

## **ANANYA SHETH**

G230 Hampton Hall, Purdue University

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## **Curriculum Vitae**

### **EDUCATION**

- 2016 – 2021 (exp.)    Doctoral Candidate & Research Assistant  
The Innovation Science Lab  
Lyles school of Civil Engineering, Purdue University, USA  
GPA: 3.75
- 2014 – 2016         M.S. Civil Engineering  
Purdue University, USA  
GPA: 3.83
- 2008 – 2012        B.E. Civil Engineering  
Manipal Institute of Technology, India  
GPA: 3.50

### **PEER-REVIEWED PUBLICATIONS (PUBLISHED OR ACCEPTED)**

- 2021    Sheth, A., Systematic Problem-specification in Innovation Science using  
Sinfield, JV. Language. The International Journal of Innovation Science  
<https://doi.org/10.1108/IJIS-03-2020-0019>
- 2020    Sinfield, JV. Framing the Intractable: Comprehensive Success Factors for Grand  
Sheth, A. Challenges. Sustainable Futures 2020, 2.  
Kotian, RR. <https://doi.org/10.1016/j.sftr.2020.100037>
- 2014    Sheth, A., Properties of Concrete on Replacement of Coarse Aggregate and  
Goel, A., Cementitious Materials with Styrofoam And Rice Husk Ash  
Pai, BV. American Journal of Engineering Research 2014, 3(1), 268-271.

### **PEER-REVIEWED PAPERS (IN-REVIEW)**

- 2021    Sheth, A., Pathways to Enterprise Resilience  
Sinfield, JV. MIT Sloan Management Review – *in-review*
- 2021    Sheth, A., Resiliency of Smart Manufacturing Enterprises  
Kusiak, A. The Journal of Industrial Information Integration -- Elsevier
- 2020    Sheth, A., Simple Rules for Innovation Strategy  
Sinfield, JV. Technovation – Elsevier – *Revision in progress, round 1*
- 2020    Sheth, A., Swarm Modelling of Collective Leadership in Top Management Teams  
Sinfield, JV. The Leadership Quarterly – Elsevier – *Revised and resubmitted, round 2*
- 2020    Sheth, A., A Taxonomy of Enterprise Risk Events  
Sinfield, JV. Journal of Risk Research – Taylor & Francis – *in-review*

### **WORKING PAPERS**

- 2021    Sheth, A., Mapping firm risk coverage for the S&P500 using 10-k risk descriptions:  
Rayz, J. A data-driven approach  
Sinfield, JV. Risk Analysis Journal

- 2021 Sheth, A., Shah, R., Sinfield, JV. Variations in firm riskiness and their causes: An industry-firm multi-level analysis  
Management Science
- 2021 Ajmani, A., Sheth, A., Sinfield, JV. A low-risk path to high-impact innovation in the U.S. Marine Renewable Energy Industry  
Marine Technology Society Journal

### REFEREED CONFERENCE PAPERS

- 2019 Sheth, A., Sinfield, JV. Simulating Self-Organization during Strategic Change: Implications for Organizational Design. Presented at the ACM – SIGCHI – Collective Intelligence Conference 2019, Carnegie Mellon University – Pittsburgh.  
arXiv:2007.08521v1
- 2018 Sheth, A., Sinfield, JV. Applying 'simple-rules' heuristics to simulate self-organized managerial adaptation to strategic change in three organizational designs. Presented at the 34th European Group for Organizational Studies (EGOS) Colloquium at Tallinn, Estonia
- 2018 Sheth, A., Sinfield, JV. Towards proactive organizational change. Paper Development Workshop - Academy of Management (AOM) Chicago
- 2018 Sheth, A., Sinfield, JV. The theory of proactive organizational resilience. Paper Development Workshop - Academy of Management Review (AMR) – Haas School of Business, University of California Berkeley
- 2017 Sheth, A., Sinfield, JV. Swarm Intelligence and Organizations. Presented at the Society for Industrial and Applied Mathematics (SIAM) – Purdue Chapter

