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## LIST OF PUBLICATIONS

### Books and monographs

- 1) “Data Science for Complex Systems”, A.S. Chakraborti, K. Shuvo Bakar, and A. Chakraborti (Cambridge University Press, Cambridge, April 2023).
- 2) “Limit Order Books”, F. Abergel, A. Chakraborti, A. Jedidi, I. Muni Toke, and M. Anane (Cambridge University Press, Cambridge, 2016).
- 3) “Econophysics of Income and Wealth Distributions”, B.K. Chakraborti, A. Chakraborti, S.R. Chakravarty, and A. Chatterjee (Cambridge University Press, Cambridge, 2013).
- 4) “Econophysics: An Introduction”, S. Sinha, A. Chatterjee, A. Chakraborti, and B.K. Chakraborti (Wiley-VCH, Berlin, 2010).

### Peer-reviewed journal articles

- 5) “Investigation of Vacuum Arc-Deposited ta-C and ta-C: N Thin Films on Silicon and Stainless-Steel Foil Substrates Using Raman Spectroscopy”, S. Barman, S. Neema, A. Rana, A.S. Patel, A. Chakraborti, A.S. Rana, Materials Transactions 63 (10), 1510-1513 (2022).
- 6) “Visible light-driven photocatalytic degradation of methyl orange by Fe<sub>2</sub>O<sub>3</sub>-BiOCl<sub>0.5</sub>Br<sub>0.5</sub> composite photocatalyst”, S. Barman, B. Singh, A. Bag, A.S. Patel, A. Chakraborti, A. Rana, Asia-Pacific Journal of Chemical Engineering 16 (6), e2715 (2021)
- 7) “Network geometry and market instability,” A. Samal, H.K. Pharasi, S.J. Ramaia, H. Kannan, E. Saucan, J. Jost, and A. Chakraborti, Royal Society Open Science 8, 201734 (2021).
- 8) “Enhanced photocatalytic activity of plasmonic Au nanoparticles incorporated MoS<sub>2</sub> nanosheets for degradation of organic dyes,” A. Rani, A.S. Patel, A. Chakraborti, K. Singh, and P. Sharma, Journal of Materials Science: Materials in Electronics 32, 6168 (2021).
- 9) “Network-centric indicators for fragility in global financial indices,” A. Samal, S. Kumar, Y. Yadav, and A. Chakraborti, Frontiers in Physics (2021) <https://doi.org/10.3389/fphy.2020.624373>
- 10) “Distress propagation on production networks: Coarse-graining and modularity of linkages,” A. Kumar, A.S. Chakraborti, A. Chakraborti, and T. Nandi, Physica A: Statistical Mechanics and its Applications 568, 125714 (2021).
- 11) “Phase separation and scaling in correlation structures of financial markets,” A. Chakraborti, Hrishidev, K. Sharma, and H.K. Pharasi, J. Phys. Complex. 2, 015002 (2021).
- 12) “Emerging spectra characterization of catastrophic instabilities in complex systems,” A. Chakraborti, K. Sharma, H.K. Pharasi, K.S. Bakar, S. Das, and T.H. Seligman, New J. Phys. 22, 063043 (2020).
- 13) “A novel approach for classification of mental tasks using multiview ensemble learning (MEL),” A. Gupta, R.U. Khan, V.K. Singh, M. Tanveer, D. Kumar, A. Chakraborti, and R.B. Pachori, Neurocomputing 417, 558-584 (2020).
- 14) “Interaction of fluorescent gold nanoclusters with transition metal dichalcogenides nanosheets: A spectroscopic study,” A.S. Patel, A. Chakraborti, and P. Mishra, Journal of Luminescence 227, 117589 (2020).

