

# Curriculum Vitae - Paulo Oliva

## PERSONAL DATA

|                       |                        |                    |   |
|-----------------------|------------------------|--------------------|---|
| <b>Full Name</b>      | : Paulo Borges Oliva   | <b>Birthday</b>    | : 1976  |
| <b>Place of Birth</b> | : Recife, PE           | <b>Nationality</b> | : Brazilian   |
| <b>Phone</b>          | : +44 (0) 207 882 5255 | <b>Fax</b>         | : +44 (0) 208 980 6533  |
| <b>Email</b>          | : pbo@dcs.qmul.ac.uk   | <b>Webpage</b>     | : <a href="http://www.dcs.qmul.ac.uk/~pbo">http://www.dcs.qmul.ac.uk/~pbo</a> |

## EMPLOYMENT

- Research University Fellow, Royal Society  
Queen Mary, University of London, Oct 2006 – present.
- Post-doctoral research assistant  
Queen Mary, University of London, Mar 2004 – Sep 2006.
- Post-doctoral research assistant  
BRICS (Basic Research in Computer Science), University of Aarhus, Aug 2003 – Mar 2004.

## EDUCATION

- PhD in Computer Science  
BRICS (Basic Research in Computer Science), University of Aarhus, Jul 2001 – Jul 2003.
- Master in Computer Science  
BRICS (Basic Research in Computer Science), University of Aarhus, Aug 1999 – Jun 2001.
- Bachelor in Computer Science (with honours)  
Federal University of Pernambuco, Feb 1994 – Dec 1998.
- Technician in Electronics  
Federal Technical School of Pernambuco, Feb 1991 – Dec 1994.

## GRANTS

- Academic Research Fellowship, Royal Society, Oct 2006 – Sept 2011.
- PhD grant, BRICS (Basic Research in Computer Science).  
Funded by the Danish National Research Foundations, Aug 1999 – Jul 2003.
- Initialization in Research, CNPq, Brazil, Mar 1994 – Jun 1998.

## VISITING POSITIONS

- University of Lisbon, Lisbon, Portugal. Oct 18 – 26, 2005.
- University of Lisbon, Lisbon, Portugal. Nov 20 – 27, 2004.
- University of Wales, Swansea, UK. Oct 2001 – Feb 2002.

## PUBLICATIONS

- *Hoare logic in the abstract*  
with U. Martin and E. A. Mathiesen, Proceedings of CSL'2006, LNCS, Springer, 2006
- *Understanding and using Spector's bar recursive interpretation of classical analysis*  
Proc. of CiE'2006, Lecture Notes in Computer Science, 3988:423-434, 2006
- *Unifying functional interpretations*  
to appear in: Notre Dame Journal of Formal Logic
- *Modified bar recursion*  
with U. Berger, to appear in: Mathematical Structures in Computer Science
- *Bounded functional interpretation*  
with F. Ferreira, Annals of Pure and applied Logic, 135:73-112, 2005.
- *Modified bar recursion and classical dependent choice*  
with U. Berger, Lecture Notes in Logic, 20:89-107, 2005.
- *Polynomial-time algorithms from ineffective proofs*  
Proc. of the Eighteenth Annual IEEE Symposium on Logic in Computer Science LICS'03, pages 128-137, 2003.
- *Proof mining: A systematic way of analyzing proofs in mathematics*  
with U. Kohlenbach, Proc. Steklov Inst. Math, 242:136-164, 2003.
- *Proof mining in  $L_1$ -approximation*  
with U. Kohlenbach, Annals of Pure and applied Logic, 121:1-38, 2003.
- *On the computational complexity of  $L_1$ -approximation*  
Mathematical Logic Quarterly, 48.s1:66-77, 2002.
- *Reporting Exact and Approximate Regular Expression Matches*  
with K. Guimaraes and E. W. Myers, Proc. Ninth Combinatorial Pattern Matching Conference, Springer LNCS 1448:91-103, 1998.

## TEACHING EXPERIENCE (TEACHING ASSISTANT)

- *Digital Circuits* (Federal University of Pernambuco)  
Lecturer: Manoel Eusébio de Lima, Spring and Fall, 1997.
- *Algorithms* (University of Aarhus)  
Lecturer: Sven Skyum, Spring, 2000.
- *Compilers* (University of Aarhus)  
Lecturer: Michael I. Schwartzbach, Fall, 2000.
- *Automata, Languages and Logic* (University of Aarhus)  
Lecturer: Mogens Nielsen, Spring, 2002.
- *Semantics of Programming Languages* (University of Aarhus)  
Lecturer: Peter Mosses, Fall, 2002.

