

# Luca Dan Serbanati

**Professor of Computer Science**  
**Politehnica University, Bucharest**  
**Faculty of Engineering Taught in Foreign Languages**

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## RESEARCH INTERESTS

*Software Engineering* : the software process, software architectures, methods of software specification, agile methodologies.

*Conceptual Modelling* : aspect-oriented modelling, concern-based modelling, modelling large systems, ontology.

*Software Technology*: distributed systems, web services, semantic interoperability, service-oriented architecture.

*Computer Science Foundations* : formal models in Computer Science.

*Programming Systems* : abstractions for advanced, programming-in-large methodologies (patterns, templates, frameworks), semantics of programming languages, compilers.

*Systems Engineering*: systems analysis and design, business modeling, enterprise application integration.

*Specific Information Systems* : virtual environments, e-health (EHR, clinical trials, semantic interoperability in e-health), e-government .

## ACADEMIC POSITIONS

2008 -	Head of the Department of Engineering in Foreign Languages, "Politehnica" University, Bucharest, Romania
2004 – present	Full Professor, Faculty of Engineering Taught in Foreign Languages, "Politehnica" University, Bucharest, Romania
2004 – 2007	Adjunct Professor, Faculty of Engineering, "La Sapienza" University, Rome, Italy
1994 – 2004	Full Professor, Faculty of Mathematics and Computer Science, "Ovidius" University, Constanta, Romania
2002 - 2004	Adjunct Professor, Faculty of Engineering in Foreign Languages, "Politehnica" University, Bucharest, Romania
1975 - 1989	Lecturer, Faculty of Control Systems & Computer Science, "Politehnica" University, Bucharest, Romania
1970 - 1975	Assistant Professor, Faculty of Control Systems & Computer Science, "Politehnica" University, Bucharest, Romania

A more complete description of [academic positions](#).

## VISITING POSITIONS

2007- present	Senior Researcher at the Institute of Biomedical Technologies (ITB), National Research Council (CNR), Italy
2006	Visiting Professor, Institute for research on population and social policies (IRPPS), National Research Council (CNR), Italy
2005	Visiting Professor, Institute for research on population and social policies (IRPPS), National Research Council (CNR), Italy
2004	Visiting Professor, Institute for System Analysis and Computer Science (IASI), National

	Research Council (CNR), Italy
2003	Visiting Professor, Institute for System Analysis and Computer Science (IASI), National Research Council, Italy
1997	Visiting Professor, Institute for Studies on Research and Scientific Documentation, National Research Council (CNR), Italy
1996	Visiting Professor, Institute for Studies on Research and Scientific Documentation, National Research Council (CNR), Italy
1995	Visiting Researcher, Institute for Studies on Research and Scientific Documentation, National Research Council (CNR), Italy
1994	Visiting Researcher, Institute for Studies on Research and Scientific Documentation, National Research Council (CNR), Italy
1981 - 1982	Visiting Professor, Academy of High Military Studies, Bucharest, Romania
1973 - 1974	Visiting Professor, People's University, Bucharest and Sinaia, Romania

## FELLOWSHIPS

1996	TEMPUS grant, "La Sapienza" University, Italy.
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## TEACHING

### Courses Taught at the Politehnica University (1973-1989, 2002-present)

- Web Application Development
- Software Development Methods
- Algorithm Design and Complexity
- Object-Oriented Programming
- Programming Languages
- Complements of Computer Science
- Programming Languages and Compilers
- Automata Theory
- Formal Languages
- Introduction to Programming

### Courses Taught at the La Sapienza University

- Programming Techniques
- Computer Science Fundamentals

### Courses Taught at the Ovidius University

- Compiling Techniques
- Formal Languages
- Software Engineering
- Compiler Structure
- Object Oriented Programming
- Internet Programming
- Formal Languages and Computability
- Computability
- Advanced Internet Programming

A more complete description of [taught courses](#).

## RESEARCH WORKS

2007-09	Interoperability in e-health
2006-08	Strategies for e-health
2005-08	SEM-A2B – Semantics-based integration of the public services supporting the business
2003-05	MobiDis – Mobile communications in Healthcare Systems
1997-98	Integrated and Integrable Information Systems for Hospital Management.
1996-97	Modelling and Standardisation of Health Care Units.
1994-95	Modelling Medical Folders.
1986-89	INTERFORM Project
1985-86	Computer Aided Design for Distributed Control Systems.
1983-84	Computer Network Protocol Validation
1978-80	ALGOL-Oriented Conversational System.

- 1977-79 RTL/2 Compiler
- 1975-76 STAGE-2 Macroprocessor
- 1974-76 Program Portability. A study of solutions for program portability.
- 1971-73 Multiuser, Interactive System for Interconnected Computers.

A more complete description of [research works](#).