- 15) "Identifying the global terror hubs and vulnerable motifs using complex network dynamics," S.S. Husain, K. Sharma, V. Kukreti, and A. Chakraborti, *Physica A* 540, 123113 (2020).
- 16) "Visible light driven photocatalysis of organic dyes using SnO<sub>2</sub> decorated MoS<sub>2</sub> nanocomposites," A. Rani, K. Singh, A.S. Patel, A. Chakraborti, S. Kumar, K. Ghosh, and P. Sharma, *Chemical Physics Letters* 738, 136874 (2020).
- 17) "Hamiltonian energy as an efficient approach to identify the significant key regulators in biological networks," S. Haider, K. Ponnusamy, R.K.B. Singh, A. Chakraborti, and R.N.K. Bamezai, *PLoS One* 14(8), e0221463 (2019).
- 18) "Identifying long-term precursors of financial market crashes using correlation patterns," H.K. Pharasi, K. Sharma, R. Chatterjee, A. Chakraborti, F. Leyvraz, and T.H. Seligman, *New Journal of Physics* 20, 103041 (2018).
- 19) "Gold nanoflowers as efficient hosts for SERS based sensing and bio-imaging," A.S. Patel, S. Juneja, P.K. Kanaujia, V. Maurya, G.V. Prakash, A. Chakraborti, and J. Bhattacharya, *Nano-Structures & Nano-Objects* 16, 329-336 (2018).
- 20) "Quantifying invariant features of within-group inequality in consumption across groups," A.S. Chakraborti, A. Chatterjee, T. Nandi, A. Ghosh, and A. Chakraborti, *J. Economic Interaction and Coordination* 13, 469-490 (2018).
- 21) "Role of a polymeric component in the phase separation of ternary fluid mixtures: a dissipative particle dynamics study," A. Singh, A. Chakraborti, and A. Singh, *Soft Matter* 14, 4317-4326 (2018).
- 22) "The SAGA of KPR: Theoretical and Experimental Developments," K. Sharma, Anamika, A.S. Chakraborti, A. Chakraborti, and S. Chakravarty, *Science and Culture (Kolkata, India)* 84, 31 (2018).
- 23) "Effect of bond-disorder on the phase-separation kinetics of binary mixtures: a Monte Carlo simulation study," A. Singh, A. Singh, and A. Chakraborti, *Journal of Chemical Physics* 147, 124902 (2017).
- 24) "A complex network analysis of ethnic conflicts and human rights violations," K. Sharma, G. Sehgal, B. Gupta, G. Sharma, A. Chatterjee, A. Chakraborti, and G. Shroff, *Scientific Reports* 7, 8283 (2017).
- 25) "Financial fluctuations anchored to economic fundamentals: A mesoscopic network approach," K. Sharma, B. Gopalakrishnan, A.S. Chakraborti, and A. Chakraborti, *Scientific Reports* 7, 8055 (2017).
- 26) "Investigating resonance energy transfer from protein molecules to van der Waals nanosheets," A.S. Patel, P. Mishra, P.K. Kanaujia, S.S. Husain, G.V. Prakash, and A. Chakraborti, *RSC Advances* 7 (42), 26250-26255 (2017).
- 27) "Quantifying invariant features of within-group inequality in consumption across groups," A.S. Chakraborti, A. Chatterjee, T. Nandi, A. Ghosh, and A. Chakraborti, *Journal of Economic Interaction and Coordination*, 1-22 (2017).
- 28) "A model-free characterization of recurrences in stationary time series," R. Chicheportiche, and A. Chakraborti, *Physica A* 474, 312-318 (2017).
- 29) "Resonance Raman scattering and ab initio calculation of electron energy loss spectra of MoS<sub>2</sub> nanosheets," A. Chakraborti, A.S. Patel, P.K. Kanaujia, P. Nath, G.V. Prakash, and D. Sanyal, *Physics Letters A* 380, 4057-4061 (2016).
- 30) "Can an interdisciplinary field contribute to one of the parent disciplines from which it emerged?" A. Chakraborti, D. Raina, and K. Sharma, *European Physical Journal Special Topics* 225 (17-18), 3127-3135 (2016).
- 31) "Invariant features of spatial inequality in consumption: the case of India," A. Chatterjee, A.S. Chakraborti, A. Ghosh, A. Chakraborti, and T.K. Nandi, *Physica A* 442, 169-181 (2016).
- 32) "Statistical mechanics of competitive resource allocation using agent-based models," A. Chakraborti, D. Challet, A. Chatterjee, M. Marsili, Y.-C. Zhang, and B.K. Chakraborti, *Physics Reports* 552, 1 (2015).
- 33) "Ab initio calculation of magnetic properties of p-block element doped ZnO," P. Nath, A. Chakraborti, and D. Sanyal, *RSC Adv.* 4, 45598 (2014).
- 34) "Copulas and time series with long-ranged dependences," R. Chicheportiche, and A. Chakraborti, *Phys. Rev. E* 89, 042117 (2014).
- 35) "Kinetic exchange models: From molecular physics to social science," M. Patriarca, and A. Chakraborti, *American Journal of Physics* 81, 618 (2013).
- 36) "New classes of spin chains from  $S\hat{O}(q)(N)$ ,  $Sp(q)(N)$  Temperley-Lieb algebras: Data transmission and  $(q, N)$  parametrized entanglement entropies," A. Chakraborti, A. Chakraborti, and E.G. Hidalgo, *J. Math. Phys.* 54, 013517 (2013).

