

## Candidate for Chair

Samarjit Chakraborty  
UNC Chapel Hill, Chapel Hill, NC, USA

### **BIOGRAPHY**

#### Academic Background:

Ph.D., ETH Zurich, 2003, Electrical Engineering.

#### Professional Experience:

Distinguished Professor, Department of Computer Science, UNC Chapel Hill, Chapel Hill, NC, 2019 – Present;  
Full Professor and Chairholder, Institute for Real-Time Computer Systems, TU Munich, Germany, 2008 – 2019;  
Assistant Professor, Dept. of Computer Science, National University of Singapore, Singapore, 2003 – 2008.

#### Areas of Professional Interest:

Embedded Systems and Software Design, Real-Time Systems, Cyber-Physical Systems, Automotive Embedded Systems, Sensor Networks.

#### ACM Activities:

Associate Editor, ACM Transactions on Cyber-Physical Systems, SIGBED, 2016 – Present;  
Executive Committee Member of Design Automation Conference (DAC), SIGDA, 2014 – 2015;  
General Chair of Embedded Systems Week (ESWeek), SIGBED, 2011;  
Technical Program Co-Chair of EMSOFT, SIGBED, 2009.

#### Membership and Offices in Related Organizations:

Member, Board of Directors of ACM SIGBED, 2019 – Present;  
Chair, ACM SIGBED Early Career Researcher Award Committee, SIGBED, 2020;  
Member, EMSOFT Steering Committee, SIGBED, 2010 – 2012.

#### Awards Received:

Best Paper Award of the ACM TODAES, 2019;  
Best Paper Award at 35th IEEE ICCD, 2017;  
Best Paper Award at 23rd IEEE RTCSA, 2017;  
Best Paper Award at ACM/IEEE ISLPED, 2017.

## **STATEMENT**

I feel honored to get this opportunity to serve SIGBED. I am cognizant of the impact embedded systems have on a diverse range of emerging applications with strong societal relevance. These include autonomous vehicles, implantable medical devices, battery technologies to harness renewable energy. However, there is currently a disconnect between embedded systems and mainstream computer systems, with the latter often enjoying more prominence within most universities and funding agencies. If elected, I will:

- Increase the engagement between SIGBED and various academic and governmental entities to enhance visibility, create more openings for embedded systems researchers and to better support them. This will be done by writing relevant articles in forums like CACM, inviting policy makers to embedded systems forums, and writing to them directly.
- Organize easily accessible tutorials and courses on topics like machine learning, autonomy, and various application domains, to make it easier for more researchers to start working on them.
- Organize sessions and panels to identify the grand challenges facing embedded systems design. I also intend to continue the efforts of my predecessors to make SIGBED more relevant, improve diversity issues, increase a sense of community, and improve career-growth opportunities for its members by introducing more awards and grants.

## Candidate for Secretary-Treasurer

Wanli Chang  
University of York, UK

### **BIOGRAPHY**

#### Academic Background:

Ph.D., Technical University of Munich, 2017, Computer Engineering.

#### Professional Experience:

Permanent Academic Staff, University of York, UK, 2018 – Present.

#### Professional Interest:

Embedded systems, Real-time systems, Cyber-physical systems, Design automation, Optimization.

#### ACM Activities:

Associate Editor of Newsletter, SIGDA, 2020 – Present;  
Chair of Autonomous Systems in DAC, SIGDA, 2020 – Present;  
PC member of EMSOFT, SIGBED, 2019 – 2020;  
Best Paper Award Committee Member of CODES+ISSS, SIGBED, 2020.

#### Membership and Offices in Related Organizations:

Young Professionals Committee, IEEE CEDA, 2020 – Present;  
Industry Track Founding Chair of RTAS, IEEE TCRTS, 2020 – 2021;  
Best Paper Award Committee Member of RTSS, IEEE TCRTS, 2019.

#### Awards Received:

Best Paper Nomination, RTAS, 2020;  
Best Paper Award Candidate, EMSOFT, 2020;  
Best Paper Nomination Award, DATE, 2019;  
Best Dissertation Award, Technical University of Munich, Germany, 2018.

### **STATEMENT**

As motivated by practical applications in the industry, including autonomous vehicles, robotics, and industry automation, the field of embedded systems and their design automation is moving towards high performance and complex functionalities, requiring new theories and technologies. I have been devoted to this research direction and published 15 papers in relevant top conferences listed by csrcranking in the past two years.

