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# LOYIMEE GOGOI

## CURRENT POSITION

Assistant Professor (Tenure-track), Amrut Mody School of Management,  
Ahmedabad University, Gujarat, India 380009

<https://ahduni.edu.in/academics/schools-centres/amrut-mody-school-of-faculty/loyimee-gogoi/>

## ACADEMIC CHRONICLES

- PhD in Mathematics, Dibrugarh University, India,  
Thesis title: "A Study on Some Problems of Cooperative Games  
and its Application to Networks"  
<http://hdl.handle.net/10603/285902>  
Year of Award: March 2018  
Supervisor: Professor Surajit Borkotokey
- MSc in Mathematics, Tezpur University, India, May 2012,  
Subjects: Pure and Applied Mathematics
- BSc in Mathematics, Lakhimpur Girls' College, Dibrugarh University, India, July 2010,  
Subjects: Mathematics (Honours), Physics & Chemistry (Pass courses)
- 12th Standard, Science Stream, Lakhimpur Girls' College, Assam, India, Board: AHSEC, May 2007  
Subjects: Mathematics, Physics, Chemistry, Biology, English, Assamese (Modern Indian Language)
- 10th Standard, Laluk Higher Secondary School, Lakhimpur, Assam, India, Board: SEBA, May 2005  
Subjects: Mathematics, Adv. Maths, General Science, Social Studies, English, Assamese (Modern Indian Language),

## Academic Positions

- July 2022 to September 2022  
Xavier's Institute of Management and Entrepreneurship, Chennai, India: Assistant Professor
- September 2019 to August 2021  
Department of Applied Mathematics, School of Natural and Applied Sciences, Northwestern Polytechnical University, Xi'an, PR China: Post Doctoral Fellow

- August 2018 to May 2019  
Department of Mathematical Sciences, Tezpur University, India: Guest Faculty  
Courses taught:  
Probability & Statistics (Graduate level)  
Numerical Analysis (Undergraduate level)  
Complex Analysis (Undergraduate level)
- January 2018 to May 2018  
Queen's Management School, Queen's University, Belfast, UK: Visiting Scholar
- May 2017 to December 2017  
Sampling and Official Statistical Unit, Indian Statistical Institute, Kolkata, India: Visiting Scientist

## OTHER ACTIVITIES

I presented a lecture series on “Strategic Network Formation: Stability Vs Efficiency” at the Winter School on Network Science 2023. This enlightening event was organized by the Association for Computing Machinery's (ACM) Student Chapter in partnership with the School of Engineering and Applied Science at Ahmedabad University. The session unfolded from December 11 to December 20, 2023. For further details, please visit <https://acm-au.vercel.app/>  
<https://nptel.ac.in/courses/128108020>

## JOURNAL ARTICLES

1. Hou, D., W. Han, and L. Gogoi, 2024, “A new cost-sharing scheme for cleaning up polluted line-structure river”, *Asia-Pacific Journal of Operational Research* **ABDC Rating: C, SCI**  
doi: <https://doi.org/10.1142/S021759592450012X>
2. Chakrabarti, S., L. Gogoi, R. Gilles, S. Borkotokey, and R. Kumar, 2024, “Expected Values for Variable Network Games”, *Annals of Operations Research* 336, 2061-2089. **ABDC Rating: A, SCI**  
doi: <https://doi.org/10.1007/s10479-023-05530-z>
3. Gong, D., G. Xu, X. Jin and L. Gogoi, 2022, “A sequential partition method for non-cooperative games of bankruptcy problems”, *TOP* 30, 359-379. **SCI**  
<https://link.springer.com/article/10.1007/s11750-021-00617-x>
4. Borkotokey, S., L. Gogoi, D. Choudhary, and R. Kumar, 2022, “Solidarity induced by Group Contributions: The  $MI^k$ -value for TU games”, *Oper Res Int J* 22, 1267-1290. **ABDC Rating: C, SCI**  
<https://link.springer.com/article/10.1007/s12351-020-00584-4>
5. Borkotokey, S., S. Chakrabarti, R. Gilles, L. Gogoi and R. Kumar, 2021, “Probabilistic network values”, *Mathematical Social Sciences*, 113, 169-180. **ABDC Rating: A, SCI**  
doi:<https://doi.org/10.1016/j.mathsocsci.2021.07.003>