### REFREED POSTERS

- 2020 Sheth, A., Sinfield, JV. Towards Resilient Organizations- Beginning with a Typology of Risks. Purdue's intramural annual Sigma Xi poster competition
- 2019 Lin, YC., Lumpkin, D., Sheth, A., Sinfield, JV. Enabling Innovation in Action. The Civil Engineering Graduate Research Symposium – Purdue University

### OTHER PUBLICATIONS

- 2019 Sheth, A., Sinfield, JV. Enabling Innovation Insights Report for the Proctor & Gamble Co.
- 2019 Sheth, A., Sinfield, JV. Enabling Innovation Implementer's Guide for the Proctor & Gamble Co.
- 2018 Sheth, A., Sinfield, JV. Synthesis Study: Overview of Readily Available Culvert Inspection Technologies – Joint Transportation Research Program - The Indiana State Department of Transport (INDOT)

## GRANT WRITING EXPERIENCE

- 2020 Co-PI on an **active NSF grant** Doctoral Dissertation Research Improvement Grant – Decision, Risk, Management Science, Division of Social and Economic Sciences, National Science Foundation.  
Grant Title: Doctoral Dissertation Research in DRMS: Building a comprehensive understanding of enterprise risks and their interdependencies for improved risk-intelligence.  
(**awarded** amount \$ 37,975).  
[https://www.nsf.gov/awardsearch/showAward?AWD\\_ID=2049782&HistoricalAwards=false](https://www.nsf.gov/awardsearch/showAward?AWD_ID=2049782&HistoricalAwards=false)
- 2016 Fellowship Kauffmann Foundation graduate research grant  
Grant Title: Embracing change: the art of transformation for the intrapreneur. (*not awarded*)

## INVITED TALKS

- 2021 CASN-RA ASU A Comprehensive Typology of Complex Supply Chain Risk Networks using a Data Driven Approach – (March 4-5, 2021)  
Venue: Complex Adaptive Supply Networks – Research Accelerator, Arizona State University  
*To be co-presented with Prof. Rachna Shah (Carlson School - UMN)*

## AWARDS

- 2021 Business model competition Burton D. Morgan Business Model Competition, Purdue University. Awarded best social innovation business plan to support further business model development
- 2019 Travel grant Purdue University Graduate School. Awarded to support conference travel to Estonia for the 34<sup>th</sup> EGOS Colloquium
- 2015 Scholarship Construction Management Association of America – Chicago
- 2012 Finalist Go Green in the City 2012 – A global innovation challenge held annually by Schneider Electric – Paris

## TEACHING AND MENTORING EXPERIENCE

- Spring 2020 Invited Lecturer Purdue University class ENGR 490 on Breakthrough Thinking for Complex Challenges.  
I introduced undergraduate seniors and juniors to Systems Thinking, covering the variety of system, complexity and associated concepts, and their application to the class project.  
<https://www.youtube.com/watch?v=IDO0272iydM>
- 2018-2020 Lab coach Transferred research skills and new methods to the Innovation Science Lab group on a monthly basis as part of our lab's research effectiveness and skill transfer agenda. This often involved teaching methods to students working in parallel areas.
- 2019-2020 Mentor Played the role of mentor to one incoming graduate student under the Purdue Civil Engineering peer-mentoring program 2019-2020

2015-2017 Facilitator A component of my job as program manager for URGlobal was facilitating discussions and hosting training sessions for undergraduate club officers. These trainings encompassed methods to design learning programs, techniques to deliver them and improve student engagement, as well as personality introspection.

