

# Curriculum Vitae

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NAME	ADDRESS
Linwei WANG	74-1075, PhD Program Golisano College of Computing & Information Sciences Rochester Institute of Technology Rochester, NY 14623
TITLE and POSITION	CONTACT INFORMATION
Professor	Tel: (585) 475-4238 Email: linwei.wang@rit.edu Homepage: <a href="http://people.rit.edu/lxwast">http://people.rit.edu/lxwast</a>

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## Professional Experience

- 06/2021-present **Professor**, Ph.D. Program of Computing and Information Sciences  
**Director**, Computational Biomedicine Laboratory (CBL)
- 09/2021-present **Director**, RIT Personalized Healthcare Technology Signature Research Area Initiative  
Rochester Institute of Technology, Rochester, NY, USA
- 07/2015–05/2020 **Associate Professor**, Ph.D. Program of Computing and Information Sciences  
**Director**, Computational Biomedicine Laboratory (CBL)  
Rochester Institute of Technology, Rochester, NY, USA
- 08/2009–06/2015 **Assistant Professor**, Ph.D. Program of Computing and Information Sciences  
**Director**, Computational Biomedicine Laboratory (CBL)  
Rochester Institute of Technology, Rochester, NY, USA

## Education

- 2007-2009 **PhD**, Computing and Information Science  
Rochester Institute of Technology, Rochester, NY, USA  
Dissertation: *Personalized Noninvasive Imaging of Volumetric Cardiac Electrophysiology*
- 2005-2007 **MPhil**, Electronic and Computer Engineering  
Hong Kong University of Science and Technology  
Thesis: *Noninvasive Imaging of 3D Cardiac Electrophysiology*
- 2001-2005 **BE**, Optic-Electronic Information Engineering  
Advanced Class of Engineering Education  
Zhejiang University, Hangzhou, China

**Honors and Awards**

2020	Trustee's scholarship award, RIT
2019	United States Presidential Early Career Award for Scientists and Engineers (PECASE)
2017	PI Millionaires, RIT
2016	GCCIS Outstanding Scholar Award, RIT
2014	CAREER Award, National Science Foundation
2012	GCCIS Featured Faculty for Faculty Scholarship, RIT
2011	Best Paper Award, MICCAI EP Simulation Challenge
2006	UGC Research Travel Grant, Hong Kong University of Science & Technology
2005	Zhu Kezhen Scholarship, Zhejiang University (representing the highest academic honor at ZJU, 12 out of 20,000+ undergraduate students were awarded in 2005).
2004	Bank of Xingye Scholarship, Zhejiang, China
2004	Second Place, National Mechanical Design Competition, China
2004	First Place, Zhejiang University Mechanical Design Competition
2004	Best Appearance Award, Zhejiang University Mechanical Design Competition
2004	Second Place, International Mathematical Contest in Modeling (IMCM)
2003	First Place, Chinese National Mathematical Modeling Contest (CMCM)
2003	Shunyu Cooperation Scholarship, China
2003-2004	First-Class Scholarship, Zhejiang University
2002-2005	Honor Student (First Class), Zhejiang University
2002	Second-Class Scholarship, Zhejiang University
2001	First-Class Freshman Scholarship, Zhejiang University

**Awards to Mentees of Wang Laboratory**

2019	<u>Sandesh Ghimire</u> , PhD student, Scholarship for Junior Scientists from Underrepresented Populations, Information Processing in Medical Imaging (IPMI)
2018	<u>Iwala Dhamala</u> , PhD student, nomination for Young Scientist Award, Medical Image Computing and Computer-Assisted Intervention (MICCAI)
2017	<u>Iwala Dhalama</u> , PhD student, Scholarship for Junior Scientists from Underrepresented Populations, Information Processing in Medical Imaging (IPMI)
2017	<u>Iwala Dhalama</u> , PhD student, GCCIS Student Grant, RIT
2017	<u>Prashna K. Gyawali</u> , PhD student, Semi-finalist for the Rosanna Degani Young Investigator Award, Computing in Cardiology (CinC)
2016	<u>Iwala Dhalama</u> , PhD student, Graduate Student Research and Creativity Reimbursement Award, RIT
2016	<u>Iwala Dhalama</u> , PhD student, Student Travel Award, Medical Image Computing and Computer-Assisted Intervention (MICCAI)
2015	<u>Jingjia Xu</u> , PhD student, Student Travel Award, Medical Image Computing and Computer-Assisted Intervention (MICCAI)
2015	<u>Jingjia Xu</u> , PhD student, Graduate Student Research and Creativity Reimbursement Award, RIT
2014	<u>Azar Rahimi</u> , PhD student, Best Paper Award, International Symposium in Biomedical Imaging (ISBI)

- 2014 Azar Rahimi, PhD student, Gordon K. Moe Young Investigator Award, Upstate New York Cardiac Electrophysiologist Society (UNYCES)
- 2014 Jingjia Xu, PhD student, Student Travel Award, Medical Image Computing and Computer-Assisted Intervention (MICCAI)
- 2014 Jingjia Xu, PhD student, Grace Hopper Celebration Scholarship Grant
- 2013 Azar Rahimi, PhD student, ISBI Travel Scholarship, National Science Foundation (NSF)
- 2013 Azar Rahimi, PhD student, Graduate Student Research and Creativity Grant, RIT
- 2013 Azar Rahimi, PhD student, Best Presentation of Scholarly Research, ImagineRIT, RIT
- 2013 Jingjia Xu, PhD student, Graduate Student Research and Creativity Grant, RIT
- 2013 Jingjia Xu, PhD student, GCCIS Spotlight Student, RIT
- 2013 Jingjia Xu, PhD student, Student Achievement Award Finalist, Digital Rochester Great Award
- 2012 Azar Rahimi, PhD student, Howard Hughs Medical Institute Med-into-Grade Fellowship

## **Sponsored Research**

### **Active External Grants**

- 4/2020-03/2025 National Institutes of Health (NIH) R01 Grant, \$2,902,715**  
*Inconspicuous Daily Monitoring to Reduce Heart Failure Hospitalizations*  
Sponsor: NIH/NINR  
Role: PI (Co-PI: Wojciech Zareba, URMC)
- 02/2019-01/2024 National Institutes of Health (NIH) R01 Grant, \$3,154,132**  
*Peri-procedural Transmural Electrophysiological Imaging of Scar-related Ventricular Tachycardia*  
Sponsor: NIH/NHLBI  
Role: PI (Co-Investigators: S. Nazarian, University of Pennsylvania; JL Sapp, Dalhousie University; K. Ankur, Siemens Research Cooperation)
- 07/2018-06/2021 National Institutes of Health (NIH) R15 Grant, \$419,810**  
*Automating Real-time Localization of Target Sites in Catheter Ablation of Ventricular Tachycardia*  
Sponsor: NIH/NHLBI  
Role: PI (Co-Investigators: JL Sapp, Dalhousie University)

### **Completed External Grants**

- 06/2014-05/2020 National Science Foundation (NSF) CAREER Award, \$588, 820**  
*CAREER: Integrating Physical Models into Data-Driven Inference*  
Sponsor: NSF/CISE/ACI  
Role: PI (Sole PI)
- 11/2014-10/2017 National Institutes of Health (NIH) R21 Research Grant Award, \$418,602**  
*Transmural Electrophysiological Imaging to Guide Catheter Ablation of Arrhythmias*  
Sponsor: NIH/NHLBI  
Role: PI (Co-Investigators: A. Lardo and S. Nazarian, Johns Hopkins University)

- 09/2016-08/2017 National Science Foundation (NSF) CISE/ACI Grant, \$49,886**  
*Participant Support for the 2016 NSF CyberBridges Workshop*  
 Sponsor: NSF/CISE/ACI  
 Role: PI (Co-PIs: T. Hacker, Purdue University; S. Shontz, University of Kansas)
- 07/2015-06/2016 National Science Foundation (NSF) CISE/ACI Grant, \$99,319**  
*Participant Support for the 2015 NSF CyberBridges Workshop*  
 Sponsor: NSF/CISE/ACI  
 Role: Co-PI (PI: T. Hacker, Purdue University; Co-PI: S. Shontz, University of Kansas)
- 08/2012-07/2015 SUTD-ZJU Research Collaboration Grant, S\$331,200**  
*Accurate Hemodynamic Data Assimilation with MRA/CBV Imaging*  
 Sponsor: Singapore University of Technology and Design (SUTD)  
 Role: ZJU Collaborator
- 01/2011-12/2013 NSFC Young Researcher Funding, RMB\$210,000**  
*Study of Three-Dimensional Noninvasive Dynamic Imaging of Cardiac Electrophysiology*  
 Sponsor: National Science Foundation China (NSFC)  
 Role: Co-investigator (PI: H. Zhang)

