

# BIKRAMJIT DAS

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- E-MAIL bikram@sutd.edu.sg WEBPAGE: <https://people.sutd.edu.sg/~bikram>
- ACADEMIC POSITIONS
- October 2012 – present: Assistant Professor, ESD, Singapore University of Technology & Design.
  - September 2009 – August 2012: Post-doctoral Fellow, RiskLab & Dept. of Mathematics, ETH Zürich.
- EDUCATION
- PH.D., August, 2009; M.S. (Operations Research), May, 2008. CORNELL UNIVERSITY, Ithaca, USA.
  - M. STAT., May, 2004; B. STAT., May, 2002. INDIAN STATISTICAL INSTITUTE, Kolkata, India.
- RESEARCH INTERESTS
- Risk analysis, dependence in extreme scenarios, heavy-tail analysis, extreme value theory, graphical tools in statistics, spatial statistics, long range dependence, statistical inference for stochastic processes, network traffic modeling, climate modeling, social networks, congestion and queueing.
- PUBLICATIONS
- B. Das and V. Fasen-Hartmann, *Conditional excess risk measures and multivariate regular variation* (2019), **Statistics & Risk Modeling** (available online), <https://doi.org/10.1515/strm-2018-0030>.
  - A. Dhara, K. Natarajan, and B. Das, *Worst-case expected shortfall with univariate and bivariate marginals* (2019), **INFORMS Journal of Computing** (forthcoming).
  - H. Bernhard and B. Das, *Heavy-tailed random walks, buffered queues and hidden large deviations* (2018), **Bernoulli** (available online, forthcoming).
  - B. Das and V. Fasen-Hartmann, *Risk contagion under regular variation and asymptotic tail independence* (2018), **Journal of Multivariate Analysis**, 165, 194-215.
  - B. Das and S. I. Resnick, *Hidden regular variation under full and strong asymptotic dependence* (2017), **Extremes**, 20(4), 873-904.
  - B. Das and S. Ghosh, *Detecting tail behavior: mean excess plots with confidence bounds* (2016), **Extremes**, 19, 325-349.
  - B. Das and S. I. Resnick, *Generation and detection of multivariate regular variation and hidden regular variation* (2015), **Stochastic Systems**, 5(2), 195-238 (electronic).
  - B. Das, S. Engelke and E. Hashorva, *Extremal behavior of squared-Bessel processes attracted to Brown-Resnick processes* (2015), **Stochastic Processes and their Applications**, 125(2), 780-796.
  - B. Das, P. Embrechts and V. Fasen, *Four theorems and a financial crisis* (2013), **International Journal of Approximate Reasoning**, 54(6), 701-716.
  - B. Das, A. Mitra, and S. I. Resnick, *Living on the multi-dimensional edge: seeking hidden risks using regular variation* (2013), **Advances in Applied Probability**, 45(1), 139-163.
  - B. Das and S. Ghosh, *Weak limits for exploratory plots in extreme value analysis* (2013), **Bernoulli**, 19(1), 308-342.
  - J. Beran, B. Das, and D. Schell, *On robust tail index estimation for linear long-memory processes* (2012), **Journal of Time Series Analysis**, 33(3), 406-423.
  - B. Das and S. I. Resnick, *Detecting a conditional extreme value model* (2011), **Extremes**, 14(1), 29-61.
  - B. Das and S. I. Resnick, *Conditioning on an extreme component: Model consistency with regular variation on cones* (2011), **Bernoulli**, 17(1), 226-252.
  - B. Das and S. I. Resnick, *QQ-plots, random sets and data from a heavy-tailed distribution* (2008), **Stochastic Models**, 24 (1), 103-132.
- RECENT MANUSCRIPTS (SUBMITTED)
- B. Das, V. Fasen-Hartmann and C. Klüppelberg, *Tail probabilities of random linear functions of regularly varying random vectors*.
  - B. Das, A. Dhara, and K. Natarajan, *On the heavy-tail behavior of the distributionally robust newsvendor model with moment constraints*.
  - B. Das and M. Kratz, *Risk concentration under multivariate second order regular variation*.
  - B. Das and S. Ghosh, *Common friends in a preferential attachment model*.

## GRANTS

- **PI** - MOE Tier II : “Learning from common connections in social networks”, 2018-2021.
- **Co-PI** - MOE Tier II: “Linking water availability to hydropower supply”, 2018-2021.
- **Co-PI** - MIT-SUTD IDC: “Incentive mechanisms for patient routing in EDs”, 2015-2018.
- **PI** - MIT-SUTD IDC: “The role of social learning in the design of social mechanisms”, 2014-2015.
- **PI** - MOE Tier II : “Dynamic congestion games in deterministic and stochastic environments”, 2013-2016.
- **PI** - SUTD start-up: “Dependence in extremes”, 2012- 2015.
- **Co-PI** - FP-7 (European commission, Marie Curie actions): “Risk analysis, ruin and extremes”, 2012-2016.

