

# Academic Curriculum Vitae of Anuj Bhowmik

August 2024

## Personal Data

Name: Anuj Bhowmik

Date of Birth: May 15, 1984

Nationality: Indian

Postal Address: Economic Research Unit, 6<sup>th</sup>-floor of S. N. Bose Building, Indian Statistical Institute, 203 B. T. Road, Dunlop, Kolkata 700108, India

Work Phone:

Email Address: anujbhowmik09@gmail.com, anuj.bhowmik@isical.ac.in

## Current Position

Associate Professor, Indian Statistical Institute, September 2020-Present

## Past Employment and Positions

Associate Professor, Indira Gandhi Institute of Development Research, March 2020-August 2020

Assistant Professor, Indira Gandhi Institute of Development Research, February 2018-March 2020

Assistant Professor, Shiv Nadar University, July 2016-February 2018

Lecturer-Cum-Post Doctoral Fellow, Indian Statistical Institute, Kolkata, May 2013-July 2016

Tutor/Lecturer, Auckland University of Technology 2010-12

Research Assistant, Auckland University of Technology Dec-Feb (2009, 2011-13)

Junior Research Fellow, University of Calcutta 2008-2009

## Academic Qualifications

Ph.D., Auckland University of Technology, 2013

M.Sc. (Pure Mathematics), University of Calcutta, 2007

B.Sc. (Mathematics), University of Calcutta, 2005

## Ph.D. Thesis

*Thesis Title:* Blocking efficiency and competitive equilibria in economies with asymmetric information

*Time Period:* October 2009-April 2013

*Primary Supervisor:* Professor Jiling Cao, School of Computer and Mathematical Sciences, Auckland University of Technology

*Examiners:* [1] Professor Maria Gabriella Graziano, Dipartimento di Matematica e Statistica and CSEF, University of Napoli Federico II, Italy; [2] Professor Yeneng Sun, who is Raffles Professor of Social Sciences and Professor of Mathematics from the National University of Singapore, Singapore; [3] Professor Rabee Tourky, who is the Trevor Swan Distinguished Professor of Economics, Australian National University, Australia

## 1. Honors and Distinctions

SCMS Contestable Research Grant for the project “Rational Expectations Equilibrium of Asymmetric Information Economies”, Auckland University of Technology, January-February 2013

Dean’s Award of Excellence for outstanding performance in postgraduate studies in the School of Computing and Mathematical Sciences, Auckland University of Technology, 2012

A grant from the faculty of Design and Creative Technologies for the project “Equilibrium Analysis of Economic Systems with Differential Information”, Auckland University of Technology, December 2011- February 2012

Summer Research Assistantship Award from School of Computing and Mathematical Sciences, Auckland University of Technology, December 2009- February 2010

Graduate Assistantship Scholarship, Auckland University of Technology, 2009

Junior Research Fellowship under CSIR Fellowship Scheme and Eligible for Lectureship, 2007

## 2. Research Directions and Interests

Set-Valued Analysis, Fixed Point and Selection Theorems, Mathematical Economics, General equilibrium Theory, Game Theory, Networks, Decision Theory, Social Choice Theory, Mechanism Design

## 3. Research Publications

### Work in Progress

[30] A. Bhowmik, A new Carathéodory-type selection theorem for discontinuous correspondences

[29] A. Bhowmik, M.G. Graziano, On the rejective core of an economy

[28] A. Bhowmik, S.P. Ghosh, Characterising optimal behaviour of agents in reputational cheap talk framework

[27] A. Bhowmik, B. Ju, M. Mitra, Primary needs satisfaction and the market economy

### Completed Papers

[26] A. Bhowmik, Some properties of discontinuous correspondences and a new fixed point theorem

[25] A. Bhowmik, N.C. Yannelis, Carathéodory-type selection and random fixed point theorem for discontinuous correspondences

[24] A. Bhowmik, Coalitional Fairness of Ex-ante Core Allocations: arbitrary consumption sets and infinite dimensional commodity spaces

[23] A. Bhowmik, A. Sen, Segmented Assimilation: A Minority’s Dilemma, <http://dx.doi.org/10.2139/ssrn.4028666>

[22] A. Bhowmik, G V A Dharanan, Core equivalence in the presence of satiation and indivisibilities, <https://ideas.repec.org/p/pram/prapa/105790.html>

[21] A. Bhowmik, S. Saha, S. Tikader, On fairness and size of coalitions in economies with club goods, [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=4737564](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4737564)

