

Curriculum Vitae

1 (a) Name

Paola Flocchini.

University of Ottawa, School of Electrical Engineering and Computer Science.

Full Professor, tenured.

2 (b) Degrees

1995. Ph.D. in Computer Science, Department of Computer Science, University of Milan, Italy.

1992. Laurea in Computer Science, Department of Computer Science, University of Milan, Italy.

3 (c) Employment History

5/06 - - Full Professor

University of Ottawa, School of Information Technology and Engineering

7/01 - 5/06 Associate Professor

University of Ottawa, School of Information Technology and Engineering

7/99 - 7/01 Assistant Professor

University of Ottawa, School of Information Technology and Engineering

7/98 - 6/99 Assistant Professor

Université du Québec à Hull, Département d' Informatique.

1/97 - 6/98 Assistant Professor

Université de Montréal, Département d' Informatique et de Recherche Opérationnelle

10/95 -12/96 Postdoctoral Fellow

Carleton University, School of Computer Science

4 (d)Awards and Fellowships

2005 - - University Research Chair

2002. Ontario Premier Research Excellence Award (PREA)

1996. NATO Advanced Research Postdoctoral Fellowship

1992. Laurea - Summa cum Laude

5 (e) Scholarly and Professional Activities [Since 2010]

Journal Editor:

- Journal of Computer and System Sciences, Elsevier, [since 2014].
- International Journal on Distributed Sensor Networks, Hindawi [2010-2012].
- New Generation Computing, Springer Verlag [1999-2013].
- Theoretical Computer Science, Elsevier, Guest Editor, 2016.

Program Chair of International Conferences:

- 17th International Symposium on Stabilization, Safety, and Security of Distributed Systems (SSS) (**Program Track Chair**) [2015]
- 9th International Symposium on Algorithms and Experiments for Sensor Systems, Wireless Networks and Distributed Robotics ALGOSENSORS (**Program Chair**) [2013]
- 16th International Symposium on Principles of Distributed Systems (OPODIS) (**Program co-Chair**) [2012]

Member of Program Committees of International Conferences:

- ACM Symposium on Principles of Distributed Computing (PODC), [2017,2014].
- 29th,26th IEEE International Parallel & Distributed Processing Symposium (IPDPS) [2017,2015,2011].
- 21st International Symposium on Fundamentals of Computation Theory (FTC) [2017].
- 17th, 14th International Conference on Distributed Computing and Networking (ICDCN) [2017,2014].
- 30th, 26th, 24th, 21th International Symposium on Distributed Computing (DISC) [2016,2012,2010]
- 45th International Conference on Parallel Processing (IPP), [2016].
- 23rd, 21st International Colloquium on Structural Information and Communication Complexity (SIROCCO), [2016,2014].
- 19th 17th-13th International Workshop on Cellular Automata and Discrete Complex Systems (AUTOMATA) [2017,2016, 2014, 2013,2012,2011,2010].
- 9th International Conference on Language and Automata Theory and Applications (LATA), [2015].
- 17th,16th Workshop on Advances in Parallel and Distributed Computational Models (APDCM), [2015, 2014].
- 28,27th Canadian Conference on Artificial Intelligence (AI), [2015, 2014].
- 17,16èmes Rencontres Francophones pour les Aspects Algorithmiques des Télécommunications, [2015, 2014].
- 8th IFIP International Conference on Theoretical Computer Science (TCS), [2014].
- 31st,30th,28th IEEE International Conference on Distributed Computing Systems (ICDCS) [2014, 2013, 2011].

- 11th International Symposium on Principles of Distributed Systems (OPODIS) [2013].
- 39th International Colloquium on Automata, Languages and Programming (ICALP) [2012].
- International Workshop on Foundations of Mobile Computing (FOMC) [2012, 2011].
- 13th International Symposium on Stabilization, Safety, and Security of Distributed Systems, (SSS), [2011].