- 37) "Entangled three-particle states in magnetic field: Periodic correlations and density matrices," A. Chakrabarti, and A. Chakraborti, *Indian J. Phys.* 86, 791 (2012).
- 38) "The near-extreme density of intraday log-returns," M. Politi, N. Millot, and A. Chakraborti, *Physica A* 391, 147 (2012).
- 39) "Econophysics review: II. Agent-based models," A. Chakraborti, I. Muni Toke, M. Patriarca, and F. Abergel; *Quantitative Finance* 11:7, 1013 (2011).
- 40) "Econophysics review: I. Empirical Facts," A. Chakraborti, I. Muni Toke, M. Patriarca, and F. Abergel, *Quantitative Finance* 11:7, 991 (2011).
- 41) "Threshold-induced phase transition in kinetic exchange models," A. Ghosh, U. Basu, A. Chakraborti, and B.K. Chakrabarti, *Phys. Rev. E* 83, 061130 (2011).
- 42) "Opinion formation in the kinetic exchange models: Spontaneous symmetry breaking transition," M. Lallouache, A.S. Chakrabarti, A. Chakraborti, and B.K. Chakrabarti, *Phys. Rev. E* 82, 056112 (2010).
- 43) "Quantum entanglement: The unitary 8-vertex braid matrix with imaginary rapidity," A. Chakrabarti, A. Chakraborti, and A. Jedidi, *J. Phys. A (Fast Track)* 43, 482001 (2010).
- 44) "Kinetic exchange models for social opinion formation," M. Lallouache, A. Chakraborti, and B.K. Chakrabarti, *Science and Culture (Kolkata, India)* 76, 485 (2010).
- 45) "Wealth distribution: To be or not to be a Gamma?" M. Lallouache, A. Jedidi, and A. Chakraborti, *Science and Culture (Kolkata, India)* 76, 478 (2010).
- 46) "Basic kinetic wealth-exchange models: common features and open problems," M. Patriarca, E. Heinsalu, and A. Chakraborti, *Eur. Phys. J. B* 73, 145 (2010).
- 47) "Variational Principle for the Pareto Power Law," A. Chakraborti, and M. Patriarca, *Phys. Rev. Lett.* 103, 228701 (2009).
- 48) "First-principles calculations of the optical properties of CxNy single walled nanotubes," D. Jana, A. Chakraborti, L.-C. Chen, C.W. Chen, and K.-H. Chen, *Nanotechnology* 20, 175701 (2009).
- 49) "Relaxation in Statistical Many-agent Economy Models," M. Patriarca, E. Heinsalu, A. Chakraborti, and G. Germano, *Eur. Phys. J. B* 57, 219 (2007).
- 50) "Econophysics: A brief introduction to modeling wealth distribution," A. Chakraborti, *Science and Culture (Kolkata, India)* 73, 55 (2007).
- 51) "Influence of saving propensity on the power law tail of wealth distribution," M. Patriarca, A. Chakraborti, and G. Germano, *Physica A* 369, 723 (2006).
- 52) "Financial and other spatio-temporal time series: Long-range correlations & Spectral properties," A. Chakraborti, and M.S. Santhanam, *Int. J. Mod. Phys. C* 16, 1733 (2005).
- 53) "Statistical model with a standard  $\Gamma$  distribution," M. Patriarca, A. Chakraborti, and K. Kaski, *Phys. Rev. E* 70, 016104 (2004).
- 54) "Searching good strategies in adaptive minority games," M. Sysi-Aho, A. Chakraborti, and K. Kaski, *Phys. Rev. E* 69, 036125 (2004).
- 55) "Dynamics of market correlations: Taxonomy and portfolio analysis," J.-P. Onnela, A. Chakraborti, K. Kaski, J. Kertesz, and A. Kanto, *Phys. Rev. E* 68, 056110 (2003).
- 56) "Intelligent Minority Game with genetic-crossover strategies," M. Sysi-Aho, A. Chakraborti, and K. Kaski, *Eur. Phys. J. B* 34, 373 (2003).
- 57) "Adaptation using hybridized genetic crossover strategies," M. Sysi-Aho, A. Chakraborti, and K. Kaski, *Physica A* 322, 701 (2003).
- 58) "Dynamic asset trees and portfolio analysis," J.-P. Onnela, A. Chakraborti, K. Kaski, and J. Kertesz, *Eur. Phys. J. B* 30, (Rapid Note) 285 (2002).
- 59) "Distributions of money in model markets of economy," A. Chakraborti, *Int. J. Mod. Phys. C* 13, 1315 (2002).
- 60) "Market application of the percolation model: Relative price distribution," A. Chakraborti, *Int. J. Mod. Phys. C* 13, 25 (2002).
- 61) "The Euclidean travelling salesman problem: Frequency distribution of neighbours for small-size systems," A. Chakraborti, *Int. J. Mod. Phys. C* 12, 857 (2001).
- 62) "A self-organising model of market with single commodity," A. Chakraborti, S. Pradhan, and B.K. Chakrabarti, *Physica A* 297, 253 (2001).
- 63) "Statistical mechanics of money: How saving propensity affects its distribution," A. Chakraborti, and B.K. Chakrabarti, *Eur. Phys. J. B* 17, 167 (2000).