## Professional Services

### Grant Review

- 2020 National Science Foundation (NSF) CAREER Grant (panel)
- 2019 National Science Foundation (NSF) HDR Grant (ad-hoc)  
 American Heart Association (AHA) Transformational Project Award (panel)  
 French National Research Agency (ad-hoc)  
 Mitacs Accelerate (at-hoc)
- 2018 National Institutes of Health (NIH) Biomedical Imaging Study Section (BMIT-A, panel)  
 National Science Foundation (NSF) CAREER Grant (panel)  
 American Heart Association (AHA) Career Development Award (panel)  
 Netherlands Organisation for Scientific Research (ad-hoc)  
 Swiss National Supercomputing Center (ad-hoc)  
 Natural Sciences and Engineering Research Council of Canada (ad-hoc)  
 Mitacs Accelerate (at-hoc)
- 2017 National Science Foundation (NSF) CAREER Grant (panel)
- 2016 National Science Foundation (NSF) CDS&E (ad-hoc)  
 National Science Foundation (NSF) CAREER Grant (panel)
- 2015 National Science Foundation (NSF) CDS&E (ad-hoc)  
 National Science Foundation (NSF) CAREER Grant (panel)  
 National Institutes of Health (NIH) Biomedical Imaging Study Section (BMIT-B, panel)
- 2014 National Institutes of Health (NIH) Biomedical Imaging and Engineering AREA (panel)  
 National Science Foundation (NSF) Software Infrastructure for Sustained Innovation (panel)  
 National Institutes of Health (NIH) Biomedical Imaging and Engineering AREA (panel)
- 2013 American Heart Association (AHA) Radiology & Imaging Clinical (panel)  
 National Institutes of Health (NIH) Biomedical Imaging Study Section (BMIT-B, panel)

**Journal Editorial Board & Professional Society Board**

- 2020- Board Member, MICCI society  
 2020- Associate Editor  
 Guest Associate Editor, Special Issue in “Artificial Intelligence in Cardiac Modeling”  
 Frontiers in Physiology  
 2019- Board Member, Women in MICCAI  
 2017-19 Guest Editor, Special Issue in “ECG-Imaging”  
 Frontiers in Physiology  
 2015-18 Member, Editorial Board  
 Journal of Applied Sciences and Arts  
 2014 Lead Guest Editor  
 Special Issue in Computational and Mathematical Methods in Medicine, Hindawi

**Conference Chair / Program Committee**

- 2020 Member, Program Committee  
 Functional Imaging and Modeling of the Heart (FIMH)  
 2019 Member, Program Committee  
 International Workshop on Machine Learning in Medical Imaging (MLMI)  
 2019 Member, Technical Program Committee  
 International Conference on Image and Graphics (ICIG)  
 2018-20 Member/Reviewer, Program Committee  
 Computer Vision and Pattern Recognition (CVPR)  
 2017-20 Area Chair, Program Committee  
 Medical Image Computing and Computer Assisted Intervention (MICCAI)  
 2017-20 Member/Reviewer, Program Committee  
 Computing in Cardiology (CinC), IEEE  
 2017 Member/Reviewer, Program Committee  
 British Machine Vision Conference (BMVC)  
 2017 Member, Program Committee  
 Life Science Conference (LSC), IEEE  
 2016 Co-Chair, Workshop  
 NSF CyberBridge Workshop, October 21-22, 2016, Rochester, NY  
 2015 Co-Chair, Workshop  
 NSF CyberBridge Workshop, August 31-September 1, 2015, Arlington, VA  
 2014-15 Member, Program Committee  
 MICCAI workshop on Computational Methods for Molecular Imaging  
 2012 Co-Chair, Organization Committee  
 Upstate New York Cardiac Electrophysiological Society Annual Meeting, Rochester, NY

**Conference Session Chair**

- 2019 Chair, Oral Session  
 Information Processing in Medical Imaging (IPMI), June 2019, Hong Kong  
 2019 Chair, Invited Session on ECG-imaging  
 International Society of Computerized Electrocardiography, April 2019, Atlantic Beach, FL

- 2018 Co-Chair, Oral Session  
Medical Image Computing and Computer-Assisted Intervention (MICCAI), September 2018, Granada, Spain
- 2018 Co-Chair, Special Session  
Computing in Cardiology, September 2018, Maastricht, the Netherlands
- 2017 Co-Chair, Special Session  
Computing in Cardiology, September 2017, Rennes, France
- 2014 Co-Chair, Special Session  
International Symposium on Biomedical Imaging (ISBI), April 2014, Beijing, China
- 2012 Co-Chair, Special Session  
International Symposium on Biomedical Imaging (ISBI), May 2012, Barcelona, Spain

### Journal & Conference Reviewer

#### Journals (selected):

Frontiers in Physiology; IEEE Transactions on Medical Imaging (IEEE); IEEE Transactions on Biomedical Engineering (IEEE); Medical Physics (American Association of Physicists in Medicine); Medical Image Analysis (Elsevier); Computers in Biology and Medicine (Elsevier); IEEE Journal of Biomedical and Health Informatics (IEEE), Pacing and Clinical Electrophysiology (Wiley); Medical & Biological Engineering & Computing (Springer); Clinical Medical Insights: Cardiology (SAGE Publishing); Computer Vision and Imaging Understanding, Elsevier; Mathematics and Computers in Simulation (Elsevier); PLOS ONE; American Journal of Physiology – Heart and Circulation Physiology; Annals of Biomedical Engineering (Springer)

#### Conferences (full-length papers):

Computer Vision and Pattern Recognition (CVPR); Information Processing in Medical Imaging (IPMI); International Conference on Computer Vision (ICCV); European Conference on Computer Vision (ECCV); Medical Image Computing and Computer Assisted Intervention (MICCAI); IEEE International Symposium on Biomedical Imaging (ISBI); Medical Imaging and Augmented Reality (MIAR), Computing in Cardiology (CinC)

### Plenary and Invited Talks

- 2021 SIAM annual meeting  
*Active Learning for Uncertainty Quantification for Cardiac Models*
- 2020 MICCAI-PRIME workshop, virtual  
*Learning from Small and Heterogeneous Data*
- 2019 Isaac Newton Institute for Mathematical Sciences, Cambridge, UK  
*Machine Learning in Uncertainty Quantification for Cardiac Models*
- 2018 Department of Bioengineering Distinguished Seminar Series, University of Utah  
*Active Surrogate Modeling for Uncertainty Quantification in Personalized Models*
- 2018 Western NY Image and Signal Processing Workshop, Rochester, NY  
*High-dimensional Bayesian Active Learning for Personalized Modeling*
- 2018 Center for Imaging Science Seminar, RIT, Rochester, NY  
*Active Surrogate Modeling for Uncertainty Quantification in Personalized Models*
- 2017 NSF CISE CAREER Proposal Writing Workshop, Arlington, VA  
*CAREER Proposal Writing Experiences*

- 2016 International Society of Computerized Electrocardiology, Tucson, AZ  
*Noninvasive Electrocardiological Imaging of Scar-Related Ventricular Tachycardia*
- 2016 IEEE Rochester Section Joint Chapters Meeting, Rochester, NY  
*What Can We Explore After 100 Years of Electrocardiography?*
- 2016 Center for Applied and Computational Mathematics, RIT, Rochester, NY  
*Integrate Physics-Based Models into Data-Driven Inference: Computational Electrophysiological Imaging of the Heart*
- 2015 ECG-Imaging Workshop, Bad Herrenalb, Germany  
*Integrating Physics-Based Models into Transmural Electrocardiographic Imaging: Opportunities and Challenges (Keynote)*
- 2014 STAFF Symposium, Boston, MA  
*Noninvasive Transmural Electrophysiological Imaging of Myocardial Infarction*
- 2013 Shenzhen Institute of Advanced Technology, Shenzhen, China  
*Transmural Imaging of Ventricular Action Potential and Post-Infarction Scars*
- 2012 Northeastern University, Boston, MA  
*Noninvasive Transmural Electrophysiological Imaging*
- 2012 EP Department, University of Rochester Medical Center  
*Noninvasive Transmural Electrophysiological Imaging*
- 2011 Closing plenary talk, Computing in Cardiology, Hangzhou, China,  
*Mapping the Transmural Scar and Activation for Patients with Ventricular Arrhythmia*
- 2010 Upstate New York Cardiac Electrophysiology Society (UNYCES), Utica, NY  
*How Much Geometrical Detail Do We Need in Computational Electrophysiological Imaging?*
- 2010 Center for Advanced Radiotherapy Technologies (CART), University of California San Diego  
*Personalized Noninvasive Imaging of 3D Volumetric Cardiac Electrophysiology*
- 2009 Upstate New York Cardiac Electrophysiology Society (UNYCES), Ithaca, NY  
*Noninvasive Volumetric Cardiac Electrophysiological Imaging in Infarct Imaging and Quantification*