Member of Evaluation Committees:

- 2016: *Section Chair*: NSERC (Natural Science and Engineering Research Council of Canada) Grant selection committee of Computing and Information Science: Theoretical Computer Science Section.
- 2014, 2015: *Member* - NSERC (Natural Science and Engineering Research Council of Canada) Grant selection committee for “Research Tools and Instruments program.
- 2012, 2013, 2014: *Member* - Research Chair Evaluation Committee, University of Ottawa
- 2010: *Chair* - NSERC (Natural Science and Engineering Research Council of Canada) Grant selection committee of Computing and Information Science.
- 2010-2011: *Chair* - NATO Information and Communication Security Panel - Science for Peace Program.

6 (f) Graduate and Postgraduate Supervisions [2010-2017]

PhD: 10 (6 completed, 4 in progress)

Master (Th): 6 (5 completed, 1 in progress)

Master (Proj): 4 (4 completed)

PostDoc: 4 (2 completed, 2 in progress)

Name	Degree	Topic	Date
Giovanni Viglietta (co-sup.)	PDoc	Autonomous Robots	In progress
G.A. Di Luna (co-sup.)	PDoc	Distributed Computing	In progress
Rasha Atwah (single sup.)	Ph.D.	Distributed Computing	In progress
Aryo Jamshidpey (single sup.)	Ph.D.	Mobile Robots	In progress
Eman Omar (single sup.)	Ph.D.	Energy Restoration	In progress
Yichao Lin (single sup.)	Master	Network Decontamination	In progress
Haochuan Ran (single sup.)	Master (proj.)	Mobile Robots	2017
Jiaqi Xu (single sup.)	Master (proj.)	Mobile Robots	2017
Liang Nan Dong (single sup.)	Master (proj.)	Mobile Robots	2016
William Doan (single sup.)	Master	Time varying graphs	2016
Jie Cai (co-sup)	Ph.D.	Black hole search	2016
Amir Afrasiabi Rad (single sup.)	Ph.D..	Dynamic Networks	2016
Harish Prakash (single sup.)	Master	Mobile Robots	2016
Amir Rahnamai Barghi (co-sup.)	Master	Dynamic Graphs	2015
Madawi Alotaibi (single sup.)	Master	Black Virus	2013
Heather Betel (single sup.)	PDoc	Cellular automata	2012-2013
Arnaud Casteigts (single sup.)	PDoc	Time-varying networks	2011-2012
Balamohan Balasingham (co-sup.)	Ph.D.	Dangerous networks	2013
Heather Betel (co-sup.)	Ph.D.	Cellular automata	2012
Yassine Daada (co-sup.)	Ph.D.	Decontamination	2011
Kellett, Matthew (co-sup.)	Ph.D	Black holes search	2011
David Forresterr (single sup.)	Master	Cellular automata	2011
Natasha Jindal (single sup.)	Master (proj.)	Mobile Robots	2011

7 (g) Teaching

Graduate Courses:

CSI5308 Principles of Distributed Computing

Undergraduate Courses:

CSI2110/2510 Data Structures and Algorithms/ Structure des donnée et algorithmes

CSI4109/CSI4509 Introduction to Distributed Computing / Introduction au calcul réparti

CSI3505 Conception et analyse des algorithmes I

8 (h) Research Publications [Since 2010]

Since 2010: Journals: 28 Conferences: 36 Books: 1 Book Chapters: 2 Editorships: 3
 Life: Journals: 76 Conferences: 107 Books: 1 Book Chapters: 2 Editorships: 5

Books.

- B1. P. Flocchini, G. Prencipe, N. Santoro, *Distributed Computing by Oblivious Mobile Robots*, Morgan & Claypool Publishers, 2012.

Book Chapters.

BC1. P. Flocchini, N. Santoro, Distributed Security Algorithms for Mobile Agents, in “Mobile Agents in Networking and Distributed Computing”, J. Cao and S. Das Eds, John Wiley ISBN: 978-0-471-75160-1, 41-70, 2012.

BC2. P. Flocchini, G. Prencipe, N. Santoro, Computing by Mobile Robotic Sensors, in “Theoretical Aspects of Distributed Computing in Sensor Networks” S. Nikoletseas and J. Rolim Eds, Springer, 655-693, 2011.