I will dedicate myself towards two main goals. First, I will strengthen the relationship between academia and industry. There are practical problems to which the industry is looking for solutions and that the academics can solve. I have successfully founded and chaired the industry track of RTAS 2021, the first of its kind in a top real-time and embedded systems conference. Most major companies in the field of embedded systems and their automation around the world have been attracted. Second, I will seek support from senior academics and create more career development opportunities for the young professionals in the area. In general, we have not been able to get positions in the top schools. This needs to be changed on the ACM SIG level.

Thank you for voting for me and please do not hesitate to contact me for any suggestions!

## Candidate for Vice-Chair

Sayan Mitra

University of Illinois at Urbana Champaign, Urbana, IL, USA

### **BIOGRAPHY**

#### Academic Background:

Ph.D., Massachusetts Institute of Technology, 2007, Computer Science.

#### Professional Experience:

Professor, University of Illinois at Urbana Champaign, Urbana, IL, 2018 – Present;  
Associate Professor, University of Illinois at Urbana Champaign, Urbana, IL, 2014 – 2018;  
Assistant Professor, University of Illinois at Urbana Champaign, Urbana, IL, 2008 – 2014.

#### Areas of Professional Interest:

Cyber-Physical Systems, Formal Verification, Autonomous Systems.

#### ACM Activities:

ACM SIGBED Executive Committee Member, SIGBED, 2018 – Present;  
ACM HSCC Steering Committee Member, HSCC is a SIGBED conference, 2020 – Present.

#### Awards Received:

AFOSR Young Investigator Award, 2012;  
IEEE-HKN C. Holmes MacDonald Outstanding Teaching Award, 2011;  
CAREER Award, 2010.

### **STATEMENT**

Hello! The embedded computing world is at the center of several technical and social disruptions. AI/ML is changing how embedded/IoT systems are built and used; these systems and their vulnerabilities now have ever larger impacts on society. In this environment, SIGBED continues to become the focal point for curating research through journals and conferences; the main channel for information dissemination through magazines and the new blog; and the home community for researchers and technologists from several different subfields. Some of the questions and issues I hope to lead the community on would include:

1. Establish a list of hard research problems for the next generation.

2. Identify of the barriers for tech transfer.
3. Tune the SIGBED publications processes to be fairer and more appropriate for the times.
4. Steward SIGBED's growth, while fostering diversity, inclusion, and equity.

Sayan Mitra is a Professor of Electrical and Computer Engineering at the University of Illinois at Urbana-Champaign. His book "Verifying Cyber-Physical Systems: A Path to Safe Autonomy", was published by MIT Press in February 2021. He serves in the Executive Committee of SIGBED and led, with Hyoseung Kim, the creation of SIGBED Research Highlights in CACM. He co-chaired HSCC 2018 with Goran Frehse and instituted the double-blind review policy for that conference.

## Candidate for Vice-Chair

Linh Thi Xuan Phan  
University of Pennsylvania, Philadelphia, PA, USA

### **BIOGRAPHY**

#### Academic Background:

Ph.D., National University of Singapore, 2009, Computer Science.

#### Professional Experience:

Associate Professor, University of Pennsylvania, Philadelphia, PA, 2019 – Present;  
Assistant Professor, University of Pennsylvania, Philadelphia, PA, 2016 – 2019;  
Assistant Research Professor, University of Pennsylvania, Philadelphia, PA, 2012 – 2016.

#### Professional Interest:

Embedded/real-time/cyber-physical systems, Distributed systems, Formal methods, Security.

#### ACM Activities:

Secretary/Treasurer, ACM SIGBED, 2019 – Present;  
Member, ACM Future of Computing Academy, 2017 – 2020;  
PC Chair/Co-Chair, ACM SIGBED International Conference on Embedded Software, 2020 – 2021;  
Steering Committee Member, ACM SIGBED International Conference on Embedded Software, 2021 – Present.

#### Membership and Offices in Related Organizations:

Executive Member, IEEE Technical Committee on Real-Time Systems, 2016 – 2020;  
PC Track Chair, IEEE Real-Time and Embedded Technology and Applications Symposium, 2018;  
Publication Chair, Embedded Systems Week (ESWeek), 2017.

