

# Michael R. Caputo

8/13/23

## ***Work Address:***

Department of Economics  
University of Central Florida  
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## ***Education:***

Ph.D. Economics, University of Washington, 1987.  
M.A. Economics, University of Washington, 1985.  
B.S. with Distinction and Magna Cum Laude, Economics, University of Delaware, 1983.

## ***Employment History:***

2017–present, Chair, Department of Economics, University of Central Florida  
2023 May and June, Erik Malmstens Visiting Professor of Economics, University of Gothenburg, Sweden  
2019 May, Erik Malmstens Visiting Professor of Economics, University of Gothenburg, Sweden  
2018 May, Erik Malmstens Visiting Professor of Economics, University of Gothenburg, Sweden  
2017 May and June, Erik Malmstens Visiting Professor of Economics, University of Gothenburg, Sweden  
2003–present, Professor, Department of Economics, University of Central Florida  
1996–2003, Professor, Department of Agricultural and Resource Economics, University of California Davis  
1992–1996, Associate Professor, Department of Agricultural and Resource Economics, University of California Davis  
1987–1992, Assistant Professor, Department of Agricultural and Resource Economics, University of California Davis

## ***Fields of Specialization:***

Differential Game Theory, Health Economics, Microeconomic Theory, Optimal Control.

## ***Courses Taught:***

### *Undergraduate*

Natural Resource and Environmental Economics  
Linear Programming  
Mathematical Economics  
Intermediate Microeconomic Theory  
Principles of Microeconomic Theory  
Industrial Organization & Game Theory

### *Graduate*

Microeconomic Theory  
Static Optimization Theory  
Dynamic Optimization Theory  
Advanced Topics in Economic Theory  
Mathematical Economics

## ***Honors and Awards:***

“2015 Research Incentive Award,” University of Central Florida, College of Business Administration.  
“2012 Excellence in Research Award,” University of Central Florida, College of Business Administration.

“2009 Excellence in Graduate Teaching Award,” University of Central Florida, College of Business Administration.

“Quality of Research Discovery Award” given by the American Agricultural Economics Association for the 2005 paper “An Atemporal Microeconomic Theory and an Empirical Test of Price-Induced Technical Progress,” *Journal of Productivity Analysis* 24, 259–281.

Academic Keys: Who’s Who in Social Sciences Higher Education, inducted 2004.

Academic Keys: Who’s Who in Business Higher Education, inducted 2003.

“Revealed Performances: Worldwide Rankings of the Economists and Economics Departments,” by Tom Coupe´—I was ranked 525 out of more than 113,000 economists (top 0.5%) using 1990–2000 data and 943 out of more than 55,000 economists (top 2%) using 1994–1998 data.

ANBAR Citation of Excellence and Highest Quality Rating for my (1998) paper “A Dual Vista of the Stackelberg Duopoly Reveals its Fundamental Qualitative Structure,” *International Journal of Industrial Organization* 16, 333–352.

Academic Keys: Who’s Who Among America’s Teachers, inducted 1998.

Henry C. Buechel Memorial Award for Distinguished Undergraduate Teaching, Department of Economics, University of Washington, 1986.

Graduate School Scholastic Achievement Award for Outstanding Academic Performance, University of Washington, 1985.

B.S. in Economics with Distinction and Magna Cum Laude, University of Delaware, 1983.

Distinguished Senior in Economics, Department of Economics, University of Delaware, 1983.

Achievement Award for Junior Economics Majors, Department of Economics, University of Delaware, 1982.

Dean’s List, University of Delaware, every semester, 9/79–6/83.

Honor Society of Phi Kappa Phi, University of Delaware, initiated 1983.

Honor Society of Beta Gamma Sigma, University of Delaware, initiated 1983.

Honor Society of Omicron Delta Epsilon, University of Delaware, initiated 1982.

### ***Professional Service:***

Associate Editor: *Mathematical Social Sciences*, 2011–present

Subject Editor: *Optimal Control Applications and Methods*, 2005–2012.