Encyclopedia’s Entries.

EE1. P. Flocchini, Memoryless Gathering of Mobile Robotic Sensors, *Encyclopedia of Algorithms*, Springer, 2015.

EE2. P. Flocchini, Uniform Covering of Rings and Lines by Memoryless Mobile Sensors, *Encyclopedia of Algorithms*, Springer, 2015.

Editorships.

E1. P. Flocchini, J. Gao, E. Kranakis, F. Meyer auf der Heide (Guest Editors), Special Issue of *Theoretical Computer Science*, to appear, 2015.

E2. P. Flocchini, J. Gao, E. Kranakis, F. Meyer auf der Heide (Eds.), Algorithms for Sensor Systems, Lecture Notes in Computer Science 8243, Springer, ISBN 978-3-642-45345-8, 2014.

E3. R. Baldoni, P. Flocchini, B. Ravindran (Eds.); Principles of Distributed Systems, Lecture Notes in Computer Science 7702, Springer, ISBN 978-3-642-35475-5, 2012.

Papers in Refereed Journals.

Note: As customary practice in my field, authors are always listed alphabetically, and in all cases authors have contributed roughly equally. Supervised graduate students and Postdoctoral fellows are indicated in bold.

J1. **G.A. Di Luna**, P. Flocchini, S. Gan Chauduri, F. Poloni, N. Santoro, **G. Viglietta**. Mutual visibility by luminous robots without collisions, *Information and Computation*, in press.

J2. P. Flocchini, G. Prencipe, N. Santoro, **G. Viglietta**. Distributed computing by mobile robots: uniform circle formation, *Distributed Computing*, in press.

J3. P. Flocchini, F. Luccio, L. Pagli, N. Santoro. Network decontamination under m-immunity, *Discrete Applied Mathematics*, 201: 114-129, 2016.

J4. S. Das, P. Flocchini, G. Prencipe, N. Santoro, M. Yamashita. Autonomous mobile robots with lights. *Theor. Comput. Sci.* 609: 171-184, 2016.

J5. P. Flocchini, N. Santoro, **G. Viglietta**, M. Yamashita, Rendezvous with constant memory. *Theor. Comput. Sci.* 621: 57-72, 2016.

- J6.** **B. Balamohan**, S. Dobrev, P. Flocchini, N. Santoro, Asynchronous exploration of an unknown anonymous dangerous graph with $O(1)$ pebbles, *Theoretical Computer Science*, 610: 169-181, 2016.
- J7.** **A. Casteigts**, P. Flocchini, E. Godard, N. Santoro, M. Yamashita, On the expressivity of time-varying graphs, *Theoretical Computer Science*, 590: 27-37, 2015.
- J8.** **A. Casteigts**, P. Flocchini, B. Mans, N. Santoro, Shortest, Fastest, and Foremost Broadcast in Dynamic Networks. *Int. J. Found. Comput. Sci.* 26(4): 499-522, 2015.
- J9.** S. Das, P. Flocchini, N. Santoro, M. Yamashita, Forming sequences of geometric patterns with oblivious mobile robots, *Distributed Computing*, 28(2): 131-145, 2015.
- J10.** J. Cai, P. Flocchini, N. Santoro, Decontaminating a network from a black virus, *International Journal of Networking and Computing*, 4(1): 151-173, 2014.
- J11.** A. Casteigts, P. Flocchini, B. Mans, N. Santoro, Measuring temporal lags in delay-tolerant networks, *IEEE Transactions on Computers*, 63(2): 397-410, 2014.
- J12.** H. Betel, P.P.B. de Oliveira, P. Flocchini, Solving the parity problem in one-dimensional cellular automata, *Natural Computing*, 12(3): 323-337, 2013.
- J13.** P. Flocchini, B. Mans, N. Santoro, On the exploration of time-varying networks, *Theoretical Computer Science*, 469: 53-68, 2013.
- J14.** M. Cieliebak, P. Flocchini, G. Prencipe, N. Santoro, Distributed computing for mobile robots: gathering, *SIAM Journal on Computing*, 41(4): 829-879, 2012.
- J15.** L. Barrière, P. Flocchini, F. V. Fomin, P. Fraigniaud, N. Nisse, N. Santoro, D.M. Thilikos, Connected graph searching, *Information and Computation*, 219: 1-16, 2012
- J16.** S. Dobrev, P. Flocchini, R. Královic, N. Santoro. Exploring an unknown dangerous graph using tokens. *Theoretical Computer Science*, 472: 28-45, 2013.
- J17.** P. Flocchini, D. Ilcinkas, A. Pelc and N. Santoro, Computing without communicating: ring exploration by asynchronous oblivious robots, *Algorithmica*, 65(3): 562-583, 2013.
- J18.** P. Flocchini, T. Mesa Enriquez, L. Pagli, G. Prencipe, N. Santoro, Distributed minimum spanning tree maintenance for transient node failures, *IEEE Transactions on Computers*, 61(3): 408-414, 2012.
- J19.** A. Casteigts, P. Flocchini, W. Quattrociocchi, N. Santoro, Time-varying graphs and dynamic networks, *International Journal of Parallel, Emergent and Distributed Systems*, 27(5): 387-408, 2012.
- J20.** P. Flocchini, M. Kellett, P. Mason, N. Santoro, Searching for black holes in subways, *Theory of Computing Systems*, 50(1), 158-184, 2012.
- J21.** P. Flocchini, D. Ilcinkas, A. Pelc and N. Santoro, How many oblivious robots can explore a line, *Information Processing Letters*, 111(20):1027-1031, 2011.
- J22.** B. Balamohan, P. Flocchini, A. Miri, N. Santoro, Time optimal algorithms for black hole search in rings, *Discrete Mathematics, Algorithms and Applications*, 3(4), 457-471, 2011

