

# Curriculum Vitae et Studiorum

Alberto Montresor

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## 1 Introduction

**Name** Alberto Montresor  
**Birth** Verona, July 28th,1971  
**Address** University of Trento, Dipartimento di Ingegneria e Scienza dell'Informazione  
via Sommarive 9, I-38123 Povo (TN)  
Tel. 0461-283972. E-mail: [alberto.montresor@unitn.it](mailto:alberto.montresor@unitn.it)

## Positions

**2020-** Full Professor – Department of Information Science and Engineering, University of Trento.  
**2005-2020** Associate Professor – Department of Information Science and Engineering, University of Trento.  
**2002-2005** Assistant researcher – Faculty of Science, University of Bologna.  
**2000-2002** Post-doc – University of Bologna. Funded by Sun Microsystems and the European Project ADAPT.  
**1998** Visiting researcher at the Computer Science Department of the University of Twente (Enschede, The Netherlands), invited by Prof. Sape Mullender.

## Education and habilitations

**2018** Habilitation as Full Professor, SSD 09/H1  
**2014** Habilitation as Full Professor, SSD 01/B1  
**1995-2000** Ph.D. in Computer Science – University of Bologna.  
**1990-1995** Ms.C. in Computer Science – University of Bologna. 110/110 cum laude.

## 2 Research

During my Ph.D. under the supervision of Prof. Babaoglu, and in the years immediately following (1996-2001), my research focused on distributed systems and fault tolerance, with particular attention to group communication systems in partitionable environments. I studied and implemented mechanisms to ensure high availability through replication, defining specifications for the group membership service (GMS) and the reliable multicast service (RMS), which ensure consistency among group members and reliable message delivery. In this context, I developed Jgroup, a group communication system extending Java RMI.

From 2002 to 2015, my research focused on epidemic protocols, applied to peer-to-peer (P2P) systems to enhance their scalability and robustness. I developed solutions for key challenges such as aggregation, load balancing, decentralized ranking, and topology construction. Many of these studies were implemented and evaluated using Peersim, a P2P network simulator that I co-designed with Mark Jelasity (Hungarian Academy of Science and University of Szeged) starting in 2003 during my time in Bologna. Over time, Peersim has become a reference tool in the research community: as of January 2025, it has been downloaded 40,000 times and cited in over 1,200 publications.

Since 2010, my research has progressively focused on the development of centralized and distributed algorithms for the analysis of large-scale graphs, tackling challenges such as structural decomposition, community detection, and decentralized ranking. I have worked on multilayer networks and hypergraphs, developing multiplex network metrics and efficient methods for identifying recurring motifs in large hypergraphs.

In recent years, my research has expanded into Computer Science Education, with a focus on innovative teaching strategies for computer science, computational thinking, and programming, as well as methodologies to promote their sustainable integration in primary and secondary education. To address this challenge, I have extended my research into disciplines such as psychology and pedagogy, contributing with high-impact publications in these fields as well.

### Publication records

- 4 textbooks for university and high school
- 11 proceedings publications as editor
- 36 journal articles
- 2 book chapters
- 93 conference papers

Database	H-index	# Citations	Top paper
Google Scholar	44	9652	1255
Scopus	28	4613	835

### Awards

- 2018** Z. T. Kefato, N. Sheikh, L. Bahri, A. Soliman, A. Montresor, and S. Girdzijauskas. CAS2VEC: network-agnostic cascade prediction in online social networks. In Proc. of the 5th International Conference on Social Networks Analysis, Management and Security (SNAMS 2018), pages 72–79. IEEE, October 2018.
- 2011** A. Montresor and L. Abeni. Cloudy weather for P2P, with a chance of gossip. In Proc. of the 11th IEEE P2P Conference on Peer-to-Peer Computing (P2P'11), pages 250-259. IEEE, August 2011.
- 2006** G. P. Jesi, A. Montresor, and O. Babaoglu. Proximity-aware superpeer overlay topologies. In Proc. of SelfMan'06, LNCS 3996, pages 43-57. Springer-Verlag, Dublin, Ireland, June 2006.