Editorial Council: *Journal of Environmental Economics and Management*, 1994–1996

Referee Duties: *American Economic Review*, *American Journal of Agricultural Economics*, *American Journal of Health Economics*, *Automatica*, *Dynamic Games and Applications*, *Economic Modelling*, *Economic Theory Bulletin*, *Economics Bulletin*, *Economics Letters*, *Energy Economics*, *Environment and Development Economics*, *Environmental and Resource Economics*, *European Journal of Operational Research*, *Games and Economic Behavior*, *Health Economics*, *International Economic Review*, *International Journal of Industrial Organization*, *Journal of Comparative Economics*, *Journal of Economic Behavior and Organization*, *Journal of Economic Dynamics and Control*, *Journal of Economic Education*, *Journal of Environmental Economics and Management*, *Journal of Mathematical Economics*, *Journal of Optimization Theory and Applications*, *Journal of Productivity Analysis*, *Journal of Public Economics*, *Macroeconomic Dynamics*, *Mathematical Social Sciences*, *Optimal Control Applications and Methods*, *Oxford Economic Papers*, *Resource and Energy Economics*, *Review of Economic Studies*, *Southern Economic Journal*, and others

**Book:**

Caputo, Michael R. (2005), *Foundations of Dynamic Economics Analysis: Optimal Control Theory and Applications*, Cambridge: Cambridge University Press.

**Refereed Articles:**

69. Bolin, Kristian and Michael R. Caputo, “Optimal Investment in Health when Lifetime is Stochastic, or, Rational Agents do not Often Follow Health Recommendations,” forthcoming in *Southern Economic Journal*
68. Caputo, Michael R. and Davide Dragone (2022), “Rational Agents Might be Overweight, Underweight, or the Physiologically Optimal Weight,” *Economics Letters* 210, January, 110210.
67. Bolin, Kristian and Michael R. Caputo (2021), “Non-Life-Threatening Ailments and Rational Patience When Expected Treatment Outcomes are Continuously Improving,” *Journal of Health Economics* 79, September, 102495.
66. Caputo, Michael R. (2021), “New Insights in the Canonical Model of Health Capital,” *Mathematical Social Sciences* 110, 23–33.
65. Bolin, Kristian and Michael R. Caputo (2020), “Consumption and Investment Demand when Health Evolves Stochastically,” *Journal of Economic Dynamics and Control* 114, May, 103893.
64. Caputo, Michael R. (2018), “Uncovering the Behavioral Implications of the Rational Addiction Assertion,” *The B.E. Journal of Theoretical Economics* 18(1), January, 20160120.
63. Caputo, Michael R. and Benoît Pierre Freyens (2017), “Royalties, Entry and Spectrum Allocation to the Broadcasting Industry,” *Journal of Public Economic Theory* 19, 1118–1135. Also (2018), “Corrigendum” 20, 788.
62. Caputo, Michael R. and Chen Ling (2017), “How to Do Comparative Dynamics on the Back of an Envelope for Open-Loop Nash Equilibria in Differential Game Theory,” *Optimal Control Applications and Methods* 38, 443–458.
61. Caputo, Michael R. (2016), “Intrinsic Comparative Statics of a Nash Bargaining Solution,” *International Game Theory Review* 18(4), 1650013 (11 pages).
60. Caputo, Michael R. and Martin Forster (2016), “Optimal Plans and Timing under Additive Transformations to Rewards,” *Oxford Economic Papers* 68, 604–626.
59. Caputo, Michael R. and Chen Ling (2015), “Intrinsic Comparative Dynamics of Locally Differentiable Feedback Stackelberg Equilibria,” *Dynamic Games and Applications* 5, 1–25.
58. Caputo, Michael R., and Dmitriy Popov (2014), “Comparative Statics of a Monopolistic Firm Facing Rate-of-Return and Command-and-Control Pollution Constraints,” *Bulletin of Economic Research* 66 S1, S17–S35.
57. Caputo, Michael R. (2014), “Comparative Statics of a Monopolistic Firm Facing Price-Cap and Command-and-Control Environmental Regulations,” *Energy Economics* 46, 464–471.
56. Caputo, Michael R. and Chen Ling (2013), “The Intrinsic Comparative Dynamics of Locally Differentiable Feedback Nash Equilibria of Autonomous and Exponentially Discounted Infinite Horizon Differential Games,” *Journal of Economic Dynamics and Control* 37, 1982–1994.
55. Caputo, Michael R. and Quirino Paris (2013), “An Intertemporal Theory of Disembodied and Price-Induced Technical Progress,” *Economic Modelling* 33, 631–640.
54. Caputo, Michael R. (2013), “Optimal Control and Resources,” In: Shogren, J.F., (ed.) *Encyclopedia of Energy, Natural Resource, and Environmental Economics*, Vol. 2, pp. 321–331 Amsterdam: Elsevier.

