UNIVERSITÀ DEGLI STUDI DELL'AQUILA
Prof. Eliseo Clementini
Curriculum scientifico

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Curriculum Vitae
Eliseo Clementini
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University of L'Aquila
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PROFESSIONAL CERTIFICATIONS

Habilitation as Full Professor of Informatics in Italy in November 2013.

Qualification as Associate Professor in Italy, section ?Information Processing Systems?, March 1998.

Qualification as Researcher (Assistant Professor) in Italy, section ?Information Processing Systems?, January 1993.

Habilitation of Professional Engineer in Italy, June 1991.

EDUCATION

- Dr.Eng., Electronics Engineering, University of L?Aquila, Italy, July 1990. DISSERTATION: Data Models and Interaction Techniques towards geographic databases. Thesis? advisor: Prof. A. D?Atri.

ACADEMIC HONORS AND AWARDS

- Visiting Professor at Technical University of Vienna in May 2016. Taught a 3.0 ECTS course on ?Qualitative Spatial Reasoning? to Surveying and Geoinformation MSc and PhD students. Grant by Erasmus+ Teaching Mobility Agreement.
- Visiting Professor at University of Liège in April 2016. Grant by Erasmus+ Teaching Mobility Agreement.
- Visiting Professor at Technical University of Vienna in April-May 2015. Taught a 3.0 ECTS course on ?Qualitative Spatial Reasoning? to Surveying and Geoinformation MSc and PhD students. Grant by TU Vienna and Erasmus+ Teaching Mobility Agreement.
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- Grant by University of Liege ? Geomatics Unit, Belgium. Visiting researcher in August 2006, working with Dr. Roland Billen.
- Grant by the Royal Society of Edinburgh ? International Exchange Programme. Visiting researcher in May-June 2005 at the Department of Geography and Geomatics, University of Glasgow, UK, working with Dr. Roland Billen.
- Fellowship by the Technical University of Munich (Institut für Informatik). Visiting researcher in October 1994 working with Dr. Daniel Hernández.
- Fellowship by the National Center for Geographic Information and Analysis, University of Maine, USA. Visiting researcher in September-October 1993 working with Prof. Max J. Egenhofer.
- Scholarship by University of L?Aquila to study abroad (spent a period in June-July 1991 at the Centre for Systems Science, Simon Fraser University, Canada, and in September 1991 at the Information Systems Institute, Hiroshima University, Japan).

- Graduated Magna Cum Laude, University of L?Aquila, July 1990.

ACADEMIC EXPERIENCE

Habilitation of Full Professor, Information Processing Systems, November 2013.

Associate Professor, Information Processing Systems, University of L?Aquila, Italy, November 2001 to Present

- Teach Foundations of Computer Science to classes averaging 150 students.
- Teach Information Systems to classes averaging 15 students.
- Teach Geographical Information Science to classes averaging 20 students.
- Advised about 40 M.Eng. theses.
- Advised 5 Ph.D. theses (F. Tarquini, G. Paolone, G. Liguori, G. Cestra, E. Ippoliti).

Associate Professor, Information Processing Systems, University of L?Aquila, Italy, November 1998 to October 2001 (3 years probationary period)

- Teach Foundations of Computer Science to classes averaging 150 students.

Researcher (Assistant Professor), Information Processing Systems, University of L?Aquila, Italy, July 1996 to October 1998

- Teach Foundations of Computer Science to classes averaging 150 students.

COURSES TAUGHT

Undergraduate

Graduate

- Fondamenti di Informatica (Ingegneria dell?Informazione) ? 9 CFU

- Fondamenti di Informatica (Ingegneria Industriale) ? 6 CFU

- Sistemi per l?Elaborazione dell?Informazione (Ingegneria Informatica e Automatica) ? 9 CFU

RESEARCH PROJECTS

National Delegate

- Management Committee of COST Action TU0801 ?Semantic enrichment of 3D city models for sustainable urban development?, run in years 2008-12.

Principal Investigator

- Project ?Support To Topology? (STO), funded by the European Space Agency (ESA), from May 2011 to October 2012. In collaboration with SISTEMA GmbH, Vienna, Austria, the Environmental Protection Agency of Austria (UBA), the GISAT, Prague, Czech Republic. Goal of the project was the automatic or support to more automated identification of complex objects or features in Earth Observation (EO) images through the use of topology information.