### Current Professional Memberships

- 2019-present Heart Rhythm Society (HRS)
- 2018-present International Society of Computerized Electrocardiology (ISCE)
- 2015-present Founding Member, Executive Committee  
Consortium for Electrocardiographic Imaging ([www.ecg-imaging.org](http://www.ecg-imaging.org))
- 2012-present American Heart Association (AHA)
- 2006-present Institute of Electrical and Electronics Engineering (IEEE)

### Mentoring

#### Ph.D. Advisee

- 2020-present Ryan Missel
- 2019-present Nilesh Kumar
- 2019-present Shakil Zamen
- 2019-present Xiajun Jiang
- 2019-present Maryam Tolou
- 2019-present Pradeep Bajracharya
- 2018-2019 Ankit Aich

2018-present	Zhiyuan Li
2016-present	Prasanna Gyawali (expected Spring 2021)
2015-present	Omar Gharbia (expected Summer 2021)
2016-2019	Mohammed Alawad (graduated May 2019)
2015-2020	Sandesh Ghimire (graduated Summer 2020)
2014-2020	Jwala Dhamala (graduated Spring 2020)
2011-2016	Jingjia Xu (graduated May 2016)
2010-2015	Azar Rhahimi (graduated May 2015)

**Ph.D. Dissertation Committee Member (Internal)**

2020-	Kishan K C, GCCIS PhD, RIT. <i>Scalable Biological Network Inference with Network Representation Learning and Neural Architecture Inference</i>
2020-	Aneesh Rangnekar, Center of Imaging Science, RIT. <i>Learning representations in the hyperspectral domain in aerial imagery</i>
2017-20	Viraj Reddy Adduru, Center of Imaging Science, RIT. <i>Automated brain tissue segmentation methods for clinical quality MRI and CT images</i>
2017-20	Golnaz Jalalahmadi, Center of Imaging Science, RIT. <i>Design of a comprehensive protocol for visualization, modeling, characterization and rupture risk assessment of Abdominal Aortic Aneurysm</i>
2017	Xiaopeng Peng, Center of Imaging Science, RIT. <i>Computational Imaging: Applications, Tradeoffs, and Limits</i>
2015-2017	Kenny Davila Castellanos, GCCIS PhD <i>Retrieval of Content from Math Lecture Videos using Approximated Maximum Common Subgraphs</i>
2015-2016	Harold Valdivia, GCCIS PhD, RIT, proposal defended in 01/2016 <i>Understanding the Impact of Diversity in Software Defects on Defect Prediction Modell</i>
2014-2020	Ricardo R. Figueroa. GCCIS, RIT <i>Bayesian Methods for Radiometric Calibration in Motion Picture Encoding Workflows</i>
2014-2016	Srinivas Sridharan, GCCIS PhD <i>Saliency and Task-Based Eye Movement Prediction and Guidance</i>
2013-2016	Lei Hu, GCCIS PhD, proposal defended in 10/2013 <i>Structured Learning Applied to Recognition of Handwritten Math Expressions</i>
2013	Raymond Ptucha, GCCIS PhD <i>Human Facial Expression Recognition in Natural Conditions, 05/2013</i>
2011-2016	Biru Cui, GCCIS PhD <i>Novel Events Adoption Modeling and Prediction</i>
2009-2015	Mohamed Elshrif, GCCIS PhD <i>Computational Simulation of Electrophysiological Human Heart Failure Model with an Early After Depolarization Arrhythmia Applications, 08/2015</i>
2009-2015	Hongda Mao, GCCIS PhD <i>Integrated Cardiac Electromechanics: Modeling and Personalization, 02/2015</i>

**Ph.D. Dissertation Committee Member (External)**

2015-2016	Jaume Coll-Font, Northeastern University ECE, proposal defended in 08/2015
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*Physiologically Informed Model for Correction in Forward Models in ECGI*

2011 Bogdan Mitrea, Pharmacology PhD, SUNY Upstate Medical University, Syracuse, NY,  
3D Optical Mapping of Cardiac Excitation: From Focal Sources to Scroll Wave, 04/2011

**M.S. Advisee (Thesis / Capstone Project)**

2020-present Pradumna Vilas Suryawanshi, Computer Science, RIT  
Thesis: *Time-Series Modeling for Predicting Heart Failure Readmission Risk*

2020 Swapnil Shah, Computer Science, RIT  
Capstone Project: *Active Guidance for Patient-Specific Pace-mapping*

2019-present Jadeep Vitthal, Computer Science, RIT  
Thesis: *Deep Generative Modeling with Hierarchical Nonparametric Priors*

2019 Sagar Kukreja, Computer Science RIT  
Capstone Project: *Multi-Task Learning for ECG-Based Localization of Arrhythmia Origin*

2018 Tappan Ajmera, Computer Science, RIT  
Capstone Project: *Semi-supervised Sequence Learning for ECG Analyses*

2017-2018 Nihar Vanjara, Computer Science, RIT, graduated 05/2018  
Capstone Project: *Classification of Single-lead ECG Signals Using Deep Neural Networks*

2015 Eric Fortunato, Computer Science, RIT, 08/2015  
Capstone Project: *Analysis of Stress in Intelligent Systems*

2014-2019 Vishwanath Raman, Computer Science  
Thesis: *Predicting Treatment Target for Ventricular Tachycardia via Multi-Task Learning*

2013-2014 Balaji Iyer, Computer Science, RIT, 05/2014  
Capstone Project: *Data-Driven Learning of Cardiac Rhythm Disorders*

2011-2012 Martin Corraine, Computer Engineering, RIT, graduated 05/2012 (secondary advisee)  
Thesis: *Analysis of Using GPU to Accelerate Transmural Electrophysiological Imaging*

**M.S. Advisee (Independent Studies & Others)**

2019 Pradumna Vilas Suryawanshi, Computer Science, RIT

2019 Sagar Kukreja, Computer Science, RIT

2018 Jaiddep Vittha, Computer Science, RIT

2018 Abishai Dmello, Computer Science, RIT

2018 Jay Upadhyay, Computer Science, RIT

2018 Shubham Bharat Patil, Computer Science, RIT

2018 Sanjay Khatwani, Computer Science, RIT

2018 Parikshit Prashant, Computer Science, RIT

2018 Sourabh Khasbag, Computer Science, RIT

2018 Niraj Dedhia, Computer Science, RIT

2017-2018 Varun Mantri, Computer Science, RIT

2017 Darshan Kavathe, Computer Science, RIT

2017 Mounika Alluri, Computer Science, RIT

2017 Savitha Jayasankar, Computer Science, RIT

2015-2016 Shuhang Chen, Zhejiang University, China (through external collaboration)

2013-2015 Vasudev Bethamcherla, Computer Science, RIT

2013-2014 Krithika Sairamesh, Computer Science, RIT

**M.S. Thesis Committee Member**

- 2020 Parikshit Shembekar, Computer Science, RIT  
Thesis: Anomaly Detection in Videos through Deep Unsupervised Techniques
- 2019-20 Kantha Girish Gangadhara, Computer Science, RIT  
Thesis: *Modeling Interacting Timeseries Signals*
- 2013 Ashley Zanca, Applied and Computational Mathematics, RIT, 05/2013  
Thesis: *A Graph Theoretic Approach to Quantifying Grey Matter Volume in Neuroimaging.*