53. Caputo, Michael R. (2013), “The Intrinsic Comparative Dynamics of Infinite Horizon Optimal Control Problems with a Time-Varying Discount Rate and Time-Distance Discounting,” *Journal of Economic Dynamics and Control* 37, 810–820.
52. Ling, Chen and Michael R. Caputo (2012), “The Envelope Theorem for Locally Differentiable Nash Equilibria of Discounted and Autonomous Infinite Horizon Differential Games,” *Dynamic Games and Applications* 2, 313–334.
51. Caputo, Michael R. and Amnon Levy (2012), “A Theory of Mood-Influenced Consumption and Investment in Health,” *Mathematical Social Sciences* 63, 218–227.
50. Caputo, Michael R. (2011), “A Nearly Complete Test of a Capital Accumulating, Vertically Integrated, Nonrenewable Resource Extracting Theory of a Competitive Firm,” *Resource and Energy Economics* 33, 725–744.
49. Ling, Chen and Michael R. Caputo (2011), “A Qualitative Characterization of Symmetric Open-Loop Nash Equilibria in Discounted Infinite Horizon Differential Games,” *Journal of Optimization Theory and Applications* 149, 151–174.
48. Van Gorder, Robert A. and Michael R. Caputo (2010), “Envelope Theorems for Locally Differentiable Open-Loop Stackelberg Equilibria of Finite Horizon Differential Games,” *Journal of Economic Dynamics and Control* 34, 1123–1139.
47. Caputo, Michael R. (2010), “The Testable Implications of a Capital Accumulating, Price Taking, Vertically Integrated, Nonrenewable Resource Extracting Model of the Firm,” *Optimal Control Applications and Methods* 31, 5–27.
46. Caputo, Michael R. (2009), “A Unified View of Ostensibly Disparate Isoperimetric Variational Problems,” *Applied Mathematics Letters* 22, 332–335.
45. Levy, Amnon and Michael R. Caputo (2008), “Optimal Control of Locusts in Subsistence Farming Areas,” *European Journal of Operational Research* 191, 503–515.
44. Caputo, Michael R. (2008), “The Intrinsic Qualitative Properties of the Classical Optimal Timing Problem are Invariant to the Functional Form of the Discount Function,” *Natural Resource Modeling* 21, 607–624.
43. Caputo, Michael R. and M. Hossein Partovi (2008), “Intrinsic Comparative Statics of a General Class of Profit-Maximizing Rate-of-Return Regulated Models of the Firm,” *Oxford Economic Papers* 60, 369–382.
42. Caputo, Michael R. and Quirino Paris (2008), “Comparative Statics of the Generalized Maximum Entropy Estimator of the General Linear Model,” *European Journal of Operational Research* 185, 195–203.
41. Caputo, Michael R. (2007), “The Envelope Theorem for Locally Differentiable Nash Equilibria of Finite Horizon Differential Games,” *Games and Economic Behavior* 67, 198–224.
40. Caputo, Michael R. (2007), “The Lagrange Multiplier is Not the Shadow Value of the Limiting Resource in the Presence of Strategically Interacting Agents,” *Economics Bulletin* 3, 1–8.
39. Partovi, M. Hossein and Michael R. Caputo (2007), “Existence of a Universal Comparative Statics Matrix for Differentiable Optimization Problems,” *Economic Theory* 30, 385–394.
38. Partovi, M. Hossein and Michael R. Caputo (2006), “A Complete Theory of Comparative Statics for Differentiable Optimization Problems,” *Metroeconomica* 57, 31–67. Also (2007), “Erratum” 58, 360.
37. Caputo, Michael R. and Quirino Paris (2005), “An Atemporal Microeconomic Theory and an Empirical Test of Price-Induced Technical Progress,” *Journal of Productivity Analysis* 24, 259–281.
36. Partovi, M. Hossein and Michael R. Caputo (2004), “Principal Portfolios: Recasting the Efficient Frontier,” *Economics Bulletin* 7, 1–10.
35. Caputo, Michael R. and Dean Lueck (2003), “Natural Resource Exploitation Under Common Property Rights,” *Natural Resource Modeling* 16, 39–67.