- Project ?Representation and management of spatial and geographical data in the Web?, funded by the Italian Ministry of Education, in years 2003-2005. The Italian network was made up of University of L?Aquila, University of Verona, University of Milan, University of Udine, University of Genoa, University of Insubria, University of Trento, and University of Rome 1. The goal of the research unit was to define new spatial operators and to transfer them in a GIS-Web architecture.

- Project ?Representing and processing SPAtial DAta in Geographic Information Systems - SPADA?, funded by the Italian Ministry of Education, in years 2000-2002. The Italian network was made up of University of L?Aquila, University of Genoa, University of Verona, University of Milan, and University of Florence. The goal of the research unit was to define a model for spatial objects supporting the treatment of uncertainty and, then, based on this model, to study spatial operators to be used in spatial query languages.

- Project ?Models for the representation of uncertainty in spatial data?, funded by University of L?Aquila, in years 1998-99. Participant in several projects funded by the Italian Ministry of Education (MIUR) and by the Italian Research National Centre (CNR), as a member of the research unit of the University of L?Aquila:

- 1998-99 MIUR project ?Methodologies and technologies for the management of data and processes on Internet and Intranet networks? ? PI Prof. Atzeni, University of Rome 3

- 1997-98 CNR project ?Modeling and querying multimedia databases? ? PI Prof. Ciaccia, University of Bologna

- 1995-96 CNR project ?Models and systems for the management of land and environmental data? ? PI Prof. Talamo, University of Rome 1

- 1995-96 MIUR project ?Advanced databases: models, methods, and systems? ? PI Prof. Atzeni, University of Rome 3

- 1990-94 CNR project MULTIDATA ? PI Prof. Saccà, University of Calabria.

EXTERNAL ADVISOR

Advisor of Administrative Court

- January 2016: Verificatore per il Tribunale Amministrativo Regionale Per l?Abruzzo ? Sezione di L?Aquila.

- January 2013: Verificatore per il Tribunale Amministrativo Regionale Per l?Abruzzo ? Sezione di Pescara.

Advisor of post-doctoral qualification (?Habilitation?):

- Dr. Björn Gottfried, ?Representing Material Objects by Qualitative Spatial Representations?, University of Bremen, August 2008.

External Reviewer of Ph.D theses:

- Frank Favetta, ?Ambiguïtés dans les languages visuels d?interrogation spatiale et précision topologique des Bases de Données spatiales?, Université de Marne-la-Vallée, January 2003;

- Nicoletta Gabrielli, ?Investigation of the Tradeoff between Expressiveness and Complexity in Description Logics with Spatial Operators?, University of Verona, May 2009;

- Maria Vasardani, ?Qualitative spatial reasoning with holed regions?, University of Maine, November 2009.

- Paola Podestà, ?Query Processing and Analysis of Multi-resolution Spatial Data in Distributed Architectures?, University of Genoa, May 2010.

- Zoe Falomir Llansola, ?Qualitative Distances and Qualitative Description of Images for Indoor Scene Description and Recognition in Robotics?, University Jaume I and University of Bremen, November 2011.

- Sara Migliorini, ?Supporting Distributed GeoProcessing: A Framework for Managing Multi-Accuracy Spatial Data?, University of Verona, May 2012.

Reviewer for project proposals, acted as international expert for assessing grant requests to the following institutions:

- Italian Ministry of Education, ?SIR? Program, Italy, 2014.

- University of Modena and Reggio Emilia, 2014.

- National Commission for Scientific and Technological Research (CONICYT), Chile, 2013.

- Ministry of education and science of the Russian Federation, 2011, 2012.

- Italian Ministry of Education, Italy, 2005, 2011.

- Agence Nationale de la Recherche, France, 2010.

- The Israel Science Foundation, Israel, 2006.

- Grant Agency of the Academy of Science of the Czech Republic, 2006.

