

# Dr. Shah Jamal Alam

## Habib University

University Avenue, Gulistan-e-Jauhar Block 18, Karachi,  
Pakistan. Tel: +92 21 34301051-55 | Fax: +92 21 34301056

Email: [sj.alam@sse.habib.edu.pk](mailto:sj.alam@sse.habib.edu.pk)

<http://habib.edu.pk/SSE/dr-shah-jamal-alam/>

**Current interests:** social complexity; land use change; climate change adaptation; HIV transmissions systems; dynamical social networks; computational anthropology.

## Experiences

**Assistant Professor** (July 2014 – present)

School of Science & Engineering, Habib University, Karachi, Pakistan – <http://habib.edu.pk>

### **Courses taught:**

- CORE 302: ‘Science, Technology & Society’ (Spring ’18)
- CS 262: ‘Introduction to Computational Social Science’ (Spring ’17)
- CS 261: ‘Understanding Social Networks’ (Fall ’16; Fall ’17)
- ENER 101: ‘Energy’ (Fall ’15; Spring ’16; Fall ’16; Fall ’17)
- ENER 192: Energy-II (Spring ’15)
- CS 124: ‘Elements of Computing Systems’ (Spring ’15)
- CS 111: ‘Computational Thinking – II’ (Fall ’16; Fall ’15)
- CS 110: ‘Computational Thinking – I’ (Fall ’14; Spring ’15; Fall ’15)
- CS 101: ‘Programming Fundamentals’ (Fall ’17)

**Director, Academic Systems and Registrar** (November 2015 – Present)

Habib University, Karachi, Pakistan – <http://habib.edu.pk/office-of-registrar>

**Director, Student Life** (October 2016 – January 2017)

Habib University, Karachi, Pakistan

**Postdoctoral Research Associate** (March 2012 – June 2014)

Institute of Geography & The Lived Environment

School of GeoSciences, University of Edinburgh, Edinburgh, United Kingdom

Dutch-UK Consortium CARE Project – <http://www.climateresearchnetherlands.nl>

EU FP7 VOLANTE – <http://www.volante-project.eu>

**Postdoctoral Research Fellow** (September 2008 – February 2012)

Koopman Lab (Dynamic Causal Systems in Epidemiologic Analysis)

School of Public Health, University of Michigan, Ann Arbor MI, USA

Project: NIH Grant – ‘HIV Risk Dynamics and Genetic Sequences’

<http://research.sph.umich.edu/project.cfm?deptID=3&groupID=82&projectID=341>

**Doctoral Researcher** (April 2005 – April 2008)

Centre for Policy Modelling

Manchester Metropolitan University Business School, Manchester, United Kingdom

Project: EU FP6 Project CAVES (Complexity, Agents, Volatility, Emergence and Scale)

– <http://cfpm.org/caves>

**Researcher** (October 2004 – March 2005)

Intelligent Learning Environments Group

German Research Centre for Artificial Intelligence (DFKI) GmbH, Saarbrücken, Germany

Project: EU FP6 Project LeActiveMath – <http://leactivemath.org>

**Research Assistant** (December 2002 – September 2004)

Deduction & Multiagent Systems Lab

German Research Centre for Artificial Intelligence (DFKI) GmbH, Saarbrücken, Germany

Project: “Modellierung sozialer Organisationsformen in VKI und Soziologie” DFG Sozionik –

<http://www.virtosphere.de/schillo/research/sozionik.html>

**Software Developer** (January 2001 – September 2002)

National Growth and Development Standards Project

University of Karachi, Karachi, Pakistan – <http://www.ngds-ku.org>

**Cooperative Teacher** (July 2002 – September 2002)

Department of Computer Science, University of Karachi, Karachi, Pakistan – <http://www.uok.edu.pk>

*Courses taught:* Introduction to Computer Science – II; Algorithms & Data Structures

## Education

**PhD in Social Simulation** (2008)

Centre for Policy Modelling, Manchester Metropolitan University Business School, UK

Thesis title: *Understanding Social Complexity in the Context of HIV/AIDS: A Case Study in Rural South Africa* –

British Library Catalog: <http://ethos.bl.uk/OrderDetails.do?uin=uk.bl.ethos.491240>

Supervisory committee: Prof. Dr. Scott Moss and Dr. Bruce Edmonds (Center for Policy Modelling)

Examiners: Prof. Dr. Andreas Ernst (Universität Kassel) and Prof. Dr. Oswald Jones

(Manchester Metropolitan University/Liverpool University)

**Master of Science in Computer Science mit Auszeichnung (with Honors)** (2004)

Fachrichtung Informatik, Universität des Saarlandes, Saarbrücken, Germany

Thesis title: Ramifications of Gift Exchange in Multiagent Systems

Thesis supervisors: Dr. Michael Schillo (German Research Center for Artificial Intelligence) and Dr. Frank Hillebrandt (Technical University Hamburg-Harburg)

Examiners: Prof. Dr. Jörg Siekmann and Prof. Dr. Dr. h.c. mult. Wolfgang Wahlster (German Research Center for Artificial Intelligence/Universität des Saarlandes)

Campus Bibliothek Catalog: [http://primo-fe.mpi-klb.de:1701/CIM:default\\_scope:cim01\\_aleph000062457](http://primo-fe.mpi-klb.de:1701/CIM:default_scope:cim01_aleph000062457)

