

# Curriculum Vitæ et Studiorum for Saverio Caminiti

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## ***Personal information***

First Name: Saverio  
Second Name: Caminiti  
Born: December 24, 1977 in Rome, Italy  
Citizenship: Italian  
Marriage status: Married  
Address: Via del Casale Ferranti, 29 – 00173 Rome, Italy  
Phone: Office +39 06 4991 8352  
Home +39 06 64762213  
Mobile +39 347 8820058  
Office address: Computer Science Department, *Sapienza* University of Rome  
Room 336 – Via Salaria, 113 – 00198 Rome, Italy  
E-mail: caminiti@di.uniroma1.it  
Homepage: <http://www.dsi.uniroma1.it/~caminiti/>  
***Current position:*** PostDoc at Computer Science Department, *Sapienza* University of Rome.

## ***Education***

May 2009 Attended course on “High Performance Computing: Parallel Computation” at the CASPUR (Italian Cross-University Consortium for Supercomputing Applications).  
July 2008 Attended summer school *Algorithms: Science and Engineering, 20<sup>th</sup> International School for Computer Science Researchers*.  
Oct – Dec 2007 **Marie-Curie Fellow** at the Evergáry Research Group, (Eötvös Loránd University, Budapest) supervised by Prof. András Frank.  
a.y. 2003/04 – **Ph.D. in Computer Science** at *Sapienza* University of Rome.  
a.y. 2006/07 Thesis title: On Coding Labeled Trees  
Advisor: Prof. Rossella Petreschi  
Committee: Prof. Tiziana Calamoneri  
Prof. Alessandro Mei  
Reviewers: Prof. Ömer Eğecioğlu  
Prof. Luisa Gargano  
October 2007 Attended summer school *ADONET-CIRM School on Graphs and Algorithms*.

- Jun – Nov 2005 **Research Associate** at the **University of Central Florida** (Orlando FL, USA) supervised by Prof. Narsingh Deo.
- July 2004 Attended summer school *Mobile Networks: Algorithms and Systems, 16<sup>th</sup> International School for Computer Science Researchers*.
- May 2003 Laurea degree (**Master degree**) in Computer Science with honors, *Sapienza* University of Rome. Thesis title: “*Sulla rappresentazione di alberi tramite stringhe*” (“*on Trees Representation by Means of Strings*”). Advisor: Prof. Rossella Petreschi. Co-advisor: Dr. Irene Finocchi.
- 1996 – 2003 Laurea course. It included classes on: Algebra, Analysis, Logic, Physics, Probability, Combinatorics, Computer Architecture, Operating Systems, Programming, Compilers, Algorithms and Data Structures, Human Computer Interaction, Data Bases and Knowledge Bases, Networks, Formal Methods, Information theory, Complexity.

### ***Other experiences***

- June 2003 Project and develop of a web-based application for Royce&Brown.
- 2003 – now Freelance web and mobile developer.

### ***Teaching activities***

- Mar 2011 **Teacher** for a course on “Design and implementation of server side web applications” for undergrad students at ELIS center for high level education.
- a.y. 2010/11 **Assistant** for “Introduction to Algorithms” class. Department of Computer Science, *Sapienza* University of Rome.  
II semester
- a.y. 2009/10 **Assistant** for “Introduction to Algorithms” class. Department of Computer Science, *Sapienza* University of Rome.  
II semester
- a.y. 2008/09 **Assistant** for “Algorithms I” class. Department of Computer Science, *Sapienza* University of Rome.  
I semester
- a.y. 2007/08 **Assistant** for “Parallel and Distributed Algorithms” class. Department of Computer Science, *Sapienza* University of Rome.  
II semester
- a.y. 2006/07 **Tutor** for “Computer Architecture” class. Department of Computer Science, *Sapienza* University of Rome.  
II semester
- a.y. 2005/06 **Co-teacher** for “Network Algorithms” class. Department of Computer Science, *Sapienza* University of Rome.  
II semester
- Jan – Mar 2005 **Teacher** for “Macromedia Flash – advanced programming” class. Course for Web Developer. Istituto Superiore Antincendi (Italian Firemen Headquarter), Italian Ministry of Internal Affairs.
- Apr 2004 – Feb 2005 **Teacher** of “Microsoft Word” and “Microsoft Power Point” for the European Computer Driving Licence. *Sapienza* University of Rome.
- Sep 2000 – Dec 2002 Private lessons teacher for Macromedia Flash.

## ***Research activities***

### ***Funded projects***

- 2010 – 2012 AlgoDEEP: Algorithmic Challenges for Data-intensive Processing on Emerging Computing Platforms. Funded by the Italian Ministry of University and Research.
- 2007 – 2009 MAINSTREAM: Algorithms for Massive Information Structures and Data Streams. Funded by the Italian Ministry of University and Research.
- 2004 – 2006 Algorithms for the Next Generation Internet and Web: Methodologies, Design and Experiments (ALGO-NEXT). Italian Ministry for University and Research, Scientific Research Programs of Relevant National Interest.

