

## Simanti Banerjee

Agricultural, Environmental and Regional Economics (AEREC)  
Department of Agricultural Economics and Rural Sociology (AERS)  
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### AREAS OF SPECIALIZATION

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Microeconomic Theory, Environmental & Natural Resource Economics and Experimental Economics Methods

### EDUCATION

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- Doctoral Candidate, Department of AERS, Penn State University **2005 – present**
- Master in Economics, Department of Economics, Jadavpur University, India **2004**
- Bachelor in Economics, Department of Economics, Jadavpur University, India **2002**

### RESEARCH EXPERIENCE

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With James S. Shortle (adviser) – *Penn State University* **2006 – 2009**

- **Market based instruments for spatially coordinated land management for conservation of natural habitats –** Funded by College of Agricultural Sciences Seed Grant Program, Penn State University (**Dissertation research**).  
**Abstract:** This research deals with the design and analysis of market based incentives for creation of spatial patterns of managed habitat on working landscapes for habitat preservation. It employs game theory and auction theory to design and analyze two types of mechanisms – a subsidy scheme and a reverse auction. In the absence of generalized theory and data that can be analyzed to draw conclusions about the performance of the mechanisms, experimental economics methods are used. Data generated are used to evaluate the performance of the schemes and analyze human behavior. Non-parametric tests, panel data and discrete choice analysis are conducted to draw conclusions about the performance of the mechanisms under two different treatments – availability of information to subjects about the auctioneer's objective (auction) and size of the experimental landscape (subsidy) on which spatial patterns are created.
- **Development of a Habitat Conservation Plan** for the bog turtle and other wetland species of concern in the Southern Portion of the Delaware West Recovery Unit, in Pennsylvania and Delaware – Project funded by Pennsylvania Fish and Boat Commission/US Fish and Wildlife Services  
**Abstract:** This study presents the structure of a simple model to determine the price of habitat banking credits. The model includes a simple pricing formula that determines the minimum price a habitat bank will need to receive to recover all the costs of bank creation and credit generation that are incurred into perpetuity.

With *The Nature Conservancy* (Internship) **June -August 2009**

**Market based mechanism for floodplain restoration –** Project with the Nature Conservancy and Southern Illinois University.

**Abstract:** This study deals with the analysis of the market based mechanisms for stacked ecosystem services. The study is set up in the context of floodplain restoration with a focus on carbon sequestration, water quality improvement and floodplain reconnection. Issues related to additionality and establishment of a baseline, the nature of the relationship between different ecosystem services and how that influences the design of the markets, the nature of payment schemes themselves – practice versus performance based schemes, and the varying spatial scales of the markets (global for carbon, watershed level for water quality etc) are discussed. The study concludes with an example of how to design markets for multiple ecosystem services for restoration of the Upper Mississippi River Basin.

With Edward C. Jaenicke – *Penn State University* **2007**

**Analysis of demand for Organic Food Products.** USDA funded project on purchase behavior within the organic private label food categories in major markets in the US.

With Joyashree Roy – *Jadavpur University* **2000 – 2002**

**Analysis of Water Quality Demand: a case study of Dhakuria, Jadavpur area.** Undergraduate research project.

## PUBLICATIONS

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- Ready, Richard C, **Simanti Banerjee** and Nga P. Nguyen (2008). Spatial Models of Open Space Loss. *Dynamics of land use and ecosystem interactions: A transatlantic, multidisciplinary and comparative approach*. Edited by Floor Brouwer and Stephan Goetz. Springer (forthcoming)
- **Banerjee, Simanti** and Asish K. Ghosh (2007). An Environmental Valuation of an Urban Wetland: A Case Study of Jodhpur Park Lake. Discussion Paper No2/2007(30). Centre for Urban Economic Studies, Kolkata, West Bengal, India.

## WORKING PAPERS

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- **Banerjee, Simanti**, James S. Shortle and Anthony M. Kwasnica. Agglomeration Bonus in the presence of externalities: An experimental analysis of coordination games in local interaction networks (**Dissertation research**).
- **Banerjee, Simanti**, James S. Shortle and Anthony M. Kwasnica. Design and Experimental analysis of auctions for procurement of spatially coordinated habitat conservation behaviour on private land. (**Dissertation research**)
- **Banerjee, Simanti**, James S. Shortle. Economic and institutional analysis of incentive mechanisms for ecosystem services provision.
- **Banerjee, Simanti**, Silvia Secchi, Joseph E. Fargione, Steven E. Kraft. Analysis of institutional issues for design of markets for multiple ecosystem services: An application to the restoration of floodplain ecosystems.