TEACHING  
EXPERIENCE

- UNDERGRADUATE COURSES:
  - The Analytics Edge, Fall 2019. SUTD
  - Statistics, Spring 2018, Spring 2019. SUTD
  - Probability, Fall 2013, Fall 2014, Fall 2015, Fall 2016, Fall 2017, Fall 2018. SUTD
  - Simulation, Fall 2014, Fall 2015, Fall 2016, Fall 2017. SUTD
  - Modeling the Systems World, Spring 2013. SUTD
  - Advanced Mathematics II: Linear Algebra and Vector Calculus, Fall 2012. SUTD
  - Introduction to Stochastic Processes, Summer 2007. CORNELL UNIVERSITY
- GRADUATE COURSES:
  - Stochastic Models, Fall 2013, Spring 2015, Spring 2018, Spring 2019. SUTD
  - Measure Theoretic Probability (6 lectures), Summer 2017. SUTD
  - The Theory of Extremes and Point Processes, Spring 2010, Spring 2011. ETH ZÜRICH

STUDENT  
SUPERVISION

- PhD student: Harald Bernhard (2017, working for J.P. Morgan).
- Current PhD students: Gengling Dai, Zeyu Sun (joint supervision).
- Nikolas Tsakas (post-doc), 2014-2015.
- Bachelor/ Semester thesis: Harald Bernhard (ETH Zürich), Daria Schwander (ETH Zürich).
- PhD thesis committee member for Yunpeng Li, Giorgio Sartor, Tushar Vaidya.
- Master’s thesis committee: Aditya Ranjan (SUTD), Snigdha Panigrahi (ISI), Moumanti Podder (ISI).
- Fabio Coppini, Summer 2015 (summer intern).

EDITORIAL  
ACTIVITIES

- EDITORIAL BOARD MEMBER
  - *Stochastic Models*, 2019 –
  - *Dependence Modeling*, 2012-2017.
- ARTICLE REVIEWER FOR THE FOLLOWING JOURNALS  
*Advances in Applied Probability, African Diaspora Journal of Mathematics, ASTIN Bulletin, Bernoulli Journal, Computational Statistics and Data Analysis, Dependence Modeling, Extremes, European Journal of Operational Research, Journal of Applied Probability, Journal of Econometric Theory, Journal of Multivariate Analysis, Journal of Nonparametric Statistics, Journal of Risk and Insurance, Journal of Royal Statistical Society (Series B), Journal of Statistical Planning and Inference, Methodology and Computing in Applied Probability, Operations Research, Probability and Mathematical Statistics, Sankhya (Series A), SIAM Journal on Financial Mathematics, Scandinavian Journal of Statistics, Stochastic Models, Stochastic Processes and its Applications, Studies in Theoretical and Applied Statistics, Systems Engineering, The Annals of Applied Probability.*

## SERVICES

- Member: Advisory Committee on Library and Information Services, SUTD, 2019 – present.
- Member: Institutional Review Board, SUTD, 2018 – present.
- PhD Qualifying examination committee (ESD, SUTD): 2013 – present.
- Co-lead, Financial services focus track, ESD undergraduate program, 2016 – 2019.
- Graduate committee member: ESD PhD program at SUTD: 2012 – 2018.
- GPA, Grading and Honours System Review Committee, 2016.
- New course proposal: *Simulation Modelling and Analysis (2018)*.

CONFERENCE AND WORKSHOP ORGANIZATION

- . *Workshop in Heavy-tailed distributions and Extreme Value Theory*, ISI Kolkata, January 2013.
- . *Summer School on Stochastic Models for Complex Processes*, Disentis, Switzerland, July 2010.
- . *Graduate student's Weekly Probability Seminar*, Cornell University, USA in 2007.

ACADEMIC VISITS

TU Munich, July 2017	Cornell University, June 2015, January 2016
MIT, January-July 2016	LinkedIN, Mountain view, June 2015, June 2018
ISI Kolkata April 2013, August 2014	ESSEC Paris, May 2014, April 2016
ETH Zurich, April 2014	EPFL Lausanne, May 2011
Karlsruhe Institute of Technology, July 2015, Mar 2016, July 2018	

PRESENTATIONS

- . **2019** IMS Singapore; EVA Zagreb, Croatia.
- . **2018** ISMP Bordeaux, France; BIRS Oaxaca, Mexico; PCM 125, ISI Kolkata, India; Karlsruhe Institute of Technology, Germany.
- . **2017** EVA TU Delft, Netherlands; TU Munich.
- . **2016** Columbia U, New York City, USA; ESSEC Paris, France; Fields Institute, Toronto, Canada; Workshop at Karlsruhe, Germany.
- . **2015** ANZAPW Noorootpa, Australia; EVA Ann Arbor; APS INFORMS Istanbul, Turkey; CFEM New York City, USA.
- . **2014** Stochastic Networks Workshop Bedlowo, Poland; RARE Nankai U, China; ESSEC Paris, France; INSEAD Singapore.
- . **2013** World Statistics Congress Hong Kong; NUS Singapore; APS INFORMS Costa Rica.
- . **2012** IMS APRM Tsukuba, Japan; ISI Kolkata, India; ISI Delhi, India.
- . **2011** CUHK Hong Kong; EVA Lyon, France.
- . **2010** UNIL Lausanne, Switzerland, TU Berlin, Germany; TU Munich, Germany, WIAS, Berlin, Germany; Conference on Multivariate distributions, Maresias, Brazil; Vilnius conference, Lithuania.
- . **2009** ETH Zurich; Univ Lyon, France; ORIE Cornell U Ithaca, USA; Tilburg U, Netherlands Lehigh U, USA; EVA Fort Collins USA.
- . **2008-2007** ETH Zurich; Recent Advances in Probability ISI Kolkata, India; NEPS New York City, USA.

STATISTICAL CONSULTING

- . Analysis of randomness in lottery games: Singapore Pools, 2015, 2018.
- . Risk analysis of flood data for Kernkraftwerk Gösgen-Däniken, 2010-2011.

COMPUTER SKILLS

C, FORTRAN, Matlab, Python, R, S-Plus.

OTHER INTERESTS

Crosswords, Reading, Running.

REFERENCES

Upon request.