**SERVICE**

2020 Team lead Purdue Engineering Initiative on Innovation & Making – Aggregation of innovation resources at Purdue University and website design

2016-2018 Co-chair Professional development committee for the Civil Engineering Graduate Students Advisory Council (CEGSAC) – Purdue University

2017-2020 Reviewer The Academy of Management (AOM) annual meeting

2018-2020 Reviewer The International Journal of Systematic Innovation

2020 Reviewer The International Journal of Innovation Science

2018-2019 Organizer Research Bytes seminar series, Graduate research symposium series, and Successful Alumni series of the CEGSAC

**PROFESSIONAL MEMBERSHIPS**

- Academy of Management (AOM)
- European Group on Organizational Studies (EGOS)
- The Society for Decision Making Under Deep Uncertainty (DMDU)
- International Society for Professional Innovation Management (ISPIM)
- Association of Computing Machinery (ACM)
- Institute for Operations Research and the Management Sciences (INFORMS)
- Purdue System Thinkers – Student Chapter of Purdue (INCOSE)
- The Evolution Institute
- The Prosocial Institute
- Advanced Degree Consulting Club at Purdue

**INDUSTRY WORK EXPERIENCE**

2014-2016 Assistant Program Manager Purdue University Residences

- Built the UR Global program and Student Club.
- Led trainings and conducted leadership workshops for 30+ student volunteers
- Organized 30+ events for international undergraduate students' development

2012-2014 Assistant Project Manager V-Create Architects, India

- Delivered two construction projects and played key roles in all phases of the construction life cycle.
- Led the operations team to deliver 67,000 sft. of space on time and within budget, maintaining an optimum construction cycle

## RELEVANT COURSEWORK

### Concept building:

CE 597	Entrepreneurship and business strategy in engineering	Gained a foundational understanding of approaches for business opportunity evaluation, testing, and development
CE 597	Breakthrough thinking for complex challenges	Gained a systematic converge-structure-diverge method to frame and address complex challenges
BME 695	Deep learning	Gained a foundational understanding of deep learning methodologies and an opportunity to apply them for text data
IE 590	Perspectives on systems engineering	Gained a conceptual view of the various flavors of systems and the various approaches to analyze them qualitatively
AAE 560	Systems-of-systems modelling and analysis	Gained a conceptual understanding of multiple-interacting systems, their modeling, and their analysis
MGMT 650	Strategic management I	Gained a foundational understanding of both Business and Corporate Strategy
MGMT 655	Competitive strategy	Gained a foundational understanding of competitive dynamics and competitive strategy

### Methodology:

CE 527	Analytical method in design and construction	Learned simulation methods such as agent-based modeling and applied them to the domain of organizations
CE 614	Statistical and econometric methods	Gained a foundational understanding of econometrics and the experience of applying it to the domain of organizations
MGMT 670	Business Analytics	Gained a methodological foundation in formulating and analyzing the business case in corporate companies
MGMT 573	Optimization modelling with spreadsheets	Gained a methodological foundation in applying data-driven techniques for problems related to business operations
IE 590	Nature-inspired computation	Got introduced to computational methods inspired by natural systems that are useful in system optimization and beyond
CNIT 581	Natural language technologies	Gained a foundational understanding of computational linguistics and their application to business systems

### **Professional development:**

ENE 695	Succeeding as an engineering professor	Gained a holistic view of the opportunities, challenges, and professional milestones in the career of a tenure-track Engineering faculty at a R1 university in the USA, and strategies to succeed therein. Additionally, gained detailed understanding of writing a successful NSF Career grant.
MGMT 590	Student managed venture fund	Experiential Learning Initiative: Provided an opportunity to lead the due diligence process for a real-life investment opportunity on behalf of the Purdue Venture Fund
MGMT 690	ELI: Corporate consulting	An Experiential Learning Initiative- Gained real-world corporate consulting experience with leading consulting companies

### **SKILL DEVELOPMENT WORKSHOPS**

- Writing Publishable Papers series offered at the Purdue College of Engineering
- eXtreme Science and Engineering Discovery Environment (XSEDE) workshops on using High Performance Computing resources provided by the XSEDE project

### **EXTRA-CURRICULAR ACTIVITIES**

- Karate – Goju Ryu (7<sup>th</sup> Kyu)
- Art of Living – Purdue Chapter
- Founding member – TATVAM – Global fusion music band at Purdue
  - Performed 50+ music shows in Indiana and Illinois