Ioanna Maria Spyrou

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Visiting Assistant Professor of Data Analytics, Campbell School of Business, Berry College

EDUCATION

Ph.D. Economics	**Georgia Institute of Technology**

Dissertation: "Essays on the Economics of Natural Shocks, Food Security and Sustainable Agriculture"
Committee Chair: Dr. Shatakshee Dhongde

(Awarded: August 2024)	Atlanta, GA
M.S. Economics	**Georgia Institute of Technology**
(Awarded May 2023)	Atlanta, GA
M.A. Statistics & Applied Mathematics	**City University of New York**
(Awarded: June 2017)	New York City, NY
B.S. Mathematics	**Aristotle University**
(Awarded: June 2014)	Thessaloniki, Greece
M.S. Plant Protection & Environmental Sciences	**Aristotle University**
(Awarded: November 2008)	Thessaloniki, Greece
B.S. Agricultural & Plant Protection Sciences	**Aristotle University**
(Awarded: March 2005)	Thessaloniki, Greece

RESEARCH INTERESTS

Data Science & Analytics, Machine Learning, Econometrics, Sustainable Development, Information Systems, Environmental Economics, Agricultural Economics, Team Science

PUBLICATIONS

- Meaghan McSorley, Bettina K. Arkhurst, Marjorie Hall, Yilun Zha, **Ioanna Maria Spyrou**, Katherine Duchesneau, Udita Ringania, Michael Chang (2023) For graduate students to become leaders in sustainability, we must transcend disciplinary boundaries, *Elementa: Science of the Anthropocene* Vol. 11, Issue 1 https://doi.org/10.1525/elementa.2023.00012

- **Ioanna Maria Spyrou**, Christos Frantzidis, Charalampos Bratsas, Ioannis Antoniou, Panagiotis D. Bamidis. (2016) Geriatric depression symptoms coexisting with cognitive decline: A comparison of classification methodologies, *Biomedical Signal Processing and Control*, Vol. 25, pp 118-129 https://doi.org/10.1016/j.bspc.2015.10.006

- S. Billis, Evdokimos I. Konstantinidis, **Ioanna Maria Spyrou**, Panagiotis Antoniou, Panagiotis D. Bamidis. (2015) Exercise Intensity Forecasting: Application in Elderly Interventions that Promote Active and Healthy Aging. *International Journal of E-Health and Medical Communications*, Vol. 6, Issue 4, pp 1-19 https://doi.org/10.4018/IJEHMC.2015100101

- **Ioanna Maria Spyrou**, Dimitrios G. Karpouzas, Urania Menkissoglu-Spiroudi. (2009) Do botanical pesticides alter the structure of the soil microbial community? *Microbial Ecology*, Vol. 58, Issue 4, pp 715-727 https://doi.org/10.1007/s00248-009-9522-z

WORKING PAPERS

- Shatakshee Dhongde, **Ioanna Maria Spyrou** (2024) Impact of Drought on Children's Educational Outcomes. https://dx.doi.org/10.2139/ssrn.4547663 (final draft)

- **Ioanna Maria Spyrou** (2024) Sustainable Agricultural Practices: Determinants of Adoption and Impact on Food Security (under submission)

WORK IN PROGRESS

- Food Insecurity Forecasting using Machine Learning. (with Shatakshee Dhongde - Georgia Institute of Technology, US)

- Heterogeneous Treatment Effect Estimation in Matching Marketplaces under Interference. (with Economics & Decision Sciences Team at Microsoft)

- Study on the Interaction between External Factors and Cognitive Well-Being leading to more Informed Decision-Making and Improved Outcomes for Individuals and Communities alike. (with Christos Frantzidis - University of Lincoln, UK)

RESEARCH EXPERIENCE

PhD Researcher   Aug 2019 - July 2024
Georgia Institute of Technology, School of Economics
- Forecasting using Machine Learning.
- Panel data analysis using random, fixed effects estimation.

Graduate Research Fellow   Aug 2021 - July 2023
Georgia Institute of Technology, Brook Byers Institute of Sustainable Systems
Sustainability, Interdisciplinary Teams and Leadership - participated in:
- Climate Action Plan Advisory Task Force Working Group
- The Georgia Tech Research Institute grant proposal process
- Interdisciplinary BBISS team for project design and implementation.