**BS in Computer Science** (2001)

Department of Computer Science, University of Karachi, Karachi, Pakistan

Thesis title: Teachers’ Evaluation Using Genetic Algorithms

Thesis Supervisor: Dr. M. Shahid Qureshi (University of Karachi);

Examiner: Dr. A. Ahad Siddiqui (Karachi Institute of Information Technology)

**Higher Secondary School Certificate (Pre-Engineering)** (1997)

Adamjee Govt. Science College, Karachi, Pakistan

**Secondary School Certificate** (1995)

St. Paul’s Eng. High School, Karachi, Pakistan

## List of Publications

### *Edited volume*

**E-1. Shah Jamal Alam & H. van Dyke Parunak (Eds.) (2014).** *Multi-Agent-Based-Simulation XIV*, Revised Selected Papers from MABS 2013, St. Paul, MN, USA. LNAI, 8235. Springer.

### *Journals*

**J-19.** van der Knaap, Y.A.M., Bakker, M., **Alam, S.J.**, Witte, J-P.M., Aerts, R., van Ek, R. & van Bodegom, P. (2018). Projected vegetation changes are amplified by the combination of climate change, socio-economic changes and hydrological climate adaptation measures. *Land Use Policy*, 72, 547-562.

**J-18.** Patel, H., Abbasi, M., Saeed, M. & **Alam, S.J.** (2018). A Scheme to Analyze Agent-Based Social Simulations Using Exploratory and Data Mining Techniques. *Complex Adaptive Systems Modeling*, 6:1, Springer Open.  
<https://doi.org/10.1186/s40294-018-0052-8>

**J-17.** Reidsma, P., Bakker, M., Kanellopoulos, A., **Alam, S.J.**, Paas, W., Kros, J. & de Vries, W. (2015). Sustainable agricultural development in a rural area in the Netherlands? Assessing impacts of climate and socio-economic change at farm and landscape level. *Agricultural Systems*, 141, 160-173.

**J-16.** Kros, J., Bakker, M., Reidsma, P., Kanellopoulos, A., **Alam, S.J.**, & de Vries, W. (2015). Impacts of climate and land-use change on nitrogen emissions to air and water and their impacts on ecological networks. *Landscape Ecology*, 30, 871-885.

**J-15.** Bakker, M., **Alam, S.J.**, Spek, T., van Dijk, J., Rounsevell, M.D.A. & van den Brink, A. (2015). The feasibility of implementing an ecological network in The Netherlands under conditions of global change. *Landscape Ecology*, 30, 791-804.

**J-14.** Bakker, M., **Alam, S.J.**, van Dijk, J. & Rounsevell, M.D.A. (2015). Land-use change as the result of rural land exchange: an agent-based simulation model. *Landscape Ecology*, 30, 273-286.

**J-13.** Brown, C., Murray-Rust, D., van Vliet, J., **Alam, S.J.**, Verburg, P.H. & Rounsevell, M.D.A. (2014). Experiments in globalisation, food security and land use decision making. *Plos One*, 9:12  
<http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0114213>

**J-12.** Murray-Rust, D., Brown, C., van Vliet, J., **Alam, S.J.**, Robinson, D.T., Verburg, P.H. & Rounsevell, M.D.A. (2014). Combining Agent Functional Types, capitals and services to model land use dynamics. *Environmental Modelling & Software*, 59, 187-201.

**J-11.** Romero-Severson, E.O., **Alam, S.J.**, Volz, E.M. & Koopman, J.S. (2013). Acute-stage transmission of HIV: Effect of volatile contact rates. *Epidemiology*, 24, 516-521.

**J-10.** **Alam, S.J.**, Zhang, X., Romero-Severson, E.O., Henry, C.J., Zhong, L., Volz, E.M., Brenner, B.G. & Koopman, J.S. (2013). Detectable Signals of Episodic Risk Effects on Acute HIV Transmission: Strategies for Analyzing Transmission Systems Using Genetic Data. *Epidemics*, 5, 44-55.

**J-9.** Romero-Severson, E.O., **Alam, S.J.**, Volz, E.M. & Koopman, J.S. (2012). Heterogeneity in number and type of sexual contacts in a gay urban cohort. *Statistical Communications in Infectious Diseases*, 4:1  
<http://dx.doi.org/10.1515/1948-4690.1042>

**J-8.** Zhang, X., Zhong, L., Romero-Severson, E.O., **Alam, S.J.**, Henry, C.J., Volz, E.M. & Koopman, J.S. (2012). Episodic HIV risk behavior can greatly amplify HIV prevalence and the fraction of transmissions from acute HIV infection. *Statistical Communications in Infectious Diseases*, 4:1  
<http://dx.doi.org/10.1515/1948-4690.1041>

**J-7.** **Alam, S.J.**, Romero-Severson, E.O., Kim, J-H., Emond, G. & Koopman, J.S. (2010). Dynamic sex roles among men who have sex with men and transmissions from primary HIV infection. *Epidemiology*, 21, 669-675.