**Undergraduate Advisee**

- 2019-20 Ryan Missel, Computer Science, RIT (NSF REU Supplement)
- 2019-20 Nate Gold, Computer Science, RIT (NSF REU Supplement)
- 2018-19 Cameron Knight, Computer Science, RIT (NSF REU Supplement)
- 2018-19 Sunand Raghupathi, Fordham University (NSF REU Site Program)
- 2018 Gabriella Alexis, Hunter College (NSF REU Site Program)
- 2018 Forrest Shooster, Biomedical Engineering, RIT (NSF REU Supplement)
- 2018 Kesavan Kushalnager, Computer Science, RIT (NSF REU Supplement)
- 2017 Rebecca Medina, Rose-Hulman Institute of Technology (NSF REU Site Program)
- 2017 Daniel Carpenter, Siena College (NSF REU Site Program)
- 2017 Dawei Liu, Mechanical & Software Engineering, RIT (NSF REU Supplement)
- 2017 Scott Eisele, Mechanical Engineering, RIT (NSF REU Supplement)
- 2017 Dan Giaime, Game Development & Computer Science, RIT (NSF REU Supplement)
- 2017 Erin Coppola, Biomedical Engineering, RIT (NSF REU Supplement)
- 2017 Don Phan, Biomedical Engineering, RIT (NSF REU Supplement)
- 2015-2018 Roland Sanford, Physics & Applied Mathematics, RIT (NSF REU Supplement)
- 2016 Raman Longman, Computer Engineering, RIT (NSF REU Supplement)
- 2016 Ashley Edwards, SUNY Geneseo (NSF REU Site Program)
- 2016 Anthony Massicci, Onondaga Community College (NSF REU Site Program)
- 2015 William Hammond, Computer Science, RIT (NSF REU Supplement)
- 2015 Raymond Bremner, Computer Engineering, RIT (NSF REU Supplement)
- 2014-2015 Thomas Becker, Computer Engineering, RIT (NSF REU Supplement)
- 2014-2015 Dakota Williams, Computer Science, RIT (NSF REU Supplement)
- 2014-2015 Will Paul, Computer Science, RIT (Kodak Endowed Chair Funds, co-advisee)
- 2013-2014 Brendan John, Computer Science, RIT (Kodak Endowed Chair Funds, co-advisee)
- 2013-2014 Taylor Kilroy, Computer Science, RIT (Kodak Endowed Chair Funds, co-advisee)
- 2013 Karna Priya, Biomedical Science (Summer Research Intern)
- 2013 Robin Lee, Biochemistry (McNair Scholar)
- 2009-2010 Brian Call, Devin Lane, Peter Lavellee, Brad Pease, and Richard Stack, Software Engineering, RIT (Capstone project)

**High School Research Intern**

- 2019 Sharanya Parvathaneni, Pittsford Mendon High School
- 2018 Kyle Owlett, Pittsford Mendon High School
- 2017 Katie Glance, Pittsford Sutherland High School

2016	Zainab Shah, Pittsford Mendon High School
2015	Adisree Ankolekar, Pittsford Mendon High School
2015	Shalei Kumar, Pittsford Mendon High School
2015	Dylan Parker, Pittsford Sutherland High School
2014	Jason Han, Pittsford Sutherland High School
2012	Grace Shi, Pittsford Mendon High School

## **Publications**

A distinctive feature of computer science publication culture is the importance of prestigious conferences as a favorite tool for presenting original research (Meyer et al, Communications of the ACM 2009). The fundamental role of conferences in computing publication is underlined with strength in the Best Practices Memo published by the US Computing Research Association. ([http://cra.org/resources/bpview/evaluating\\_computer\\_scientists\\_and\\_engineers\\_for\\_promotion\\_and\\_tenure/](http://cra.org/resources/bpview/evaluating_computer_scientists_and_engineers_for_promotion_and_tenure/))

## **Peer-Reviewed Journal Articles**

1. Ryan Missel, Prashna K Gyawali, Jaideep V Murkute, Zhiyuan Li, Shijie Zhou, Amir AbdelWahab, Jason Davis, James Warren, John L Sapp, and **Linwei Wang**, *A Hybrid Machine Learning Approach to Localizing the Origin of Ventricular Tachycardia Using 12-Lead Electrocardiograms*, Computers in Biology and Medicine, accepted, 2020
2. John L Sapp, Shijie Zhou, and **Linwei Wang**, *Mapping Ventricular Tachycardia With Electrocardiographic Imaging*, Circulation: Arrhythmia and Electrophysiology, 2020,13:e008255, accepted (Editorial)
3. S. A. Niederer, Y. Aboelkassem, C. D. Cantwell, C. Corrado, S. Coveney, E. M. Cherry, T. Delhaas, F. H. Fenton, A. V. Panfilov, P. Pathmanathan, G. Plank, M. Riabiz, C. Roney, R. W. dos Santos, and **L. Wang**, *Creation and Application of Virtual Patient Cohorts of Heart Models*, Philosophical Transactions A, The Royal Society Publishing, 2020, accepted.
4. Jwala Dhamala, Pradeep Baracharya, Hermenegild J. Arevalo, John L. Sapp, Milan Horacek, Katherine C. Wu, Natalia A. Trayanova, and **Linwei Wang**, *Embedding High-dimensional Bayesian Optimization via Generative Modeling: Parameter Personalization of Cardiac Electrophysiological Models*, Medical Image Analysis, Elsevier, accepted, 2020
5. Prashna Kumar Gyawali, B. Milan Horacek, John L Sapp, and **Linwei Wang**, *Sequential Factorized Autoencoder for Localizing the Origin of Ventricular Activation from 12-Lead Electrograms*, IEEE Transactions on Biomedical Engineering, 2019, Sep 3. doi: 10.1109/TBME.2019.2939138. [Epub ahead of print]
6. Sandesh Ghimire, Milan Horack, John L Sapp, and **Linwei Wang**, *Noninvasive Reconstruction of Transmural Transmembrane Potential with Simultaneous Estimation of Prior Model Error*, IEEE Transactions on Medical Imaging, Mar 2019, doi: 10.1109/TMI.2019.2906600. [Epub ahead of print]
7. Matthijs Cluitmans, Dana H Brooks, Rob MacLeod, Olaf Doessel, Peter van Dam, Jana Svehlikova, Bin He, John L Sapp, **Linwei Wang**, and Laura Bear, *Validation and Opportunities of Electrocardiographic Imaging: From Technical Achievements to Clinical Applications*, Frontiers in Physiology, 9:1305, doi: 3389/fphys.2018.01305, 2018.