[20] A. Bhowmik, On the core and coalitional incentive compatibility in asymmetric information economies, [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=4652105](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4652105)

## Submitted Papers

- [19] A. Bhowmik, S. Saha, Core equivalence in a mixed club economy, [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=4644664](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4644664)
- [18] Arkarup Basu Mallik, Mihir Bhattacharya, Anuj Bhowmik, Attributes and Limited Attention, <https://www.ashoka.edu.in/research/attributes-and-limited-attention/>
- [17] A. Bhowmik, S. Saha, Bargaining-equilibrium equivalence, [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=4509431](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4509431), revised and resubmitted
- [16] A. Bhowmik, Characterizations of core and equilibrium allocations in an economy with public goods, [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=4891765](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4891765)
- [15] A. Bhowmik, S. Saha, Restricted bargaining sets in a club economy, [https://mpa.ub.uni-muenchen.de/117194/1/Bhowmik%20and%20Saha\\_29.4.23.pdf](https://mpa.ub.uni-muenchen.de/117194/1/Bhowmik%20and%20Saha_29.4.23.pdf)

## Published Papers and Forthcoming

### 2024

- [14] A. Bhowmik, N.C. Yannelis, Equilibria in abstract economies with a continuum of agents with discontinuous and non-ordered preferences, *Journal of Mathematical Economics*, 2024

### 2023

- [13] A. Bhowmik, J. Kaur, Competitive equilibria and robust efficiency with club goods, *Journal of Mathematical Economics* **108** (2023), 102876.
- [12] S. Roychoudhury, A. Bhowmik, S. Chattopadhyay, Innovation and governance, *Journal of Economics and Finance* (2023), 1-29.

### 2019

- [11] A. Bhowmik, M.G. Graziano, Blocking coalitions and fairness in asset markets and asymmetric information economies, *The B.E. Journal of Theoretical Economics* **20** (2019), 1–29
- [10] A. Bhowmik, F. Centrone, A. Martellotti, Coalitional extreme desirability in finitely additive economies with asymmetric information, *Journal of Mathematical Economics* **84** (2019), 83–93

### 2018

- [9] A. Bhowmik, J. Cao, Ex-post core, fine core and rational expectations equilibrium allocations, *Journal of Mathematical Economics* **74** (2018), 128–138

### 2016

- [8] A. Bhowmik, J. Cao, Rational expectations equilibria: existence and representation, *Economic Theory Bulletin* **4** (2016), 367–386

### 2015

- [7] A. Bhowmik, Core and coalitional fairness: the case of information sharing rules, *Economic Theory* **60** (2015), 461–494
- [6] A. Bhowmik, M.G. Graziano, On Vind’s theorem for an economy with atoms and infinitely many commodities, *Journal of Mathematical Economics* **56** (2015), 26–36

### 2014

[5] A. Bhowmik, J. Cao, N.C. Yannelis, Aggregate preferred correspondence and the existence of a maximin REE, *Journal of Mathematical Analysis and Applications* **414** (2014), 29-45

### 2013

[4] A. Bhowmik, J. Cao, On the core and Walrasian expectations equilibrium in infinite dimensional commodity spaces, *Economic Theory* **53** (2013), 537-560

[3] A. Bhowmik, J. Cao, Robust efficiency in mixed economies with asymmetric information, *Journal of Mathematical Economics* **49** (2013), 49-57

### 2012

[2] A. Bhowmik, J. Cao, Blocking efficiency in an economy with asymmetric information, *Journal of Mathematical Economics* **48** (2012), 396-403

### 2009

[1] A. Bhowmik,  $\mathcal{E}$ -continuous selections of upper  $\mathcal{E}$ -continuous set-valued mappings, *Questions and Answers in General Topology* **27** (2009), 61-66

## 4. Teaching

My teaching interests at both the Bachelors and Masters Levels include Theoretical Finance; Microeconomics; Non-Cooperative Game Theory; Cooperative Game Theory; Mathematical Economics.

I am also interested to offer special topics such as General Equilibrium Theory, Incomplete Markets, General Equilibrium Model Under Uncertainty and Asymmetric Information, Social Choice and Mechanism Design, Matching Theory, Pricing of Financial Derivatives, and Arbitrage Theory in Continuous Time.