- 64) "The travelling salesman problem on randomly diluted lattices: Results for smallsize systems," A. Chakraborti, and B.K. Chakrabarti, *Eur. Phys. J. B* 16, 677 (2000).
- 65) "Anomalous transmission in a hierarchical lattice," A. Chakraborti, B. Bhattacharyya, and A. Chakraborti, *Phys. Rev. B* 61, 7395 (2000).

#### **Edited Books, Proceeding volumes and others**

- 66) Editorial: "From Physics to Econophysics and Back: Methods and Insights", Eds. A. Chakraborti, D. Challet, S.A. Cheong, T. Mizuno, G. Oh, W.X. Zhou, *Frontiers in Physics*, 969516 (2022).  
<https://www.frontiersin.org/articles/10.3389/fphy.2022.969516/full>
- 67) "New Perspectives and Challenges in Econophysics and Sociophysics," Eds. F. Abergel, B.K. Chakrabarti, A. Chakraborti, N. Deo, and K. Sharma (Springer, Cham, 2019).
- 68) "Econophysics and Sociophysics: Recent Progress and Future Directions," Eds. F. Abergel, H. Aoyama, B.K. Chakrabarti, A. Chakraborti, N. Deo, D. Raina, and I. Vodenska (Springer, Cham, 2017).
- 69) "Proceedings of the STATPHYS-KOLKATA VIII," Eds. A. Chakraborti, S. Chatterjee, and P. Pradhan, *Journal of Physics: Conference Series* 638 (2015).
- 70) "Preface: STATPHYS-KOLKATA VIII," A. Chakraborti, S. Chatterjee, and P. Pradhan, *Journal of Physics: Conference Series* 638, 011001 (2015).
- 71) "Econophysics and Data Driven Modelling of Market Dynamics," Eds. F. Abergel, H. Aoyama, B.K. Chakrabarti, A. Chakraborti, and A. Ghosh, (Springer, Milan, 2015).
- 72) "Econophysics of Agent-based models," Eds. F. Abergel, H. Aoyama, B.K. Chakrabarti, A. Chakraborti, and A. Ghosh (Springer-Verlag (Italia), Milan, 2013).
- 73) "Econophysics of systemic risk and network dynamics," Eds. F. Abergel, B.K. Chakrabarti, A. Chakraborti, and A. Ghosh (Springer-Verlag (Italia), Milan, 2012).
- 74) "Econophysics of order-driven markets," Eds. F. Abergel, B.K. Chakrabarti, A. Chakraborti, and M. Mitra (Springer-Verlag (Italia), Milan, 2011).
- 75) "Fifteen Years of Econophysics Research," a special issue in *Science and Culture* (Kolkata, India), Guest Eds. B.K. Chakrabarti, and A. Chakraborti, Volume 76 (9-10) (2010).
- 76) "Econophysics and Sociophysics: Trends and Perspectives," Eds. B.K. Chakrabarti, A. Chakraborti, and A. Chatterjee (Wiley-VCH, Berlin, 2006).