#### Awards Received:

Lindback Award for Distinguished Teaching, 2020;  
Best Paper Award and Best Student Paper Award, RTAS, 2019;  
CAREER Award, National Science Foundation, 2018;  
NUS Dean's Graduate Research Excellence , 2009.

### **STATEMENT**

The world of embedded systems has been changing rapidly: devices are becoming more and more interconnected, and they are gaining new functionality via artificial intelligence or cloud computing. This creates many exciting opportunities for our community, but also some important challenges. To address these, I believe it will be important to build bridges to other communities, such as ML/AI, data science, distributed systems, or security/privacy. The current pandemic has created interesting opportunities for this. For instance, many of us have developed materials for online classes that we could now use to teach others about CPS, and, while our conferences are virtual, it will be much easier to invite members of other communities to visit and get involved.

I would also further strengthen SIGBED's outreach and diversity initiatives. For instance, I think it would be great to have a mentorship program for students, postdocs, and even junior faculty members, to help them start their careers, build networks, and achieve a good work/life balance. This would be particularly important now, when the pandemic has caused major disruptions for many of us.

I am serving as ACM SIGBED's Treasurer-Secretary and served on the IEEE Technical Committee on Real-Time Systems in 2016-2020.



## Candidate for Secretary/Treasurer

Martina Maggio  
Saarland University, Saarbrücken, Germany

### **BIOGRAPHY**

#### Academic Background:

Ph.D., Politecnico di Milano, 2011, Information Technology.

#### Professional Experience:

Professor, Saarland University, Saarbrücken, Germany, 2020 – Present;  
Associate Professor, Lund University, Lund, Sweden, 2018 – Present;  
Assistant Professor, Lund University, Lund, Sweden, 2015 – 2017.

#### Professional Interest:

Embedded Systems, Cyber-Physical Systems, Control Theory, Software Engineering, Self-Adaptive Systems.

#### ACM Activities:

Associate Editor of ACM Transaction on Embedded System, 2014 – Present;  
Board of Directors, SIGBED, 2019 – Present;  
PC Co-Chair for 11th ACM/IEEE Conference on Cyber-Physical Systems, 2020.

#### Membership and Offices in Related Organizations:

Program Committee Member: RTSS. Diversity Committee: TCRTS., IEEE TCRTS, 2020;  
Track chair (PC chair for one track) RTAS., IEEE TCRTS, 2019;  
General Chair ECRTS, Euromicro, 2017;

#### Awards Received:

ACM SIGSOFT Distinguished Paper Award FSE, 2020;  
Best Paper Award ICAC, 2018;  
Best Artifact Award SEAMS, 2017;  
Best Paper Award RTCSA, 2016.

### **STATEMENT**

I am hugely honoured to have been nominated for Secretary-Treasurer of SIGBED. While I began my career in the field of control theory, over the years I have started participating in the life of the embedded systems community, and in particular I have enjoyed the scientific insights gained from both the CPS-LoTweek and ESWEEK (in particular EMSOFT). I have significant experience organising and managing the

budgets for events; I have been general chair of ECRTS in 2017 and have been heavily involved with the conference budget since then. This gave me insight and experience into both conference organisation and budget and finance management. As Secretary-Treasurer, I would commit to ensure the success of SIGBED and support the visibility of the ongoing activities in computer science and related fields, for example control theory. In my role as Secretary-Treasurer, I would focus on both ensuring that we have a solid financial foundation, and also on growing and revitalising the community.

## Candidate for Chair

Xue (Steve) Liu,  
McGill University, Montreal, QC, Canada

### **BIOGRAPHY**

#### Academic Background:

Ph.D., University of Illinois at Urbana-Champaign, 2006, Computer Science.

#### Professional Experience:

Assistant/Associate/Full Professor, McGill University, Montreal, QC, 2007 – Present;  
VP R&D, Chief Scientist, Co-Director, Samsung AI Center Montreal, Montreal, QC,  
2019 – Present;  
William Dawson Scholar, McGill University, Montreal, QC, 2014 – Present.

#### Areas of Professional Interest:

Real-Time Embedded Systems, Cyber-Physical Systems and IoT, AI and Machine Learning,  
Green and Sustainable Computing, Computer Systems and Networking.