#### Teaching at Indian Statistical Institute:

[1] Microeconomic Theory I (M.Sc. and Ph.D.), Fall 2013-15, 2020-22

[2] Microeconomic Theory II (M.Sc. and Ph.D.), Spring 2014-16, 2021-23

[3] Economic and Social Networks, Fall 2023

#### Teaching at University of New South Wales:

[1] Visiting lecturer for the course ECON4100 Advanced Microeconomic Analysis - 2019, jointly with Professor Gabriele Graton, February-March 2019

#### Teaching at Indira Gandhi Institute of Development Research:

[1] Mathematics for Economists (M.Sc. and Ph.D.), Fall 2018-19, jointly with G. Mythili

[2] General Topology (M.Sc. and Ph.D.), Fall 2018

[3] Measure Theory (M.Sc. and Ph.D.), Fall 2019

[4] Microeconomics II (M.Sc. and Ph.D.), Spring 2020, jointly with Rupayan Pal

#### Teaching at Shiv Nadar University:

[1] Microeconomics I (M.Sc. and Ph.D.), Fall 2016, 2017

[2] Financial Economics (M.Sc. and Ph.D.), Spring 2017

[3] Advanced Microeconomics (B.Sc.), Spring 2017

#### Teaching Assistant at Auckland University of Technology:

During my graduate study at the Auckland University of Technology, I was a tutor for Mathematics 1, Foundation Algebra, Finite and Discrete Mathematics, Differential and Integral Calculus, and Multivariate Calculus.

## 5. Visiting Faculty

Center for Studies in Economics and Finance, University of Napoli Federico II, July 22-28, 2023

Indira Gandhi Institute of Development Research, March 1-3, 2023

Center for Distributive Justice, Seoul National University, February 22-27, 2023

Center for Distributive Justice, Seoul National University, December 5-12, 2019

Center for Studies in Economics and Finance, University of Napoli Federico II, July 06-13, 2019

School of Economics, University of New South Wales, February 15-March 22, 2019

Center for Studies in Economics and Finance, University of Napoli Federico II, June 17-23 and June 29-July 05, 2018

Department of Economics, Shiv Nadar University, April 01-07, 2018

Economic Research Unit, Indian Statistical Institute, June 13, 2017 to July 10, 2017

Center for Studies in Economics and Finance, University of Napoli Federico II, May 17-31, 2017

Center for Studies in Economics and Finance, University of Napoli Federico II, December 1-15, 2016

Economic Research Unit, Indian Statistical Institute, October 1-19, 2016

Center for Studies in Economics and Finance to visit Professor Maria Gabriella Graziano, University of Napoli Federico II, June 28-July 7, 2015

Center for Studies in Economics and Finance to visit Professor Maria Gabriella Graziano, University of Napoli Federico II, May 2014

School of Computer and Mathematical Sciences, the Auckland University of Technology, December 2013

## 6. Invited Lectures

Segmented assimilation: a minority's dilemma, Indian Institute of Foreign Trade, Kolkata, November 16, 2023

Segmented assimilation: a minority's dilemma, Indira Gandhi Institute of Development Research, March 3, 2023

Segmented assimilation: a minority's dilemma, International workshop on Political Economy of Green Transition and Distributive Justice, Center for Distributive Justice, Institute of Economic Research at Seoul National University, February 24, 2023

Set-valued analysis, Mathematics Department, Jadavpur University, February 3, 2023

Mathematics in the disguise of Economics, International Conference on Frontiers of Mathematical Sciences with Applications, Calcutta Mathematical Society, December 8-10, 2022

On the core of an economy with arbitrary consumption sets and asymmetric information, Conference on Mathematical and Computational Economics, IIT Jodhpur, December 1-3, 2022

Segmented assimilation: a minority's dilemma,, CDJ Economic Theory Workshop, Center for Distributive Justice, Seoul National University, December 9, 2019

Edgeworth equilibria: separable and non-separable commodity spaces, The Inaugural Australasian PhD Workshop in Economics, University of Queensland, May 24, 2013

Blocking efficiency in economies with asymmetric information, International Conference on Frontiers of Mathematical Sciences with Applications, Calcutta Mathematical Society, December 7-9, 2012

## 7. Conference and Seminar Presentations

Equilibria in Abstract Economies with a Continuum of Agents with Discontinuous and Non-Ordered Preferences, SAET Conference, Paris, July 17-July 21, 2023

Segmented assimilation: a minority's dilemma, Asian Meeting of the Econometric Society 2023, IIT Bombay, 10-12 January 2023