### ***Organizing committees***

- 7<sup>th</sup> *International Conference on Algorithms and Complexity* (CIAC 2010), Rome, May 2010.
- 6<sup>th</sup> *Workshop on Experimental Algorithms* (WEA 2007), Rome, June 2007.
- 6<sup>th</sup> *International Conference on Algorithms and Complexity* (CIAC 2006), Rome, May 2006.
- 1<sup>st</sup> *Workshop on Frequency Assignments Problems* (WFAP 2005), Certosa di Pontignano, Siena, October 2005.

### ***Attended scientific events***

Legend: (\*) Speaker; (+) Invited.

- *Workshop on Algorithms and Data Structures* ADS 2011, June 26<sup>th</sup> – July 1<sup>st</sup>, 2011, Bertinoro, Italy.
- (\*) *Symposium on Theoretical Aspects of Computer Science* STACS 2011, March 10–12<sup>th</sup>, 2011, Dortmund, Germany.
- (+) *Google WebTech Workshop*, June 5–6<sup>th</sup>, 2010, Zurich, Switzerland.
- *International Conference on Algorithms and Complexity* CIAC 2010, May 26–28<sup>th</sup>, 2010, Rome, Italy.
- (\*) *Italian Conference on Theoretical Computer Science* ICTCS 2009, September 28–30<sup>th</sup>, 2009, Cremona, Italy.
- (\*) *European symposium on Algorithms* ESA 2008, September 15–17<sup>th</sup>, 2008, Karlsruhe, Germany.
- (\*) Workshop MAINSTREAM, “Algorithms for Massive Information Structures and Data Streams”, January 24–26<sup>th</sup>, 2008, Bertinoro, Italy.
- *Workshop on Experimental Algorithms* WEA 2007, June 6–8<sup>th</sup>, 2007, Rome, Italy.
- (\*) *International Combinatorics, Geometry and Computer Science Conference* CGCS 2007, May 2–4<sup>th</sup>, 2007, Marseille, France.
- (\*) *International Symposium on Combinatorics, Algorithms, Probabilistic and Experimental Methodologies* ESCAPE 2007, April 7–9<sup>th</sup>, 2007, Hangzhou, China.
- (\*) *Bristol Algorithm Days* BAD 2007, February 18–20<sup>th</sup>, 2007, Bristol, England.
- Final meeting of ALGO-NEXT project, “Algorithms for the Next Generation Internet and Web: Methodologies, Design and Experiments”, November 17–18<sup>th</sup>, 2006, Rome, Italy.
- *International Conference on Algorithms and Complexity* CIAC 2006, May 29–31<sup>th</sup>, 2006, Rome, Italy.
- Workshop ALGO-NEXT, “Algorithms for the Next Generation Internet and Web: Methodologies, Design and Experiments”, February 17–18<sup>th</sup>, 2006, Bertinoro (FC), Italy.

- (\*) *Parallel and Distributed Processing Techniques and Applications* PDPTA 2005, June 26–30<sup>th</sup>, 2005, Las Vegas, Nevada, USA.
- (\*) Kickoff meeting of ALGO-NEXT project, “Algorithms for the Next Generation Internet and Web: Methodologies, Design and Experiments”, February 18<sup>th</sup>, 2005, Rome, Italy.
- 45<sup>th</sup> *Annual IEEE Symposium on Foundations of Computer Science* FOCS 2004, October 17–19<sup>th</sup>, 2004, Rome, Italy.
- *Euro-Par* 2004, August 31<sup>st</sup> – September 3<sup>rd</sup>, 2004, Pisa, Italy.
- (\*) 6<sup>th</sup> *Latin American Symposium on Theoretical Informatics* LATIN 2004, April 5–8<sup>th</sup>, 2004, Buenos Aires, Argentina.

### **Seminars**

- September 2009 **Informative Labeling Schemes.** Department of Computer Science, *Sapienza* University of Rome. *Departmental workshop*. Duration: 30min.
- November 2007 **Bijjective tree encoding.** Eötvös Loránd University, Budapest. *EGRES szeminárium*. Duration: 1h00.
- February 2006 **Bijjective tree encoding.** Department of Computer Science, *Sapienza* University of Rome. *Sm@rt Seminars*. Duration: 1h15.
- September 2005 **Tree Encoding in Genetic Algorithms.** Computer Science Department, University of Central Florida. Duration: 1h00.
- July 2005 **Tree Encoding.** Computer Science Department, University of Central Florida. Duration: 1h00.