**J-6.** **Alam, S.J.**, Geller, A., Meyer, R. & Werth, B. (2010). Modelling Contextualized Reasoning in Complex Societies with "Endorsements". *Journal of Artificial Societies and Social Simulation*, 13:4  
<http://jasss.soc.surrey.ac.uk/13/4/6.html>

- J-5.** Geller, A., & **Alam, S.J.** (2010). A Socio-Political and –Cultural Model of the War in Afghanistan. *International Studies Review*, 12, 8-30.
- J-4.** **Alam, S.J.**, & Werth, B. (2008). Studying Emergence of Clusters in a Bus Passengers' Seating Preference Model. *Transportation Research Part C: Emerging Technologies*, 16, 593-614.
- J-3.** **Alam, S.J.**, Meyer, R., Ziervogel, G. & Moss, S. (2007). The Impact of HIV/AIDS in the Context of Socioeconomic Stressors: An Evidence-Driven Approach. *Journal of Artificial Societies and Social Simulation*, 10:4 <http://jasss.soc.surrey.ac.uk/10/4/7.html>
- J-2.** **Alam, S.J.**, Hillebrandt, F. & Schillo, M. (2005). Sociological Implications of Gift Exchange in Multiagent Systems. *Journal of Artificial Societies and Social Simulation*. 8:3 <http://jasss.soc.surrey.ac.uk/8/3/5.html>
- J-1.** Kamal, S.A., Firdous, S. & **Alam, S.J.** (2004). An Investigation of the Growth Profiles of Pakistani Children. *International Journal of Biology and Biotechnology*. 1:4, 709-717 (ISSN: 1810-2719).

### **Book chapters and referred conference papers**

- C-21.** Patel, H., Abbasi, M.A., Saeed, M, **Alam, S.J.** (2017). Analyzing Agent-based Simulations using Exploratory and Data Mining Techniques. *Social Simulation Conference 2017*, Dublin, Sept. 22-25, 2017.
- C-20.** Yasmin, S., Khaliq, A., **Alam, S.J.**, Tabassum, Z., & Zaidi, S. (2017). Development and Implementation of Multi-Disciplinary Renewable Energy Course at Habib University. In *Proc. IEEE Global Engineering Education Conference (IEEE' EDUCON 2017)* (pp. 1876-1880). IEEE XPlore.
- C-19.** **Alam, S.J.**, Bakker, M., Karali, E., van Dijk, J., & Rounsevell, M.D.A. (2014). Simulating the Expansion of Large-sized Farms in Rural Netherlands: A Land Exchange Model. In S.J. Alam & H.V.D. Parunak (Eds.) *Multi-Agent-Based Simulation XIV*. Lecture Notes in Artificial Intelligence vol. 8235 (pp. 115-128). Springer.
- C-18.** Brown, C., Murray-Rust, D., van Vliet, J., **Alam, S.J.**, Verburg, P.H., & Rounsevell, M.D.A. (2014). Globalisation, regionalisation and behavioural responses of land use agents. In S.J. Alam & H.V.D. Parunak (Eds.) *Multi-Agent-Based Simulation XIV*. Lecture Notes in Artificial Intelligence vol. 8235 (pp. 101-114). Springer.
- C-17.** Abbas, S.M.A., **Alam, S.J.**, & Edmonds, B. (2014). Measuring and Validating Social Network Simulations. In K. Bogumił & G. Koloch (Eds.) *Advances in Social Simulation*, Advances in Intelligent Systems and Computing Series vol. 229 (pp. 1-12). Springer [Part-A].
- C-16.** **Alam, S.J.**, Abbas, S.M.A., & Edmonds, B. (2014). Validating Simulated Networks: Some Lessons Learned. In S.J. Alam & H.V.D. Parunak (Eds.) *Multi-Agent-Based Simulation XIV*, Lecture Notes in Artificial Intelligence vol. 8235 (pp. 71-82). Springer [Part-B].
- C-15.** Hoffer, L.D., & **Alam, S.J.** (2013). “Copping” in Heroin Markets: The Hidden Information Costs of Indirect Sales and Why They Matter. In A.M. Greenberg, W.G. Kennedy, & N.D. Bos (Eds.) *Social Computing, Behavioral-Cultural Modeling and Prediction*, Lecture Notes in Computer Science vol. 7812 (pp. 83-92). Springer.
- C-14.** **Alam, S.J.**, & Geller, A. (2012). Networks in Agent-Based Social Simulation, In A. Heppenstall, A. Crooks, L. See, & M. Batty (Eds.) *Agent-based Models of Geographical Systems* (pp.199-216). Springer.
- C-13.** Alvi, S., & **S.J. Alam, S.J.** (2012). Understanding social interaction dynamics in Second Life: An agent-based simulation approach. In M. Safar & K.A. Mahdi (Eds.) *Social Networking and Community Behavior Modeling: Qualitative and Quantitative Measures* (pp. 85-102). IGI Pub.
- C-12.** **Alam, S.J.**, & Meyer, R. (2010). Comparing Two Sexual Mixing Schemes for Modelling the Spread of HIV/AIDS. In K. Takadama, G. Deffuant, & C. Cioffi-Rivella (Eds.) *Simulating Interacting Agents and Social Phenomena*, Agent-based Social Systems Series vol. 7 (pp. 63-74). Springer.
- C-11.** **Alam, S.J.**, Geller, A., Meyer, R., & Werth, B. (2009). Social Connectedness in Tzintzuntzan: Notes on Contextualized Reasoning in Complex Systems. In B. Edmonds & N. Gilbert (Eds.) *Proceedings of the Sixth European Social Simulation Association Conference (ESSA'09)*, Surrey, UK (Electronic Proceedings ISBN: 1844690172).

