

# Publications for Somwrita Sarkar

## 2018

Hussein, D., Sarkar, S., Armstrong, P. (2018). Mapping preferences for the number of built elements. *Smart and Sustainable Built Environment*, 7(1), 53-67. <a href="http://dx.doi.org/10.1108/SASBE-10-2017-0048">[More Information]</a>

Sarkar, S., Phibbs, P., Simpson, R., Wasnik, S. (2018). The scaling of income distribution in Australia: Possible relationships between urban allometry, city size, and economic inequality. *Environment and Planning B: Urban Analytics and City Science*, 45(4), 603-622. <a href="http://dx.doi.org/10.1177/0265813516676488">[More Information]</a>

Alizadeh, T., Farid, R., Sarkar, S. (2018). Towards Understanding the Socio-Economic Patterns of Sharing Economy in Australia: An Investigation of Airbnb Listings in Sydney and Melbourne Metropolitan Regions. *Urban Policy and Research*, in press. <a href="http://dx.doi.org/10.1080/0811146.2018.1460269">[More Information]</a>

## 2017

Sarkar, S., Chawla, S., Ahmad, S., Srivastava, J., Hammady, H., Filali, F., Znaidi, W., Borge-Holthoefer, J. (2017). Effective Urban Structure Inference from Traffic Flow Dynamics. *IEEE Transactions on Big Data*, 3(2), 181-193. <a href="http://dx.doi.org/10.1109/TBDATA.2016.2641003">[More Information]</a>

Mehta-Pandjee, G., Robinson, P., Henderson, J., Aquino, K., Sarkar, S. (2017). Inference of direct and multistep effective connectivities from functional connectivity of the brain and of relationships to cortical geometry. *Journal of Neuroscience Methods*, 283, 42-54. <a href="http://dx.doi.org/10.1016/j.jneumeth.2017.03.014">[More Information]</a>

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Robinson, P., Zhao, X., Aquino, K., Griffiths, J., Sarkar, S., Mehta-Pandjee, G. (2016). Eigenmodes of brain activity: Neural field theory predictions and comparison with experiment. *NeuroImage*, 142, 79-98. <a href="http://dx.doi.org/10.1016/j.neuroimage.2016.04.050">[More Information]</a>

Sarkar, S., Chawla, S., Robinson, P., Fortunato, S. (2016). Eigenvector dynamics under perturbation of modular networks. *Physical Review E*, 93(6), 1-7. <a href="http://dx.doi.org/10.1103/PhysRevE.93.062312">[More Information]</a>

Dong, A., Sarkar, S., Moullec, M., Jankovic, M. (2016). Eigenvector Rotation as an Estimation of Architectural Change. *ASME 2016 International Design Engineering Technical Conferences and Computers and Information in Engineering Conference (IDETC/CIE 2016)*, Charlotte: American Society of Mechanical Engineers (ASME). <a href="http://dx.doi.org/10.1115/DETC2016-59114">[More Information]</a>

## 2015

Sarkar, S., Dong, A. (2015). A Spectral Analysis Software to

Detect Modules in a DSM. *Journal of Modern Project Management*, 3(2), 17-23.

Dorabjee, R., Bown, O., Sarkar, S., Tomitsch, M. (2015). Back to the Future: Identifying Interface Trends from the Past, Present and Future in Immersive Applications. *The 27th Australian Conference on Computer-Human Interaction (OzCHI 2015)*, New York: Association for Computing Machinery (ACM). <a href="http://dx.doi.org/10.1145/2838739.2838833">[More Information]</a>

Dong, A., Sarkar, S. (2015). Forecasting technological progress potential based on the complexity of product knowledge. *Technological Forecasting and Social Change*, 90(Part B), 599-610. <a href="http://dx.doi.org/10.1016/j.techfore.2014.02.009">[More Information]</a>

Sarkar, S. (2015). Spectral (Re)construction of Urban Street Networks: Generative Design Using Global Information from Structure. In John S. Gero and Sean Hanna (Eds.), *Design Computing and Cognition '14*, (pp. 41-55). Cham: Springer. <a href="http://dx.doi.org/10.1007/978-3-319-14956-1\_3">[More Information]</a>

## 2014

Dong, A., Sarkar, S., Yang, M., Honda, T. (2014). A linguistic approach to assess the dynamics of design team preference in concept selection. *Research in Engineering Design*, 25(1), 75-92. <a href="http://dx.doi.org/10.1007/s00163-013-0165-1">[More Information]</a>

Sarkar, S., Dong, A. (2014). A spectral analysis software to detect modules in a DSM. *16th International DSM Conference*, Paris, France: Carl Hanser Verlag.

Sarkar, S., Robinson, P. (2014). Clustering and Modularity in Self-Organized Networks. In Mikhail Prokopenko (Eds.), *Guided Self-Organization: Inception*, (pp. 455-468). Berlin, Germany: Springer-Verlag. <a href="http://dx.doi.org/10.1007/978-3-642-53734-9\_16">[More Information]</a>

Robinson, P., Sarkar, S., Mehta-Pandjee, G., Henderson, J. (2014). Determination of effective brain connectivity from functional connectivity with application to resting state connectivities. *Physical Review E*, 90(1), 1-6. <a href="http://dx.doi.org/10.1103/PhysRevE.90.012707">[More Information]</a>

Dong, A., Sarkar, S. (2014). Generalized Design Knowledge and the Higher-Order Singular Value Decomposition. In John S. Gero (Eds.), *Design Computing and Cognition '12*, (pp. 415-432). Dordrecht, Netherlands: Springer Science+Business Media. <a href="http://dx.doi.org/10.1007/978-94-017-9112-0\_23">[More Information]</a>

Sarkar, S., Chawla, S., Weng, H. (2014). Resilience of human brain functional networks under thresholding. *Brain KDD workshop, Knowledge Discovery and Data Mining Conference 2014*, New York, USA: 20th Annual Knowledge Discovery and Data Mining Conference 2014.