### **Reviews**

International Journals:

TC	<i>IEEE Transactions on Computers</i>
TPDS	<i>IEEE Transactions on Parallel and Distributed Systems</i>
Networks	<i>Networks</i>
ArsComb	<i>Ars Combinatoria</i>
DM	<i>Discrete Mathematics</i>
IPL	<i>Information processing letters</i>
DAM	<i>Discrete Applied Mathematics</i>
JDA	<i>Journal of Discrete Algorithms</i>
IJCM	<i>International Journal of Computer Mathematics</i>
JVLC	<i>Journal of Visual Languages and Computing</i>
IJMNDI	<i>International Journal of Mobile Network Design and Innovation</i>

International Conferences and Workshops:

IPDPS	<i>IEEE International Parallel &amp; Distributed Processing Symposium</i>
STACS	<i>International Symposium on Theoretical Aspects of Computer Science</i>
LATIN	<i>Latin American Theoretical Informatics Symposium</i>

ESA	<i>Annual European Symposium on Algorithms</i>
ALENEX	<i>SIAM Workshop on Algorithm Engineering and Experiments</i>
ISAAC	<i>International Symposium on Algorithms and Computation</i>
WEA	<i>Workshop on Experimental Algorithms</i>
CIAC	<i>International Conference on Algorithms and Complexity</i>
ICISS	<i>International Conference on Embedded Software and System</i>
CSR	<i>International Computer Science Symposium in Russia</i>

## ***Research interests***

- Faulty memory algorithms
- Concurrent Data Structures
- Informative Labeling Schemes
- Parallel and Distributed Algorithms
- Labeled Tree Encoding
- Graph Coloring

## ***Technical skills***

Known programming languages: Java, C, C++, Perl, SQL, ActionScript, Pascal, ML, SmallTalk, Ada.

Known web design technologies: Adobe Flash, JavaScript, (X)HTML, CSS, CGI, PHP, ASP, XML.

Experience in Data Base design, human–computer interface design and implementation, usability evaluation of software interfaces and web sites. Perfect knowledge of Regular Expression syntax.

Also familiar with the following software: XCode, Eclipse, Adobe Firework, Adobe Freehand, Adobe Photoshop, Adobe Illustrator, Jasc Paint Shop Pro, LaTeX, Microsoft Office.

## ***Publications***

### ***International Journals:***

- [1] S. **Caminiti** and R. Petreschi. Unified Parallel Encoding and Decoding Algorithms for Dandelion-Like Codes. *Journal of Parallel and Distributed Computing*, 70(11), 1119–1127, 2010.
- [2] S. **Caminiti**, E.G. Fusco, and R. Petreschi. Bijective Linear Time Coding and Decoding for  $k$ -Trees. *Theory of Computing Systems*, 46(2), 284–300, 2010.
- [3] T. Calamoneri, S. **Caminiti**, S. Olariu, and R. Petreschi. On the  $L(b,k)$ -Labeling of Co-Comparability Graphs and Circular-Arc Graphs. *Networks*, 53(1):27–34, 2009.
- [4] T. Calamoneri, S. **Caminiti**, and R. Petreschi. A General Approach to  $L(b,k)$ -Label Interconnection Networks. *Journal of Computer Science and Technology*, 23(4):652–659, 2008.
- [5] S. **Caminiti**, I. Finocchi, and R. Petreschi. On Coding Labeled Trees. *Theoretical Computer Science*, 382(2):97–108, 2007.
- [6] S. **Caminiti**, E.G. Fusco. On the Number of Labeled  $k$ -arch Graphs. *Journal of Integer Sequences*, 10(7), Article 07.7.5, 2007.

- [7] S. **Caminiti**, N. Deo, and P. Micikevičius. Linear-time Algorithms for Encoding Trees as Sequences of Node Labels. *Congressus Numerantium*, 183:65–75, 2006.
- [8] T. Calamoneri, S. **Caminiti**, and G. Fertin. New Bounds for the  $L(b, k)$ -Number of Regular Grids. *International Journal of Mobile Network Design and Innovation*, 1(2):92–101, 2006.

