

Programme Leader



Prof Costas Spanos, University of California, Berkeley

Prof Costas Spanos is the Programme Leader of SinBerBEST. At UC Berkeley, he is also the of the Director Center Information Technology Research in the Interest of Society (CITRIS), which serves four UC campuses and creates information technology solutions for many of our most pressing social, environmental and healthcare problems.

The SinBerBEST programme started in January 2012, funded by the National Research Foundation (NRF), under its Campus for Research Excellence and Technological Enterprise (CREATE) programme. This is the first joint research programme between University of California, Berkeley, Nanyang Technological University (NTU), and National University of Singapore (NUS). SinBerBEST was renewed for a second 5-year term in June 2017.

SinBerBEST aims to deliver energy efficient building technologies for the tropics, while optimising human comfort, safety, security, and productivity. To achieve these objectives, this interdisciplinary research project is organised into five major research themes:

- Human-Building Nexus
- Smart Technologies and Resilient Buildings
- Agile Design for Energy Efficiency and Human Comfort
- Data Analytics
- Test Beds and Deployments



Researchers

There are more than 70 post-doctoral fellows, research associates, and PhD students participating in SinBerBEST. A total of 22 Principal Investigators (Pls) lead the research teams: 8 UC Berkeley faculty, 7 NTU faculty, 4 NUS faculty, 2 SUTD faculty and 1 SIT faculty.

Highlights

Fault Diagnosis via PV Panel-Integrated Power Electronics

NUS graduate student Palak Jain and UC Berkeley graduate student Jason Poon received the Best Paper Award at the 2016 IEEE Workshop on Control and Modelling for Power Electronics (COMPEL) for their work titled 'Fault Diagnosis via PV Panel-Integrated Power Electronics.' Their work explored an innovative method for improving the reliability and fault tolerance of photovoltaic systems by using smart power electronics. Co-authors of the paper include Professors Sanjib Kumar Panda and Jian-Xin Xu of NUS, and Professors Seth R. Sanders and Costas Spanos of UC Berkeley.

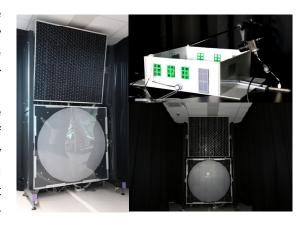


Entrepreneurship Workshop 2017

Spearheaded by Professor Alberto Sangiovanni-Vincentelli from BEARS/SinBerBEST and Dr Pauline Tay from the National Research Foundation, an Entrepreneurship Workshop was held to address the need to identify factors that would contribute to the formation of an ecosystem where the research results in academia and CREATE can flow seamlessly towards successful implementations in Singapore. Held on 13 January 2017 at the CREATE Tower, the workshop witnessed a turnout of 50 registered participants from CREATE, government agencies, industry and incubators (SGInnovate, SPRING, Vertex Venture Holdings, NI – to name a few). Through the workshop, participants aimed to engage in robust discussion on plans to strengthen collaboration among CREATE entities, and increase focus on technology transfer through collaboration with industry, government agencies and start-ups.

Cyber-Physical Test Bed

The SinBerBEST team constructed a 100 square metre "building within a building" test bed to be accessed virtually via network and its data can be analysed anywhere in the world. This facility supports research development for Innovations in Air Conditioning, lighting, indoor air quality, sensing and Demand-Response, among many others. The test bed is highly configurable to suit different needs of Building experiments, and is in a favourable position to carry out research work related to energy efficiency and sustainability in tropical buildings. It is also able to support research, development and testing for Distributed "part-time/part-space" VAC and lighting control.



For more information about the SinBerBEST programme, please contact Laboratory Manager Mr Edwin Goh at edwingoh@bears-berkeley.sg, or visit the SinBerBEST website at http://sinberbest.berkeley.edu

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