6. Bora, P., V. Baruah, S. Borkotokey, L. Gogoi, R. Kumar, P. Mahanta, A. Sarmah, R. Kumar and S. Moretti 2020, "Identifying the Salient Genes in Microarray Data: A Novel Game Theoretic Model for the Co-expression Networks", *Diagnostics* 10(8), 586. **SCI**  
<https://doi.org/10.3390/diagnostics10080586>
7. Borkotokey, S., D. Choudhary, L. Gogoi and R. Kumar, 2020, "Group Interactions in TU games : A Class of k-lateral Shapley values", *European Journal of Operational Research* 286(2), 637-648. **ABDC Rating: A\*, SCI**  
<https://doi.org/10.1016/j.ejor.2020.03.054>
8. Borkotokey, S., L. Gogoi and D. Mukherjee, 2018, "Bi-cooperative Network Games: A Link Based Allocation Rule", *International Journal of Economic Theory* 14(2), 103-128. **ABDC Rating: B**  
<https://onlinelibrary.wiley.com/doi/abs/10.1111/ijet.12148>
9. Borkotokey, S., L. Gogoi and S. Sarangi, 2014, "A Survey of player-based and link-based allocation rules for Network games", *Studies in Microeconomics* 2(1), 5-26, SAGE.  
<http://journals.sagepub.com/doi/abs/10.1177/2321022214522744>

#### UNDER REVIEW

#### WORKING PAPER

1. Borkotokey, S., S. Chakrabarti, L. Gogoi and R. Kumar, 2023, "The Network Banzhaf Value". [https://www.researchgate.net/publication/372956799\\_The\\_Network\\_Banzhaf\\_Value](https://www.researchgate.net/publication/372956799_The_Network_Banzhaf_Value)

#### BOOK CHAPTER

1. Borkotokey, S., L. Gogoi and R. Kumar, 2019, "Network games: The Cooperative Approach", In: A.Chakrabarty, T. Kaizoji and L. Pichl (Eds.), *Network Theory and Agent-based Modelling in Economics and Finance*, Springer Singapore: 429-458.  
[https://link.springer.com/chapter/10.1007/978-981-13-8319-9\\_21](https://link.springer.com/chapter/10.1007/978-981-13-8319-9_21)
2. Gogoi, L., S. Borkotokey and D. Mukherjee, 2018, "Multilateral Interactions and Isolation in Middlemen Driven Network Games", In: N. Dey, S. Borah, R. Babo and A. S. Ashour (Eds.), *Social Network Analytics: Computational Research Methods and Techniques*, Academic Press: 163-181.  
<https://doi.org/10.1016/B978-0-12-815458-8.00009-8>

#### PAPER PRESENTATIONS IN CONFERENCES

1. Presented a paper entitled "The Network Banzhaf Value in Deterministic and Variable Network Situations" at "GAMES 2024, The World Congress of the Game Theory Society" organized by Peking University during August 19-22, 2024.

