Shi, and Y Lian, "A 1-V 42.6- $\mu$ W 1.5-bit Continuous-Time Delta-Sigma Modulator for Audio Application," *2010 Asia Pacific Conference on Postgraduate Research in Microelectronics and Electronics*, Sept. 2010,

Shanghai, China(**Gold Leaf Award**).

68. L Wang, R Chandrasekaran, and Y Lian, "A 3-5GHz All-Digital CMOS UWB Pulse Generator," *2010 Asia Pacific Conference on Postgraduate Research in Microelectronics and Electronics*, Sept. 2010, Shanghai, China(**Silver Leaf Award**).
69. Y Lian, "Towards Sub-mW Wireless Implantable EEG Sensors," *The 3<sup>rd</sup> International Forum on Systems and Mechatronics*, Sept. 2010, Singapore(**Invited**).
70. WS Liew, LB Yao, and Y Lian, "A 0.8-V 32-fJ/Conversion-Step Dual-Capacitive-Array Successive Approximation Analog-to-Digital Converter," *ISSCC 2010 and DAC 2010*, Feb. and June 2010. (**Winner of 47<sup>th</sup> DAC/ISSCC Student Design Contest**).
71. CJ Deepu, XY Xu, XD Zou, LB Yao, and Y Lian, "An ECG-on-Chip for Wearable Cardiac Monitoring Devices," *The 5<sup>th</sup> IEEE International Symposium on Electronic Design, Test & Applications*, 13-15 January, 2010, Ho Chi Minh City, Vietnam.(**Invited**).
72. XD Zou, WS Liew, LB Yao, and Y Lian, "A 1 V 22  $\mu$ W 32-Channel Implantable EEG Recording IC," *ISSCC 2010*, Feb. 2010.
73. MCM Munshi, and Y Lian, "An Efficient Threshold Setting Algorithm for Digital Ultra Wideband Communication Systems," *2009 Asia Pacific Conference on Postgraduate Research in Microelectronics and Electronics*, Nov. 2009, Shanghai, China. (**Gold Leaf Award**)
74. J Tan, and Y Lian, "A 1-Volt, 2.5-mW, 2.4-GHz Frequency Synthesizer in 0.35 $\mu$ m CMOS Technology," *2009 Asia Pacific Conference on Postgraduate Research in Microelectronics and Electronics*, Nov. 2009, Shanghai, China.(**Gold Leaf Award**)
75. F Zhang, and Y Lian, "Wavelet and Hilbert Transforms Based QRS Complexes Detection Algorithm for Wearable ECG Devices in Wireless Body Sensor Networks," *2009 IEEE International Conference on Biomedical Circuits and Systems*, Nov. 2009, Beijing, China.
76. YF Li, V. Perez, and Y Lian, "Design Optimization for an 8-Bit Microcontroller in Wireless Biomedical Sensors," *2009 IEEE International Conference on Biomedical Circuits and Systems*, Nov. 2009, Beijing, China.
77. C Xue, X Cheng, Y Guo, and Y Lian, "The Design of a Sub-Nanojoule Asynchronous 8051 with Interface to External Commercial Memory," *The IEEE 8<sup>th</sup> International Conference on ASIC*, Oct. 2009, Changsha, China.
78. WS Liew, XD Zou, LB Yao, and Y. Lian, "A 1-V 60 $\mu$ W 16-Channel Interface Chip for Implantable Neural Recording," *2009 IEEE Custom Integrated Circuits Conference*, 13-16 Sept. 2009, San Jose, California, USA.
79. JH Zhang, LB Yao, and Y Lian, "A 1.2-V 2.7-mW 160MHz Continuous-Time Delta-Sigma Modulator with Input-Feedforward Structure," *2009 IEEE Custom Integrated Circuits Conference*, 13-16 Sept. 2009, San Jose, California, USA.
80. Q Zhang, and Y Lian, "A Novel Low Power Synchronization Scheme for UWB Impulse Radio Architecture," *2009 IEEE International Conference on Ultra-Wideband*, 9-11 Sept 2009, Vancouver, Canada.
81. XF Chang, and Y Lian, "A Quasi-Delay Insensitive Dual-Rail Adder Working in Subthreshold Region," *2009 IEEE Symposium on Circuits and Systems*, 24-27 May 2009, Taipei, Taiwan.
82. F Zhang, Y Wei, and Y Lian, "Frequency-Response Masking Based Filter Bank for QRS Detection in Wearable Biomedical Devices," *2009 IEEE Symposium on Circuits and Systems*, 24-27 May 2009, Taipei, Taiwan.
83. WS Liew, XD Zou, and Y Lian, "A 1-V 60- $\mu$ W 16-Channel Interface Chip for Multimodality Neurophysiological Signals," *2009 International Solid-State Circuits Conference Student Forum*, Feb. 2009, San Francisco, USA.
84. WS Liew, LB Yao, and Y Lian, "A Moving Binary Search SAR-ADC for Low Power Biomedical Data Acquisition System," *2008 IEEE Asia Pacific Conference on Circuits and Systems*, 30 Nov - 3 Dec 2008, Macau, China.
85. J Pan, L B Yao, and Y Lian, "A Sigma-Delta Class D Audio Power Amplifier in