Sarkar, S., Dong, A., Henderson, J., Robinson, P. (2014). Spectral Characterization of Hierarchical Modularity in Product Architectures. *Journal of Mechanical Design*, 136(1), 1-12. <a href="http://dx.doi.org/10.1115/1.4000000">[More Information]</a>

href="http://dx.doi.org/10.1115/1.4025490">[More Information]</a>

## 2013

Sarkar, S., Henderson, J., Robinson, P. (2013). Spectral Characterization of Hierarchical Network Modularity and Limits of Modularity Detection. *PLoS One*, 8(1), 1-11. <a href="http://dx.doi.org/10.1371/journal.pone.0054383">[More Information]</a>

Sarkar, S. (2013). Street network analysis for understanding typology in cities: Case study on Sydney CBD and suburbs. *6th State of Australian Cities National Conference (SOAC 2013)*, Sydney: State of Australian Cities Research Network.

Dong, A., Sarkar, S., Nichols, C., Kvan, T. (2013). The capability approach as a framework for the assessment of policies toward civic engagement in design. *Design Studies*, 34(3), 326-344. <a href="http://dx.doi.org/10.1016/j.destud.2012.10.002">[More Information]</a>

## 2012

Dong, A., Sarkar, S. (2012). Endogenous Progress Potential. *ASME 2012 International Design Engineering Technical Conference & Computers and Information in Engineering Conference (IDETC/CIE 2012)*, USA: American Society of Mechanical Engineers (ASME). <a href="http://dx.doi.org/10.1115/DETC2012-70096">[More Information]</a>

## 2011

Sarkar, S., Dong, A. (2011). Characterizing Modularity, Hierarchy and Module Interfacing in Complex Design Systems. *ASME 2011 International Design Engineering Technical Conference & Computers and Information in Engineering Conference (IDETC/CIE 2011)*, Washington DC USA: American Society of Mechanical Engineers (ASME). <a href="http://dx.doi.org/10.1115/DETC2011-47992">[More Information]</a>

Sarkar, S., Dong, A. (2011). Community detection in graphs using singular value decomposition. *Physical Review E*, 83(4), 046114-1-046114-16. <a href="http://dx.doi.org/10.1103/PhysRevE.83.046114">[More Information]</a>

Dong, A., Sarkar, S. (2011). Unfixing design fixation: from cause to computer simulation. *The Journal of Creative Behavior*, 45(2), 147-159. <a href="http://dx.doi.org/10.1002/j.2162-6057.2011.tb01093.x">[More Information]</a>

## 2010

Sarkar, S., Dong, A., Gero, J. (2010). Learning symbolic formulations in design: Syntax, semantics, and knowledge reification. *Artificial Intelligence for Engineering Design, Analysis and Manufacturing*, 24, 63-85. <a href="http://dx.doi.org/10.1017/S0890060409990175">[More Information]</a>

Kan, J., Gero, J., Sarkar, S. (2010). Using a generic method to study software design cognition. *Studying Professional Software Design: An NSF-Sponsored International Workshop*.

## 2009

Sarkar, S., Dong, A., Gero, J. (2009). A Problem Decomposition Method for Conceptual Design. In Amaresh Chakrabarti (Eds.), *Research into Design: Supporting Multiple Facets of Product Development*, (pp. 59-66). Singapore:

Research Publishing Services.

Sarkar, S., Dong, A., Gero, J. (2009). A Problem Decomposition Method for Conceptual Design. *International Conference on Research into Design (ICoRD'09)*, Singapore: Research Publishing Services.

Sarkar, S., Dong, A., Gero, J. (2009). Design Optimization Problem Reformulation Using Singular Value Decomposition. *Journal of Mechanical Design*, 131(8), 081006-1-081006-10. <a href="http://dx.doi.org/10.1115/1.3179148">[More Information]</a>

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Sarkar, S., Dong, A., Gero, J. (2008). A Learning and Inference Mechanism for Design Optimization Problem (Re)-Formulation Using Singular Value Decomposition. *ASME 2008 Design Engineering Technical Conferences and Computers and Information in Engineering Conference*, New York City: American Society of Mechanical Engineers (ASME).

Sarkar, S., Dong, A., Gero, J. (2008). Learning Symbolic Formulations in Design Optimization. *Third International Conference on Design Computing and Cognition*, USA: Springer Science+Business Media. <a href="http://dx.doi.org/10.1007/978-1-4020-8728-8">[More Information]</a>

## 2007

Sarkar, S., Gero, J., Saunders, R. (2007). Re-thinking optimization as a computational design tool: a situated agent approach. *CAADRIA 2007 12th International Conference on Computer-Aided Architectural Design Research in Asia*, Nanjing, China: School of Architecture, Nanjing University.