- J23.** H. Betel, P. Flocchini, On the relationship between fuzzy and Boolean cellular automata, *Theoretical Computer Science*, 412(8-10), 703-713, 2011.
- J24.** P. Flocchini, D. Ilcinkas, N. Santoro, Ping pong in dangerous graphs: optimal black hole search with pebbles, *Algorithmica*, 62(3-4), 1006-1033, 2012.
- J25.** P. Flocchini, T. Mesa, L. Pagli, G. Prencipe, N. Santoro, Distributed minimum spanning tree maintenance for transient node failures, *IEEE Transactions on Computers*, 61(3): 408-414, 2012.
- J26.** L. Barrière, P. Flocchini, E. Mesa-Barrameda, N. Santoro, Uniform scattering of autonomous mobile robots in a grid, *International Journal of Foundation of Computer Science*, 22(3), 679697, 2011.
- J27.** H. Betel, P. Flocchini, On the asymptotic behaviour of circular fuzzy cellular automata, *Journal of Cellular Automata*, 6:1, 25-52, 2011.
- J28.** P. Flocchini, D. Ilcinkas, A. Pelc, N. Santoro, Remembering without memory: tree exploration by asynchronous oblivious robots, *Theoretical Computer Science*, 411(14-15), 1583-1598, 2010.

Papers in Proceedings of International Refereed Conferences.

Note: As customary practice in my field, authors are always listed alphabetically (except for C24, where they are listed in opposite alphabetic order), and in all cases authors have contributed roughly equally. Supervised graduate students and Postdoctoral fellows are indicated in bold.