#### **Book Review**

- 77) "Essentials of Econophysics Modelling," *Physics Today* 68, 1, 44 (2015), A. Chakraborti; Book written by František Slanina, Oxford U. Press, 2014. (411 pp.).

#### **Book Chapters/Conference proceedings (refereed)**

- 78) "Physicists' approach to studying socio-economic inequalities: Can humans be modelled as atoms?" K. Sharma, and A. Chakraborti, in Ed. Ashmita Gupta, *Social Statistics: Manifestation of Growth* (Primus Books, India, 2020) pp. 130-155.
- 79) "Complex market dynamics in the light of random matrix theory," H.K. Pharasi, K. Sharma, A. Chakraborti, and T.H. Seligman, in Eds. F. Abergel, B.K. Chakrabarti, A. Chakraborti, N. Deo, K. Sharma, *New Perspectives and Challenges in Econophysics and Sociophysics* (Springer, Cham, 2019), pp. 13-34.
- 80) "Multi-layered network structure: Relationship between financial and macroeconomic dynamics," K. Sharma, A.S. Chakrabarti, and A. Chakraborti, in Eds. F. Abergel, B.K. Chakrabarti, A. Chakraborti, N. Deo, K. Sharma, *New Perspectives and Challenges in Econophysics and Sociophysics* (Springer, Cham, 2019), pp. 117-131.
- 81) "Epilogue," K. Sharma, and A. Chakraborti, in Eds. F. Abergel, B.K. Chakrabarti, A. Chakraborti, N. Deo, and K. Sharma, *New Perspectives and Challenges in Econophysics and Sociophysics* (Springer, Cham, 2019), pp. 269-272.
- 82) "Distinguishing Two Different Mental States of Human Thought Using Soft Computing Approaches," A. Gupta, D. Kumar, A. Chakraborti, and V.K. Singh, *Machine Intelligence and Signal Analysis* (Springer, Singapore, 2019) pp. 323-333.