**International Conferences:**

- [9] S. **Caminiti**, I. Finocchi, and E.G. Fusco. Local dependency dynamic programming in the presence of memory faults. In *Proceedings of 28<sup>th</sup> International Symposium on Theoretical Aspects of Computer Science (STACS'11)*. Dortmund, Germany, March 10-12, LIPIcs 9, pages 45–56, 2011.
- [10] S. **Caminiti** and R. Petreschi. Parallel Algorithms for Encoding and Decoding Blob Code. In *Proceedings of Workshop on Algorithms and Computation (WALCOM'10)*, Dhaka, Bangladesh, February 10-12, LNCS 5942, pages 167–178, 2010.
- [11] S. **Caminiti** and R. Petreschi. Parallel Algorithms for Dandelion-Like Codes. In *Proceedings of the International Conference on Computational Science (ICCS'09)*, Baton Rouge, Louisiana, USA, May 25-27, LNCS 5544, pages 611–620, 2009.
- [12] S. **Caminiti**, I. Finocchi, and R. Petreschi. Engineering Tree Labeling Schemes: a Case Study on Least Common Ancestors. In *Proceedings of the 16<sup>th</sup> Annual European Symposium on Algorithms (ESA'08)*, Karlsruhe, Germany, September 15-17, LNCS 5193, pages 234–245, 2008.
- [13] T. Calamoneri, S. **Caminiti**, S. Olariu, and R. Petreschi. On the  $L(b, k)$ -Labeling Co-Comparability Graphs. In *Proceedings of the International Symposium on Combinatorics, Algorithms, Probabilistic and Experimental Methodologies (ESCAPE'07)*, Hangzhou, China, 7-9 April, LNCS 4614, pages 116–127, 2007.
- [14] S. **Caminiti**, E.G. Fusco, and R. Petreschi. A Bijective Code for  $k$ -Trees with Linear Time Encoding and Decoding. In *Proceedings of the International Symposium on Combinatorics, Algorithms, Probabilistic and Experimental Methodologies (ESCAPE'07)*, Hangzhou, China, 7-9 April, LNCS 4614, pages 408–420, 2007.
- [15] S. **Caminiti** and R. Petreschi. String Coding of Trees with Locality and Heritability. In *Proceedings of the 11<sup>th</sup> International Conference on Computing and Combinatorics (COCOON'05)*, Kunming, Yunnan, China, 16-19 August, LNCS 3595, pages 251–262, 2005.
- [16] T. Calamoneri, S. **Caminiti**, and R. Petreschi. A General Approach to  $L(b, k)$ -Label Interconnection networks (Extended Abstract). In *Proceedings of the 2<sup>nd</sup> Brazilian Symposium on Graphs, Algorithms, and Combinatorics (GRACO'05)*, Rio de Janeiro, Brazil, 27-29 April, ENDM 19, pages 211–217, 2005.
- [17] S. **Caminiti**, I. Finocchi, and R. Petreschi. A Unified Approach to Coding Labeled Trees. In *Proceedings of the 6<sup>th</sup> Latin American Symposium on Theoretical Informatics (LATIN'04)*, Buenos Aires, Argentina, 5-8 April, LNCS 2976, pages 339–348, 2004.

**PhD Thesis**

- [18] S. **Caminiti**. On Coding Labeled Trees. PhD Thesis, *Sapienza* University of Rome, December 2007.

**Abstracts:**

- [19] S. **Caminiti** and R. Petreschi. Algorithmic Aspects of Bijective Tree Encoding: a Survey. *3<sup>rd</sup> Annual Meeting of the Asian Association for Algorithms and Computation (AAAC'10)*, Pohang, Korea, 17–19 April, 2010.
- [20] S. **Caminiti**, I. Finocchi, and R. Petreschi. Informative Labeling Schemes for Least Common Ancestor Problem. *Italian Conference on Theoretical Computer Science (ICTCS'09)*, Cremona, Italy, 28–30 September, 2009.
- [21] S. **Caminiti**, E.G. Fusco, and R. Petreschi. On Bijective  $k$ -Trees Encoding. *International Combinatorics, Geometry and Computer Science Conference (CGCS'07)*, Marseille, France, 2-4 May, 2007.
- [22] S. **Caminiti**. Combinatorial Mappings between Labelled Trees and Strings. *Bristol Algorithm Days (BAD'07)*, Bristol, England, 18-20 February, 2007.

- [23] S. **Caminiti**, N. Deo, and P. Micikevičius. Linear-time Algorithms for Encoding Trees as Sequences of Node Labels. In *37<sup>th</sup> Southeastern International Conference on Combinatorics, Graph Theory, and Computing*, Boca Raton, FL, USA, 6-10 March, 2006.

***Reports and manuscripts:***

- [24] S. **Caminiti**, I. Finocchi, and E.G. Fusco. Resilient dynamic programming. *Manuscript*, April 2010.
- [25] S. **Caminiti** and R. Petreschi. Optimal Algorithms for Chen Code. Technical Report TR-02-2009, Department of Computer Science, *Sapienza* University of Rome, March 2009.
- [26] S. **Caminiti**, I. Finocchi, and R. Petreschi. Concurrent Data Structures for Lowest Common Ancestors. *Manuscript*, July 2007.
- [27] T. Calamoneri, S. **Caminiti**, and G. Fertin. New Bounds for the  $L(b, k)$ -Number of Regular Grids. Research Report RR-LINA-05.04, LINA, Université de Nantes, June 2005.