34. Caputo, Michael R. (2003), "The Comparative Dynamics of Closed-Loop Controls for Discounted Infinite Horizon Optimal Control Problems," *Journal of Economic Dynamics and Control* 27, 1335–1365.
33. Paris, Quirino and Michael R. Caputo (2002), "Comparative Statics of Money-Goods Specifications of the Utility Function," *Journal of Economics* 77, 53–71.
32. Caputo, Michael R. and M. Hossein Partovi (2002), "Reexamination of the A-J Effect," *Economics Bulletin* 12, 1–9.
31. Paris, Quirino and Michael R. Caputo (2001), "Price-Induced Technical Progress and Comparative Statics," *Economics Bulletin* 15, 1–8.
30. Caputo, Michael R. (2001), "Further Results on Lagrange Multipliers with Several Binding Constraints," *Economics Letters* 70, 335–340.
29. Caputo, Michael R. (2000), "Lagrangian Transposition Identities and Reciprocal Pairs of Constrained Optimization Problems," *Economics Letters* 66, 265–273.
28. Caputo, Michael R. (1999), "Economic Characterization of Reciprocal Isoperimetric Control Problems Revisited," *Journal of Optimization Theory and Applications* 101, 723–730.
27. Caputo, Michael R. (1999), "The Relationship Between Two Dual Methods of Comparative Statics," *Journal of Economic Theory* 84, 243–250.
26. Caputo, Michael R. (1998), "Economic Characterization of Reciprocal Isoperimetric Control Problems," *Journal of Optimization Theory and Applications* 98, 325–350.
25. Caputo, Michael R. (1998), "A Dual Vista of the Stackelberg Duopoly Reveals its Fundamental Qualitative Structure," *International Journal of Industrial Organization* 16, 333–352.
24. Ghassemi, Justine S. and Michael R. Caputo (1997), "Abatement, Consumption, Capital and Pollution Accumulation in an Optimal Program," *Pacific and Asian Journal of Energy* 7, 1–20.
23. Nelson, Randy and Michael R. Caputo (1997), "Price Changes, Maintenance, and the Rate of Depreciation," *Review of Economics and Statistics* 79, 422–430.
22. Caputo, Michael R. (1997), "The Qualitative Structure of a Class of Infinite Horizon Optimal Control Problems," *Optimal Control Applications and Methods* 18, 195–215.
21. Underwood, Nora A. and Michael R. Caputo (1996), "Environmental and Agricultural Policy Effects on Information Acquisition and Input Choice," *Journal of Environmental Economics and Management* 31, 198–218.
20. Caputo, Michael R. (1996), "The Envelope Theorem and Comparative Statics of Nash Equilibria," *Games and Economic Behavior* 13, 201–224.
19. Caputo, Michael R. and Brian J. Ostrom (1996), "Optimal Government Policy Regarding a Previously Illegal Commodity," *Southern Economic Journal* 62, 690–709.
18. Paris, Quirino and Michael R. Caputo (1995), "The Rhetoric of Duality," *Journal of Agricultural and Resource Economics* 20, 195–214.
17. Caputo, Michael R. and James E. Wilen (1995), "Optimal Cleanup of Hazardous Wastes," *International Economic Review* 36, 217–243.
16. Caputo, Michael R. and James E. Wilen (1995), "Optimality Conditions and Comparative Statics for Horizon and Endpoint Choices in Optimal Control Theory," *Journal of Economic Dynamics and Control* 19, 351–369.
15. Caputo, Michael R. (1994), "The Slutsky Matrix and Homogeneity in Intertemporal Consumer Theory," *Journal of Economics* 60, 255–279.
14. Caputo, Michael R. and Brian J. Ostrom (1994), "Potential Tax Revenue from a Regulated Marijuana Market," *American Journal of Economics and Sociology* 53, 475–490.
13. Caputo, Michael R. and Dean Lueck (1994), "Modeling Common Property Ownership as a Dynamic Contract," *Natural Resource Modeling* 8, 225–245.