### 3 Grants

Title	Year	Agency & Type	Role	Own Budget	Total Amount
VIPPSTAR	2025	Horizon	Member	166.200€	
Sparkle	2025	Repubblica Digitale	Member	42.525€	
Smaca	2024	Euregio	Member	4.900€	
Minerva	2023-2025	FSE	Member	30.100€	
Learning Informatics	2023-2026	MUR Prin	Coordinator	46.730€	214.388€
Progetto Lauree Scientifiche	2023	MUR	Local unit coord.	30.000€	
Cloudstars	2023-2026	MUR	Member	86.000€	
STEM Kit	2021	MUR	Coordinator	56.000€	100.000
Computational Thinking Academy	2021	Erasmus+	Local unit coord.	56.227€	
Progetto Lauree Scientifiche	2021	MUR	Local unit coord.	20.000€	
Progetto Lauree Scientifiche	2019	MUR	Local unit coord.	22.000€	
Conto Terzi Grant	2019	U-Hopper	Coordinator	45.000€	45.000€
Progetto CLIC	2018	PAT	Member	12.500€	
Sensemaking Service – Entity Linking for Big Linked Data	2017	EIT ICTLabs Activity	Local unit coord.	55.000€	
Sensemaking Service – Entity Linking for Big Linked Data	2016	EIT ICTLabs Activity	Local unit coord.	50.000€	
Conto Terzi Grant	2015	SpazioDati	Coordinator	20.000€	20.000€
Large Scale Graph Proc.for Big Linked Data Analytics	2014	EIT ICTLabs Activity	Local unit coord.	60.000€	
Europa	2013	EIT ICTLabs Activity	Local unit coord.	29.000€	
Europa	2012	EIT ICTLabs Activity	Local unit coord.	32.000€	
Autonomic Security	2010-2102	MIUR PRIN	Project coord.	48.370€	201.000€
ATLAS	2007-2011	Atlantis Double-Degree Project	Project coord.	146.000€	408.000€
“Gossip-based Strategies in Global Optimization”	2008	ESA - Ariadna Project	Local unit coord.	29.000€	
<b>Total</b>				1.067.522€	

## 4 Teaching

### Courses

<b>2005-</b>	“Algoritmi e Strutture Dati”, C.d.L. in Informatica, Univ. of Trento
<b>2020-2023</b>	“Laboratory of Computer Science Education”, C.d.L. Magistrale in Informatica, Univ. of Trento.
<b>2006-2021</b>	“Distributed Systems”, C.d.L. Magistrale in Informatica, Univ. of Trento.
<b>2016-2019</b>	“Scientific Programming”, C.d.L. Magistrale in Computat. and Quantitative Biology, Univ. of Trento and C.d.L. Magistrale in Data Science, Univ. of Trento
<b>2008,2010</b>	“P2P Systems”, Doctorate School in ICT, Univ. of Trento (in collaboration with Renato Lo Cigno)
<b>2002-2005</b>	“Sistemi Operativi MZ”, C.d.L. in Informatica, Università di Bologna.
<b>2002-2005</b>	“Laboratorio di Sistemi Operativi MZ”, C.d.L. in Informatica, Università di Bologna.
<b>2003-2005</b>	“Laboratorio di Elementi di Informatica AL”, C.d.L. in Biotecnologie, Università di Bologna.

### Other Courses

<b>2024-</b>	“Informatica per l’Apprendimento”, Percorso 60-CFU, Univ. of Trento
<b>2024-</b>	“Didattica dell’Informatica e Fondamenti della Disciplina”, Percorso 60-CFU classe A-41, Univ. of Trento
<b>2024-</b>	“Didattica degli Algoritmi”, Percorso 60-CFU classe A-41, Univ. of Trento
<b>2017-2019</b>	“Laboratorio di Pensiero Computazionale”, in Percorsi di aggiornamento ”Lo studio della mente e l’arte di insegnare”, Univ. of Trento.
<b>2017</b>	”Computational thinking”, in Corso di Perfezionamento in ”Tecnologia per l’Educazione: Dispositivi e Diversità”, Univ. of Trento.
<b>2003-2005</b>	“Sicurezza nei Sistemi Operativi”, Master Almaweb in Sicurezza dei Sistemi Informativi.
<b>2003-2004</b>	“Sistemi Operativi”, Progetto A3 (Ambiente Accessibile d’Apprendimento), Università di Bologna.
<b>2001-2005</b>	“Tecnologie e Servizi Internet / Programmazione Web” (Laboratory Course), Master Almaweb in Comunicazione e Tecnologie della Comunicazione / Tecnologie Web per le Imprese.

