

Oriol Vallès Codina

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EU National | US Permanent Resident

PROFESSIONAL SUMMARY

I am an ecological macroeconomist and computational social scientist with a Ph.D. in Economics from the New School for Social Research, specializing in structural change and development. My interdisciplinary research focuses on the intersection of economic theory, data science and visualization, the natural sciences, and environmental sustainability. I have extensive experience in academic research, teaching, and consulting.

RESEARCH AND TEACHING INTERESTS

- Ecological Macroeconomics
- Multi-Sector Growth and Structural Change
- Uneven Development
- History of Economic Thought
- Data Science
- Complexity Science

EDUCATION

Ph.D. in Economics

2014–2021

New School for Social Research

New York, NY, US

Dissertation: "Economic Production as Life: A Classical Approach to Computational Social Science"

Advisors: Anwar Shaikh, Duncan Foley, Willi Semmler

M.A. in Anthropology

2011–2014

Columbia University of New York

New York, NY, US

Thesis: "Political Economy of the Spanish Housing Bubble, 1998-2008"

Readers: Michael Blim, Terence D'Altroy

M.Sc. in Bioinformatics

2009–2011

Universitat Pompeu Fabra

Barcelona, ES

B.Sc. in Physics

2003–2009

Universitat Autònoma de Barcelona

Barcelona, ES

WORK EXPERIENCE

Research Scientist

2025–Present

Net Zero Industrial Policy Lab, Johns Hopkins University

Baltimore, US

Research Consultant

2024–2025

World Bank

Washington DC, US

Agence Française de Développement

Paris, FR

De la Salle University

Manila, PH

Postdoctoral Research Fellow

2022–2024

Leeds University Business School

Leeds, UK

Postdoctoral Research Fellow in Innovation Policy

2020–2021

Institute for Innovation and Public Purpose, University College London

London, UK

Teaching Assistant and Fellow, Research Fellow

2016–2020

New School for Social Research

New York, NY, US

PUBLICATIONS

Peer-Reviewed Articles

- Fevereiro, J. B. R. T., Genovese, A., Purvis, B., Passarella, M. V. & **Vallès Codina, O.** (2025). "Macroeconomic Models for Assessing the Transition towards a Circular Economy: A Review." *Ecological Economics*. (Accepted with Minor Revisions)
- **Vallès Codina, O.** & Semmler, W. (2024). "Time Scales of the Low-Carbon Transition: A Data-Driven Dynamic Multi-Sector Growth Model." *Journal of Economics and Statistics (Jahrbücher für Nationalökonomie und Statistik)*. [\[link\]](#)
- **Vallès Codina, O.** (2023). "Business cycles, sectoral price stabilization, and climate change mitigation: A model of multi-sector growth in the tradition of the Bielefeld disequilibrium approach." *Journal of Economic Behavior & Organization*, 216, 636–653. [\[link\]](#)
- Hartasánchez, D. A., Brasó-Vives, M., Fuentes-Díaz, J., **Vallès Codina, O.** & Navarro, A. (2015). "SeDuS: segmental duplication simulator." *Bioinformatics*, 32(1), 148–150. [\[link\]](#)
- Hartasánchez, D. A., **Vallès Codina, O.**, Brasó-Vives, M., & Navarro, A. (2014). "Interplay of Interlocus Gene Conversion and Crossover in the Molecular Evolution of Segmentally Duplicated Sequences: the Neutral Scenario." *G3*, 4(8), 1479–1489. [\[link\]](#)
- **Vallès Codina, O.**, Möbius, R., Rüdiger, S., & Schimansky-Geier, L. (2011). "Traveling echo waves in an array of excitable elements with time-delayed coupling." *Physical Review E*, 83(3). [\[link\]](#)

Books

- Booss-Bavnbek, B., Christensen, J. H., Richardson, K., & **Vallès Codina, O.** (2024). *Multiplicity of Time Scales in Complex Systems: Challenges for Sciences and Dissemination* (Volume I and II). Springer/Birkhauser. [\[link\]](#)

Book Chapters

- Booss-Bavnbek, B., Christensen, J. H., Richardson, K., & **Vallès Codina, O.** (2024). "Introduction." *Multiplicity of Time Scales in Complex Systems: Challenges for Sciences and Dissemination* (Volume I). Springer/Birkhauser.
- Bimpizas-Pinis, M., Genovese, A., Kaltenbrunner, A., Kesidou, E., Purvis, B., Ramos Torres Fevereiro, J.B., **Vallès Codina, O.** and Veronese Passarella, M. (2023). "Using input-output stock-flow consistent models to simulate and assess 'circular economy' strategies." In Passaro, R., Barca, S., Pansera, M. (Eds.), *Circular Economy for Social Transformation: multiple paths to achieve circularity*, JUST2CE E-book. [\[link\]](#)
- Holloway, C., Barbareschi, G., **Vallès Codina, O.**, Colton, N., Eide, A. H., Morgado-Ramirez, Z. D., Danemayer, J., Kattel, R., & Austin, V. (2023). "A human rights-based approach to assistive technology provision in global policy." In *Research Handbook on Disability Policy*, Edward Elgar Publishing, pp. 807–822. [\[link\]](#)

Encyclopedia Entries

- **Vallès Codina, O.** (2022). "Discrete-Time Models", "Punctuated Equilibrium Theory", "Subsistence", "System Dynamic Models", & "Temporal Dynamics" In Haddad, B. & Solomon, B.D. (eds.) *Dictionary of Ecological Economics*, Edward Elgar Press. [\[link\]](#)

Working Papers

- **Vallès Codina, O.** (2024). "Environmentalism without class struggle is just gardening: An Ecological Interpretation of the Ricardian Model." For *Ecological Economics*.

