

Subhonmesh Bose

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Contact information

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Affiliation

Department of Electrical and Computer Engineering, University of Illinois at Urbana-Champaign.
Specialization: Power and Energy.

Educational background

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| Indian Institute of Technology Kanpur, India | Electrical Engineering | 2009 | B. Tech. |
| California Institute of Technology, Pasadena, CA. | Electrical Engineering | 2012 | M.S. |
| California Institute of Technology, Pasadena, CA. | Electrical Engineering | 2014 | Ph.D. |

Graduate advisors: Steven Low, Adam Wierman, K. Mani Chandy, Babak Hassibi (California Institute of Technology).
Postdoctoral sponsor: Eilyan Bitar (Cornell University).

Professional positions held

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| 2016 – | University of Illinois at Urbana-Champaign | Assistant Professor, Department of Electrical and Computer Engineering. |
| 2014 – 2015 | Cornell University | Postdoctoral Fellow, Atkinson Center for a Sustainable Future. |
| 2009 – 2014 | California Institute of Technology | Engineering and Applied Science Division Fellow, Research Assistant, Teaching Assistant, Postdoctoral Scholar. |
| 2010 – 2012 | Southern California Edison | Professional trainee at Advanced Technologies division. |

Honors and awards

- Received the *Atkinson Center Postdoctoral Fellowship in Sustainability* at Cornell University (2014).
- Received the *Best Paper award in System Operations and Market Economics* at IEEE Power and Energy Systems General Meeting (2013).
- Finalist at Resnick graduate studies fellowship in Sustainability Science, Caltech (2013).
- Received the *Engineering and Applied Science Division Fellowship* for graduate study, Caltech (2009).
- Received the *Directors' Gold Medal* for all-round best performance in graduating batch at IIT Kanpur (2009).
- Received *Academic Excellence Award* for 3 consecutive years at IIT Kanpur (2006-08).
- Received the *Goldman Sachs Global Leadership Award* (2007).
- Received the OP Jindal Engineering and Management Scholarship (2007).
- Selected among top 50 students in India in the *Indian National Physics Olympiad* (2005).
- Selected among top 25 students in India in the *Indian National Chemistry Olympiad* (2005).
- Selected among top 30 students in India in the *Indian National Mathematical Olympiad* (2005).
- Selected among 40 students in India for the *Kishore Vaigyanik Protsahan Yojna* (KVPY) fellowship (2003), funded by the Government of India for research-minded students in science.

Publications

- Y. Guo, S. Bose, and L. Tong, “On Robust Tie-line Scheduling in Multi-Area Power Systems”, Preprint, 2017.
- K. Alshehri, S. Bose, and T. Başar, “Cash-settled Call Options for Wholesale Electricity Markets”, Proceedings of the International Federation of Automatic Control World Congress 2017.
- Y. Xu, D. Cai, S. Bose, and A. Wierman, “On the Efficiency of Networked Stackelberg Competition”, Proceedings of the 51st Annual Conference on Information Sciences and Systems, 2017.
- D. Cai, S. Bose, and A. Wierman, “On the Role of a Market Maker in Networked Cournot Competition”, Preprint, 2016.
- S. Bose, and E. Bitar, “The Marginal Value of Networked Energy Storage”, Preprint, 2016.
- R. Louca, S. Bose, and E. Bitar, “A Bound on the Minimum Rank of Solutions to Sparse Linear Matrix Equations”, Proceedings of the American Control Conference, 2016.
- S. Bose, “On the design of Wholesale Electricity Markets under Uncertainty”, Proceedings of the 53rd Annual Allerton Conference on Communication, Control, and Computing, 2015.
- S. Bose, S. Low, T. Teeraratkul, and B. Hassibi, “Equivalent Relaxations of Optimal Power Flow”, IEEE Trans. on Automatic Control 2015, vol. 60, no. 3, pp. 729 – 742.
- C. Thrampoulidis, S. Bose, and B. Hassibi, “Optimal Placement of Distributed Energy Storage in Power Networks”, IEEE Trans. on Automatic Control 2015, vol. 61, no. 2, pp. 416 – 429.
- S. Bose, D. Gayme, K. M. Chandy, and S. Low, “Quadratically constrained quadratic programs on acyclic graphs with application to power flow”, IEEE Trans. on Control of Network Systems 2014, vol. 2, no. 3, pp. 278 – 287.
- S. Bose, C. Wu, Y. Xu, A. Wierman, and H. Mohesenan-Rad, “Unifying Market Power analysis in Electricity Markets”, IEEE Trans. on Power Systems 2014, vol. 30, no. 5, pp. 2338 – 2348.
- S. Bose, and E. Bitar, “Variability and the Locational Marginal Value of Energy Storage”, Proceedings of IEEE Conference on Decision and Control, 2014.
- S. Bose, D. Cai, S. Low, and A. Wierman, “The Role of a Market Maker in Networked Cournot Competition”, Proceedings of IEEE Conference on Decision and Control, 2014.
- C. Wu, S. Bose, A. Wierman, and H. Mohesenan-Rad, “A Unifying Approach to Assessing Market Power in Deregulated Electricity Markets”, Proceedings of IEEE Power and Energy Society General Meeting, 2013. **Received the Best Paper award in System Operations and Market Economics.**
- C. Thrampoulidis, S. Bose, and B. Hassibi, “On the Distribution of Energy Storage in Electricity Grids”, Proceedings of IEEE Conference on Decision and Control, 2013.
- C. Thrampoulidis, S. Bose, and B. Hassibi, “Optimal Large-scale Storage Placement in Single Generator Single Load Networks”, Proceedings of IEEE Power and Energy Society General Meeting, 2013.
- S. Bose, S. Low, and K. M. Chandy, “Equivalence of Branch Flow and Bus Injection Models”, Proceedings of Allerton Conference, 2012.
- S. Bose, D. Gayme, U. Topku, and K. M. Chandy, “Optimal Placement of Energy Storage in the Grid”, Proceedings of IEEE Conference on Decision and Control, 2012.
- S. Bose, E. Bodine-Baron, B. Hassibi, and A. Wierman, “The Cost of an Epidemic over a Complex Network: A Random Matrix Approach”, Preprint.
- S. Bose, D. Gayme, S. Low, and K. M. Chandy, “Optimal Power Flow on Tree Networks”, Proceedings of Allerton Conference, 2011.
- E. Bodine-Baron, S. Bose, B. Hassibi, and A. Wierman, “Minimizing the social cost of an epidemic”, Proceedings of International GameNets Conference, 2011.
- S. Bose, V. Khaitan, and A. Chaturvedi, “A Low-Cost Algorithm to Find the Minimum Sampling Frequency for Multiple Bandpass Signals”, IEEE Signal Processing Letters, vol. 15, pp. 877 – 880.

Graduate advising

A. Madavan, M. Ndrjo (co-advised), K. Alshehri (co-advised), T. Doan (co-advised), Y. Escobar (Spring '17), Q. Wu (Summer '17), D. Kielty (co-advised, summer '17).