### Teaching assistantship

<b>2001-2002</b>	“Laboratorio di Sistemi Operativi”, C.d.L. in Informatica, Università di Bologna.
<b>2000-2002</b>	“Architetture degli Elaboratori”, C.d.L. in Informatica, Università di Bologna.
<b>2000-2005</b>	“Sistemi Complessi Adattivi”, C.d.L. in Informatica, Università di Bologna.
<b>1997-1999</b>	“Sistemi 1”, C.d.L. in Informatica, Università di Bologna.

## Thesis supervision

<b>2005-</b>	At the Univ. of Trento, he supervised and co-supervised 184 B.Sc. theses and 71 M.Sc. theses
<b>2002-2005</b>	At the University of Bologna, he supervised and co-supervised 13 B.Sc. theses and 17 M.Sc. theses
<b>2006-2010</b>	Ph.D. Supervision, Marco Biazzi, Senior Business Analyst at Amadeus IT Group (France)
<b>2008-2013</b>	Ph.D. Co-supervision, Giuliano Mega, Project Lead @ Logos Storage
<b>2009-2013</b>	Ph.D. Supervision, Hanna Kavalionak, post-doc at CNR - Pisa (Italy)
<b>2011-2015</b>	Ph.D. Supervision, Alessio Guerrieri, Data Engineer at AcademicLabs (Belgium)
<b>2014-2019</b>	Ph.D. Supervision, Zekarias Kefato, senior AI scientist at AstraZeneca (UK)
<b>2016-2019</b>	Ph.D. Supervision, Nasrullah Sheikh, IBM - Almaden (USA)
<b>2014-2019</b>	Ph.D. Supervision, Cristian Consonni, JRC (EC Joint Research Centre)
<b>2019-2023</b>	Ph.D. Co-supervision, Francesca Fiore, post-doc at Università di Trento (Italy)
<b>2021-2025</b>	Ph.D. Supervision, Francesco Lotito, post-doc at University of Wien (Austria)
<b>2023-</b>	Ph.D. Supervision, Giulia Paludo
<b>2024-</b>	Ph.D. Supervision, Marta Valentini
<b>2024-</b>	Ph.D. Supervision, David Martin Zikovitz

## 5 Professional activities

### Administration activities

<b>2024-</b>	Vice-rector for Third Mission and Relations with Schools, University of Trento
<b>2021-</b>	Member of the Academic Senate, University of Trento
<b>2022-</b>	Coordinator of the Centre on Teacher Training and Relations with Schools, University of Trento
<b>2022-</b>	Member of the Committee for the Implementation of the Strategic Plan, University of Trento
<b>2021-</b>	Member of the Scientific Committee FormID, Teaching and Learning Center, University of Trento
<b>2020-</b>	Scientific Coordinator of FabLab UniTrento
<b>2022-2024</b>	Delegate of the Rector for Third Mission, University of Trento
<b>2019-2022</b>	Delegate of the Rector for ICT Services, University of Trento.
<b>2018-2022</b>	Delegate for the relationships with Secondary Schools, Dept. of Information Engineering and Computer Science, University of Trento.
<b>2015-2018</b>	Delegate for the relationships with CLA, Dept. of Information Engineering and Computer Science, University of Trento.
<b>2012-2015</b>	Education Coordinator, Dept. of Information Engineering and Computer Science, University of Trento.
<b>2010-2013</b>	Member of the “Nucleo di Valutazione” of the University of Trento.

- 2007-2012**      Coordinator of the ATLAS Project - Double Degree in Computer Science in Cooperation with Georgia Institute of Technology, Technischen Universitaet Muenchen
- 2009-2012**      Delegate for school orientation, Faculty of Science, University of Trento
- 2009-2012**      Delegate for disabilities, Faculty of Science, University of Trento
- 2006-2009**      Coordinator of the Computer Science Degree Committee, Faculty of Science, University of Trento.

## Editorial Board

- 2011-2020**      Associate Editor, Springer Computing Journal.

## Special Issues

- 2012**              Extreme Distributed Systems, Springer Computing Journal.