### **THESIS ADVISER**

- 2 Defended Ph.D. thesis
- 6 Ph.D. Students
- 128 M.S. Students
- 20 B.S. Students

A list of [my students](#).

### **CONFERENCES AND WORKSHOPS**

- 2000 CITTI-2000 Conference on Computer Science and Information Technology, "Ovidius" University, Constantza, Romania  
Conference promoter and principal organizer
- 1988 -1989 National Workshop on Software Technologies, "Politehnica" University, Bucharest, Romania  
Workshop promoter and organizer

### **PROFESSIONAL AFFILIATIONS**

- Member of the ACM
- Member of the IEEE.
- Member of the IEEE Computer Society.

### **INDUSTRIAL EXPERIENCE**

- 1992 - present IT professional and consultant, Rome, Italy
- 2001 - 2004 General Director, High Technology Group s.n.c., Rome, Italy
- 1990 - 1991 Technical Director, EUROTRONIC srl, Rome, Italy
- 1967 - 1970 Engineer, Factory of Automation Components (FEA), Bucharest, Romania

### **ACTIVITY IN INDUSTRY**

#### **Information Systems Development Projects**

- 2007-08** MEDIS – Registry for Clinical Device Trials
- 2006-09** LUMIR – Connecting GPs , Basilicata Region
- 2006** Web System for gauging the trend of the Italian market in the sector of Italian earthmoving machineries.
- 2006** DIMEM: A Web System for economic evaluation of costs of disease management.
- 2001-02** Smarten Training Project.
- 2000-01** "Toscano" Project.  
"PiuCase" Portal Project  
Feasibility Studies for MURST.  
Consulting for Rome Museum.
- 1999** VASS Project
- 1998-99** EIMA Information System.
- 1994-98** ViaSat Project.
- 1993** Italian Agricultural Machines Database Project.
- 1992-93** Newspaper Subscribers Database Project.
- 1991-92** Anti-Intrusion and Fire-Prevention Information System
- 1991** Information System for Lighting Control.
- 1990** Warehouse Database Project.

## Training courses

### *Clients*

Italcable, ENEA, Banca d'Italia, CNR Italia, Sago, Olivetti Ricerca, Digital-Italia, Telecom, Telesoft, Comitex, Assioma, Smarten, Ministry of Justice, ,Datamat, Systech, Setting.

## Management Experience

- 2001-04      **General Director**, H.T.G. s.n.c., Rome, Italy
- 2001-02      **Training Manager**, Smarten S.p.A, Italy
- 2000-01      **Technical Director**, ASSIOMA S.p.A., Italy
- 1995-98      **General Director**, CRESO S.p.A., Romania.
- 1993-00      **Technical Director**, SOFOS s.r.l., Italy.
- 1990-91      **Technical Director**, EUROTRONIC s.r.l., Italy.

A more complete description of [my activity in industry](#).

## EDUCATION

- 1974-80      **Ph.D. in Computer Science**  
Faculty of Process Control Systems and Computer Science  
"Politehnica" University, Bucharest, Romania  
Thesis: *Conversational ALGOL Compiler*  
Advisor: Professor Mircea S. Petrescu
- 1967-72      **M.S. in Mathematics, Major Area: Computing Machines**  
Faculty of Mathematics-Mechanics  
"Bucharest" University, Bucharest, Romania  
Thesis: *Semantics Formal Specification with the "Vienna" Method*  
Advisor: Professor Dragos Vaida
- 1961-66      **M.S. in Electrical Engineering, Major Area: Process Control Systems.**  
Faculty of Energetics  
"Politehnica" University, Bucharest, Romania  
Thesis: *Desktop Computer*  
Advisor: Professor Ivan Sipos

## LANGUAGES

Romanian, Italian, English, French

## SOME SELECTED PUBLICATIONS

### Books

- [\*Integrating Tools for Software Development\*](#), Yourdon Computing Series, Prentice Hall, Englewood Cliffs, 1992.
- Lisp*, Technical Press, Bucharest, 1988 (collab., in Romanian).
- [\*Programming Languages and Compilers\*](#), Romanian Academy Press, 1987 (in Romanian).
- Artificial Intelligence*, Technical Press, Bucharest, 1985 (collab., in Romanian).
- Systematic Programming in Pascal and FORTRAN*, Technical Press, Bucharest, 1985 (collab., in Romanian).
- Informatics Dictionary*, Scientific and Encyclopedic Press, Bucharest, 1980 (collab., in Romanian).