## PROFESSIONAL EXPERIENCE

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- **Penn State Agriculture & Environment Center, Penn State University** – with Kristen S. Blunk (Director) **2009**  
**Responsibilities:** Prepare extension resources for Pennsylvania landowners highlighting importance of ecosystem services & the financial benefits from participation in environmental markets, and provide support to environmental markets team for setting up water quality trading program in Conewago Creek Watershed in Pennsylvania.
- **Environment and Natural Resources Institute, Penn State University** – with James S. Shortle (Director) **2008**  
**Responsibilities:** Review of literature and report writing in support of setting up and participation in environmental conservation programs on working landscapes in Pennsylvania.
- **Centre for Environment and Development, Kolkata, India** – with Asis K. Ghosh (Director) **2005**  
**Responsibilities:** Providing research support, administrative support, conducting stakeholder & key informant interviews, analysis & synthesis of primary data and report writing.
- **SYLFF Program, Jadavpur University** – with Joyashree Roy (Director) **2004-05**  
**Responsibilities:** Providing administrative support.
- **Global Change Program, Jadavpur University** – with Joyashree Roy (Director) **2004**  
**Responsibilities:** Providing research support.

## TEACHING EXPERIENCE

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**2008**

**Teaching Assistant** – AEREC 597E (Applied Microeconomics), Penn State University.

**Responsibilities:** Leading the class, grading assignments and exams and conducting lab sessions using Matlab.

## DISTINCTIONS

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- **Wilson A. and Mae C. Cease Memorial Scholarship**, College of Agricultural Sciences, Penn State University **2009**
- **AAEA Foundation Travel Grant**, AAEA **2009**
- **Student Travel Award**, NAREA **2009**
- **Panel discussant**, Advisory board meeting of Smeal Sustainability Council, Penn State University **2009**
- **Competitive Grant Award**, College of Agricultural Sciences, Penn State University **2009**
- **Student Spotlight**, Penn State Institutes of Energy and the Environment, Penn State University **2008**
- **Travel Award**, College of Agricultural Sciences, Penn State University **2008**
- **Gamma Sigma Delta** **2008**
- **National Scholarship**: Ministry of Human Resource Development, Government of India **1997-98, 2002-03-04**

## PRESENTATIONS & WORKSHOPS

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- Workshop on Experimental Economics. NAREA meetings **2009**
- An experimental analysis of coordination games in open neighborhoods: A case study of Agglomeration Bonus mechanisms. NAREA meetings **2009**
- Auctions for spatially contiguous habitat management. AAEA meetings **2009**
- Incentive mechanisms for spatially contiguous habitat management: the Agglomeration Bonus & Agglomeration Vickrey Auction. Invited presentations at Department of Economics, University of Stirling (UK) and Department of Animal and Plant Sciences, University of Sheffield, UK **2008**
- Incentive mechanisms for landscape management: the Agglomeration Bonus with technological externalities in different neighborhoods. 10<sup>th</sup> Bioecon Conference **2008**
- Effectiveness of the Agglomeration Bonus in the presence of technological interdependencies: A case study of the Peak District (UK). NAREA/ CAES meetings **2008**
- Spatial Models of Open Space loss in the Mid-Atlantic region of the US. NAREA meetings **2007**

## SKILLS

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- Software: MS Excel, STATA, Z-Tree and Matlab.
- Languages: English, Hindi, Bengali and Assamese. Knowledgeable in French

## POSITIONS HELD

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- Graduate Student Representative, AEREC, Department of AERS **2006 – 2008**
- [Association for India's Development \(AID\) Penn State Chapter](#): Secretary: **2007 – 2008** & President: **2008 – 2009**

## PROFESSIONAL MEMBERSHIPS

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- Agricultural and Applied Economics Association **2009 – 2010**
- Northeastern Agricultural and Resource Economics Association **2006 – 2010**

## REFERENCES

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- **James S. Shortle** (Adviser). 112C Armsby, Penn State University, University Park, PA 16802, US, Ph: 814-865-7657. Email: [jshortle@psu.edu](mailto:jshortle@psu.edu)
- **Edward C Jaenicke** (PhD Committee Member). 208A Armsby, Penn State University, University Park, PA 16802, US, Ph: 814-865-5282. Email: [tjaenicke@psu.edu](mailto:tjaenicke@psu.edu)
- **Silvia Secchi**, (Supervisor – Summer Internship Project). Department of Agribusiness Economics, Room no. 217E, Mail Code 4410, Southern Illinois University Carbondale, Carbondale, IL 62901, US, Ph: 618-453-1714, Email: [ssecchi@siu.edu](mailto:ssecchi@siu.edu)
- **Joseph E. Fargione** (Supervisor – Summer Internship Project). The Nature Conservancy, 1101 West River Parkway, Suite 200, Minneapolis, MN 55415, US, Ph: 612-331-0745 (O), (612) 508-5699 (C). Email: [jfargione@tnc.org](mailto:jfargione@tnc.org)