- C1.** G. A. Di Luna, P. Flocchini, T. Izumi, T. Izumi, N. Santoro, **G. Viglietta** On the power of weaker pairwise interaction: Fault-tolerant irrevocable simulation of population protocols, *Proc. 37th IEEE International Conference on Distributed Computing Systems (ICDCS)*, 2017.
- C2.** S. Das, G. A. Di Luna, P. Flocchini, N. Santoro, **G. Viglietta**, Mediated Population Protocols: Leader Election and Applications, *Proc. 14th Annual Conference on Theory and Applications of Models of Computation (TAMC)*172-186, 2017.
- C3.** G. A. Di Luna, P. Flocchini, T. Izumi, T. Izumi, N. Santoro, **G. Viglietta**. Population protocols with faulty interactions: the impact of a leader, *Proc. 10th International Conference on Algorithms and Complexity (CIAC)*, 2017.
- C4.** G. A. Di Luna, S. Dobrev, P. Flocchini, N. Santoro, Live Exploration of Dynamic Rings, *Proc. 36th IEEE International Conference on Distributed Computing Systems (ICDCS)*, 2016.
- C5.** G.A. Di Luna, P. Flocchini, G. Prencipe, N. Santoro and **G. Viglietta**, A Rupestrian Algorithm, *Proc. 8th International Conference on FUN with Algorithms*, 1-14, 2016.
- C6.** J. Cai, P. Flocchini, N. Santoro, Distributed Black Virus Decontamination and Rooted Acyclic Orientations. *Proc. 15th IEEE International Conference on Computer and Information Technology* 1681-1688, 2015.

- C7.** A. Afrasiabi Rad, P. Flocchini, J. Gaudet, Tempus Fugit: The Impact of Time in Knowledge Mobilization Networks. *Proc. of the 2015 IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining* (ASONAM) 1523-1530, 2015.
- C8.** J. Cai, P. Flocchini, N. Santoro, Black Virus Decontamination in Arbitrary Networks. WorldCIST, 991-1000, 2015.
- C9.** P. Flocchini, Computations by luminous robots, *15th Int. Conference on Ad Hoc Networks and Wireless* (ADHOCNOW), 238-252, 2015.
- C10.** P. Flocchini, G. Prencipe, N. Santoro, **G. Viglietta**, Solving the uniform circle formation problem, *18th International Conference on Principles of Distributed Systems* (OPODIS), 217-232, 2014.
- C11.** M. Eftekhari Hesari, P. Flocchini, L. Narayanan, J. Opatrny, N. Santoro, Distributed barrier coverage with relocatable sensors, *Proc. 21st Int. Colloquium on Structural Information and Communication Complexity* (SIROCCO), 235-249, 2014.
- C12.** G.A. Di Luna, P. Flocchini, S. Gan Chaudhuri, N. Santoro, **G. Viglietta**, Robots with lights: overcoming obstructed visibility without colliding, *16th International Symposium on Stabilization, Safety, and Security of Distributed Systems* (SSS) 150-164, 2014.
- C13.** G.A. Di Luna, P. Flocchini, S. Gan Chaudhuri, N. Santoro, **G. Viglietta**, The mutual visibility problem for oblivious robots, *Proc. 26th Canadian Conference on Computational Geometry* (CCCG), 2014.
- C14.** P. Flocchini, G. Prencipe, S. Das, N. Santoro, Synchronized dancing of oblivious chameleons, *Proc. 7th International Conference on FUN with Algorithms*, 113-124, 2014.
- C15.** A. Casteigts, P. Flocchini, E. Godard, N. Santoro, M. Yamashita, Expressivity of time-varying graphs, *19th International Symposium on Fundamentals of Computation Theory* (FCT), 95-106, 2013.
- C16.** P. Flocchini, N. Santoro, **G. Viglietta**, M. Yamashita, Rendezvous of two robots with constant memory, *Proc. 20th Int. Colloquium on Structural Information and Communication Complexity* (SIROCCO), 189-200, 2013.
- C17.** J. Cai, P. Flocchini, N. Santoro, Network decontamination from a black virus, *15th IPDPS Workshop on Advances in Parallel and Distributed Computational Models* (APDCM), 696-705, 2013.
- C18.** P. Flocchini, F. Luccio, L. Pagli, N. Santoro, Optimal network decontamination with threshold immunity, *8th Int. Conference on Algorithms and Complexity* (CIAC), 234-245, 2013.
- C19.** P. Flocchini, **M. Kellett**, P. Mason, N. Santoro, Fault-tolerant exploration of an unknown dangerous graph by scattered agents, *14th Int. Symposium on Stabilization, Safety, and Security of Distributed Systems* (SSS) 299-313, 2012.
- C20.** H. Betel, P.P.B. de Oliveira, P. Flocchini, On the parity problem in one-dimensional cellular automata, *18th Int. Workshop on Cellular Automata and Discrete Complex Systems* (AUTOMATA) 110-126, 2012.