- 0.35 $\mu$ m CMOS Technology," *International SoC Design Conference*, Busan, Korea, 24 – 25 Nov. 2008. (Invited Paper).
86. M C M Munshi, J H Jiang, Y Xin, T S Lande, and Y Lian, "An Efficient Synchronization Scheme for Digital UWB Communication Systems for Biomedical Applications," *2008 IEEE International Conference on Biomedical Circuits and Systems (BioCAS2008)*, (20-22 Nov 2008, Hilton Baltimore, Baltimore, MD, USA).
  87. Y Lian and XD Zou, "Towards Self Powered Wireless Biomedical Sensor Devices," *The 9<sup>th</sup> International Conference on Solid-State and Integrated-Circuit Technology*, (20-23 Oct 2008, Beijing Jingyi Hotel, Beijing, China). (**Invited Paper**)
  88. XH Tian, MT Le, X Jiang, and Y Lian, "Implementation Strategies for Statistical Codec Design in H.264/AVC Standard," *19th IEEE/IFIP International Symposium on Rapid System Prototyping*, 2-5 Jun 2008, New Jersey, USA.
  89. XY Xu, XD Zou, LB Yao and Y Lian, "A 1-V 450-nW Fully Integrated Biomedical Sensor Interface System". *2008 Symposia on VLSI Technology and Circuits* (18 - 20 Jun 2008, Hilton Hawaiian Village, Hawaii, United States). (Invited for Special Issue in JSSC 2009).
  90. XD Zou, XY Xu, J Tan, LB Yao and Y Lian, "A 1-V 1.1-uW Sensor Interface IC for wearable Biomedical Devices". *2008 IEEE International Symposium on Circuits and Systems* (18 - 21 May 2008, Sheraton Seattle Hotel, Seattle, United States).
  91. Y Wei, and Y Lian, "Complexity Reduction for Frequency-Response Masking Filters Using Serial Masking". *2008 IEEE International Symposium on Circuits and Systems* (18 - 21 May 2008, Sheraton Seattle Hotel, Seattle, United States).
  92. XH Tian, TM Le, X Jiang, and Y Lian, "A HW CABAC Encoder with Efficient Context Access Scheme for H.264/AVC". *2008 IEEE International Symposium on Circuits and Systems* (18 - 21 May 2008, Sheraton Seattle Hotel, Seattle, United States).
  93. XH Tian, TM Le, HC Teo, BL Ho and Y Lian, "CABAC Hardware Encoder with RDO Context Management and MBIST Capability". *International Symposium on Integrated Circuits* (26 - 28 Sep 2007, Singapore).
  94. Seyed Hossein Seyedmehdi, Y Xin and Y Lian, "An Achievable Rate Region for the Causal Cognitive Radio". *The Forty-Fourth Annual Allerton Conference on Communication, Control, and Computing* (September 2007, Allerton, Urbana-Champaign, IL, United States).
  95. YP Hu and Y Lian, "An Adaptive E-learning Portal for DSP Learning". *Sixth International Conference on Information Communications and Signal Processing* (10 - 13 Dec 2007, Meritus Mandarin Hotel, Singapore).
  96. JH Zhang, B Shi and Y Lian, "Performance Evaluation on Polar Transmitters Using Delta and Delta-Sigma Modulations". *The Sixth International Conference on Information Communications and Singapore Processing* (10 - 13 Dec 2007, Meritus Mandarin Hotel, Singapore).
  97. F Zhang, J Tan and Y Lian, "An Effective Noise Reduction Technique for Wearable ECG Sensor in Body Area Network". *2007 IEEE International Conference on Biomedical Circuits and Systems* (27 - 30 Nov 2007, Marriott Chateau Champlain Hotel, Montreal, Canada).
  98. F Zhang and Y Lian, "Novel QRS Detection by CWT for ECG Sensor". *The 2007 IEEE International Conference on Biomedical Circuits and Systems* (27 - 30 Nov 2007, Marriott Chateau Champlain Hotel, Montreal, Canada).
  99. F Zhang and Y Lian, "Electrocardiogram QRS Detection Using Multiscale Filtering Based on Mathematical Morphology". *29th IEEE EMBS Annual International Conference* (23 - 26 Aug 2007, Convention Center, Lyon, France).
  100. Z Li, XL Zhu, Y Lian and QB Sun, "Constructing Secure Content-Dependent Watermarking Scheme Using Homomorphic Encryption". *2007 International Conference on Multimedia & Expo* (2 - 5 Jul 2007, Beijing International Convention Center, Beijing, China). (**Best Student Paper Award**)