- C-10. Alam, S.J.** (2009). Exploring the Role of State Grants and Pensions in Rural South Africa: An Agent-based Model, In *Proc. Twentieth IASTED International Conference on Modelling and Simulation (MS'09), Banff, Canada* (pp. 308-313). Acta Press.
- C-9. Alam, S.J.,** Meyer, R., & Norling, E. (2009). A Model for HIV Spread in a South African Village. In N. David & J.S. Sichman (Eds.) *Multi-Agent-Based Simulation IX*, Lecture Notes in Artificial Intelligence vol. 5269 (pp. 33-45). Springer.
- C-8. Alam, S.J.,** Edmonds, B., & Meyer, R. (2009). Identifying Structural Changes in Networks Generated from Agent-based Social Simulation Models. In A. Ghose, G. Governatori, & R. Sadananda (Eds.) *Agent Computing and Multi-Agent Systems*, Lecture Notes in Artificial Intelligence vol. 5044 (pp. 298-307). Springer.
- C-7. Alam, S.J.,** & Meyer, R. (2008). Structural Changes in Agent-based Simulations: Representing HIV/AIDS Impact on Social Networks. In T. Friemel (Ed.) *Why Context Matters: Applications of Social Network Analysis* (pp. 175-191). VS-Verlag (a subsidiary of Spring-Verlag).
- C-6. Alam, S.J.,** & Werth, B. (2007). A Bus Passengers' Seating Preference Model. In *Papers from the AAAI Fall Symposium: Emergent Agents and Socialities: Social and Organizational Aspects of Intelligence, Fairfax VA, USA*, AAAI Technical Report: FS-07-04 (pp. 3-10). AAAI.
- C-5. Alam, S.J.,** Meyer, R., & Norling, E. (2007). Agent-based Model of Impact of Socioeconomic Stressors: A Dynamic Network Perspective. In *Proc. Sixth International Joint Conference on Autonomous Agents and Multiagent Systems (AAMAS'07), Hawaii, USA* (pp. 1079-1081). IFAAMAS.
- C-4. Alam, S.J.,** Meyer, R., & Ziervogel, G. (2006). Modelling Socio-Economic Impact of HIV/AIDS in a South African Village. In *Proc. First World Congress on Social Simulation (WCSS'06), Kyoto, Japan, vol. 2* (pp. 281-288).
- C-3. Alam, S.J.** (2005). Understanding the Complexity of an Eastern Family Network, article in *Journal of Independent Studies and Research*, vol. 3 no. 2 (pp. 31-37). Karachi: SZABIST.
- C-2. Alam, S.J.** (2002). Evaluating Teachers' Performance Using Transformation. In *Proc. IEEE International Conference on Systems, Man and Cybernetics, Tunis, vol. 2* (pp. 416-421). IEEE.
- C-1. Alam, S.J.** (2002). Teachers' Evaluation with Transformation. In *Proc. IEEE Students Conference, ISCON 2002 on Emerging Technologies (Cat. No.02EX581), OPSTech, Lahore, vol. 1* (pp. 8-11). IEEE Xplore.

### ***Refereed abstracts, posters, short articles***

- A-23.** Reidsma, P., Bakker, M., Kanellopoulos, A., **Alam, S.J.,** Paas, W.H., & Kros, J. (2015). Assessing impacts of changes in farm management and farm structural change on sustainable development in a rural area in the Netherlands. In *Fifth International Symposium for Farming Systems Design*, Montpellier, France (pp. 161-162). [[Abstract](#)]
- A-22.** Reidsma, P., Bakker, M., Kanellopoulos, A., **Alam, S.J.,** Paas, W.H., Kros, J., & de Vries, W. (2015). Impacts of climate and socio-economic change at farm and landscape level in the Netherlands: climate smart agriculture? Poster at *Third Global Science Conference on Climate-Smart Agriculture (CSA 2015)*, Montpellier, France. [[Abstract](#)]
- A-21.** Brown, C., van Vliet, J., Murray-Rust, D., **Alam, S.J.,** Verburg, P.H., & Rounsevell, M.D.A. (2014). Incorporating human decision-making, institutions and ecosystem services in a model of European land use change. In *Second GLP Open Science Meeting*, Berlin, Germany (Abstract no. 00382).
- A-20.** Bakker, M., van Dijk, J., & **Alam, S.J.** (2013). Simulating Land-Use Change using an Agent-Based Land Transaction Model. In *American Geophysical Union Fall Meeting*, San Francisco, CA (Abstract no. GC41D-03). [[Abstract](#)]
- A-19.** Murray-Rust, D., Brown, C., **Alam, S.J.,** van Vliet, J., Verburg, P.H., & Rounsevell, M.D.A. (2013). An agent-based model of European land use dynamics. In *Ninth European Social Simulation Association Conference (ESSA 2013)*, Warsaw, Poland. [[Abstract](#)]