- **Vallès Codina, O.** (2022). "The Purely Economic Case for Investing in Health for All in Lower- and Upper-Middle Income Countries: input-output and network analysis of their industrial ecosystem." UCL Institute for Innovation and Public Purpose, Working Paper Series (IIPP WP 2022-03). For *Health Policy and Planning*. [link]
- **Vallès Codina, O.** (2020). "Classical-Evolutionary Dynamics of Price Formation." Working Paper. New School for Social Research, Department of Economics. [link]

Work in Progress

- **Vallès Codina, O.**, Fevereiro, J. B. R. T., Kaltenbrunner, A., Kesidou, E., & V. Passarella, M. "Climate policies in the Global North exacerbate North-South inequalities." For *Ecological Economics*
- **Vallès Codina, O.**, Rodousakis, N., Soklis, G., & Yajima, T. G. "Input-output analysis of global value chains of German energy"
- **Vallès Codina, O.** & Chatzarakis, N. "The mathematical consistency of neoclassical and classical theories of value". For *Review of Political Economy*
- **Vallès Codina, O.**, Masterson, T., & Antonopoulos, R. "Clusters of European poverty and exclusion"
- **Vallès Codina, O.** "A conflict theory of pricing". For *Industrial and Corporate Change*
- **Vallès Codina, O.** "The core-periphery structure of global trade". For *Review of International Political Economy*
- **Vallès Codina, O.** "Classifying prototypes of national industrial structures"
- **Vallès Codina, O.** "Cycles of migration in coupled Goodwin models"
- **Vallès Codina, O.** "No evidence of long-term regional income convergence in Europe, 1900-2015"

PROFESSIONAL SERVICE

Editorial Service

- **Guest Editor**, *Multiplicity of Time Scales in Complex Systems: Challenges for Sciences and Dissemination* (Volume I and II), Springer/Birkhauser 2024

Referee Service

- *Springer/Nature Mathematics*
- *Review of Political Economy*
- *Review of Evolutionary Political Economy*
- *Jahrbücher für Nationalökonomie und Statistik*

FELLOWSHIPS AND AWARDS

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|---|-----------|
| • JUST2CE – A Just Transition to the Circular Economy | 2022–2024 |
| • Growinpro - Growth Welfare Innovation Productivity | 2020–2021 |
| • New School for Social Research Dean's Merit Scholarship | 2014–2016 |
| • La Caixa Foundation Fellowship for Graduate Study | 2011–2013 |
| • FARO Global Fellowship | 2009 |
| • Erasmus Fellowship | 2007–2008 |

CONFERENCES AND WORKSHOP PRESENTATIONS ---

Invited Talks and Workshops

- "Stock-flow Consistent Macroeconomics in the Face of the Climate Crisis" 2024
Angelo King Institute, De la Salle University Manila, PH
- "Meeting the Challenges of Climate Change" 2023
New School for Social Research New York, NY, US
- "Towards a Macroeconomics of the Just Transition to a Circular Economy: Stabilizing Unstable Economy-Ecology Interactions" 2023
Levy Economics Institute at Bard College Red Hook, NY, US
- "Stabilizing Economic Fluctuations and Economy-Environment Interactions with a Novel Macroeconomic Model of Multi-Sector Growth: Ecological Applications of the Bielefeld Disequilibrium Approach" 2022
Forum for Macroeconomics and Macroeconomic Policies, Hans-Boeckler Stiftung Berlin, DE
- "Introduction to Coding Dynamical Systems and Agent-Based Models in Ecological Economics and Classical Political Economy" 2022
Bamberg University Bamberg, DE
- "Classical Political Economy in the Context of the Uneven Climate Crisis" 2022
University of València València, ES
- "Agent-based Classical Competition" 2021
First International Workshop on Agentization, George Mason University Fairfax, VA, US
- "Multiplicity of Time Scales in Economic Systems" 2021
Conference on "Multiplicity of Time Scales in Complex Systems: Challenges for Sciences and Dissemination", Roskilde University Copenhagen, DK
- "The Green Transition" 2020
Institute for Innovation and Public Purpose, University College London London, UK
- "Classical-Evolutionary Dynamics of Price Formation" 2019
Oeconomia - History, Methodology, Philosophy, Paris 1 University Paris, FR
- "The Perils Anew of Peripheralization for Italy and Its Regions" 2018
Italian Studies Seminar, Columbia University New York, NY, US