## Steering committee member

- 2007-2009**      Int. Conf. on Distributed Systems and Interoperable Applications (DAIS).
- 2007-2013**      Int. Conf. on P2P Computing (P2P). Since October 2010, steering committee chair.
- 2026**              ] Int. Conf. on Constructionism.

## General chair

- 2020**              1<sup>st</sup> Int. Workshop on Distributed Infrastructure for Common Good ([DICG'20](#)).
- 2018**              12<sup>th</sup> Int. Conf. on Peer-to-Peer Computing ([SASO'18](#)).
- 2007**              7<sup>th</sup> Int. Conf. on Self-Adaptive and Self-Organizing Systems ([P2P'07](#)).

## Programme committee chair

- 2016**              1<sup>st</sup> Workshop on Edge Computing ([WEC'16](#))
- 2009**              3<sup>rd</sup> Int. Conf. on Self-Adaptive and Self-Organizing Systems ([SASO'09](#)), Program Co-Chair.
- 2008**              Distributed Objects, Middleware, and Applications (DOA'08), Program Co-Chair.
- 2006**              6<sup>th</sup> Int. Conf. on Peer-to-Peer Computing ([P2P'06](#)), Program Co-Chair.
- 2006**              6<sup>th</sup> Int. Conf. on Distributed Systems and Interoperable Applications ([DAIS'06](#)), Program Co-Chair.
- 2004**              Int. Workshop on Self-\* Properties in Complex Information Systems ([SelfStar'04](#)), Program Co-Chair.

## Track chair

- 2018**              Distributed Systems and Algorithms Topic, [EuroPar 2018](#), Topic Co-Chair.
- 2014**              Social Networks, Crowdsourcing, and P2P systems Track, ICDCS'14, Track Chair

- 2012** Peer-to-Peer Computing Topic, [EuroPar 2012](#), Topic Co-Chair.
- 2011** Peer-to-Peer Computing Topic, [EuroPar 2011](#), Topic Co-Chair.
- 2008** Peer-to-Peer Computing Topic, [EuroPar 2008](#), Vice Co-Chair.
- 2007** Peer-to-Peer Computing Topic, [EuroPar 2007](#), Topic Co-Chair.

### Finance chair

- 2013** 13<sup>th</sup> Int. Conf. on Peer-to-Peer Computing ([P2P'13](#)), Trento, Italy
- 2008** 2<sup>nd</sup> Int. Conf. on Self-Adaptive and Self-Organizing Systems ([SASO'08](#)), Venice, Italy.

### Organizational activities

- 2002-2004** Bertinoro Int. Summer School, Bertinoro (Forlì), Italy
- 2002** 7<sup>th</sup> Cabernet Radicals Workshop, Bertinoro (Forlì), Italy.
- 2002** 1<sup>st</sup> Int. Workshop on Future Directions in Distributed Computing, Bertinoro, Italy.
- 2001** 4<sup>th</sup> European Research Seminar on Advances in Dist. Comp. Systems (ERSADS'01), Bertinoro, Italy,
- 1996** 10<sup>th</sup> Int. Workshop on Distributed Algorithms (WDAG'96), Bologna, Italy.

### Journal review activities

ACM Computing Survey, IEEE Trans. on Parallel and Distributed Systems, IEEE Trans. on Computers, IEEE Trans. on Computer Communication, IEEE Trans. on Computer Networks, IEEE Trans. on Knowledge Engineering, IEEE Trans. on Network and Service Management, IEEE Trans. on Dependable and Secure Computing, IEEE Trans. on Autonomous and Adaptive Systems, IEEE Trans. on Systems, Man, and Cybernetics, IEEE Journal on Selected Areas in Communications, IEEE Internet Computing, Elsevier Journal of Parallel and Distributed Computing, Elsevier Distributed Computing, Elsevier Computer Networks, Elsevier Journal of Network and Computer Applications, Springer Swarm Intelligence. Springer Peer-to-Peer Networking and Applications, Wiley Concurrency and Computation: Practice and Experience, Oxford Computer Journal, IOP Distributed Systems Engineering,

### Project review activities

- 2016** External Reviewer, Swiss National Science Foundation, Switzerland
- 2014,2015** External Reviewer, Qatar National Research Fund, Qatar.
- 2013** External Reviewer, Swedish Knowledge Foundation, Sweden.
- 2010** External reviewer, ERC Advanced Grant 3rd Call - 2010.
- 2009,2010** External reviewer, Nanyang Technological University, Singapore.
- 2006** External reviewer, Nordunet3 Research Programme in network research.
- 2004** External reviewer, Swedish Research Council.

