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## FRANCESCO GONELLA - CV

- PhD in Fisica, Università di Padova.
- Excellence Postdoctorale, Université Laval, Québec City, Canada.
- Dal 2016, Professore Ordinario di Fisica, Dipartimento di Scienze Molecolari e Nanosistemi, Università Ca' Foscari Venezia.

### RICERCA

- Systems Thinking, analisi sistemica, sostenibilità integrata, analisi eMergetica.
- Autore o co-autore circa 250 pubblicazioni peer-reviewed in riviste internazionali. H-index=40 (2021, Scopus).
- Incluso nei 2% scienziati più influenti nel proprio campo (Elsevier BV, Stanford University 2021).
- Revisore Esperto per il Panel IPCC delle Nazioni Unite.
- High-end foreign expert presso la Beijing Normal University in Cina, dove insegna Ecological Modelling e pensiero sistemico.
- Visiting researcher presso la Vanderbilt University (USA) e l'University della Florida (USA).

### ATTIVITÀ E MEMBERSHIPS

- Membro del Comitato Scientifico del Centre for Environmental Humanities (Università Ca' Foscari).
- Guest Editor presso le case editrici Elsevier e L&H. Editore Associato per le riviste "Journal of Environmental Accounting and Management", "Frontiers in Sustainable Cities", "Sustainability".
- "Marco Polo of the Italian Science" International Award (2011).
- Membro del Consiglio Esecutivo e del Comitato per l'Educazione dell'International Society for Advancement in Emergy Research.
- Membro del Consiglio Scientifico di EDULEARN, International Conference on Education and New Learning Technologies.
- Membro del Comitato Scientifico di ICERI, International Conference of Education, Research and Innovation
- Membro del Comitato Scientifico di SDEWES, Conference on Sustainable Development of Energy, Water and Environment Systems.

### DIDATTICA

- Presso i corsi di laurea e di Dottorato dell'Università Ca' Foscari: Fisica Generale, Fisica Ambientale, Scienza dei Sistemi Complessi, Sistemi per l'Energia, Ottica Avanzata e Fotonica, Epistemologia.
- "Systems Thinking" presso la Scuola Superiore dell'Università di Catania.
- "Sustainability" presso l'International College dell'Università Ca' Foscari.
- "Ecological modeling" presso la Beijing Normal University, Cina.
- "Systems Thinking" presso il CERN, Ginevra, Svizzera.
- Invitato a tenere seminari presso diverse Università in Canada, USA, Germania, India, Giappone, Cina.



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#### Selezione di pubblicazioni recenti

- Q. Yang, G. Liu, F. Gonella, Y. Chen, C. Liu, H. Zhao, Z. Yang (2022). Assessing the temporal-spatial dynamic reduction in ecosystem services caused by air pollution: a near-real-time data perspective. *Resources, Conservation & Recycling* 180 (2022) 106205. 10.1016/j.resconrec.2022.106205
- M. Casazza, F. Gonella, G. Liu, A. Proto, R. Passaro (2021). Physical constraints on global social-ecological energy system. *Energies* 14, 8177. 10.3390/en14238177
- G. Liu, Z. Yang, B.F. Giannetti, M. Casazza, F. Agostinho, J. Pan, N. Yan, Y. Hao, L. Zhang, C.M.V.B. Almeida, F. Gonella, S. Ulgiati, M.T. Brown (2021). Energy constrains to increasing complexity in the biosphere. *The Innovation* 2, 100169. 10.1016/j.xinn.2021.100169.
- Q. Yang, G. Liu, M. Casazza, F. Gonella, Z. Yang (2021). Three dimensions of biodiversity: new perspectives and methods. *Ecological Indicators* 130, 108099. 10.1016/j.ecolind.2021.108099
- V. Cazzagon, A. Romano, F. Gonella (2021). Using stock-flow diagrams to visualize theranostic approaches to solid tumors in personalized nanomedicine. *Front. Bioeng. Biotechnol.* 9. 10.3389/fbioe.2021.709727
- M. Ali, S. Cristiano, Y. Geng, F. Gonella, S. Ulgiati (2021). Environmental assessment of healthcare facilities in the Global South – a case study from Pakistan. *Journal of Environmental Accounting and Management* 9, 285-297. 10.5890/JEAM.2021.09.006
- S. Cristiano, S. Ulgiati, F. Gonella (2021). Systemic sustainability and resilience assessment of health systems, addressing global societal priorities: learnings from a top nonprofit hospital in a bioclimatic building in Africa. *Renewable and Sustainable Energy Reviews* 141, 110765. 10.1016/j.rser.2021.110765
- S. Maiolo, S. Cristiano, F. Gonella, R. Pastres (2021). Ecological sustainability of aquafeed: an emergy assessment of novel or underexploited ingredients. *Journal of Cleaner Production* 294, 126266. 10.1016/j.jclepro.2021.126266
- S. Cristiano, P. Ghisellini, G. D'Ambrosio, J. Xue, A. Nesticò, F. Gonella, S. Ulgiati (2021). Construction and demolition waste in the Metropolitan City of Naples, Italy. State of the art, circular design, and sustainable planning opportunities. *J. Clean. Prod.* 293, 125856. 10.1016/j.jclepro.2021.125856
- A. Romano, M. Casazza, F. Gonella (2021). Addressing non-linear system dynamics of single-strand RNA virus-host interaction. *Frontiers in Microbiology* 11:600254. 10.3389/fmicb.2020.600254
- F. Gonella, M. Casazza, S. Cristiano, A. Romano (2020). Addressing COVID-19 Communication and Management by a Systems Thinking Approach. *Frontiers in Communication* 5:63. 10.3389/fcomm.2020.00063
- S. Cristiano, F. Gonella (2020). 'Kill Venice': a systems thinking conceptualisation of urban life, economy, and resilience in tourist cities. *Humanities and Social Sciences Communications* 7:143. 10.1057/s41599-020-00640-6