Segmented assimilation: a minority's dilemma, XXX<sup>th</sup>, XXXI<sup>st</sup>, XXXII<sup>nd</sup> Annual General Conference on Contemporary Issues in Development Economics, Jadavpur University, December 27-29, 2022

On the core of an economy with arbitrary consumption sets and asymmetric information, 17<sup>th</sup> Annual Conference on Economic Growth and Development, ISI Delhi, December 19-21, 2022

Segmented assimilation: a minority's dilemma, 19<sup>th</sup> SAET Conference on Current Trends in Economics, Ischia, June 30-July 06, 2019

On the existence of rational-expectations equilibria in a class of discrete sequential-choice social-interactions models, XXVII European Workshop on General Equilibrium Theory, June 27-29, 2018

On the existence of rational-expectations equilibria in a class of discrete sequential-choice social-interactions models, Indira Gandhi Institute of Development Research, April 09, 2018

Sequential coalitionally fair and core allocations for two-period economies, XXVI European Workshop on General equilibrium Theory June 01-03, 2017

Edgeworth's conjecture under asymmetric information, 15<sup>th</sup> SAET Conference on Current Trends in Economics, University of Cambridge, July 27-31, 2015

Edgeworth's conjecture under asymmetric information, European workshop on general equilibrium, University of Federico II, June 29-July 1, 2015

Core and coalitional fairness: the case of information sharing rules, 10<sup>th</sup> Annual Conference on Economic Growth and Development, Indian Statistical Institute, New Delhi, December 18-20, 2014

Core and coalitional fairness: the case of information sharing rules, Winter School 2014, University of Delhi, December 15-17, 2014

Coalitional fairness: the case of exact feasibility with asymmetric information, 7<sup>th</sup> Economic Theory and Policy Conference, NIPFP, February 20-22, 2014

Edgeworth equilibria: separable and non-separable commodity spaces, 5<sup>th</sup> CMSS Summer Workshop, University of Auckland, December 10-11, 2013

Blocking efficiency in an economy with asymmetric information, 12<sup>th</sup> SAET Conference on Current Trends in Economics, University of Queensland, June 30-July 3, 2012

Characterizations of Walrasian expectations equilibrium in economies with infinitely many commodities, New Zealand Mathematical Society Colloquium, University of Auckland, December 6-8, 2011

Characterizations of the private core in economies with asymmetric information, Mini-conference on Infinite Dimensional Analysis and Topology, Auckland University of Technology, October 27, 2011

Characterizations and the incentive compatibility of a Walrasian expectations equilibrium, 11<sup>th</sup> Conference of the Society for the Advancement of Economic Theory, Portugal, June 26-July 1, 2011

On the core and Walrasian expectations equilibrium in infinite dimensional Commodity Spaces, Department of Mathematics, University of Auckland, May 25, 2011

On the core in economies with asymmetric information and infinite dimensional commodity spaces, The 12<sup>th</sup> Devonport Topology Festival, New Zealand, February 25, 2011

Existence of a Radner equilibrium in infinite dimensional spaces, New Zealand Mathematical Society Colloquium, University of Otago, December 7-9, 2010

## 8. Research Grants

A travel grant from Center for Studies in Economics and Finance to visiting Professor Maria Gabriella Graziano, University of Napoli Federico II, July 22-28, 2023

A travel grant from Center for Distributive Justice to visiting Biung-Ghi Ju, Seoul National University, December 5-12, 2019.

A travel grant from Center for Studies in Economics and Finance to visiting Professor Maria Gabriella Graziano, University of Napoli Federico II, July 06-13, 2019

A travel grant from School of Economics, University of New South Wales, Sydney, February 15-March 22, 2019.

A travel grant from Center for Studies in Economics and Finance to visiting Professor Maria Gabriella Graziano, University of Napoli Federico II, June 17-23 and June 29-July 05, 2018

A travel grant from Center for Studies in Economics and Finance to visiting Professor Maria Gabriella Graziano, University of Napoli Federico II, May 17-31, 2017

A travel grant from Center for Studies in Economics and Finance to visiting Professor Maria Gabriella Graziano, University of Napoli Federico II, December 1-15, 2016

A travel grant from Center for Studies in Economics and Finance to attend European workshop on general equilibrium 2015 and collaborate my research with Professor Maria Gabriella Graziano, University of Napoli Federico II, June 28-July 7, 2015