- A-18.** Hoffer, L.D., & **Alam, S.J.** (2013). Modeling an Economic Inequality Countermeasure in the Heroin Market & its Consequences on Trading Partnerships. In *Annual Meeting of the Society for Economic Anthropology (SEA 2013)*, St. Louis, MO.
- A-17.** Koopman, J.S., **Alam, S.J.**, Brenner, B.G., Romero-Severson, E.O., Zhang, X., Zhong, L. (2011). Detectable signals of episodic risk effects on acute HIV transmission. In *Third International Conference on Infectious Disease Dynamics (Epidemics3)*, Boston, MA.
- A-16.** Koopman, J.S., Volz, E.M., **Alam, S.J.**, Romero-Severson, E.O., Brenner, B., & Wainberg, M.A. (2011). Needed steps for choosing pre-exposure ARV use policies. In *Sixth International AIDS Society Conference on Pathogenesis and Treatment*, Rome, Italy (Abstract No. CDC123). [[Abstract](#)]
- A-15.** **Alam, S.J.**, & Alvi, S. (2011). A prototype agent-based model of mobilization in socio-political movements. Poster at the *Fourth Annual Political Networks Conference*, Ann Arbor, MI.
- A-14.** Geller, A., **Alam, S.J.**, & Rizvi, S.M.M. (2011). Article entry for 'Afghanistan'. In G. Barnett (Ed.) *Encyclopedia of Social Networks* (pp. 9-11). SAGE. <http://sk.sagepub.com/reference/socialnetworks/n5.xml>
- A-13.** Volz, E.M., Romero-Severson, E.O., **Alam, S.J.**, Stephens, D.A., Brenner, B.G., Wainberg, M.A., Roger, M., & Koopman, J.S. (2010). Phylodynamic modeling of the HIV epidemic among MSM in Montreal and implications for intervention and control. In *Eighteenth International AIDS Conference*, Vienna, Austria (Abstract no. THAA0204). [[Abstract](#)]
- A-12.** Emond, G., **Alam, S.J.**, Koopman, J.S., Romero-Severson, E.O., & Kim, J-H. (2010). Les rôles versatiles comme facteur potentiel de propagation primaire du VIH entre HARSAH (The versatile roles as potential source of spread of HIV among primary MSM). Poster at the *Fifth French Conference on HIV/AIDS*, Casablanca, Morocco.
- A-11.** Volz, E.M., Romero-Severson, E.O., **Alam, S.J.**, Stephens, D.A., Brenner, B.G., Wainberg, M.A., Roger, M., & Koopman, J.S. (2009). Complex epidemiological dynamics generate phylogenetic clustering of HIV in Montreal. In *Second International Conference on Infectious Disease Dynamics (Epidemics2)*, Athens, Greece. [[Link](#)]
- A-10.** Romero-Severson, E.O., Volz, E.M., **Alam, S.J.**, Stephens, D.A., Brenner, B.G., Wainberg, M.A., Castor, D., Roger, M., & Koopman, J.S. (2009). Comparative phylodynamics and episodic high-risk sex in Montreal and New York City. In *Second International Conference on Infectious Disease Dynamics (Epidemics2)*, Athens, Greece.
- A-9.** Geller, A., & **Alam, S.J.** (2009). Modeling the Conflict in Afghanistan. In *International Studies Association's 50th Convention: Exploring the Past Anticipating the Future*, NY. [[Link](#)]
- A-8.** **Alam, S.J.**, & Meyer, R. (2007). Analyzing Network Evolution in Agent-based Models using Subgraph Characteristics, In *Proc. Third UK Social Networks Conference*, London, UK (pp. 86-88). [[Link](#)]
- A-7.** **Alam, S.J.**, & Meyer, R. (2006). Finding Suitable Analysis Techniques for Social Networks Generated from Social Processes. In *Social Network Analysis: Second Forum on Advances and Empirical Applications*, Leeds, UK. [[CPM Link](#)]
- A-6.** **Alam, S.J.** (2005). Gift Exchange (Social Delegation) in a Market-based Multiagent System. Poster at the *SRC, co-located at the SIGCSE 2005*, St. Louis, MO.
- A-5.** Kamal, S.A., **Alam, S.J.**, & Firdous, S. (2002). The NGDS Pilot Project: Dealing with a complex system. Poster at the *International Conference on Complexity Sciences and Health Care*, The Aga Khan University, Karachi, Pakistan.
- A-4.** Kamal, S.A., **Alam, S.J.**, & Firdous, S. (2002). An Influence Graph for the Physical Examination of Children. Poster at the *International Conference on Complexity Sciences and Health Care*, The Aga Khan University, Karachi, Pakistan.
- A-3.** Kamal, S.A., **Alam, S.J.**, & Firdous, S. (2002). The NGDS Pilot Project: A software to analyze growth of a child. In the *National Telemedicine Conference*, Ministry of Science & Technology (MOST), Islamabad, Pakistan
- A-2.** Kamal, S.A., **Alam, S.J.**, & Firdous, S. (2002). A Precedence Graph for the Physical Examination of Children. In the *National Telemedicine Conference*, Ministry of Science & Technology (MOST), Islamabad, Pakistan.
- A-1.** Kamal, S.A., **Alam, S.J.**, & Firdous, S. (2002). The NGDS Pilot Project: Aiming at the Future of Pakistan. In

the *Aga Khan University National Sciences Research Symposium: Early Childhood Care and Development*, Karachi, Pakistan (Abstract # 13; p.26).