- 83) "Patterns of Linguistic Diffusion in Space and Time: The Case of Mazatec," J.L. Léonard, M. Patriarca, E. Heinsalu, K. Sharma, and A. Chakraborti, *Complexity Applications in Language and Communication Sciences* (Springer, Cham, 2019), pp. 139-170.
- 84) "Cognitive Task Classification Using Fuzzy Based Empirical Wavelet Transform," M. Tanveer, A. Gupta, D. Kumar, S. Priyadarshini, A. Chakraborti, and R. Mallipeddi, 2018 IEEE International Conference on Systems, Man, and Cybernetics (SMC), 1761-1766 (2018).
- 85) "Global income inequality and savings: A data science perspective," K. Sharma, S. Das, and A. Chakraborti, IEEE 5th International Conference on Data Science and Advanced Analytics, 496-503 (2018).
- 86) "Spatio-Temporal Networks of Social Conflicts: Analysis and Modeling," G. Sehgal, K. Sharma, A. Chatterjee, and A. Chakraborti, IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining (ASONAM 2018), 740-743 (2018).
- 87) "Hurst Exponent as a New Ingredient to Parametric Feature Set for Mental Task Classification," A. Gupta, D. Kumar, and A. Chakraborti, *Information and Decision Sciences* (Springer, Singapore, 2018), pp. 129-137.
- 88) "Sectoral Co-movements in the Indian Stock Market: A Mesoscopic Network Analysis," K. Sharma, S. Shah, A.S. Chakrabarti, and A. Chakraborti, in Eds. Y. Aruka and A. Kirman, *Economic Foundations for Social Complexity Science: Theory, Sentiments, and Empirical Laws* (Springer, Singapore, 2017), pp. 211-238.
- 89) "Reaction-Diffusion Equations with Applications to Economic Systems," S. Ganguly, U. Neogi, A.S. Chakrabarti, and A. Chakraborti, in Eds. F. Abergel, H. Aoyama, B.K. Chakrabarti, A. Chakraborti, N. Deo, D. Raina and I. Vodenska, *Econophysics and Sociophysics: Recent Progress and Future Directions* (Springer, Cham, 2017), pp. 131-144.
- 90) "Kinetic Exchange Models as D Dimensional Systems: A Comparison of Different Approaches," M. Patriarca, E. Heinsalu, A. Singh, and A. Chakraborti, in Eds. F. Abergel, H. Aoyama, B.K. Chakrabarti, A. Chakraborti, N. Deo, D. Raina and I. Vodenska, *Econophysics and Sociophysics: Recent Progress and Future Directions* (Springer, Cham, 2017), pp. 147-158.
- 91) "The Microscopic Origin of the Pareto Law and Other Power-Law Distributions," M. Patriarca, E. Heinsalu, A. Chakraborti, and K. Kaski, in Eds. F. Abergel, H. Aoyama, B.K. Chakrabarti, A. Chakraborti, N. Deo, D. Raina and I. Vodenska, *Econophysics and Sociophysics: Recent Progress and Future Directions* (Springer, Cham, 2017), pp. 159-176.
- 92) "Patterns of Linguistic Diffusion in Space and Time: The Case of Mazatec," J.L. Léonard, E. Heinsalu, M. Patriarca, K. Sharma, and A. Chakraborti, in Eds. F. Abergel, H. Aoyama, B.K. Chakrabarti, A. Chakraborti, N. Deo, D. Raina and I. Vodenska, *Econophysics and Sociophysics: Recent Progress and Future Directions* (Springer, Cham, 2017), pp. 227-251.
- 93) "Epilogue," D. Raina and A. Chakraborti, in Eds. F. Abergel, H. Aoyama, B.K. Chakrabarti, A. Chakraborti, N. Deo, D. Raina, and I. Vodenska, *Econophysics and Sociophysics: Recent Progress and Future Directions* (Springer, Cham, 2017), pp. 255-256.
- 94) "Power-Laws as Statistical Mixtures," M. Patriarca, E. Heinsalu, L. Marzola, A. Chakraborti, and K. Kaski, in Eds. Stefano Battiston, Francesco De Pellegrini, Guido Caldarelli, Emanuela Merelli, *Proceedings of European Conference on Complex Systems (ECCS-2014)* (2016), pp. 271-282.
- 95) "Group-Based Pricing to Shape Demand in Real-Time Electricity Markets," R. Agrawal, A. Chakraborti, K. Singh, G. Shroff, and V. Sarangan, *Multi-Agent Systems and Agreement Technologies, Lecture Notes in Computer Science book series, volume 9571* (2016), pp. 121-128.
- 96) "Spatiotemporal pattern formation in a prey-predator model under environmental driving forces," A.K. Sirohi, M. Banerjee, and A. Chakraborti, *Journal of Physics: Conference Series* 638, 12004-12014 (2015).
- 97) "Physicists' Approaches to a Few Economic Problems," A. Chakraborti, Y. Fujiwara, A. Ghosh, J. Inoue, and S. Sinha, in Eds. F. Abergel, H. Aoyama, B. K. Chakrabarti, A. Chakraborti and A. Ghosh, *Econophysics and Data Driven Modelling of Market Dynamics* (Springer, Milan, 2015), pp. 237-286.
- 98) "Maximizing a Psychological Uplift in Love Dynamics," M. Banerjee, A. Chakraborti, and J. Inoue, in Eds. R. Lopez-Ruiz, D. Fournier-Prunaret, Y. Nishio, C. Gracio, *Nonlinear Maps and their Applications, Springer Proceedings in Mathematics & Statistics* (Springer International Publishing, Switzerland, 2015), pp. 241-252.
- 99) "Kinetic Exchange Models in Economics and Sociology," S. Goswami, and A. Chakraborti, in Eds. R. Lopez-Ruiz, D. Fournier-Prunaret, Y. Nishio, C. Gracio, *Nonlinear Maps and their Applications, Springer Proceedings in Mathematics & Statistics* (Springer International Publishing, Switzerland, 2015), pp. 69-88.
- 100) "Statistical inference of co-movements of stocks during a financial crisis," T. Ibuki, S. Higano, S. Suzuki, J. Inoue, and A. Chakraborti, *J. Phys.: Conf. Ser.* 473, 012008 (2013).