12. Caputo, Michael R. and Lori Lynch (1993), "A Nonparametric Efficiency Analysis of California Cotton Ginning Cooperatives," *Journal of Agricultural and Resource Economics* 18, 251–265.
11. Paris, Quirino, Michael R. Caputo, and Garth J. Holloway (1993), "Keeping the Dream of Rigorous Hypothesis Testing Alive," *American Journal of Agricultural Economics* 75, 25–40.
10. Caputo, Michael R. (1992), "A Primal-Dual Approach to Comparative Dynamics with Time-Dependent Parameters in Variational Calculus," *Optimal Control Applications and Methods* 13, 73–86.
9. Caputo, Michael R. (1992), "Comparative Dynamics in the Labor-Managed Model of the Firm," *Journal of Comparative Economics* 16, 272–286.
8. Caputo, Michael R. (1992), "Fundamental Symmetries and Qualitative Properties in the Adjustment Cost Model of the Firm," *Journal of Mathematical Economics* 21, 99–112.
7. Caputo, Michael R. and Lori Lynch (1991), "Implications of Endogenous Prices in Consumer Theory: The Case of Barter and the Consumer Cooperative," *Journal of Comparative Economics* 15, 421–436.
6. Caputo, Michael R. (1990), "Comparative Dynamics via Envelope Methods in Variational Calculus," *Review of Economic Studies* 57, 689–697.
5. Caputo, Michael R. (1990), "New Qualitative Properties in the Competitive Nonrenewable Resource Extracting Model of the Firm," *International Economic Review* 31, 829–839.
4. Caputo, Michael R. (1990), "How to do Comparative Dynamics on the Back of an Envelope in Optimal Control Theory," *Journal of Economic Dynamics and Control* 14, 655–683.
3. Caputo, Michael R. (1990), "A Qualitative Characterization of the Competitive Nonrenewable Resource Extracting Firm," *Journal of Environmental Economics and Management* 18, 206–226.
2. Caputo, Michael R. (1989), "The Qualitative Content of Renewable Resource Models," *Natural Resource Modeling* 3, 241–259.
1. Caputo, Michael R. and James G. Mulligan (1985), "The Cost Reduction Potential of Electric-Power Pools," *Economics Letters* 18, 387–390.

### ***Papers Under Review:***

- Bolin, Kristian and Michael R. Caputo, "The Health Production Function and its Behavioral Implications," submitted to *Health Economics*
- Caputo, Michael R., "Fundamental Comparative Statics of the Canonical Agricultural Household Model," submitted to *Economics Bulletin*
- Wangen, Knut R., Michael R. Caputo, Mark Dickie, "Fundamental Problems with the Empirical Implementation of Rational Addiction Theory and their Resolution," submitted to *Review of Economics and Statistics*

### ***Papers in Progress:***

- Bolin, Kristian and Michael R. Caputo, "Child Human Capital—The Importance of Parenting Style," to be submitted to ????
- Caputo, Michael R. and Jesús Marín-Solano, "Agents who are Committed, Naive, Sophisticated, or Time-Consistent, Behave in a Fundamentally Identical Qualitative Manner," to be submitted to ????

***Dissertation and Thesis Committee Service:***

*Dissertation Service*

Sergio Vasquez (1991), University of California Davis, Member  
Brooks Wilson (1991), University of California Davis, Member  
Frances Homans (1993), University of California Davis, Member  
Bishu Chatterjee (1994), University of California Davis, Member  
Kathryn Blackman-Bicknell (1995), University of California Davis, Member  
Keith Casey (1997), University of California Davis, Member  
Jonathan Kaplan (1998), University of California Davis, Member  
James Sanchirico (1998), University of California Davis, Member  
Tian Xia (2004), University of California Davis, Member  
Craig Bond (2006), University of California Davis, Member  
Gorm Kipperberg (2006), University of California Davis, Member  
Russell J. Gorddard (2009), University of California Davis, Member  
Chen Ling (2010), University of Central Florida, Chair  
Raman Khaddaria (2012), University of Central Florida, Member  
Haimei Shao (2012, Mathematics), University of Central Florida, Member  
Shreejata Samajpati (2013), University of Central Florida, Member  
Lei Ge (2015, Mathematics), University of Central Florida, Member  
Minoo Talebi Ashoori (2016, Marketing), University of Central Florida, Member

*Thesis Service*

Adam D. Zubritsky (2005), University of Central Florida, Member  
Seth J. Jacobs (2006), University of Central Florida, Chair