### **Services at Habib University (in addition to administrative tasks as the Registrar).**

- Ex-officio member of the Academic Council, President's Cabinet, University Policies Committee, University Planning and Strategic Committee, Academic Directors' Committee, Convocation Committee.
- Member of the CS Board of Studies and the CS Faculty Search Committee.
- Member of the Grading Policy Committee (past); *ad hoc* member of the Grievance Committee; IT Committee (past); Safety & Security Committee (past); SSE representative for AHSS Faculty Meetings (2014-15); other *ad hoc* committees in my capacity as the Director Academic Systems & Registrar and Director Student Life.
- Author/co-author of many university policies, academic catalog, and SOPs in addition to the policies/SOPs authored/co-authored for institutional units including, Security & External Affairs, Campus Safety & Access Control, Human Resources/Academic Operations, Student Finance, Admissions, Student Affairs.
- Founder and Co-organizer, School of Science & Engineering (SSE) Public Seminar Series (September 2014 – May 2016) – <http://habib.edu.pk/sse-public-lecture/>
- Past SSE Faculty liaison for Student Recruitment, Marketing, Website and Blogs.
- Regular member of the Admissions Interview Panel for SSE applicants for the batches of 2019, 2020 and 2021.
- Other reports/briefing including:
  - Concept note for the 'Office of Research' drafted for the President, June 2016.
  - Proposal drafted for the 'Center for Science, Technology, Engineering & Public Policy' (CSTEPP) – presented to the President, September 2015.
  - Proposal drafted for SSE Graduate Program presented to the President, HU (with Dr. Shahid Shaikh) on behalf of the Dean SSE, July 2015.
  - Concept note on the proposed Habib University 'Energy Initiative' presented to the Provost.

### **Current and past scientific activities/Service to profession**

- **Senior Organizer/Program Chair** (with J.C. Witte, R. Stough, K. M. Iraqi), International Conference on Managing Megacities – 2016, September 20-22, 2016, Karachi, Pakistan. <http://www.uok.edu.pk/news/2016/con-pro.pdf>
- **Co-Chair** (with H. Van Dyke Parunak) Fourteenth International Workshop on Multi-Agent-Based Simulation ([MABS 2013](#)), co-located with [AAMAS 2013](#), May 5-6 2013, Saint Paul MN, USA.
- **Co-organizer** (with Jasper van Vliet) Symposium "Agent-based models of landscape scale socio-ecological systems", at the [IALE 2013](#) European Congress, September 9-12 2013, Manchester, UK.
- **Associate Editor**, *Complex Adaptive Systems Modelling (CASM)*, Springer (July 2014 – present) <http://www.casmodeling.com/>
- **Member Editorial Review Board**, *International Journal of Agent Technologies and Systems (IJATS)*, IGI Publications (January 2008 – present) – <http://www.igi-global.com/ijats>
- **Ad hoc reviewer** for *Advances in Complex Systems; Complex Adaptive Systems Modeling; Int'l Journal of Agent Technologies and Systems; Journal of Artificial Societies and Social Simulation; Journal of Environmental Psychology; Int'l Journal of Social Network Mining; Medical & Biological Engineering & Computing; Physical Letters A; PLoS One; Simulation; Simulation Modeling Practice and Theory; Social Science Research; Structure and Infrastructure Engineering; Sustainability; Theoretical Population Biology.*

- **Program/scientific committee member** for the following conferences: ‘Social Computing, Behavior Representation in Modeling and Simulation’ (SBP-BRIMS [2014](#); [2015](#); [2016](#); [2017](#); 2018); ‘Epistemological Perspectives on Simulation’ (EPOS [2012](#)); Social Simulation Conference - ESSA ([2009](#); [2013](#); [2014](#); [2015](#); [2017](#)); Multi-Agent-Based Simulation (MABS [2010](#); [2011](#); [2013](#); [2014](#); [2015](#)); and Winter Simulation Conference (WSC [2012](#); [2013](#)); Frontiers of Information Technology ([FIT 2015](#)); ICICT 2017.
- **Additional reviewer** for the following conferences: ASNA ([2007](#)), BRIMS ([2012](#); [2013](#)), CSSA ([2012](#)); IASTED MS ([2009](#)); and IEEE Social Computing ([2009](#)).
- **Reviewer** for Safar, M. (Ed.) *Social Networking and Community Behavior Modeling: Qualitative and Quantitative Measures* (IGI Pub); Friemel, T. (Ed.) *Why Context Matters* (VS-Verlag).
- **Editor** of the European Social Simulation Association (ESSA) Newsletter with Bogdan Werth (November 2006 – September 2008) and with Nick Gotts (December 2009 – March 2011)
- **Member** Technical Committee for ‘Modelling and Simulation’, International Association of Science and Technology for Development (IASTED) (March 2009 – present).
- **Member** of European Complex Systems Society Committees on Publication, Gender and Developing Countries (September 2008- August 2009).
- **Member Editorial Advisory Board**, Goran Trajkovski and Samuel G. Collins (Eds.), *Handbook of Research on Agent-Based Societies: Social and Cultural Interactions*, IGI Publishers, 2009.
- Member Scientific and Technical Committee on ‘Natural and Applied Sciences’, World Academy of Science, Engineering and Technology (WASET) (April 2009 – present).
- Tutor for *Social Networks*: course session organized by Richard Taylor and Gindo Tampubolon. This was part of the *ESRC Research Methods* and the *Oxford Spring School*, Oxford, UK, July 2006.
- Tutor for ‘Network Analysis with UCINET for ABM of Industrial Districts and Economic Geography’ (organized by Dr Richard Taylor), at *the Third ESSA Conference*, Koblenz, Germany, September 2005.
- Organized ‘University of Karachi Stall’ at the *ITCN Asia 2002*, Karachi, Pakistan, August 2002.
- Judge, ProQuest’02 (Inter-University Programming & Quiz Contest), Association for Computing Machinery (ACM) Student Chapter, University of Karachi, Karachi, Pakistan, July 2002.
- Senior Organizer, Inauguration Ceremony of DCS-Logistix and Software Exhibition, University of Karachi, Karachi, Pakistan, October 2001.
- Founding Chairman, ACM Student Chapter, University of Karachi, Karachi, Pakistan (2001).