Research Scientist   Oct 2013 to Aug 2015
Aristotle University, School of Medicine, Medical Physics Laboratory
- Examined and Evaluated Data Mining Techniques (Random Forests, Random Trees, Support Vector Machines (SVMs) and Multilayer Perceptron (MLP) Networks).
- Generated time-series forecasting models.

Senior Research & Data Scientist   Aug 2008 to Aug 2015
European Apiculture Programs Supervisor
Institute of Plant Breeding and Genetic Resources (IPB & GR) of the Hellenic Agricultural Organization-Demeter supervised by the Ministry of Agriculture
- Analyzed and Evaluated Data Mining Techniques and Extracted Knowledge for Price and Subsidies Policy Determination.
- Analyzed of Honey Samples in the lab for pesticides residuals detection.

Graduate Research Assistant   Jan 2003 to Aug 2009
Aristotle University, School of Agriculture, Plant Pathology Laboratory
- Applied and Analyzed Data Mining Techniques and Evaluated Statistical Inference. Applied Principal Component Analysis (PCA), three-way and a two-way analysis of variance (ANOVA).

TEACHING EXPERIENCE

Visiting Assistant Professor, Berry College, Campbell School of Business   Sept 2024 to Dec 2024

- DAT 101: Introduction to Data Analytics   Sept 2024 to Dec 2024

- BUS 380I: Business Analytics   Sept 2024 to Dec 2024

Instructor, Georgia Institute of Technology, School of Economics

- ECON 2106: Principles of Microeconomics   Aug 2023 to Dec 2023

Graduate Teaching Assistant, Georgia Institute of Technology, School of Economics

- ECON 2106: Principles of Microeconomics   June 2024 to Aug 2024
- ECON 4440: Economics of Natural Resources and the Environment   Jan 2024 to May 2024
- ECON 7103: Environmental Economics II   Jan 2024 to May 2024
- ECON 4340: Industrial Organization   May 2021 to July 2021
- ECON 2106: Principles of Microeconomics   Aug 2020 to July 2021
- ECON 4440: Economics of the Environment   Jan 2020 to May 2020
- ECON 4180: Game Theory Economics   Aug 2019 to Dec 2019

PREVIOUS INDUSTRY EMPLOYMENT

Senior Research & Data Scientist, European Apiculture Programs Supervisor, Institute of Plant Breeding & Genetic Resources, Thessaloniki, Greece, 2008 to 2015

FELLOWSHIPS

- Brook Byers Institute for Sustainable Systems   Aug 2021 to July 2023
- Gerondelis Foundation (for Academic Excellence)   Jan 2019 to Dec 2020

CONFERENCES/PROGRAMS PRESENTATIONS

2023: Southern Economic Association Conference (SEA), New Orleans — Association for Public Policy Analysis & Management Conference (APPAM) — The South East Exchange of Development Studies (SEEDS), Georgia Institute of Technology, Atlanta
2022: Rapid Fire Presentations on Global Development, Georgia Institute of Technology, Atlanta — 1st Brook Byers Institute for Sustainable Systems Scholar Symposium, Georgia Institute of Technology, Atlanta — Southern Economic Association Conference (SEA), Fort Lauderdale — Ivan Allen College Graduate Student Conference, Georgia Institute of Technology, Atlanta — Ivan Allen College Focus Scholars Program, Georgia Institute of Technology, Atlanta
2021: Southern Economic Association Conference (SEA), Houston

ADDITIONAL DEGREES AND CERTIFICATES

Tech to Teaching Certificate   **Georgia Institute of Technology**
(Awarded May 2022)   Atlanta, GA

MEMBERSHIPS

- American Economic Association
- Southern Economic Association

SKILLS

Python, C, C++, R, STATA, MATLAB, Weka, SQL, Tableau

LANGUAGES

English (Fluent), German (Fluent), Greek (Native)

REFERENCES

- Dr. Shatakshee Dhongde
  School of Economics
  Georgia Institute of Technology
  shatakshee.dhongde@econ.gatech.edu

- Dr. Casey Wichman
  School of Economics
  Georgia Institute of Technology
  wichman@gatech.edu

- Dr. Karen Yan
  School of Economics
  Georgia Institute of Technology
  karen.yan@gatech.edu

- Dr. Olga Shemyakina
  School of Economics
  Georgia Institute of Technology
  olga.shemyakina@econ.gatech.edu

- Dr. Robert Gonzalez
  School of Economics
  Georgia Institute of Technology
  robert.gonzalez@gatech.edu