Short Curriculum Vitae

Gabriel Ciobanu is a researcher at the Romanian Academy of Sciences and A.I. Cuza University in Iaşi, Romania. His research work is in foundation of mathematics (set theory), logic, semantics, concurrency and natural computing (membrane systems). For his scientific contributions, he received awards from Romanian Academy (2000, 2004, 2013, 2022), AdAstra Association (2018) and International Membrane Computing Society (2019). He is a honorary editor-in-chief of Scientific Annals of Computer Science, and a member of Academia Europaea.
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Visits (longer than 3 months) **and other positions**:
- 2015-2019,2021-2022 short visits (Univ. of Massachusetts Boston, McMaster University, etc)
- 2010-2015 visiting professor at Newcastle University, UK
- 2011 March-June visiting professor, University of Cagliari, Italy
- 2000-2004 research fellow/professor, National University of Singapore
- 1995-1996 JSPS fellow/researcher, Tohoku and Kyoto University, Japan
- 1994 DAAD Fellowship, Institute of Computer Science, University of Kiel, Germany
- 1991-1992 Royal Society London research fellow, Edinburgh University, UK

Fields of research Distributed Systems (Process Calculi):
- semantics, behavioural equivalences, logics, verification
- introducing and studying timed distributed pi-calculus and TiMo (Timed Mobility);
- mobile ambients with timers, timed Petri nets modelling networks and distributed systems;
- encoding mobile ambients into pi-calculus and membrane systems (involving also CPN tool);
- faithful pi-nets for asynchronous pi-calculus and jc-nets; metric semantics for concurrency.

Natural Computing (Membrane Systems):
- introducing mobile membranes, computational power of endocytosis and exocytosis, their efficiency in solving NP-complete problems;
- distributed algorithms over membrane systems, and links to evolutionary algorithms;
- causality and reversing computation in membrane systems and intensive parallel systems;
- defining the formal semantics for membrane systems, implementing membranes on clusters;
- using membranes to describe various biological processes (e.g., NaK pump, immune system).

Bridging membrane computing and process calculi
- encoding both mobile ambients and brane calculi into mobile membranes;
- encoding mobile membranes into coloured Petri nets (verifying systems by using CPN tools);
- extending some notions from process calculi to membrane systems.

Foundations of Mathematics and Computer Science: Finitely Supported Mathematics
- new set theory working with structures having a finite support (expressed by permutation invariance) starting from Fraenkel-Mostowski permutative model of ZFA;
- connections to the logical notions of A.Tarski, Erlangen program of F.Klein, admissible sets;
- inconsistency of choice axiom and choice principles in Finitely Supported Mathematics;
- finitely supported posets, lattices and Galois connections, new fixed points results.

Useful links: https://www.scopus.com/authid/detail.uri?authorId=7003872401,
https://scholar.google.com/citations?user=Kx1pWGkAAAAJ&hl=en&oi=ao
https://dblp.org/pid/c/GCiobanu.html