## SELECTED TALKS AT CONFERENCES AND WORKSHOPS

- Invited speaker at: CiE'06 – Special Session on *Computable Analysis*. Swansea, UK. Jun 30 – Jul 5, 2006.
- Invited speaker at: ASL Annual Meeting – Special Session on *Effective aspects of measure theory and analysis*. Montreal, Canada. May 17 – 21, 2006.
- Invited speaker at: Applications of proof assistants: Constructive mathematics, program extraction and verification. *Functional interpretations*. Venice, Italy. Mar 29 – Apr 1, 2005.
- Mathematical Logic – Proof Theory, Type Theory and Constructive Mathematics. *Unifying functional interpretations*. Oberwolfach, Germany. Mar 21 – 25, 2005.
- Eighteenth Annual IEEE Symposium on Logic in Computer Science LICS'2003. Ottawa, Canada. June 22 – 25, 2003.
- Association for Symbolic Logic Annual Meeting. *Polynomial-time algorithms from ineffective proofs*. University of Illinois, Chicago, USA. June 1 – 4, 2003.
- Meeting on Mathematical Logic. *Modified bar recursion*. Topic: Implicit Computational Complexity. Oberwolfach, Germany. Apr 07 – 13, 2002.
- Logic Colloquium 2001. *Effective bounds on strong unicity in  $L_1$ -approximation*. Vienna Wadern, Aug 06 – 11, 2001.

## ORGANISATIONAL EXPERIENCE

- President of Junior Klubben. Club of PhD students at BRICS (Basic Research in Computer Science). Aarhus, Denmark. 2002 – 2004.
- Member of ACM ICPC (International Collegiate Programming Contest) committee for organising the South American regional qualifications. Since 2002.
- Coordinator of the Joint Imperial College / Queen Mary seminar series, Queen Mary, University of London. Since Jan 2005.
- Coach of QM undergrad and graduate students programming teams. Competitions aimed at: BCS Programming Competition, Microsoft Imagine Cup and ACM ICPC. Since Jan 2005.

## PRIZES AND DISTINCTIONS

- South-American representative on the ACM World Programming Contest, 1999, Eindhoven, the Netherlands.
- 2nd place on the South-American Regional of the ACM Programming Contest, 1998.
- Representative of the Brazilian computer science students on the First Youth Summit, taken place during the IFIP'98 Congress, Austria-Hungry, August-1998.
- 2nd place on the South-American Regional of the ACM Programming Contest, 1997.

- Participation on the First National Programming Contest, representing the Federal University of Pernambuco (CONSUN'1996).
- 1st place, of the Natural Science Faculty, on the admission contest, COVEST-1994, for the Federal University of Pernambuco.
- 2nd place, among all faculties, on the admission contest, COVEST-1994, for the Federal University of Pernambuco (among approximately 30 thousand candidates).

# 1 Paulo Oliva

## 1.1 Current Position

- Lecturer of Mathematical Logic at Queen Mary, University of London

## 1.2 Education

- PhD in Computer Science, University of Aarhus, Denmark
- Bachelor in Computer Science, Universidade Federal de Pernambuco, Brazil

## 1.3 Research interests

Proof theory of classical logic, arithmetic and analysis. I am in particular interested in applications of proof interpretations to mathematics and computer science.

## 1.4 Selection of Published Work

1. *Hoare logic in the abstract* (with U. Martin and E. A. Mathiesen)  
Proc. of CSL'2006, LNCS 4207:501-515, Springer, 2006.
2. *Understanding and using Spector's bar recursive interpretation of classical analysis*  
Proc. of CiE'2006, Lecture Notes in Computer Science, 3988:423-434, 2006.
3. *Unifying functional interpretations*  
Notre Dame Journal of Formal Logic, 47(2):263-290, 2006
4. *Modified bar recursion* (with U. Berger)  
Mathematical Structures in Computer Science, 16(2):163-183, 2006.
5. *Bounded functional interpretation* (with F. Ferreira)  
Annals of Pure and applied Logic, 135:73-112, 2005.
6. *Modified bar recursion and classical dependent choice* (with U. Berger)  
Lecture Notes in Logic, 20:89-107, 2005.
7. *Polynomial-time algorithms from ineffective proofs*  
Proc. LICS'03, pages 128-137, 2003.
8. *Proof mining: A systematic way of analyzing proofs in mathematics* (with U. Kohlenbach)  
Proc. Steklov Inst. Math, 242:136-164, 2003.
9. *Proof mining in  $L_1$ -approximation* (with U. Kohlenbach)  
Annals of Pure and applied Logic, 121:1-38, 2003.
10. *On the computational complexity of  $L_1$ -approximation*  
Mathematical Logic Quarterly, 48.s1:66-77, 2002.