## Services to the Community/Outreach

- Guest Speaker, International Conference on Mathematics, Actuarial, Computer Science & Statistics (MACS’11), IoBM, Karachi (2017).
- Judge, Science Projects Exhibition at St. Patrick’s Eng. High School, Karachi (2017).
- Developed (voluntarily) the appointment and promotion criteria for the IT Cadre for Karachi Police Department (Sindh) to be in compliance of the directives of the Supreme Court of Pakistan (2016).
- HU Representative for the *Universities for Water Network*, Hisaar Foundation, Pakistan (2015-16).
- Research proposal prepared for INL – Karachi Analytics and Training Aid (KATA): Restoring Law and Order, Improving Security (with Dr. Armando Geller; 2014).
- Voluntary Mentor, *I AM Karachi Innovation Challenge 2015* (‘Law and Security’ track).
- Talk at the Int’l Conference on the Future of Social Sciences, at the University of Karachi (Nov. 2014) on emerging trends in social science research methods.



## **Training/Research schools attended**

‘GPU Programming Workshop’, EPCC, University of Edinburgh, Edinburgh, UK (August 28-30).

Postdoctoral Short-Course on College Teaching in Science and Engineering (STEM), Center for Research on Learning and Technology, University of Michigan, Ann Arbor (September – November 2011).

‘Proven Algorithmic Techniques for Many-core Processors’, Ann Arbor MI, USA, supported by the University of Michigan, Ann Arbor (August 2–6, 2010).

Complexity Spring School, hosted by the Dept. of Electronics and Computer Science, University of Southampton, United Kingdom, supported by Engineering and Physical Sciences Research Council, UK (March-April 2006)

ESRC Research Methods, Oxford, United Kingdom, supported by Economic and Social Sciences Research Council, UK (July 2006).

ZUMA Social Simulation Course, hosted by University of Koblenz-Landau, supported by DFKI GmbH (August 2003).

## **Awards/Scholarships/Research & Travel Grants**

US State Department Grant on University Partnership Program for organizing International MegaCities Conference 2016 in Karachi – as a collaborator for the School of Public Policy and the Center for Social Science Research (led by Drs. Roger Stough and James C. Witte) at the George Mason University (2016).

NIH Grant on Simulating Heroin Drug Users Behavior – as a collaborator for the Social Simulation in Cultural Anthropology Group (Led by Dr. Lee D. Hoffer) at the Case Western Reserve University (2015-16).

PhD Studentship, funded under European Union NEST Programme (April 2005 – March 2008).

RIBM, MMU grant to participate in the PRIMA 2007 conference, Bangkok (November 2007).

EU FP6 travel grant to participate in the CAVES Project trip to Sekhukhune District, Limpopo, South Africa, hosted by the University of Cape Town (April 2007).

EU FP6 travel grant for participation at the bi-annual CAVES Project workshops held in Wroclaw (September 2005), Aberdeen (March 2006), Oxford (September 2006) and Laxenburg (March 2007).

Engineering and Physical Sciences Research Council (EPSRC) grant for participation at the NANIA Project Summer Meetings, under the EPSRC Novel Computing Initiative, Lake District-Cambria (August 2006).

Tokyo University ‘21st Century COE Program: Creation of Agent-Based Social Systems Sciences’ travel grant to participate in the WCSS’06 Conference, Kyoto, Japan (August 2006).

Association for Computing Machinery (ACM) travel grant for participation in the ACM SRC’05, St. Louis, USA (February 2005).

German Research Foundation (DFG) grant for participation in the Annual Sozionik Conference, Seon, Germany (June – July 2004).

German Research Foundation (DFG) grant for participation in the Annual Sozionik Conference, Seon, Germany (June 2003).

Honorable Mention for the 2002 Upsilon Pi Epsilon (UPE) / Association for Computing Machinery (ACM) award for academic excellence for students in the computing discipline (2002).

Recipient of ACM Chapters Excellence Award (Best Community Service) on behalf of ACM Student Chapter University of Karachi – selected from the ACM student chapters worldwide (2001).