101. XD Zou, XY XU, Y Lian and YJ Zheng, "A Low Power Sensor Interface IC for Wearable Wireless Biomedical Devices". *2nd International Conference on Body Area Networks* (11 - 13 Jun 2007, Convitto della Calza, Florence, Italy).
102. XH Tian, TM LE, BL Ho and Y Lian, "A CABAC Encoder Design of H.264/AVC with RDO Support". *Proceedings of the IEEE International Conference on Rapid System Prototyping* (28 - 30 May 2007, PUCRS University, Port Alegre, Brazil).
103. QB Sun, Z Li, Y Lian and CW Chen, "Joint Source-Channel-Authentication Resource Allocation for Multimedia over Wireless Networks". *Proceedings of 2007 ISCAS* (27 - 30 May 2007, Hilton Riverside New Orleans, New Orleans, United States).
104. Y Lian, CZ Yang and YC Lim, "Complexity Reduction of FRM Filters via Multiplication-Free Prefilter-Equalizer Structure". *The Proceedings of 2007 ISCAS* (27 - 30 May 2007, Hilton New Orleans Riverside, New Orleans, United States).
105. KJ Kim, JB Seo, Y Lian and SW Nam, "Design of a Sharp Linear-Phase FIR Filter Using the alpha-scaled Sampling Kernel". *The Proceedings of 6th WSEAS International Conference on Signal Processing* (22 - 24 Mar 2007, Hotel, Dallas, Texas, United States).
106. M Nair, YJ Zheng and Y Lian, "An Active Inductor Based Low-Power UWB LNA". *2007 International Conference on Ultra-Wideband* (24 - 26 Sep 2007, Marina Mandarin, Singapore).
107. Y Lian, Y Wei and R CHANDRASEKARAN, "A 1GHz Decimation Filter for Sigma-Delta ADC". *50th IEEE International Midwest Symposium on Circuits and Systems/5th IEEE International Northeast Workshop on Circuits and Systems* (5 - 8 Aug 2007, Marriott Chateau Champlain Hotel, Montreal, Canada).
108. CZ Yang and Y Lian, "New Structures for Single Filter Based Frequency-Response Masking Approach". *Proceedings of the 2006 IEEE Asia Pacific Conference on Circuits and Systems* (4 - 7 Dec 2006, Grand Copthorne Waterfront Hotel, Singapore).
109. Y Wei and Y Lian, "A 16-Band Nonuniform FIR Digital Filterbank for Hearing Aid". *Proceedings of 2006 IEEE International Conference on Biomedical Circuits and Systems* (29 Nov - 1 Dec 2006, The British Library, London, United Kingdom).
110. S Wan, YP Hu and Y Lian, "Learning Vista - A Learner-Centered e-Learning Platform". *Proceedings of 2006 International Conference on Teaching and Learning in Higher Education* (6 - 8 Dec 2006, Engineering Auditorium, National University of Singapore, Singapore).
111. YP Hu, QJ Chong and Y Lian, "Web-Based Adaptive Tutoring System". *Proceedings of 2006 International Conference on Teaching and Learning in Higher Education* (6 - 8 Dec 2006, Engineering Auditorium, National University of Singapore, Singapore).
112. YP Hu and Y Lian, "An Open Learning Environment for Large Classroom Teaching". *Proceedings of 2006 International Conference on Interactive Computer Aided Learning* (27 - 29 Sep 2006, Carinthia Tech Institute, Villach, Austria).
113. Z Li, Y Lian, QB Sun and CW Chen, "Authenticating Multimedia Transmitted Over Wireless Networks: A Content-Aware Stream-Level Approach". *The Proceedings of 2006 International Conference on Multimedia and Expo* (9 - 12 Jul 2006, Hilton Toronto, Toronto, Ontario, Canada).
114. TM Le, XH Tian, BL Ho, J Nankoo and Y Lian, "System-on-Chip Design Methodology for a Statistical Coder". *Proceedings of Seventeenth IEEE International Workshop on Rapid System Prototyping* (14 - 16 Jun 2006, Old Harbor, Chania, Crete, Greece).
115. GD Lim, YJ Zheng, WG Yeoh and Y Lian, "A Novel Low Power UWB Transmitter IC". *IEEE Radio-Frequency Integrated Circuits Symposium Digest of Papers* (11 - 13 Jun 2006, Moscone Center, San Francisco, California, United States).
116. Z Li, QB Sun and Y Lian, "Unequal Authenticity Protection (UAP) for Rate-Distortion-Optimized Secure Streaming of Multimedia Over Wireless Networks". *The Proceedings of 2006 IEEE International Symposium on Circuits*

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