- C21.** S. Das, P. Flocchini, G. Prencipe, N. Santoro, M. Yamashita. The power of lights: synchronizing asynchronous robots using visible bits, *Proc. 32nd International Conference on Distributed Computing Systems* (ICDCS), 506-515, 2012.
- C22.** P. Flocchini, M. Kellett, P. Mason, N. Santoro. Finding good coffee in Paris, *Proc. 6th International Conference on FUN with Algorithms*, 154-165, 2012.
- C23.** B. Balamohan, S. Dobrev, P. Flocchini, N. Santoro. Asynchronous exploration of an unknown anonymous dangerous graph with $O(1)$ pebbles, *Proc. 19th Int. Colloquium on Structural Information and Communication Complexity* (SIROCCO), 279-290, 2012.
- C24.** F. Amblard, A. Casteigts, P. Flocchini, W. Quattrociocchi, N. Santoro. On the temporal analysis of scientific network evolution, *International Conference on Computational Aspects of Social Networks* (CASoN), 169-174, 2011.
- C25.** Y. Daada, P. Flocchini, N. Zaguja. Network decontamination with temporal immunity by mobile cellular automata, *3rd annual Cellular Automata Workshop* (CSC), 2011.
- C26.** A. Casteigts, P. Flocchini, W. Quattrociocchi, N. Santoro. Time-varying graphs and dynamic networks, *10th Int. Conference on Ad Hoc Networks and Wireless* (AdHocNow), 346-359, 2011.
- C27.** N. Santoro, W. Quattrociocchi, P. Flocchini, A. Casteigts, F. Amblard. Time-varying graphs and social network analysis: temporal indicators and metrics, *3rd Social Networks and Multiagent Systems Symposium* (SNAMAS), 169-174, 2011.
- C28.** B. Balamohan, P. Flocchini, A. Miri, N. Santoro. Improving the optimal bounds for black hole search in rings, *Proc. 18th Int. Colloquium on Structural Information and Communication Complexity* (SIROCCO), 198-209, 2011.
- C29.** A. Casteigts, P. Flocchini, B. Mans, N. Santoro. Measuring temporal lags in delay-tolerant networks, *25th IEEE International Parallel & Distributed Processing Symposium* (IPDPS), 209-218, 2011.
- C30.** D. Forrester, P. Flocchini, Chaos in fuzzy cellular automata in conjunctive normal form, *Proc. of 18th Int. Workshop on Cellular Automata and Discrete Complex Systems*, 2011.
- C31.** B. Balamohan, P. Flocchini, A. Miri, N. Santoro. Time optimal algorithms for black hole search in rings, *4th Int. Conf. on Comb. Optimization and App.* (COCOA), 58-71, 2010.
- C32.** S. Das, P. Flocchini, N. Santoro, M. Yamashita, On the computational power of oblivious robots: forming a series of geometric patterns, *29th ACM Symposium on Principles of Distributed Computing* (PODC), 267-276, 2010.
- C33.** Y. Daada, P. Flocchini, N. Zaguja. Network decontamination with temporal immunity by cellular automata, *9th Int. Conference on Cellular Automata for Research and Industry* (ACRI), 287-299, 2010.
- C34.** A. Casteigts, P. Flocchini, B. Mans, N. Santoro, Deterministic computations in time-varying graphs: broadcasting under unstructured mobility, *6th IFIP International Conference on Theoretical Computer Science*, 111-124, 2010.

C35. J. Chalopin, P. Flocchini, B. Mans, N. Santoro. Network exploration by silent and oblivious robots, *36th Int. Workshop on Graph Theoretic Concepts in Computer Science* (WG), 208–216, 2010.

C36. P. Flocchini, M. Kellett, P. Mason, N. Santoro, Mapping an unfriendly subway system, *3rd International Conference on FUN with Algorithms*, 190-201 2010.