### Conference and Workshop Papers

- The LUMIR Project: Developing the GP's Network Pilot Program in the Basilicata Region*, in Procs. of the 5th Conference of the Italian Chapter of AIS, ITAIS 2008, Paris, dec. 2008.
- Concern-Oriented and Ontology-Based Analysis of Information Systems*, in Procs. of the 5th Conference of the Italian Chapter of AIS, ITAIS 2008, Paris, dec. 2008.
- LuMiR: A Region-wide Virtual Longitudinal EHR*, in Procs. of the 9th International HL7 Interoperability Conference, Limenas Hersonissou, Crete, Greece, 2008.
- Supporting Continuity of Care with a Virtual Electronic Health Record*, in Procs. of the 9th International HL7 Interoperability Conference, Limenas Hersonissou, Crete, Greece, oct. 2008

*A Concern-Oriented and Ontology-Based Approach to Support Clinical Protocols Writing*, Proceedings of EMMIT 2007: 3th International Conference on Euro-Mediterranean Medical Informatics and Telemedicine, 3-5 mai, Mangalia, Romania, 2007, 10 pag.

*Towards an Ontology using a Concern-Oriented Approach for Information Systems Analysis*, Enterprise Interoperability II, New Challenges and Approaches, Goncalves, R.J.; Muller, J.P.; Mertins, K.; Zelm, M. (Eds.), 894 p., Hardcover, ISBN: 978-1-84628-857-9, Springer-Verlag, 2007, 4 pag.

*A Concern-Oriented and Ontology-Based Approach to Constructing Facets of Information Systems*, Proceedings of ICSoft 2007: 2nd International Conference of Software Engineering and Data Technologies, Barcelona, 22-25 iulie 2007, Barcelona, Spania, 4 pag.

*An Concern-oriented and Ontology-based Approach to Constructing Informational Facets of Clinical Trials*, Proceedings of the 12th World Congress on Health (Medical) Informatics: Building Sustainable Health Systems, Medinfo 2007

*E-Clinical Trials Supported by a Service-Oriented Architecture*, Proc. of the "11th World Congress on Internet in Medicine", MedNet 2006, Toronto, oct. 2006.

*Using mixed VR/AR technologies in education*, ICCGI 2006, International Multi-Conference on Computing in the Global Information Technology-Challenges for the Next Generation of IT&C, 1-3 august 2006.

*Toward a Concern-Oriented Analysis Method for Enterprise Information Systems*, ICCGI 2006, International Multi-Conference on Computing in the Global Information Technology-Challenges for the Next Generation of IT&C, 1-3 august 2006.

*E-DIMEM: an economic model to estimate the costs of e-Disease Management*, Proc. of The "20th International Congress of European Federation for Medical Informatics", MIE 2006, Maastricht, 27-30 august 2006.

*Modelling Medical Research Processes in Humans to Set Up a Standard for Clinical Trial Management Systems*, in e-2005 eChallenges Conference, Ljubljana, 19 - 21 October 2005

*Toward a Model of Clinical Trials. 5th International Symposium*. ISBMDA 2004, Biological and Medical Data Analysis, Lecture Notes in Computer Science, Vol. 3337. Springer-Verlag, 2004. *Agent-Based Modeling of Virtual Environments*, in "Virtual Reality International Conference" (VRIC2003), Laval, France, 2003.

*Virtual Theater*, in "Virtual Reality International Conference" (VRIC 2002), Laval, France, 2002.

*Integrating Clinical and Managerial Activities of Health Care Units*, in Proc. "The 10th IEEE Symp. On eComputer-Based Medical Systems", Maribor, IEEE Computer, 1997.

*Modelling the management of protocols as the kernel of a health care information system*, Proc. of the "Eighth World Congress on Medical Informatics", MEDINFO '95, Vancouver, 1995.

*INTERFORM: A CAD System for Program Development*, in Proc. "The 9th International Conference on Software Engineering", (ICSE 9), Monterey, Calif., 1987.

*Program Design as a Systematic Activity*, in Proc. of "The 7th Congress on Cybernetics and General Systems", London, 1985.

*Towards an Intelligent CAD/CAM system for program development*, in Proc. of the "IFIP W.G. 5.2 Working Conference on Design Theory for CAD", Tokyo, 1985

### **Journal Papers**

*Formal Modeling of Concurrent AOP Programs*, in Proc. of ICCCC 2006, The First International Conference on Computers, Communications & Control, June 1-3, Baile Felix – Oradea, Int. J. of Computers, Communications & Control, v.1, pp. 92-99, 2006.

*A Proposed Clinical Trial Model: Analyzing the CT Process*, Applied Clinical Trials, Advanstar Communications Inc., Jan. 2006.

*Toward a Patient Centric Healthcare Information System*, in R. Engelbrecht et al. (Eds.), IOS Press, 2005.

*Educative Distributed Virtual Environments for Children*, in *Journal of Distance Education Technologies*, 2(4), 18-40, oct-dec, 2004.

*Beyond the Object Oriented Analysis*, in "Studies in Information and Control", vol. 1, No. 1, 1994.

A more complete list of [publications](#).