8. Mohammed Alawad and **Linwei Wang**, *Learning Domain Shift in Simulated and Clinical Data: Localizing the Origin of Ventricular Activation from 12-lead Electrocardiograms*, IEEE Transactions on Medical Imaging, 38(5): 1172-1184, 2018
9. Jwala Dhamala, Hermenegild J. Arevalo, John L. Sapp, B. Milan Horacek, Katherine C. Wu, Natalia A. Trayanova, and **Linwei Wang**, *Quantifying the Uncertainty in Model Parameters Using Gaussian Process-based Markov Chain Monte Carlo*, Medical Image Analysis, Elsevier, 48: 43-57, 2018
10. **Linwei Wang**, Omar A. Gharbia, B. Milan Horacek, Saman Nazarian, and John L. Sapp, *Noninvasive Epicardial and Endocardial Electrocardiographic Imaging for Scar-related Ventricular Tachycardia*, EP Europace, Oxford University Press, 20(FI2): f263-f272, 2018
11. Jwala Dhamala, Hermenegild J. Arevalo, John L. Sapp, Milan Horacek, Katherine C. Wu, Natalia A. Trayanova, and **Linwei Wang**, *Spatially-Adaptive Multi-Scale Optimization for Local Parameter Estimation in Cardiac Electrophysiology*, IEEE Transactions on Medical Imaging, 36(9): 1966-1978, 2017
12. **Linwei Wang**, Omar A. Gharbia, B. Milan Horacek, and John L. Sapp, *Noninvasive Epicardial and Endocardial Electrocardiographic Imaging of Scar-Related Ventricular Tachycardia*, Journal of Electrocardiology, 49(6):887-893, 2016
13. Azar Rahimi, John Sapp, Jingjia Xu, Peter Bajorski, Milan Horacek, and **Linwei Wang**, *Examining the Impact of Prior Models in Transmural Electrophysiological Imaging: A Hierarchical Multiple-Model Bayesian Approach*, IEEE Transactions on Medical Imaging, 35(1):229-243, 2016
14. Kedar Aras, Wilson Good, Jess Tate, Brett Burton, Dana Brooks, Jaume Coll-Font, Olaf Doessel, Walther Schulze, Danila Potyagaylo, **Linwei Wang**, Peter van Dam, and Rob MacLeod, *Experimental Data and Geometric Analysis Repository -- Edgar*, Journal of Electrocardiology, 48(6): 975-981, 2015.
15. B. Milan Horacek, **Linwei Wang**, Fady Dawoud, Jingjia Xu, and John L. Sapp, *Noninvasive Electrocardiographic Imaging of Chronic Myocardial Infarct Scar*, Journal of Electrocardiology, 48(6): 952-958, 2015.
16. Azar Rahimi, and **Linwei Wang**, *Sensitivity of Noninvasive Cardiac Electrophysiological Imaging to Variations in Personalized Anatomical Modeling*, IEEE Transactions on Biomedical Imaging, 62(6): 1563-1575, 2015.
17. Jingjia Xu, Azar Rahimi, Fei Gao, and **Linwei Wang**, *Noninvasive Transmural Electrophysiological Imaging Based on Minimization of Total-Variation Functional*, IEEE Transactions on Medical Imaging, 33(9): 1860-1874, 2014.
18. Azar Rahimi, Jingjia Xu, and **Linwei Wang**, *Lp-Norm Regularization in Volumetric Imaging of Cardiac Current Sources*, Computational and Mathematical Methods in Medicine, Hindawi, 2013: 276478, doi:10.1155/2013/276478.
19. **Linwei Wang**, Fady Dawoud, Sai-Kit Yeung, Pengcheng Shi, Ken C.L. Wong, and Albert C. Lardo, *Transmural Imaging of Ventricular Action Potentials and Post-Infarction Scars in Swine Hearts*, IEEE Transactions on Medical Imaging, 32(4): 731-747, 2013.
20. **Linwei Wang**, *Computational Reduction for Noninvasive Transmural Electrophysiological Imaging*, Computers in Biology and Medicine, Elsevier, 3(3): 184-199, 2013.
21. \*Oscar Camara, \*Maxime Sermesant, \*Pablo Lamata, \***Linwei Wang**, Mihaela Pop, Jatin Relan, Mathieu De Craene, Herve. Delingette, Huafeng Liu, Steven Niederer, Ali Pashaei, Gernot Plank, Daniel Romero, Rafael Sebastián, Ken C.L. Wong, Heye Zhang, Nicholas Ayache, Alejandro Frangji, Pengcheng Shi, Nic Smith, and Graham Wright: *Inter-Model Consistency and Complementarity: Learning from ex-vivo Imaging and Electrophysiological Data towards an Integrated Understanding of Cardiac Physiology*. Progress in Biophysics and Molecular Biology, Elsevier. 107: 122-133, 2011 (\*equal contribution from the first four authors).

22. **Linwei Wang**, Ken C.L. Wong, Heye Zhang, Huafeng Liu, and Pengcheng Shi: *Noninvasive Computational Imaging of Cardiac Electrophysiology for 3D Infarct Quantification*, IEEE Transactions on Biomedical Engineering, 58(4): 1033-1043, 2011.
23. Ken C. L. Wong, **Linwei Wang**, Heye Zhang, Huafeng Liu, Pengcheng Shi: *Physiological Fusion of Functional and Structural Images for Cardiac Deformation Recovery*, IEEE Transactions on Medical Imaging, 30(4): 990-1000, 2011.
24. **Linwei Wang**, Heye Zhang, Ken C.L. Wong, and Pengcheng Shi: *Physiological-Model-Constrained Noninvasive Reconstruction of Volumetric Myocardial Transmembrane Potentials*, IEEE Transactions on Biomedical Engineering, 57(2): 296-315, 2010 (**cover page**).
25. Ken C.L. Wong, **Linwei Wang**, Heye Zhang, Huafeng Liu, and Pengcheng Shi: *Meshfree Implementation of Individualized Active Cardiac Dynamics*, Computerized Medical Imaging and Graphics, Elsevier, 34(1): 91-103, 2010.
26. **Linwei Wang**, Heye Zhang, Ken C.L. Wong, and Pengcheng Shi: *Electrocardiographic Simulation on Personalized Heart-Torso Structures Using Coupled Meshfree-BEM Platform*, International Journal of Functional Informatics and Personalized Medicine, Inderscience, 2(2): 175-200, 2009.
27. Ken C.L. Wong, **Linwei Wang**, Heye Zhang, Huafeng Liu, and Pengcheng Shi: *Computational Complexity Reduction for Volumetric Cardiac Deformation Recovery*, Journal of Signal Processing Systems, Springer, 55: 281-296, 2009.

#### Peer-Reviewed Full-Length Conference Papers

28. Prashna Gyawali, Sandesh Ghimire, and **Linwei Wang**, *Enhancing Mixup-based Semi-Supervised Learning with Explicit Lipschitz Regularization*, International Conference on Data Mining (ICDM), 2020, accepted (19.7% acceptance rate)
29. Xiajun Jiang, Sandesh Ghimire, Jwala Dhamala, Zhiyuan Li, Prashna K. Gyawali, and **Linwei Wang**, *Learning Geometry-Dependent and Physics-Based Inverse Image Reconstruction*, Medical Image Computing and Computer-Assisted Intervention (MICCAI), 2020, accepted.
30. Prashna Gyawali, Sandesh Ghimire, Pradeep Bajracharya, Zhiyuan Li, and **Linwei Wang**, *Semi-Supervised Medical Imaging Classification with Global Latent Mixing*, Medical Image Computing and Computer-Assisted Intervention (MICCAI), 2020, accepted.
31. Zhiyuan Li, Jaideep V. Murkute, Prashna K. Gyawali, and Linwei Wang, *Progressive Learning and Disentanglement of Hierarchical Representations*, International Conference on Learning Representations, 2020 (oral spotlight, 6% selection rate)
32. Prashna K Gyawali, Zhiyuan Li, Cameron Knight, Sandesh Ghimire, John L Sapp, B. Milan Horacek, and **Linwei Wang**, *Improving Disentangled Representation Learning with the Beta Bernoulli Process*, International Conference on Data Mining (ICDM), Beijing, China, 2019, accepted (short paper, 18.5% acceptance rate)
33. Jwala Dhamala, John L. Sapp, B. Milan Horacek, and **Linwei Wang**, *Bayesian Optimization on Large Graphs via a Graph Convolutional Generative Model: Application in Cardiac Model Personalization*, Medical Image Computing and Computer-Assisted Intervention (MICCAI), Shenzhen China, 2019, accepted (early acceptance, ~15% selection rate)
34. Prashna K Gyawali, Zhiyuan Li, Sandesh Ghimire, and **Linwei Wang**, *Semi-Supervised Learning by Disentangling and Self-Ensembling Over Stochastic Latent Space*, Medical Image Computing and Computer-Assisted Intervention (MICCAI), Shenzhen, China, 2019, accepted
35. Sandesh Ghimire, Jwala Dhamala, Prashna Gyawali, John L. Sapp, B. Milan Horacek, and **Linwei Wang**, *Improving Generalization of Deep Networks for Inverse Reconstruction of Image*