INVITED SPEAKER

- ?Automatic extraction of complex objects from land cover maps?, Vienna University of Technology, Department of Geodesy and Geoinformation, 3 February 2014.
- ?Les relations projectives?, seminar at the Centre de Recherche en Géomatique, Université Laval, Québec city, Canada, 29 July 2013.
- ?Application of Topology to Complex object Identification?, Keynote speaker at SAGEO 2012 (French Conference on GIS), Liege, Belgium, 8 - 10 November 2012.
- ?A comparison of calculi for topological relations?, seminar presented inside the program of ?Maestria en ciencias de la información y las comunicaciones?, Universidad Distrital Francisco José de Caldas, Bogotá, Colombia, 13 October 2010 (videoconference).
- ?Qualitative Spatial Relations?, seminar presented in the Database and Information Systems Seminar Series, Faculty of Computer Science, Libera Università di Bolzano, Italy, 10 May 2007.
- ?Projective Relations?, invited talk in the series of SFB/TR 8 Spatial Cognition / IQN Video Conference, University of Bremen, Germany, 23 February 2007.
- ?Ternary projective relations?, invited talk at the Workshop of EU COST Action TARSKI, University of Manchester, 13 September 2004, UK.
- ?Ternary projective relations?, seminar at the School of Computing, University of Leeds, 14 September 2004, UK.
- Invited talk at the European HCM 2nd SPACENET Workshop, Semmering, Austria, 18-19 September 1995.
- Invited to the GISDATA Specialist Meeting on Spatial Conceptual Models for Geographic Objects with Undetermined Boundaries, Baden,

Austria, 8-12 June 1994, funded by the European Science Foundation (ESF).

SCIENTIFIC ACTIVITIES
Program Chair
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- Program Chair of the 6th International Workshop on Semantic and Conceptual Issues in GIS (SeCoGIS 2012), in conjunction with ER 2012, Florence, Italy, October 15-18, 2012.
- Organizing Committee of the IntesaGIS Meeting on Technology for a National GeoDatabase Infrastructure, Siena, Italy, 4-5 Sept. 2003.
- Tutorial Chair at the 8th Italian National Conference on Advanced Database Systems (SEBD?00), L'Aquila, Italy, 26-28 June 2000.
- Coordinator of the Track on Geographical Information Systems, inside the ACM Symposium on Applied Computing (SAC?94), Phoenix, Arizona, 6-8 March 1994.
Editorial Board Member
- International Journal of Spatial, Temporal and Multimedia Information Systems
- Open Journal of Databases
- Encyclopedia of GIS, 2nd edition, Springer (section editor ?Modeling of Spatial Relations?)
Program Committee member
- ACM GIS 2015, ACM GIS 2014, ACM GIS 2013, ACM GIS 2012, ACM GIS 2011, ACM GIS 2010, ACM GIS 2009, ACM GIS 2008, ACM GIS 2007, ACM GIS ?98: ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems.
- GIScience 2016, GIScience 2014: International Conference on Geographic Information Science.
- 3D GeoInfo 2014, 3D GeoInfo 2012, 3D GeoInfo 2011, 3D GeoInfo 2010: International Conference on 3D Geo Information.
- XXIII ISPRS Congress 2016.
- SDSC 2016: International Conference on Smart Data and Smart Cities.
- AEIDSS 2016, AEIDSS 2015, AEIDSS 2014, AEIDSS 2013: International Workshop on Agricultural and Environmental Information and Decision Support Systems
- Gi4DM 2015, Gi4DM 2012: International Conference on Geo-information for Disaster Management.
- SAC 2014, SAC 2013, SAC 2012, SAC 2011: ACM Symposium on Applied Computing, special track on Information Access and Retrieval (IAR).
- GEOProcessing 2016, GEOProcessing 2015, GEOProcessing 2014, GEOProcessing 2013, GEOProcessing 2012, GEOProcessing 2011, GEOProcessing 2010: International Conference on Advanced Geographic Information Systems, Applications, and Services.
- ISA 2015, ISA 2014: ACM SIGSpatial Workshop on Indoor Spatial Awareness.
- COSIT'15, COSIT'13, COSIT'11, COSIT'09, COSIT'07, COSIT'05, COSIT'03, COSIT'01, COSIT'99: Conference On Spatial Information Theory.
- KI 2013, KI 2012, KI 2011: Annual German Conference of Artificial Intelligence
- MSIS'15: International Workshop on Mobile Spatial Information Systems.
- DEXA 2013, DEXA 2012, DEXA 2011, DEXA 2010, DEXA 2009: International Conference on Database and Expert Systems Applications.
- ICMMI 2015, ICMMI 2013, ICMMI 2011: International Conference on Man-Machine Interactions
- SeCoGIS 2014, SeCoGIS 2013, SeCoGIS 2012, SeCoGIS 2011, SeCoGIS 2010, SeCoGIS 2009, SeCoGIS'08, SeCoGIS'07: International Workshop on Semantic and Conceptual
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Issues in GIS.
- Indoor 3D: 11 ? 13 December 2013, Cape Town, South Africa.
- ISG2013: International Symposium & Exhibition on Geoinformation, 24-25 September 2013, Kuala Lumpur, Malaysia.
- SAGEO 2012: French Conference on GIS
- 3u3d2012 : Usage, Usability, and Utility of 3D City models. European Cost Action TU801 final conference.
- 3D-CAD 2012: International FIG Workshop on 3D Cadastres.
- BMI 2012, BMI 2011, BMI 2009: Workshop on Behaviour Monitoring and Interpretation.