- 101) "Themes and applications of kinetic exchange models: Redux," A. Ghosh, A.S. Chakrabarti, A.K. Chandra, and A. Chakraborti, in Eds. F. Abergel, H. Aoyama, B. K. Chakrabarti, A. Chakraborti and A. Ghosh, *Econophysics of Agent-based models* (Springer-Verlag (Italia), Milan, 2013), pp. 99-129.
- 102) "Study of statistical correlations in intraday and daily financial return time series," G. Tilak, T. Szell, R. Chicheportiche, and A. Chakraborti in Eds. F. Abergel, B. K. Chakrabarti, A. Chakraborti and A. Ghosh, *Econophysics of systemic risk and network dynamics* (Springer-Verlag (Italia), Milan, 2012), pp. 77-104.
- 103) "Opinion formation in the kinetic exchange models," A. Chakraborti, and B.K. Chakrabarti, in Eds. F. Abergel, B.K. Chakrabarti, A. Chakraborti and M. Mitra, *Econophysics of order-driven markets* (Springer-Verlag (Italia), Milan, 2011), pp. 289-304.
- 104) "Agent-based models of socio-economic interactions," A. Chakraborti, and G. Germano, in Eds. L. Pareschi, G. Naldi and G. Toscani, *Mathematical Modeling of Collective Behavior in Socio-Economic and Life Sciences* (Birkhauser, Berlin, 2010), pp. 3-29.
- 105) "Gamma-distribution and Wealth Inequality," A. Chakraborti, and M. Patriarca, *Pramana* 71, 233 (2008).
- 106) "Financial time-series analysis: A brief overview," A. Chakraborti, M. Patriarca, M.S. Santhanam, in Eds. A. Chatterjee, and B.K. Chakrabarti, *Econophysics of Markets and Business Networks* (Springer-Verlag (Italia), Milan, 2007), pp. 51-67.
- 107) "An Outlook on Correlations in Stock Prices," A. Chakraborti, in Eds. A. Chatterjee, and B.K. Chakrabarti, *Econophysics of Stock and other Markets* (Springer-Verlag (Italia), Milan, 2006), pp. 13-23.
- 108) "Kinetic theory models for the distribution of wealth: power law from overlap of exponentials," M. Patriarca, A. Chakraborti, K. Kaski, and G. Germano, in Eds. A. Chatterjee, S. Yarlagadda and B.K. Chakrabarti, *Econophysics of Wealth Distributions* (Springer-Verlag (Italia), Milan, 2005), pp. 93-110.
- 109) "Gibbs versus non-Gibbs distributions in money dynamics," M. Patriarca, A. Chakraborti, and K. Kaski, *Physica A* 340, 334 (2004).
- 110) "Asset trees and asset graphs in financial markets," J.-P. Onnela, A. Chakraborti, K. Kaski, J. Kertesz, and A. Kanto, *Physica Scripta T* 106, 48 (2003).
- 111) "Biology helps you to win a game," M. Sysi-Aho, A. Chakraborti, and K. Kaski, *Physica Scripta T* 106, 32 (2003).
- 112) "Dynamic asset trees and Black Monday," J.-P. Onnela, A. Chakraborti, K. Kaski, and J. Kertesz, *Physica A* 324, 247 (2003).
- 113) "Statistical Physics of the Travelling Salesman Problem," B.K. Chakrabarti, and A. Chakraborti, *Ind. J. Theo. Phys.* 47, 1 (1999).