- Sequences*, Information Processing in Medical Imaging (IPMI), Hong Kong, 2019, accepted (oral presentation, acceptance rate: ~10%)
36. Jwala Dhamala, Sandesh Ghimire, John L. Sapp, B. Milan Horacek, and **Linwei Wang**, *High-dimensional Bayesian Optimization of Personalized Cardiac Model Parameters via an Embedded Generative Model*, Medical Image Computing and Computer-Assisted Intervention (MICCAI), Granada, Spain, Lecture Notes in Computer Science, Springer, 499-507, 2018 (**nomination for Young Scientist Award, selection rate: 1%**)
  37. Sandesh Ghimire, Jwala Dhamala, Prashnna Gyawali, John L. Sapp, B. Milan Horacek, and **Linwei Wang**, *Generative Modeling and Inverse Imaging of Cardiac Transmembrane Potential*, Medical Image Computing and Computer-Assisted Intervention (MICCAI), Granada, Spain, Lecture Notes in Computer Science, Springer, 508-516, 2018
  38. Mohammed Alawad and **Linwei Wang**, *Leveraging Simulation Data for Learning a Patient-specific Model to Localize the Origin of Ventricular Activities*, International Symposium on Biomedical Imaging (ISBI), Washington DC, 1318-1322, 2018
  39. Prashnna K. Gyawali, B. Milan Horacek, John L. Sapp, and **Linwei Wang**, *Learning Disentangled Representation from 12-lead Electrocardiograms: Application in Localizing the Origin of Ventricular Tachycardia*, AAAI Workshop on Health Intelligence, New Orleans, LA, 443-450, 2018
  40. Rebecca Medina, Daniel Carpenter, Joe Geigel, Reynold Bailey, **Linwei Wang**, and Cecilia Ovesdotter Alm, *Sensing Behaviors of Students in Online vs. Face-to-face Lecturing Contexts*, IEEE Pervasive Computing Workshop, 77-82, 2018.
  41. Jaume Coll-Font, **Linwei Wang**, and Dana Brooks, *A Common-ground Review of the Potential for Machine Learning Approaches in Electrocardiographic Imaging Based on Probabilistic Graphical Models*, Computing in Cardiology, Maastricht, the Netherlands, September, 2018, in press
  42. Omar A. Gharbia, Susumu Tao, Albert C. Lardo, Henry Halperin, and **Linwei Wang**, *Noninvasive Electrocardiographic Imaging of Scar-related Ventricular Tachycardia: Association with Magnetic Resonance Scar Imaging*, Computing in Cardiology, Maastricht, the Netherlands, September, 2018, in press
  43. Sandesh Ghimire and **Linwei Wang**, *Deep Generative Modeling and Analysis of Cardiac Transmembrane Potential*, Computing in Cardiology, Maastricht, the Netherlands, September, 2018, in press
  44. Sandesh, John L. Sapp, B. Milan Horacek, and **Linwei Wang**, *A Variational Approach to Sparse Error Estimation in Cardiac Electrophysiological Imaging*, In M. Descoteaux, L. Maier-Hein, A. Franz, P. Jannin, D. L. Collins, and S. Duchesne (Eds), Medical Image Computing and Computer-Assisted Intervention (MICCAI), Quebec City, Canada, Lecture Notes in Computer Science, Springer, 10434: 745-753, 2017 (acceptance rate: 32%)
  45. Jwala Dhamala, Milan Horacek, John L. Sapp, and **Linwei Wang**, *Quantifying the Uncertainty in Model Parameters using Gaussian Process based Markov Chain Monte Carlo: An Application to Cardiac Electrophysiological Models*, In M. Niethammer, M. Styner, S. Aylward, H. Zhu, I. Oguz, P-T Yap, and D Shen (Eds), Information Processing in Medical Imaging (IPMI), Boone, NC, Lecture Notes in Computer Science, Springer, 10265: 223-235, 2017
  46. Shuhang Chen, Prashnna K. Gyawali, Huafeng Liu, B. Milan Horacek, John L. Sapp, and **Linwei Wang**, *Disentangling Inter-subject Variations: Automatic Localization of Ventricular Tachycardia Origin from 12-lead Electrocardiograms*, International Symposium on Biomedical Imaging, Melbourne, Australia, 616-619, 2017
  47. Prashnna Gyawali, Shuhang Chen, Huafeng Liu, B. Milan Horacek, John L Sapp, and **Linwei Wang**, *Automatic Coordinate Prediction of the Exit of Ventricular Tachycardia from 12-lead*

- Electrocardiogram*, Computing in Cardiology, Rennes, France, 2017, DOI:10.22489/CinC.2017.041-280  
(Semi-finalist for the Rosanna Degani Young Investigator Award)
48. Sandesh Ghimire and **Linwei Wang**, *L0 Norm Based Sparse Regularization for Noninvasive Infarct Detection Using ECG Signal*, Computing in Cardiology, Rennes, France, 2017, DOI:10.22489/CinC.2017.057-305
  49. Omar Gharbia, Susumu Tao, Albert C. Lardo, Henry Halperin, and **Linwei Wang**, *Electrical and Anatomical Imaging of Arrhythmogenic Substrates for Scar-related Ventricular Tachycardia*, Computing in Cardiology, Rennes, France, 2017, DOI:10.22489/CinC.2017.042-345
  50. Sandesh Ghimire, Jwala Dhamala, Jaume Coll-Font, Jess Tate, Maria de la Salud Guillem Sanchez, Dana Brooks, Rob MacLeod, and **Linwei Wang**, *Overcoming Barriers to Quantification and Comparison of Electrocardiographic Imaging Methods: a Community-Based Approach*, Computing in Cardiology, Rennes, France, 2017, DOI:10.22489/CinC.2017.370-289
  51. Erin Coppola, Daniel Giaime, Prashna Gyawali, Nihar Vanjara, and **Linwei Wang**, *Atrial Fibrillation Classification from a Short Single Lead ECG Recording Using Hierarchical Classifier*, Computing in Cardiology, Rennes, France, 2017, DOI:10.22489/CinC.2017.354-425
  52. Ashley A. Edwards, Anthony Massici, Srinivas Sridharan, Joe Geigel, Linwei Wang, Reynold Bailey, Cecilia Ovesdotter Alm, *Sensor-based Methodological Observations for Studying Online Learning*, 2017 ACM Workshop on Intelligent Interfaces for Ubiquitous and Smart Learning (SmartLearn), Limassol, Cyprus, 25-30, 2017
  53. Jwala Dhamala, Milan Horacek, John L. Sapp, and Linwei Wang, *Spatially-Adaptive Multi-Scale Optimization for Local Parameter Estimation: Application in Cardiac Electrophysiological Models*, In S. Ourseline., L. Joskowicz, M. Sabuncu, G. Unal and W. Wells (Eds), Medical Image Computing and Computer-Assisted Intervention (MICCAI), Athens, Greece, October 2016, Lecture Notes in Computer Science, Springer, 9902:282-290, 2016.
  54. **Linwei Wang**, Omar A. Gharbia, B. Milan Horacek, and John L. Sapp, *Noninvasive Electrocardiographic Imaging of Scar-related Ventricular Tachycardia*, Computing in Cardiology, Vancouver, Canada, 43: 317-320, 2016
  55. Jingjia Xu, John L. Sapp, Azar Rahimi, Fei Gao, Milan Horacek, and **Linwei Wang**, *Robust Transmural Electrophysiological Imaging: Integrating Sparse and Dynamic Physiological Models into ECG-Based Inference*, Medical Image Computing and Computer-Assisted Intervention (MICCAI), Munich, Germany, October 2015, Lecture Notes in Computer Science, Springer, 9350: 519-527, 2015.
  56. Will Paul, Cecilia Ovesdotter Alm, Reynold Bailey, Joe Geigel, and **Linwei Wang**, *Stressed Out: What Speech Tells Us About Stress*. Interspeech, Dresden, Germany, September 2015, 3710-3714
  57. Vasudev Bethamcherla, Will Paul, Cecilia Ovesdotter Alm, Reynold Bailey, Joe Geigel, and **Linwei Wang**, *Face-Speech Sensor Fusion for Nonintrusive Stress Detection*, Facial Analysis, Animation, and Auditory-Visual Speech Processing, Vienna, Austria, September, 2015, 196-201
  58. Jaume Coll-Font, Brittany Purcell, Jingjia Xu, Petr Stovicek, Dana H. Brooks, and **Linwei Wang**, *Evaluation of 2-Norm versus Sparsity Regularization in Spline-Based Joint Reconstruction of Epicardial and Endocardial Potentials from Body-Surface Measurements*, Computing in Cardiology (CinC), Nice, France, September 2015, 957-960
  59. Azar Rahimi, Jingjia Xu, and **Linwei Wang**, *Hierarchical Multiple-Model Bayesian Approach to Transmural Electrophysiological Imaging*, In Polina Golland, Nobuhiko Hata, Christian Barillot, Joachim Hornegger, and Robert Howe (Eds), Medical Image Computing and Computer-Assisted