CITATION INDICES
Citation Indices, from Google Scholar, checked on March 7, 2016:
Citations 3627
h-index 21
i10-index 35
g-index 60
Most cited articles, Articles with more than 100 citations:
Title / Author
Cited by
Year
A small set of formal topological relationships suitable for end-user interaction E Clementini, P Di Felice, P van Oosterom Advances in Spatial Databases, 277-295
560
1993
Qualitative representation of positional information E Clementini, PD Felice, D Hernández Artificial Intelligence 95 (2), 317-356
332
1997
Topological relations between regions with holes MJ Egenhofer, E Clementini, PD Felice International Journal of Geographical Information Systems 8 (2), 129-142
307
1994
Modelling topological spatial relations: Strategies for query processing
253
1994
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E Clementini, J Sharma, MJ Egenhofer Computers & graphics 18 (6), 815-822
An algebraic model for spatial objects with indeterminate boundaries E Clementini, P Di Felice Geographic objects with indeterminate boundaries 2, 155-169
252
1996
Qualitative distances D Hernandez, E Clementini, P Di Felice Spatial Information Theory A Theoretical Basis for GIS, 45-57
242
1995
A comparison of methods for representing topological relationships E Clementini, P Di Felice Information Sciences-Applications 3 (3), 149-178
201
1995
Approximate topological relations E Clementini, P Di Felice International Journal of Approximate Reasoning 16 (2), 173-204
179
1997
Evaluating inconsistencies among multiple representations MJ Egenhofer, E Clementini, P Di Felice Proceedings of the Sixth International Symposium on Spatial Data Handling 2 ...
148
1994
A model for representing topological relationships between complex geometric features in spatial databases E Clementini, P Di Felice Information sciences 90 (1), 121-136
148
1996
Mining multiple-level spatial association rules for objects with a broad boundary E Clementini, P Di Felice, K Koperski Data & Knowledge Engineering 34 (3), 251-270
105

2000

LIST OF PUBLICATIONS (PEER-REVIEWED ONLY)
International Journals
[RI1] P. Bartie, E. Clementini, and F. Reitsma, "A Qualitative Model for Describing the Arrangement of Visible Cityscape Objects from an Egocentric Viewpoint," Computers, Environment and Urban Systems, vol. 38, pp. 21-34, 2013.
[RI2] G. Cestra, G. Liguori, and E. Clementini, "An Extended UML Metamodel for Efficient Application Design and Development," International Journal of Software Engineering and Its Applications, vol. 7, pp. 359-378, 2013.
[RI3] E. Clementini, "Directional relations and frames of reference," GeoInformatica, vol. 17, pp. 235-255, 2013.
[RI4] E. Clementini, R. Billen, and M. Santic, "Errata Corrige on ?Modeling and Computing Ternary Projective Relations Between Regions?," IEEE Transactions on Knowledge and Data Engineering, vol. 25, pp. 1196-1198, 2013.
[RI5] E. Clementini and E. Zimanyi, "Semantic and conceptual issues in geographic information systems (Feature Section Editorial)," Journal of