2. Presented a paper entitled “The Network Banzhaf Value in Deterministic and Variable Network Situations” at “19th European Meeting on Game Theory (SING19)” organized by Université de Franche-Comté, Besançon, France during July 8-10, 2024.
3. Presented a paper entitled “Consistency, Converse Consistency, and Pairwise Merging Properties in Network Games” at “Network Science in Management Conference” organized by the Indian Institute of Management, Ahmedabad, India during December 17-18, 2022.
4. Presented a paper entitled “Consistency and Converse Consistency in Network Games” in “The Fourth East Asia Game Theory International Conference (EAGT2021) and the Ninth China Game Theory International Conference (CMGTA2021) (Online)” organized by Beijing Institute of Technology, China, Guizhou University, China, Northwestern Polytechnical University, China, Beijing Jiaotong University, China during December 24-25, 2021.
5. Presented a paper entitled “Network Games in multilinear extension Form” in “Networks in Economics and Finance” organized by the Indian Institute of Management, Ahmedabad, India during December 19-21, 2018.
6. Presented a paper entitled “Group Interactions in TU games: The k-lateral value” at “International Workshop on Game Theory and Networks” organized by Dibrugarh University, Dibrugarh, India during September 13-15, 2018.
7. Presented a paper entitled “From the Shapley Value to Equal Division: A class of values for TU games” at “Workshop on Network and Games” organized by Queen’s University Belfast, UK during April 27-29, 2018.
8. Presented a paper entitled “Multilateral Interactions and Isolation in Middlemen driven Network” at “Mini-Conference on Networks and Games” organized by Indian Statistical Institute, Kolkata during July 3-4, 2017.
9. Presented a paper entitled “Bi-cooperative Network Games: A Link-Based Allocation Rule” in “International Conclave on Foundations of Decision and Game Theory” organized by Indira Gandhi Institute of Development Research (IGIDR) and Indian Institute of Technology, Bombay, Mumbai during March 14-19, 2016.
10. Presented a paper entitled “Middlemen in TU Cooperative Games” in “International Workshop on Networks and Games” organized by the Indian Institute of Technology, Ropar, Punjab, December 7-9, 2015.
11. Presented a paper entitled “A New Value for TU-Cooperative Games” in “Workshop on Indian Women and Mathematics” organized by the Department of Mathematics, University of Delhi, Delhi, India, during January 2-4, 2015.

12. Presented a paper entitled “A New Value for Cooperative Games” at “International Seminar on Game Theory and its Applications to Social and Economic Networks”, organized by the Department of Mathematics, Dibrugarh University, Dibrugarh, Assam-786004, India, during December 10-12, 2014.
13. Presented a paper entitled “Bi-cooperative Network Games: A Link-Based Solution Concept” at “National Conference on Trends in Mathematical Sciences Research”, organized by the Department of Mathematics, Assam University, Silchar, Assam, India, during September 5-6, 2014.
14. Presented a paper entitled “The Position Value for Bi-cooperative Network Games” at “3rd International Conference on Frontiers of Mathematics & Applications” (ICFMA-2014), organized by the Department of Mathematics, the University of Burdwan, Burdwan, West Bengal, India, during January 29-31, 2014.

#### PARTICIPATION IN WORKSHOPS/TRAININGS

1. Attended the workshop on “Game Theory and Mechanism Design”, organized by the Indian Institute of Science, Bangalore during January 11-15, 2016.
2. Participated in the “Mathematics Training and Talent Search Program” (MTTS), organized by the Indian Institute of Technology, Guwahati funded by NBHM from May 26- June 21, 2008.

#### REFERENCES

1. Professor Surajit Borkotokey, Department of Mathematics, Dibrugarh University, India, sborkotokey@dibru.ac.in (PhD Supervisor)  
<https://dibru.ac.in/userlist/welcome/profile/181>
2. Professor Rajnish Kumar, Senior Lecturer, Queens Management School, Queen’s University Belfast, UK, rajnish.kumar@qub.ac.uk (PostDoctoral Mentor)  
<https://pure.qub.ac.uk/en/persons/rajnish-kumar>
3. Professor Rob Gilles, Queen’s Management School, Queen’s University, UK, r.gilles@qub.ac.uk (Co-author)  
<https://pure.qub.ac.uk/en/persons/rob-gilles>
4. Professor Sudipta Sarangi, Department Head and Professor of Economics, Virginia Polytechnic Institute and State University, USA, ssarangi@vt.edu (Co-author)  
<https://www.sudiptasarangi.com/>
5. Professor Erick Trevino Aguilar, The Institute of Mathematics, UNAM, Mexico, erick.trevino@im.unam.mx  
<https://www.matcuer.unam.mx/comunidad/243-trevino-aguilar-erick>