## External Ph.D. Examiner

- 2020 Abhishek Singh, invited by Roman Vitenberg, University of Oslo, Norway
- 2018 Lucas L. Provensi, invited by Frank Eliassen, University of Oslo, Norway
- 2016 Istvan Hegedus, invited by Mark Jelasity, University of Szeged, Hungary
- 2016 Tommaso Pirini, invited by Claudio Sartori, Università di Bologna, Italy
- 2015 Ruma Paul, invited by Vladimir Vassov, KTH, Sweden
- 2013 Roberto Roverso, invited by Seif Haridi, KTH, Sweden
- 2013 Tallat Shafaat, invited by Seif Haridi, KTH, Sweden
- 2013 Paal Evensen, invited by Hein Meling, University of Stavanger, Norway
- 2013 Rajesh Sharma, invited by Anwitaman Datta, Nanyang Technological University, Singapore
- 2012 Jan Mark Wams, invited by Maarten van Steen, VU University Amsterdam, The Netherlands
- 2011 Amir Payberah, invited by Seif Haridi, KTH, Sweden.
- 2011 Rameez Rahman, invited by Henk Sips, Delft University of Technology, The Netherlands
- 2010 Kovendhan Ponnaivaikko, invited by J. Dharanipragada, IIT Madras, India.
- 2009 Bartosz Biskupski, invited by Renè Meier, Trinity College, Dublin, Ireland.
- 2009 Marc Sanchez, invited by Pedro Garcia Lopez, Univ. Pompeu Fabra, Spain.
- 2008 Roman Schmidt, invited by Karl Aberer, EPFL, Switzerland.

## 6 Keynote Speaker

- 2012 “Designing extreme distributed systems: challenges and opportunities”. Comparch 2012, Bertinoro, Italy.
- 2010 “Cloudy Weather for P2P, with a Chance of Gossip”. Brazilian Symposium on Computer Networks and Distributed Systems (SBRC), Gramado, Brasil, 2010.
- 2008 “Intelligent Gossip”. 2nd International Symposium on Intelligent Distributed Computing (IDC 2008), Catania, Italy.

## 7 Invited talks, seminars and tutorials

- 2016 “Gossip as a framework”. Middleware 2016, December 2016, Trento, Italy.
- 2016 “Reflecting on the past, preparing for the future: from peer-to-peer to edge-centric computing”. International Conference on Distributed Computing Systems. June 2016, Nara, Japan
- 2010 “Cloudy Weather for P2P, with a Chance of Gossip”. International Workshop on Distributed Systems (IWDS). November 2010, IIT-Kanpur, India
- 2009 “Gossiping in P2P networks”. International Workshop on Distributed Systems (IWDS). December 2009,

IIT-Madras, India

- 2006 “The Bootstrapping Service”. EPFL, Switzerland. Invited Seminar.
- 2005 “The Peer-to-Peer Paradigm”, GARR’05 Conference “La rete daPERTutto”, Pisa, Italy. Tutorial.
- 2004 “Computing Aggregate Functions on Large-Scale Distributed Systems”. Università di Trento, Italy. Invited seminar.
- 2004 “Computing Aggregate Functions on Large-Scale Distributed Systems”. Università di Verona, Italy. Invited seminar.
- 2003 “The Bison Project”, 1<sup>st</sup> COE Symposium on Networked Information System, Osaka, Japan. Invited talk.
- 2002 “The Jgroup Project”, University of Trondheim, Norway. Invited seminar.
- 2001 “The Jgroup Project”, Università di Roma, Italy. Invited seminar.
- 2001 “Experience with Reliable Group Communication”, ICDCS Workshop on Reliable Group Communication, Mesa, AZ. Panelist.
- 2000 Sun Laboratory at Burlington, MA. Research visit.
- 1999 Sun Laboratory at Aspen, CO, and Burlington, MA. Research visit
- 1999 “The Jgroup Distributed Object Model”. Dept. of Computer Science, University of Cambridge, UK. Invited seminar.