- Intervention (MICCAI), Boston, USA, September 2014, Lecture Notes in Computer Science, Springer, 8674: 538-545, 2014.
60. Jingjia Xu, Azar Rahimi, Fei Gao, and **Linwei Wang**, *Variational Bayesian Electrophysiological Imaging of Myocardial Infarction*, In Polina Golland, Nobuhiko Hata, Christian Barillot, Joachim Hornegger, and Robert Howe (Eds), Medical Image Computing and Computer-Assisted Intervention (MICCAI), Boston, USA, September 2014, Lecture Notes in Computer Science, Springer, 8674: 529-537, 2014.
  61. Jingjia Xu, Azar Rahimi, Fei Gao, and **Linwei Wang**, *Total-Variation Minimization on Unstructured Volumetric Mesh: Biophysical Application on Reconstruction of 3D Ischemic Myocardium*. IEEE Conference on Computer Vision and Pattern Recognition (CVPR), Columbus, USA, June 2014, pp 3043-3050.
  62. Azar Rahimi, Jingjia Xu, and **Linwei Wang**, *Multiple-Model Bayesian Approach to Volumetric Imaging of Cardiac Current Sources*, IEEE International Conference on Image Processing (ICIP), Paris, France, October, 2014, pp 3522-3526.
  63. Azar Rahimi, Jingjia Xu, and **Linwei Wang**, *Electrophysiological Imaging of Volumetric Infarct Border Using a Spatio-Temporal  $L_p$ -Norm Constraint*, IEEE International Symposium on Biomedical Imaging (ISBI), Beijing, China, May 2014, pp 612-615 (**best paper travel award**).
  64. Hongda Mao, Megan Gribble, Arkady Pertsov, **Linwei Wang**, and Pengcheng Shi, *Understanding Embryonic Heart Morphogenesis Through Automatic Segmentation and Confocal Imaging with Optimal Clearing*, IEEE International Symposium on Biomedical Imaging (ISBI), Beijing, China, May 2014, pp 1303-1306.
  65. Jingjia Xu, Azar Rahimi, Fei Gao, and **Linwei Wang**, *A Novel Total Variation Based Noninvasive Transmural Electrophysiological Imaging*. In Kensaku Mori, Ichiro Sakuma, Yoshinobu Sato, Christian Barillot, and Nassir Navab (Eds), Medical Image Computing and Computer-Assisted Intervention (MICCAI), Nagoya, Japan, September 2013, Lecture Notes in Computer Science, Springer, 8149: 501-508, 2013.
  66. Azar Rahimi and **Linwei Wang**, *The Impact of Ventricular Shape Variations on Inverse Electrocardiography: A Feasibility Study*. IEEE International Symposium on Biomedical Imaging (ISBI), San Francisco, USA, April 2013, pp 564-567 (**oral presentation**).
  67. Azar Rahimi, Jingjia Xu, John R Fitz-Clarke, and **Linwei Wang**, *Volumetric Imaging of Cardiac Current Source using  $L_p$ -Norm Regularization*, Computing in Cardiology (CinC), Zaragoza, Spain, September 2013, pp 715-718.
  68. Jingjia Xu, Azar Rahimi, and **Linwei Wang**: *Localization of Transmural Sparse Excitation Stimuli from Surface Mapping*, In Nicholas Ayache, Herve Delingette, Polina Golland, and Kensaku Mori (Eds), Medical Image Computing and Computer-Assisted Intervention (MICCAI), Nice, France, September 2012, Lecture Notes in Computer Science, Springer, 7510: 675-682, 2012.
  69. Ken C.L. Wong, Jatin Relan, **Linwei Wang**, Maxime Sermesant, Herve Delingette, Nicholas Ayache, Pengcheng Shi: *Strain-Based Regional Nonlinear Cardiac Material Properties Estimation from Medical Images*, In Nicholas Ayache, Herve Delingette, Polina Golland, and Kensaku Mori (Eds), Medical Image Computing and Computer-Assisted Intervention (MICCAI), Nice, France, September 2012, Lecture Notes in Computer Science, Springer, 7510: 617-624, 2012.
  70. Hongda Mao, **Linwei Wang**, Ken C.L Wong, Huafeng Liu and Pengcheng Shi: *Towards Integrated Noninvasive Personalization of Cardiac Electromechanics*. IEEE International Symposium on Biomedical Imaging (ISBI), Barcelona, Spain, May 2012, pp 1430-1433.
  71. Azar Rahimi, Jingjia Xu and **Linwei Wang**: *Impact of Local Variations in Ventricular Anatomical Models on Transmural Electrophysiological Imaging*. Computing in Cardiology (CinC), Krakow,



- Poland, September 2012, pp 957-960.
72. Martin Corraïne, Sonia Lopez, and **Linwei Wang**: *GPU Accelerations of Transmural Electrophysiological Imaging*. Computing in Cardiology (CinC), Krakow, Poland, September 2012, pp 849-952.
  73. **Linwei Wang** and Fady Dawoud: *Transmural Imaging of Ventricular Action Potentials and Post-Infarct Substrates in Porcine Hearts*. Computing in Cardiology (CinC), Krakow, Poland, September 2012, pp 749-752.
  74. **Linwei Wang**, Fady Dawoud, Ken C.L. Wong, Heye Zhang, Huafeng Liu, Albert C. Lardo, and Pengcheng Shi: *Transmural Electrophysiologic and Scar Imaging on Porcine Heart with Chronic Infarction*, MICCAI Workshop on Statistical Atlases and Computational Models of the Heart: Imaging and Modeling Challenges (MICCAI-STACOM), Toronto, Canada, September 2011, Lecture Notes in Computer Science, 7085: 23-32, 2012 (**best paper award**).
  75. Azar Rahimi, Hongda Mao, Pengcheng Shi, and **Linwei Wang**: *Toward Clinically-Feasible Noninvasive Electrophysiological Imaging: Investigating the Impact of Local Anatomical Detail*, MICCAI Workshop on Statistical Atlases and Computational Models of the Heart (MICCAI-STACOM), Toronto, Canada, September 2011, Lecture Notes in Computer Science, 7085: 188-197, 2012.
  76. Hongda Mao, **Linwei Wang**, Ken C.L. Wong, Huafeng Liu, and Pengcheng Shi: *Volumetric Modeling Electromechanics of the Heart*, MICCAI Workshop on Statistical Atlases and Computational Models of the Heart (MICCAI-STACOM), Toronto, Canada, September 2011, Lecture Notes in Computer Science, 7085: 224-233, 2012.
  77. Ken C.L. Wong, **Linwei Wang**, Huafeng Liu, and Pengcheng Shi: *A Comparative Study of Physiological Models on Cardiac Deformation Recovery: Effects of Biomechanical Constraints*, In Gabor Fichtinger, Anne Martel, and Terry Peters (Eds), Medical Image Computing and Computer-Assisted Intervention (MICCAI), Toronto, Canada, September 2011, Lecture Notes in Computer Science, Springer, 6891: 420-427, 2011.
  78. **Linwei Wang**, Fady Dawoud, Ken C.L. Wong, Heye Zhang, Huafeng Liu, John Sapp, Milan Horacek, and Pengcheng Shi: *Mapping the Transmural Scar and Activation for Patients with Ventricular Arrhythmia*, Computing in Cardiology (CinC), Hangzhou, China, September 2011, pp 849-852 (**closing plenary presentation**).
  79. Hongda Mao, **Linwei Wang**, Ken C.L. Wong, Huafeng Liu, and Pengcheng Shi: *A Coupled Heart-Torso Framework for Cardiac Electrocardiographic Simulation*, Computing in Cardiology (CinC), Hangzhou, China, September 2011, pp 225-228 (**oral presentation**).
  80. Mohamed Elshrif, **Linwei Wang**, and Pengcheng Shi: *Dynamic Classification of Cellular Transmural Transmembrane Potential (TMP) Activity of the Heart*, Functional Imaging and Modeling of the Heart (FIMH), New York City, NY, USA, May 2011, pp 36-46.
  81. Ken C.L. Wong, **Linwei Wang**, Heye Zhang, and Pengcheng Shi: *Physiological Fusion of Functional and Structural Data for Cardiac Deformation Recovery*, In Tianzi Jiang, Nassir Navab, Josien P. W. Pluim, and Max A. Viergever (Eds), Medical Image Computing and Computer-Assisted Intervention (MICCAI), Beijing, China, October 2010, Lecture Notes in Computer Science, Springer, 6361: 159-166, 2010.
  82. **Linwei Wang**, Ken C.L. Wong, Heye Zhang, Huafeng Liu, and Pengcheng Shi: *How Much Geometrical Detail Do We Need in Cardiac Electrophysiological Imaging? A Generic Heart-Torso Representation for Fast Subject-Specific Customization*, MICCAI Workshop on Statistical Atlases and Computational Models of the Heart (MICCAI-STACOM), Beijing, China, September 2010, Lecture Notes in Computer Science, 6364: 232-241, 2010.
  83. **Linwei Wang**, Ken C.L. Wong, Heye Zhang, Huafeng Liu, and Pengcheng Shi: *A Statistical Physiological-Model-Constrained Framework for Computational Imaging of Subject-Specific Volumetric*