Panels Organized

- "Stock-Flow Consistent Input/Output Macroeconomics" 2023
International Input-Output Association Conference Alghero, IT
- "Climate Change" 2021
Eastern Economic Association Conference New York, NY, US

Conference Papers

- "An Ecological Interpretation of the Ricardian Growth Model" 2024
Ecological Economics Conference Pontevedra, ES
- "An Ecological Interpretation of the Ricardian Growth Model" 2024
Eastern Economic Association Boston, MA, US
- "The Macroeconomics of a Socially Just Transition to a Circular Economy" 2024
Eastern Economic Association Boston, MA, US
- "Input-Output and Network Analysis of the Industrial Ecosystem of Health and Assistive Technologies Industries" 2022
European Association for Evolutionary Political Economy Napoli, IT

- "Input-Output and Network Analysis of the Industrial Ecosystem of Health and Assistive Technology Industries" 2022
Association for Heterodox Economics London, UK
- "Assessing the Speed of Substitution of Carbon Technologies" 2021
Forum for Macroeconomics and Macroeconomic Policies, Hans-Boeckler Stiftung Berlin, DE
- "The Green Transition" 2021
Eastern Economic Association Conference New York, NY, US
- "Directed Technical Change Towards Decarbonization" 2020
14th International Computational and Financial Econometrics Conference London, UK
- "Evolutionary Dynamics of Real Competition" 2020
New School for Social Research Economics Brown Bag Seminar New York, NY, US
- "An Evolutionary Approach to Real Competition" 2019
Eastern Economic Association Conference New York, NY, US
- "Real Competition Within a Single Industry" 2018
History of Economics Society Conference Chicago, IL, US
- "The Perils Anew of Peripheralization for Italy and Its Regions" 2017
Capitalist Development in Hostile Environments Conference Calabria, IT

4.0pt plus 2.0pt minus 1.0pt, 4.0pt plus 2.0pt minus 1.0pt

TEACHING EXPERIENCE

- **Social Networks** 2023
University of Massachusetts Amherst Amherst, MA, US
Corresponding Instructor
- **Introduction to Coding Dynamical Systems and Agent-Based Models** 2022
University of Bamberg Bamberg, DE
Sole Instructor
- **Computational Workshop on Dynamical Systems** 2020
New School for Social Research New York, NY, US
Sole Instructor
- **Advanced Mathematical Methods for Economic Modeling** 2020
New School for Social Research New York, NY, US
Graduate Teaching Assistant
- **Historical Foundations of Political Economy** 2016
New School for Social Research New York, NY, US
Graduate Teaching Assistant
- **Introduction to Political Economy** 2016–2020
Eugene Lang College, The New School New York, NY, US
Undergraduate Teaching Assistant
- **Origins of the Crisis in the Eurozone** 2016–2019
Eugene Lang College, The New School New York, NY, US
Teaching Fellow (Sole Instructor)

RESEARCH EXPERIENCE

- **Research Assistant to Paulo dos Santos** 2017–2018
New School for Social Research New York, NY, US
Produced agent-based simulations of competitive price-setting firms in a simple classical circuit-of-capital framework.
- **Research Assistant to William Milberg, Cédric Durand** 2015–2017
New School for Social Research New York, NY, US
Parsed data from OECD, WIOD, and Compustat databases; econometrics on intellectual property monopoly and firm growth.
- **Research Assistant to Michael Blim** 2014
Dept. of Anthropology, Graduate Center, CUNY New York, NY, US
Performed cluster analysis on the complex core-periphery structure of the Italian and European economic geography.
- **Research Assistant to Arcadi Navarro** 2010–2011
Barcelona Biomedical Research Park Barcelona, ES
Programmed computer simulations of large-scale genetic populations.
- **Research Assistant to Lutz Schimansky-Geier** 2009
Department of Physics, Humboldt University Berlin, DE
Programmed computer simulations of dynamical neuronal networks.

LANGUAGES

- **Natural** Catalan (native), Spanish (native), English (expert), Italian (fluent), German (basic)
- **Artificial** R, Markdown, Quarto, LATEX, C, C++, Julia, Python, PERL, HTML, PHP, Matlab

ADDITIONAL TRAINING

- **Oxford Summer School in Economic Networks** 2019
Oxford University Oxford, UK
- **School of Advanced Studies in the Reappraisal of the Surplus Approach** 2018
Roma Tre University Roma, IT

REFERENCES

- **Marco V. Passarella**
Associate Professor of Political Economy
University of L'Aquila | L'Aquila, IT
marco.veronesepassarella@univaq.it
- **Andrea Genovese**
Professor of Logistics and Supply Chain Management
Sheffield University Management School | Sheffield, UK
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- **Duncan Foley**
Leo Model Professor of Economics
New School for Social Research | New York, NY, US
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- **Willi Semmler**
Arnhold Professor of International Cooperation and Development
New School for Social Research | New York, NY, US

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