## 8 Publications

### Books

- [1] Giorgia Bissoli, Agnese Del Zozzo, Michael Lodi, and Alberto Montresor. *Sulle orme di Milù: Guida di informatica*. Mondadori, Milano, February 2026.
- [2] Maurizio Boscaini, Alberto Montresor, and Massimiliano Masetti. *Hashtag – Corso di informatica con Python per il Liceo scientifico opzione scienze applicate – Volume 3*. Hoepli, Milano, September 2024.
- [3] Maurizio Boscaini, Alberto Montresor, and Massimiliano Masetti. *Hashtag – Corso di informatica con Python per il liceo scientifico opzione scienze applicate – Volume 2*. Hoepli, Milano, 2023.
- [4] Maurizio Boscaini, Alberto Montresor, and Massimiliano Masetti. *Hashtag – Corso di informatica con Python per il liceo scientifico opzione scienze applicate – Volume 1*. Hoepli, Milano, 2022.
- [5] Alan Bertossi and Alberto Montresor. *Algoritmi e strutture di dati - 3<sup>a</sup> Ed.* Città Studi Edizioni, Torino, 2014.

### Proceedings, editor

- [1] Alberto Montresor and Pedro Garcia Lopez, editors. *Proc. of the First Workshop on Edge Computing*. IEEE, June 2016.
- [2] Alberto Montresor, Evaggelia Pitoura, Anwitaman Datta, and Spyros Voulgaris. Topic 7: Peer to peer computing. In *Proc. of the 18th Int. Conference on Parallel Processing*, volume 7484 of *EuroPar’12*, page 363. Springer, August 2012.

- [3] Pascal Felber, Olivier Beaumont, Alberto Montresor, and Amitabha Bagchi. Topic 7 - Peer-to-Peer Computing. In *Proc. of the 17th Int. Conference on Parallel Processing*, volume 6852 of *EuroPar'11*, pages 514–515, Bordeaux, France, August 2011. Springer.
- [4] Alberto Montresor, Fabrice Saffre, and Nenad Medvidovic, editors. *3rd IEEE Int. Conference on Self-Adaptive and Self-Organizing Systems (SASO'09)*, San Francisco, CA, September 2009. IEEE.
- [5] Mark Little, Alberto Montresor, and Greg Pavlik, editors. *Proc. of the 10th Int. Symposium on Distributed Objects, Middleware, and Applications (DOA'08)*, volume 5331 of *Lecture Notes in Computer Science*, Monterrey, Mexico, November 2008. Springer.
- [6] Dick H. J. Epema, Alberto Montresor, Márk Jelasity, and Josep Jorba. Topic 7 - Peer-to-Peer Computing. In *Proc. of the 14th Int. Conference on Parallel Processing*, EuroPar'08, pages 599–600, Las Palmas de Gran Canaria (Spain), August 2008. Springer.
- [7] Manfred Hauswirth, Adam Wierzbicki, Klaus Wherle, Alberto Montresor, and Nahid Shahmehri, editors. *Proc. of the 7th Int. Conference on Peer-to-Peer Computing (P2P'07)*. IEEE, September 2007.
- [8] Alberto Montresor, Fabrice Le Fessant, Dick H. J. Epema, and Spyros Voulgaris. Topic 7 - Peer-to-Peer Computing. In *Proc. of the 13th Int. Conference on Parallel Processing*, EuroPar'07, pages 477–478. Springer, August 2007.
- [9] Alberto Montresor, Adam Wierzbicki, and Nahid Shahmehri, editors. *Proc. of the 6th Int. Conference on Peer-to-Peer Computing (P2P'06)*. IEEE, September 2006.
- [10] Frank Eliassen and Alberto Montresor, editors. *Distributed Applications and Interoperable Systems: 6th IFIP WG 6.1 Int. Conference, DAIS'06*, volume 4025 of *Lecture Notes in Computer Science*. Springer-Verlag, June 2006.
- [11] Ozalp Babaoglu, Márk Jelasity, Alberto Montresor, Christof Fetzer, Stefano Leonardi, Aad van Moorsel, and Maarten van Steen, editors. *Self-Star Properties in Complex Information Systems*, volume 3460 of *Lecture Notes in Computer Science, Hot Topics*. Springer-Verlag, May 2005.