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- N. Yan, G. Liu, M. Ripa, N. Wang, H. Zheng, F. Gonella (2020). From local to national metabolism: a review and a scale-up framework. *Ecosystem Health and Sustainability* 6:1, 1839358. 10.1080/20964129.2020.1839358
- F. Gonella, S. Spagnolo (2020). On sustainable PV-solar exploitation: an emergy analysis, in: "Solar Cells and Light Management", Eds. G.C. Righini and F. Enrichi. Elsevier, pp. 481-507. 10.1016/B978-0-08-102762-2.00014-8
- S. Cristiano, A. Zucaro, G. Liu, S. Ulgiati, F. Gonella (2020). On the systemic features of urban systems. A look at material flows and cultural dimensions to address post-growth resilience and sustainability. *Frontiers in Sustainable Cities* 2:12. 10.3389/frsc.2020.00012
- S. Spagnolo, G. Chinellato, S. Cristiano, A. Zucaro, F. Gonella (2020). Sustainability assessment of bioenergy at different scales: an emergy analysis of biogas power production. *Journal of Cleaner Production* 277, 124038. 10.1016/j.jclepro.2020.124038
- F. Gonella (2019). The smart narrative of a smart city. *Frontiers in Sustainable Cities* 1:9. 10.3389/frsc.2019.00009
- A. Perosa, F. Gonella, S. Spagnolo (2019). Systems Thinking: adopting an emergy perspective as a tool for teaching Green Chemistry. *Journal of Chemical Education* 96, 2784-2793. 10.1021/acs.jchemed.9b00377
- S. Cristiano, F. Gonella (2019). Learning from hybrid innovative-vernacular solutions in building design: Emergy analysis of Sudanese energy-saving technologies. *Journal of Environmental Accounting and Management* 7, 213-227. 10.5890/JEAM.2019.06.007
- A. Zucaro, M. Genovese, M. Lega, F. Gonella (2019). Energy efficiency: barriers and solutions towards environmental integrity and well-being policies. *Journal of Environmental Accounting and Management* 7, 112-114. 10.5890/JEAM.2019.06.001
- F. Gonella, C.M.V.B. Almeida, G. Fiorentino, K. Handayani, F. Spanò, R. Testoni, A. Zucaro (2019). Is technology optimism justified? A discussion towards a comprehensive narrative. *Journal of Cleaner Production* 223, 456-465. 10.1016/j.jclepro.2019.03.126
- S. Cristiano, F. Gonella (2019). To build or not to build? Megaprojects, resources, and environment: An emergy synthesis for a systemic evaluation of a major highway expansion. *Journal of Cleaner Production* 223, 772-789. 10.1016/j.jclepro.2019.03.129
- F. Gonella and G. Liu, Editors (2019). *Proceedings of the 3rd International School on Emergy Accounting, Venice, Italy (May 21-25, 2018)*. Edizioni Cleup sc, Padua, 2019. ISBN: 978 88 5495 110 5
- S. Spagnolo, F. Gonella, S. Viglia, S. Ulgiati (2018). Venice artistic glass: linking art, chemistry and environment - A comprehensive emergy analysis. *Journal of Cleaner Production* 171, 1638-1649. 10.1016/j.jclepro.2017.10.074
- F. Gonella, S. Cristiano, S. Spagnolo (2018). Emergy as a tool for an integrated knowledge, in: "Emergy Synthesis 10: Theory and Applications of the Emergy Methodology". *Proceedings of the 10th Biennial Emergy Conference, University of Florida, Gainesville USA*, 157-167.
- F. Gonella, C. Elia, S. Cristiano, S. Spagnolo, F. Vignarca (2017). From head to head: an emergy analysis of a war rifle bullet. *Peace Economics, Peace Science and Public Policy*. 10.1515/peps-2017-0004