- Cardiac Electrophysiology Using Optical Imaging and MRI Data*, MICCAI Workshop on Statistical Atlases and Computational Models of the Heart (MICCAI-STACOM), Beijing, China, September 2010, Lecture Notes in Computer Science, 6364: 261-269 (**oral presentation**).
84. Jijie Xu, **Linwei Wang**, Ken C.L. Wong, and Pengcheng Shi: *A Meshless Framework for Bevel-Tip Flexible Needle Insertion Through Soft Tissue*, IEEE/RAS-EMBS International Conference on Biomedical Robotics and Biomechatronics (IEEE BioRob), Tokyo, Japan, September 2010, pp 753-758 (**oral presentation**).
  85. Ken C.L. Wong, **Linwei Wang**, Heye Zhang, and Pengcheng Shi: *Computational Complexity Reduction Via Model Superposition: Application to Biomechanics-Based Nonlinear Cardiac Deformation Recovery*, IEEE International Conference on Image Processing (ICIP), Hong Kong, China, September 2010, pp 4417-4420.
  86. **Linwei Wang**, Heye Zhang, Ken C.L. Wong, Huafeng Liu, and Pengcheng Shi: *Noninvasive Imaging of Electrophysiological Substrates in Post Myocardial Infarction*, In Guang-Zhong Yang, David Hawkes, Daniel Rueckert, Alison Noble, and Chris Taylor (Eds), Medical Image Computing and Computer-Assisted Intervention (MICCAI), London, UK, September 2009, Lecture Notes in Computer Science, Springer, 5762: 732-740, 2009.
  87. **Linwei Wang**, Heye Zhang, Ken C.L. Wong, Huafeng Liu, and Pengcheng Shi: *Noninvasive Volumetric Imaging of Cardiac Electrophysiology*, IEEE Conference on Computer Vision and Pattern Recognition (CVPR), Miami, US, June 2009, pp 2176-2183.
  88. Ken C.L. Wong, **Linwei Wang**, Heye Zhang, and Pengcheng Shi: *Nonlinear Cardiac Deformation Recovery from Medical Images*, IEEE International Conference on Image Processing (ICIP), Cairo, Egypt, November 2009, pp 2513-2516.
  89. **Linwei Wang**, Ken C.L. Wong, Heye Zhang, and Pengcheng Shi: *Electrocardiographic Simulation on Coupled Meshfree-BEM Platform*, Functional Imaging and Modeling of the Heart (FIMH), Nice, France, June 2009, pp 162-171.
  90. Ken C.L. Wong, **Linwei Wang**, and Pengcheng Shi: *Active Model with Orthotropic Hyperelastic Material for Cardiac Image Analysis*, Functional Imaging and Modeling of the Heart (FIMH), Nice, France, June 2009, pp 229-238.
  91. **Linwei Wang**, Heye Zhang, Ken C.L. Wong, and Pengcheng Shi: *A Reduced-Rank Square Root Filtering Framework for Noninvasive Functional Imaging of Volumetric Cardiac Electrical Activity*, IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP), Taipei, China, April 2009, pp 533-536.
  92. **Linwei Wang**, Ken C.L. Wong, Heye Zhang, and Pengcheng Shi: *Noninvasive Functional Imaging of Volumetric Cardiac Electrical Activity: A Human Study on Myocardial Infarction*, In Dimitris Metaxas, Leon Axel, Gabor Fichtinger, and Gabor Szekely (Eds), Medical Image Computing and Computer-Assisted Intervention (MICCAI), New York City, US, September 2008, Lecture Notes in Computer Science, Springer, 5241: 1042-1050, 2008.
  93. **Linwei Wang**, Ken C.L. Wong, and Pengcheng Shi: *Dynamic Structural-Image-Guided Noninvasive 3D Cardiac Electrophysiological Mapping*, IEEE International Conference on Image Processing (ICIP), San Diego, USA, October 2008, pp 1428-1431.
  94. **Linwei Wang**, Heye Zhang, Ken C.L. Wong, and Pengcheng Shi: *Coupled Meshfree-BEM Platform for Electrocardiographic Simulation: Modeling and Validations*, Medical Imaging and Augmented Reality (MIAR), Tokyo, Japan, August 2008, pp 98-107.
  95. Ken C.L. Wong, **Linwei Wang**, Heye Zhang, Huafeng Liu, and Pengcheng Shi: *Simulation of Active Cardiac Electromechanical Dynamics*, Medical Imaging and Augmented Reality (MIAR), Tokyo, Japan, August 2008, pp 60-69.
  96. Heye Zhang, **Linwei Wang**, Peter J. Hunter, and Pengcheng Shi: *Meshfree Framework for Image-*

- Derived Modeling*, IEEE International Symposium on Biomedical Imaging (ISBI), Paris, France, April 2008, pp 1449-1452.
97. Ken C.L. Wong, **Linwei Wang**, Heye Zhang, Huafeng Liu, and Pengcheng Shi: *Integrating Functional and Structural Images for Simultaneous Cardiac Segmentation and Deformation Recovery*, In Nicholas Ayache, Sebastien Ourselin, and Anthony Maeder (Eds), Medical Image Computing and Computer-Assisted Intervention (MICCAI), Brisbane, Australia, October 2007, Lecture Notes in Computer Science, Springer, 4791: 270-277, 2007.
  98. Zhenghui Hu, Heye Zhang, **Linwei Wang**, Xiaolan Song, and Pengcheng Shi: *Joint Estimation for Nonlinear Dynamic System from FMRI Time Series*, IEEE International Conference on Image Processing (ICIP), San Antonio, USA, September 2007, pp 145-148.
  99. **Linwei Wang**, Heye Zhang, and Pengcheng Shi: *Toward Noninvasive 3D Imaging of Cardiac Arrhythmias*, Functional Imaging and Modeling of the Heart (FIMH), Salt Lake City, USA, June 2007, pp 280-289.
  100. Heye Zhang, **Linwei Wang**, and Pengcheng Shi: *Simulation of Cardiac Electrophysiological Activities Using a Heart-Torso Model*, Functional Imaging and Modeling of the Heart (FIMH), Salt Lake City, USA, June 2007, pp 150-159.
  101. **Linwei Wang**, Heye Zhang, Ken C.L. Wong, and Pengcheng Shi: *Noninvasive Imaging of 3D Cardiac Electrophysiology*, IEEE International Symposium on Biomedical Imaging: Macro to Nano (ISBI), Washington DC, USA, April 2007, pp 632-635 (**invited talk**).
  102. **Linwei Wang**, Heye Zhang, and Pengcheng Shi: *Simultaneous Recovery of Three-dimensional Myocardial Conductivity and Electrophysiological Dynamics: A Nonlinear System Approach*, Computers in Cardiology (CinC), Valencia, Spain, September 2006, pp 45-48.
  103. **Linwei Wang**, Heye Zhang, Huafeng Liu, and Pengcheng Shi: *Imaging of 3D Cardiac Electrical Activity: A Model-based Recovery Framework*, In Rasmus Larsen, Mads Nielsen, and Jon Sporring (Eds), Medical Image Computing and Computer-Assisted Intervention (MICCAI), Copenhagen, Denmark, October, 2006, Lecture Notes in Computer Science, Springer, 4190: 792-299, 2006.

#### Peer-Reviewed Abstracts

104. Oscar Camara, Maxime Sermesant, Pablo Lamata, **Linwei Wang**, Mihaela Pop, Jatin Relan, Mathieu De Craene, Herve. Delingette, Huafeng Liu, Steven Niederer, Ali Pashaei, Gernot Plank, Daniel Romero, Rafael Sebastián, Ken C.L. Wong, Heye Zhang, Nicholas Ayache, Alejandro Frangji, Pengcheng Shi, Nic Smith, and Graham Wright: *Integration of different cardiac electrophysiological models into a single simulation pipeline*. IEEE International Symposium on Biomedical Imaging (ISBI), Barcelona, Spain, May 2012, pp 1429.

#### Editorial

105. **Linwei Wang**, Vicky Y. Wang, and Heye Zhang, *Image-Based Computational Cardiology: From Data to Understanding*, Computational and Mathematical Methods in Medicine, Hindawi, 2014: 120960, <http://dx.doi.org/10.1155/2014/120960>.

#### Books and Book Chapters

106. **Linwei Wang**: *Personalized Noninvasive Imaging of 3D Cardiac Electrophysiology. A System Approach: Basics, Methods, and Applications*. VDM Verlag, 2009, ISBN: 9783639184945

107. **Linwei Wang**, and Pengcheng Shi: *Personalized Noninvasive Imaging of Three-Dimensional Volumetric Cardiac Electrophysiology*, in "3D Imaging: Theory, Technology and Applications", Emerson H. Duke and Stephen R. Aquirre (Editors), Nova publishers, 2010, ISBN: 1608768856.