## Refereed articles in journals

- [1] Quintino Francesco Lotito, Alberto Vendramini, Alberto Montresor, and Federico Battiston. The microscale organization of directed hypergraphs. *Communications Physics*, 9:43, 2026.
- [2] Simi Surendran, Maneesha Vinodhini Ramesh, Usha Kumari P V, and Alberto Montresor. Adaptive scheduling for multimedia and text traffic in ocean networks through queuing theory integrated reinforcement learning. *Multimedia Tools and Applications*, 85(2):84, 2026.
- [3] Giulia Paludo and Alberto Montresor. Toward a new paradigm of AI-powered programming education through metacognition. *Italian Journal of Educational Technology*, 2026.
- [4] Anita Erspamer, Giacomo Bozzo, Agnese Del Zozzo, Alberto Montresor, Giulia Paludo, and Peppino Sapia. L'informatica nell'apprendimento per competenze trasversali. *Ricercazione*, (2):181–190, 2025.
- [5] Alberto Montresor, Agnese Del Zozzo, Giulia Paludo, Francesca Fiore, and Giorgia Bissoli. Informatics and constructionism for transdisciplinary teacher training. *Q-Times – Journal of Education, Technology and Social Studies*, XVII(1):287–302, 2025.
- [6] Simi Surendran, Alberto Montresor, and Maneesha Vinodini Ramesh. A reinforcement learning approach for routing in marine communication network of fishing vessels. *SN COMPUT. SCI.*, 6(62):1–19, 2025.
- [7] Quintino Francesco Lotito, Alberto Montresor, and Federico Battiston. Multiplex measures for higher-order networks. *Applied Network Science*, 9(55), September 2024.
- [8] Sruthy Anand, Mojtaba Enayati, Dhanesh Raj, Alberto Montresor, and Maneesha Vinodini Ramesh. Internet over the ocean: A smart IoT-enabled digital ecosystem for empowering coastal fisher communities. *Technology in Society*, 79:102686, December 2024.

- [9] Quintino Francesco Lotito, Federico Musciotto, Alberto Montresor, and Federico Battiston. Hyperlink communities in higher-order networks. *J. Complex Networks*, 12(2), April 2024.
- [10] Quintino Francesco Lotito, Federico Musciotto, Federico Battiston, and Alberto Montresor. Exact and sampling methods for mining higher-order motifs in large hypergraphs. *Springer Computing*, pages 475–494, February 2024.
- [11] Quintino Francesco Lotito, Martina Contisciani, Caterina De Bacco, Leonardo Di Gaetano, Luca Gallo, Alberto Montresor, Federico Musciotto, Nicolò Ruggeri, and Federico Battiston. Hypergraphx: a library for higher-order network analysis. *Journal of Complex Networks*, 11(3), May 2023.
- [12] Simi Surendran, Maneesha V. Ramesh, Alberto Montresor, and Martin Montag. Link characterization and edge-centric predictive modelling in an ocean network. *IEEE Access*, 11:5031–5046, January 2023.
- [13] Quintino Francesco Lotito, Federico Musciotto, Alberto Montresor, and Federico Battiston. Higher-order motif analysis in hypergraphs. *Communications Physics*, 5(1):79, 2022.
- [14] Giovanni De Toni, Cristian Consonni, and Alberto Montresor. A general method for estimating the prevalence of influenza-like-symptoms with Wikipedia data. *PLoS ONE*, 16(28):e0256858, 2021.
- [15] Simi Surendran, Maneesha Vinodini Ramesh, Martin J. Montag, and Alberto Montresor. Modelling communication capability and node reorientation in offshore communication network. *Computers & Electrical Engineering*, 87, 2020.
- [16] Cristian Consonni, David Laniado, and Alberto Montresor. Cyclerank, or there and back again: Personalized relevance scores from cyclic paths on directed graphs. *Philosophical Transactions of the Royal Society of London. Series A, Mathematical and Physical Sciences*, 476(2241), September 2020.
- [17] Leonardo Maccari, Lorenzo Ghiro, Alessio Guerrieri, Alberto Montresor, and Renato Lo Cigno. Exact distributed load centrality computation: Algorithms, convergence, and applications to distance vector routing. *IEEE Trans. Parallel Distrib. Syst.*, 31(7):1693–1706, 2020.
- [18] Giuliano Mega, Alberto Montresor, and Gian Pietro Picco. Social overlays meet the cloud: A hybrid architecture for profile dissemination in decentralized social networks. *IEEE Transactions on Network Science and Engineering*, 6(4):613–627, Oct 2019.
- [19] Nasrullah Sheikh, Zekarias Kefato, and Alberto Montresor. GAT2VEC: Representation learning for attributed graphs. *Computing*, 101(3):187–209, 2019.
- [20] Alberto Montresor. Gossip and epidemic protocol. *Wiley Encyclopedia of Electrical and Electronics Engineering*, 1, 2017.
- [21] Yannis Velegrakis Sabeur Aridhi, Alberto Montresor. BLADYG: A graph processing framework for large dynamic graphs. *Big Data Research*, 9:9–17, 2017.
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## Publications in other research areas