#### ACM Activities:

Associate Editor, ACM Transactions on Cyber-Physical Systems, 2016 – Present;  
Editor, ACM/IEEE Transactions on Networking, 2016 – 2020;  
General Co-Chair, ACM/IEEE CPS-IoT Week 2019, 2019;  
General Co-Chair/Program Co-Chair, ACM/IEEE International Conf. on Cyber-Physical  
Systems, 2018 – 2019.

#### Membership and Offices in Related Organizations:

Chair of Virtual Action Group on Hybrid Dynamic Systems, IEEE Technical Committee on  
Computational Aspects of Control Systems Design, 2010 – 2014.

#### Awards Received:

IEEE Fellow, 2020  
ACM Recognition of Service Award, 2019  
ACM SIGBED Certificate of Appreciation, 2019  
Best Paper Award, ACM WiSec, 2011,

### **STATEMENT**

I am honored to have been nominated to run for the ACM SIGBED Chair position. Embedded computing systems are becoming increasingly important for modern society. The pervasiveness of embedded systems (e.g., Cyber-Physical Systems and Internet of Things) introduces many new challenges and opportunities for research and development. Building next-generation embedded systems that are intelligent, efficient, safe, and reliable will require new design, verification, implementation, and validation techniques.

The 2020 pandemic will change the way we live, learn, and interact. It will bring both challenges and opportunities for us. I believe that ACM SIGBED is in a unique position to facilitate its members to adapt to the changes, discover new scientific principles, develop new technologies

and tools, and train the next generation professionals. If elected, I will:

- Promote stronger collaboration between academic and industrial partners;
- Foster further interactions with other SIGs and related areas of science and engineering;
- Sponsor more activities for SIGBED members and increase student participation;
- Expand education to train members ready for next-generation embedded systems;
- Promote diversity and inclusion.

I am committed to strengthening the leadership role of ACM SIGBED in the growing field of embedded systems.

## Candidate for Secretary/Treasurer

Pavithra Prabhakar  
Kansas State University, Manhattan, KS, USA

### **BIOGRAPHY**

#### Academic Background:

Ph.D., University of Illinois at Urbana-Champaign, 2011, Computer Science.

#### Professional Experience:

Associate Professor, Kansas State University, Manhattan, KS, 2017 – Present;  
Assistant Professor, Kansas State University, Manhattan, KS, 2015 – 2017;  
Assistant Research Professor (tenure-track), IMDEA Software Institute, Madrid, Spain, 2011 – 2015.

#### Professional Interest:

Embedded, Real-time and Hybrid Systems, Formal Methods and Logics, Robotics and agricultural automation.

#### ACM Activities:

Chair, HSCC: ACM Hybrid Systems: Computation and Control Conference, 2019;  
Program Committee Member, HSCC: ACM Hybrid Systems: Computation and Control Conference, 2013 – 2021;  
Program Committee Member, EMSOFT: International Conference on Embedded Software, 2018 – 2020;  
Program Committee Member, ICCPS:ACM/IEEE International Conference on Cyber-Physical System, 2018 – 2021.

#### Membership and Offices in Related Organizations:

ACM Member, 2009 – Present;  
ACM SIGBED Member, 2019 – Present.

#### Awards Received:

ONR Young Investigator Award, 2017;  
NSF CAREER Award, 2016;  
Marie Curie Career Integration Grant (European Union), 2014.

### **STATEMENT**

I am honored to have been nominated to serve as the Secretary-Treasurer of ACM SIGBED. I have served as a program committee member of ACM HSCC since 2013, and EMSOFT and ICCPS since 2018. I was invited to chair HSCC in 2019. I lead the

Hybrid Systems research group at Kansas State University, where I am an Associate Professor and Peggy and Gary Edwards Chair in Engineering. My experience in these varied positions has prepared me well for serving you as Secretary-Treasurer of ACM SIGBED.

ACM SIGBED has made significant impact over the years by sponsoring flagship conference series including ESWeek and CPS-IoT Week, promoting young researchers by establishing early career and dissertation awards and providing financial support for diversity related events including N2women events. If elected Secretary-Treasurer, I would like to continue the efforts of ACM SIGBED by promoting activities that span all the diverse fields related to embedded computing systems and promoting diversity and inclusion among members.