Recognition of Service Award by Association for Computing Machinery (USA) for serving as chairperson of the ACM Student Chapter University of Karachi (2001).

Event shield and ‘Year of Quaid-e-Azam Certificate’ awarded by the Vice-Chancellor, University of Karachi, at the Inauguration Ceremony of DCS-Logistix and Software Exhibition, Karachi, Pakistan (October 2001).

## Talks/presentations/seminars given

“Simulating Societies as Complex Systems”, Umaer Basha Institute of Information Technology, University of Karachi, Karachi, Pakistan, March 2016.

“Understanding Societies using Simulation”, International Conference on Challenges of Transition in Social Sciences, University of Karachi, Karachi, Pakistan, December 2014.

“Simulating Land-Use Change in Rural Netherlands using an Agent-Based Land Transaction Model”, Land Use Research Group Seminar, University of Edinburgh, Edinburgh, UK, January 2014.

“A land exchange agent-based model for the Baakse Beek region in Netherlands”, IALE EU Congress Symposium ‘Agent-based models of landscape scale socio-ecological systems’, Manchester, UK, September 2013.

“The RULEX Agent-based Model”, talk at the Annual CARE Consortium Workshop, Wageningen University, Wageningen, Netherlands, October 2012.

“Modelers are from Manchester: Case study teams are from Edinburgh”, presentation at the Informal Workshop on: Using Qualitative Evidence to inform Behavioural Rules suitable for an agent-based simulation (Qual2Rule), Manchester, UK, September 2012.

“Simulating Complex Social Systems”, talk at the Undergraduate Research Opportunities Program (UROP) seminar, University of Michigan, Ann Arbor, August 2010.

“Theoretical and Evidence-driven Models of HIV Transmission”, talk at the Center for Social Complexity, Krasnow Institute for Advanced Studies, George Mason University, Fairfax VA, August 2009.

“Modelling HIV/AIDS Spread in Sub-Saharan Africa”, talk at the Manchester Complexity Seminar, University of Manchester, Manchester, UK, April 2008.

“Detecting Structures using Probabilistic Mixture Models: Work by Newman and Leicht”, talk at the Manchester Complexity Seminar, University of Manchester, Manchester, United Kingdom, October 2007.

“Comparing Changes in Networks during a Simulation Run”, presentation at the Workshop: Ucinet/ Netdraw Applications in social science, innovation & sustainability studies, Brunel University Business School, London, United Kingdom, June 2007.

“Bus Passengers’ Seating Preference: A (Simple) Agent-based Model”, talk at the Manchester Complexity Seminar, Manchester, United Kingdom, May 2007.

“Network Signatures in Agent-based Social Simulation Models”, presentation at the bi-annual workshop of the CAVES Project meeting, International Institute of Applied Systems Analysis (IIASA), Schloss Laxenburg, Austria, March 2007.

“Motif Analysis in Complex Networks – I”, talk at the Manchester Complexity Seminar, Manchester, United Kingdom, October 2006.

“Finding suitable metrics for networks that could result from social processes”, talk at the Manchester Complexity Seminars, Manchester, United Kingdom, May 2006.

“Social Networks Analysis: Theory and Modelling”, presentation at the bi-annual workshop of the CAVES Project meeting, Aberdeen, United Kingdom, March 2006 [with Lee-Ann Small, Claudia Zehnpfund].

“Dynamic Social Network Analysis and Statistical Signatures”, presentation at the bi-annual workshop of the CAVES Project meeting, Uniwersytet Wroclawski, Wroclaw, Poland, September 2005 [with Scott Moss].

“Agent-Based Social Simulation”, talk at the ACM Student Chapter, University of Karachi, Karachi, Pakistan, July 2005.

“A contribution to the field of Socionics”, invited talk at the Intelligent Learning Environments Group, German Research Center for Artificial Intelligence (DFKI), Saarbrücken, Germany, September 2004.

“Studying Gift Exchange in a Multiagent System”, poster at *Jahrestreffen des DFG-Schwerpunktprogramms “Sozionik”*, Seon, Germany, June 2004 [with Frank Hillerbrandt].

“Social-Net Project of the Everyday Computing Lab, Georgia Tech (USA)”, in partial fulfillment of Computer Science Seminar: Instrumented Spaces, Saarland University, Saarbrücken, Germany, June 2003.

“Geometric Fit of Protein and Ligands”, in partial fulfillment of Bioinformatics Seminar: Role of Protein-Protein and DNA Interactions, Saarland University, Saarbrücken, Germany, November 2002.

Shah Jamal Alam, “The NGDS Pilot Project: Aiming at the Future of Pakistan”, presentation at the Aga Khan University Nationals Sciences Research Symposium: Early Childhood Care and Development, The Aga Khan University, Karachi, Pakistan, October 2001 [with Syed Arif Kamal, Syed Firdous].

## **Memberships (Past and current)**

International Association of Landscape Ecology – UK (IALE-UK)

Computational Modeling in Social and Ecological Sciences (CoMSES Net) <http://openabm.org>

European Complex Systems Society (ECSS), <http://ecss.csregistry.org>

European Social Simulation Association (ESSA), <http://www.essa.eu.org>

Association for Computing Machinery (ACM), <http://www.acm.org>