

PATENT AGENT

Jie Lian, Ph.D.

jie.lian@klarquist.com



EDUCATION

- J.D. candidate, Lewis & Clark Law School, Present
- M.B.A., Healthcare Management, Oregon Health & Science University/Portland State University, 2011
- Ph.D., Bioengineering, University of Illinois at Chicago, 2002
- M.S., Biomedical Engineering, Zhejiang University, 1995
- B.S., Biomedical Engineering, Zhejiang University

BAR ADMISSIONS

- U.S. Patent and Trademark Office (Reg. No. 70,556)

YEAR JOINED FIRM

2017

PRACTICE AREAS

Patents: Design, International, & Utility
Startups & Emerging Businesses

TECHNOLOGIES

Consumer Products
Electrical & Semiconductors
Life Sciences & Biotechnology
Mechanical
Medical Devices & Diagnostics
Mobile Devices & Applications
Software & Internet Technology

PRACTICE AREA OVERVIEW

Dr. Lian's practice includes the preparation and prosecution of U.S., international, and foreign patent applications, and performing patentability and prior art searches and freedom-to-operate analysis.

TECHNICAL EXPERTISE

Dr. Lian's professional experience includes more than ten years of academic research and more than thirteen years of industrial research and development, spanning areas including medical devices, mobile health, signal/image processing, and wearable technology, among others. He specializes in signal processing, statistical analysis, physiological modeling, and algorithm development for embedded systems. He has published three book chapters and more than seventy peer-reviewed research articles. He is the recipient of more than forty issued or pending U.S. patents and dozens of European patents. He has also served as an expert reviewer for more than a dozen scientific journals.

PRIOR PROFESSIONAL EXPERIENCE

Ganz Pollard, LLC, Hillsboro, OR
Patent Agent | 2016 - 2017

Micro Systems Engineering Inc., Lake Oswego, OR
Staff Engineer, Project Manager | 2002 - 2015

HONORS AND AWARDS

- 2008 and 2013, Biotronik Innovation Award
- 2011, Best Presentation Award, National Collegiate Inventors & Innovators Alliance IdeaLab

PROFESSIONAL ACTIVITIES

- 2005-present, Senior Member, Institute of Electrical and Electronics Engineers (IEEE)
- 2015-present, Member, IEEE Technical Committee on Wearable Biomedical Sensors and Systems
- 2013-present, Member, IEEE Internet of Things Community

REPRESENTATIVE PATENTS

- Device for automatic mapping of complex fractionated atrial electrogram (9,456,759)
- Apparatus and method for spinal cord stimulation to treat pain (9,421,378)
- UV dosimetry system (9,068,887)
- Apparatus and method for detection of lead failure in an implantable medical device (8,892,193)
- Respiration measurement by means of morphological operators (8,419,645)
- Method and apparatus for ectopic beat detection (8,315,694)
- Method for optimizing resource allocation (8,239,231)
- Device, method and computer-readable storage medium for enhanced sense event classification in implantable devices by means of morphology analysis (8,090,434)
- Device, method and computer-readable storage medium for SVT and VT classification (8,082,028)
- Apparatus and method to assess the risk of R-on-T event (8,019,406)
- Atrial overdrive pacing in non-atrial tracking mode while maintaining AV synchrony (7,583,996)
- Adaptive ventricular rate smoothing during atrial fibrillation (7,532,929)

PRESENTATIONS AND PUBLICATIONS

- Lian J, Garner G, Muessig D. Biventricular capture verification by means of morphological analysis of intracardiac electrogram. *Europace*, 15:1677-1683, 2013
- Lian J, Wang L, Muessig D. A simple method to detect atrial fibrillation using RR intervals. *Am J. Cardiol.*, 107: 1494-1497, 2011
- Lian J, Muessig D, Lang V. Risk assessment of R-on-T event based on modeled QT-RR relationship. *Pacing Clin. Electrophysiol.*, 34(6): 700-708, 2011
- Lian J, et al. Clinical appointment process: improvement through schedule defragmentation. *IEEE Eng. Med. Biol. Mag.*, 29(2): 127-134, 2010
- Lian J, Garner G, Muessig D, Land V. A simple method to quantify the morphological similarity between signals. *Signal Processing*, 90(2): 684-688, 2010
- Lian J. Unravel the complexity of heart rhythm: a modeling approach. In L. A. Vespry (Ed): *Cardiac Arrhythmia Research Advances*. Nova Science Publishers, pp. 9-31, 2007
- Lian J, Muessig D, Lang V. Ventricular rate smoothing for atrial fibrillation: a quantitative comparison study. *Europace*, 9: 506-513, 2007
- Lian J, Muessig D, Lang V. On the role of ventricular conduction time in rate stabilization for atrial fibrillation. *Europace*, 9: 289-293, 2007
- Lian J, Clifford GD, Muessig D, Lang V. Open source model for generating RR intervals in atrial fibrillation and beyond. *Biomedical Engineering Online*, 6:9, 2007

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- Lian J, Muessig D, Lang V. Computer modeling of ventricular rhythm during atrial fibrillation and ventricular pacing. *IEEE Trans Biomed Eng*, 53: 1512-1520, 2006
- He B, Lian J. High-resolution spatio-temporal neuroimaging of brain activity. *Crit Rev Biomed Eng*, 30(4-6): 283-306, 2002
- Lian J, Goldstein A, Donchin E, He B. Cortical potential imaging of episodic memory encoding. *Brain Topogr*, 15: 29-36, 2002
- Lian J, He B. A minimal product method and its application to cortical imaging. *Brain Topogr*, 13: 209-217, 2001
- He B, Lian J, Spencer KM, Dien J, Donchin E. A cortical potential imaging analysis of the P300 and novelty P3 components. *Hum. Brain Mapp*, 12: 120-130, 2001
- He B, Lian J, Li G. High-resolution EEG: a new realistic geometry spline Laplacian estimation technique. *Clin Neurophysiol*, 112: 845-852, 2001