- [1] M.G. Braioni, G. Salmoiraghi, A. Montresor, G. Penna, and P.F. DeFranceschi. The banks quality in the monitoring and restoring of the watercourses. *Atti Associazione Italiana Oceanologia Limnologia*, 14:77–88, 2001.
- [2] M.G. Braioni and A. Montresor. Qualità delle rive nel monitoraggio e nel ripristino dei corsi d’acqua (abstract). In *Atti XIV Congresso Nazionale Associazione Italiana di Oceanografia e Limnologia*, Garda (VR), Italy, 2000.
- [3] M.G. Braioni, A. Braioni, L. Girelli, M. Masconale, M. Francescon, and A. Montresor. Analisi territoriale e cartografia tematica nel monitoraggio a rischio ambientale. informazione geografica : innovazione e formazione. In *Atti IV Conferenza Nazionale ASITA*, pages 287–289, Genova, Italy, October 2000.
- [4] M.G. Braioni, A. Braioni, P. De Franceschi, F. Mason, S. Ruffo, B. Sambugar, P. Modena, M. Tessari, and A. Montresor. Indices for assessing river bank quality: the case of the river adige (north-east italy). In *Proc. of the International Workshop on the Ecology and Management of Aquatic-Terrestrial Ecotones*, pages 287–289, Seattle, WA, USA, 1994.

## 9 Other Professional Activities

- 2002** Scientific editing of “Quattro.Zero”, by Federico Tibone; Appendix “Quattro.Zero – Materiali per l’insegnante”. Zanichelli Editore (Bologna, Italy)
- 2002** Scientific editing of “A Portata di Mouse”, by Federico Tibone; realization of the Appendix “A Portata di Mouse – Materiali per l’insegnante”. Zanichelli Editore (Bologna, Italy)
- 2001** Scientific editing of “Computer Multimediale” by G. Russo, J. Jamrich-Parsons and D. Oja, “Scrivere e comunicare con il computer” by G. Russo, M.L. Swangson, D.I. Barker and C.L.H. Barker. Zanichelli Editore (Bologna, Italy).
- 2000-2002** Teaching activity for Sun Microsystems Italia (Java, Java RMI, Servlet, Enterprise JavaBeans, Java security).
- 2000** Teaching activity for NCH (Network Computer House, Bologna, Italy), financed by the European Community (Computer Science fundamentals, computer architectures, operating systems, networks, security and programming).
- 2000-2002** Software design and implementation for landscape analysis. Dipartimento di Biologia dell’Università di Padova.
- 1998** Scientific editing of the translation of “Computer Networks” by L. Peterson e B. Davie. Norma Srl (Parma, Italy) and Zanichelli Editore (Bologna, Italy).
- 1996-1997** Translation from English to Italian of “Computer Networks” (chapter 5,6), by Andrew S. Tanenbaum. Società UTET Libreria S.r.l.
- 1996** Software design and implementation for timetables scheduling. Università di Venezia “Cà Foscari”.
- 1992-2001** Software design and implementation for river bank analysis. Provincia di Verona, Regione Veneto and Dipartimento di Biologia, Università di Padova.

**1991**

Software design and implementation for text analysis. Università di Venezia “Cà Foscari”.