Travel grant from Center from Economic Research Unit of Indian Statistical Institute in Kolkata to attend Winter School 2014, University of Delhi, December 15-17, 2014 and 10<sup>th</sup> Annual Conference on Economic Growth and Development, Indian Statistical Institute, New Delhi, December 18-20, 2014

Travel grant from Center for Studies in Economics and Finance to visit Professor Maria Gabriella Graziano, University of Napoli Federico II, May 2014

Travel grant from NIPFP, JNU, and Faculty of Economics, Kagawa University to attend 7th Economic Theory and Policy Conference February 20-22, 2014

Travel grant from School of Computer and Mathematical Sciences to visit Professor Jiling Cao, the Auckland University of Technology, December 2013

Travel grant from School of Economics to attend the Inaugural Australasian PhD Workshop in Economics, University of Queensland, May 2013

Research grant of NZ\$6,000 from School of Computing and Mathematical Sciences for the project “Rational Expectations Equilibrium of Asymmetric Information Economies”, Auckland University of Technology, January- February 2013

Research grant of NZ\$6,000 from the faculty of Design and Creative Technologies for the project “Equilibrium Analysis of Economic Systems with Differential Information”, Auckland University of Technology, December 2011- February 2012

Travel grant of NZ\$2,500 for Research, Auckland University of Technology, October 2011-September 2012

Travel grant of NZ\$2,500 for Research, Auckland University of Technology, October 2010-September 2011

Grant of NZ\$6,000 from School of Computing and Mathematical Sciences for Summer Research, Auckland University of Technology, December 2009- February 2010

Travel grant of NZ\$2,500 for Research, Auckland University of Technology, October 2009-September 2010

## 9. Project

**Project Title:** Infinite dimensional analysis in modern economic scenarios

**Funding Organization:** Core Research Grant under the Science and Engineering Research Board of Anusandhan National Research Foundation

**Total Cost:** 29,32,028/-

**Duration:** May 31, 2024 to May 30, 2027

## 10. Referee of Journals

Bulletin of Economic Research, Economic Theory, Economic Theory Bulletin, Journal of Mathematical Economics, Review of Economic Studies

## 11. Students Supervision

### M. Phil Students

[1] **G V A Dharanan**, Completed

Title: An Essay on General Equilibrium

[2] **Japneet Kaur**, Completed

Title: Competitive Equilibria and Robust Efficiency with Club Goods

[3] **Sandipan Saha**, Completed

Title: An Essay on Bargaining Sets

### Ph.D. Students

[4] **Arkarup Basu Mallick**, Ongoing

Title: Essays on Choice Theory

[5] **Sandipan Saha**, Ongoing

Title: Essays on a Club Economy

## 12. Services

### **Indian Statistical Institute**

Head of the Department, October 23-Present

Seminar Coordinator, July 22 - May 23.

Convener, Placement Committee, August 22 - Present

### **Indira Gandhi Institute of Development Research**

Board of Management, 2019-August 2020

## **13. References**

[1] Professor Jiling Cao

Department of Mathematical Sciences, School of Engineering, Computer and Mathematical Sciences, Auckland University of Technology, Private Bag 92006, Auckland 1142, New Zealand, Tel: (+64) 9 921 9999 ext 8433, Fax: (+64) 9 921 9944, Email: jiling.cao@aut.ac.nz

[2] Professor Maria Gabriella Graziano

Dipartimento di Scienze Economiche e Statistiche and CSEF, University of Napoli Federico II, Complesso Monte S. Angelo, Via Cintia, Napoli 80126, Italy, Tel: (+39) 081 675109, Fax: (+39) 081 675009, Email: mgrazian@unina.it

[3] Professor Carlos Hervés-Beloso

Facultad de Ciencias Económicas y Empresariales, Universidade de Vigo, Campus As Lagoas-Marcosende, 36310 Vigo, (Pontevedra) Spain, Tel: (+34) 986-812446, Fax: (+34) 986-812401, Email: cherves@uvigo.es

[4] Professor M. Ali Khan

He is the Abram Hutzler Professor of Political Economy, Department of Economics, The Johns Hopkins University, 3400 N. Charles Street, Baltimore, MD 21218, Tel: (410) 516-8545, Email: akhan@jhu.edu

[5] Nicholas C. Yannelis

He is the Harlan McGregor Chair in Economic Theory and Professor of Economics, Tippie College of Business, University of Iowa, W380 Pappajohn Business Building (PBB), Tel: (319) 335-2290, Email: nicholasyannelis@gmail.com