

**Simon BLIUDZE**

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**Post-doc at VERIMAG**

Born December 14th, 1977  
in St. Petersburg, Russia  
Russian citizen

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**Career summary and objectives**

PhD in Computer Science, currently focusing on component-based systemic modelling, I have a long record of successful experiences in both academic and industrial environment. Capable of working autonomously, I take particular pleasure in working as part of a team encouraging a stimulating exchange of creative ideas.

I am interested in an industrial research position that would challenge my scientific creativity.

**Main research interests**

- **Systemic modelling and Complex Industrial Systems**  
(formal methods for component-based design; real-time systems, embedded systems)
- **Algorithmics for Mobile Communications**  
(performance evaluation and QoS optimisation; power control for mobile communication networks [UMTS])

**Education**

- 2001 – 2006** PhD in Computer Science, *École Polytechnique*, supervisor — Daniel Krob.  
Thesis entitled “*A Framework for Studying Complex Industrial Systems: An Example Based on the UMTS Infrastructure*”  
**Defended on the 30th of June 2006 at École Polytechnique.**
- 2000 – 2001** DEA Algorithmique (MSc in Computer Sciences), *Écoles Normales Supérieures Ulm and Cachan, Universities Paris 6 and 7, École Polytechnique* — grade “Très Bien” (top grade).
- 1993 – 1998** 5 years of university studies diploma (MSc) in Mathematics, *University of St. Petersburg* — Average 4.6 out of 5.
- 1989 – 1993** Certificate of majority (High school diploma), *Lyceum of Mathematics and Physics of St. Petersburg*.

**Professional experience**

- since 2006** Post-doc CNRS, later Université Joseph Fourier (since Oct. 2007), *Distributed and Complex Systems (DCS) team of the VERIMAG laboratory*, formalisation of the BIP compositional framework developed in the laboratory: development of the the Algebra of Connectors, study of the expressivity of the model.
- 2003 – 2004** Internship student (9 months internship), *UMTS Architecture team at Alcatel CIT*, implementation of the 16QAM modulation in the Link Level simulator, performance evaluation of Hybrid-ARQ in the context of HSDPA.
- 2001** Internship student (6 months DEA internship), *UMTS Architecture team at Alcatel CIT*, performance evaluation and development of Outer Loop Power Control algorithms.
- 1998 – 2000** Consultant, *International Systems Technologies Ltd (London)*, CNC administration of OneWorld (Entreprise Resource Planning (ERP) system by JDEdwards): troubleshooting, object management, package building and deployment. Development of several client applications using Visual C++ and SQL.

**1996 – 1998** Programmer, *Tor Co-operative Enterprise (St. Petersburg)*, Development (Visual C++, MFC) of the interface of QuickField system (<http://www.quickfield.com>), as well as the installation utility.

#### Publications

- [1] Simon Bliudze. Outer loop power control. Internship report, Alcatel CIT, October 2001. confidential.
- [2] Simon Bliudze. *A Framework for Studying Complex Industrial Systems: An Example Based on the UMTS Infrastructure*. PhD thesis, École Polytechnique, 91128 Palaiseau cedex, France, June 2006. <http://www-verimag.imag.fr/~bliudze>.
- [3] Simon Bliudze, Nicolas Billy, and Daniel Krob. On optimal Hybrid ARQ control schemes for HSDPA with 16QAM. In *Proc. of IEEE Int. Conf. on Wireless and Mobile Computing, Networking and Communications*, volume 1, pages 121–127, August 2005.
- [4] Simon Bliudze and Daniel Krob. Towards a functional formalism for modelling complex industrial systems. *ComplexUs, Special Issue: Complex Systems – European Conference – November 2005 – Selected Papers – Part 1*, 2(3–4):163–176, 2004/2005.
- [5] Simon Bliudze and Daniel Krob. Performance evaluation of demodulation with diversity — a combinatorial approach III: Threshold analysis. In Camil Demetrescu, Robert Sedgewick, and Roberto Tamassia, editors, *Proc. of the 7th Workshop on Algorithm Engineering and Experiments and the 2nd Workshop on Analytic Algorithmics and Combinatorics*, pages 195–205. SIAM, January 2005.
- [6] Simon Bliudze and Daniel Krob. A combinatorial approach to evaluation of reliability of the receiver output for BPSK modulation with spatial diversity. *Electronic Journal of Combinatorics*, 13(1):31 pages, January 2006. paper #R2.
- [7] Simon Bliudze and Daniel Krob. Modelling of complex systems I — A functional approach: Time, data and systems. Technical report, LIX, École Polytechnique, 2007. [http://www.enseignement.polytechnique.fr/informatique/chaire-systemes-complexes/IMG/pdf/modelling\\_of\\_complex\\_systems1.pdf](http://www.enseignement.polytechnique.fr/informatique/chaire-systemes-complexes/IMG/pdf/modelling_of_complex_systems1.pdf).
- [8] Simon Bliudze and Joseph Sifakis. The algebra of connectors — Structuring interaction in BIP. In *Proceedings of the EMSOFT'07*, pages 11–20, Salzburg, Austria, October 2007. ACM SigBED.
- [9] Simon Bliudze and Joseph Sifakis. The algebra of connectors — Structuring interaction in BIP. *IEEE Transactions on Computers - Special Issue on Programming Models and Architectures for Embedded Systems*, 2008. (To appear).
- [10] Simon Bliudze and Joseph Sifakis. Causal semantics for the algebra of connectors. *Formal Methods in System Design*, 2008. (Submitted).

#### Administrative responsibilities

- 2008** Member of the program committee of the *1st Interaction and Concurrency Experience (ICE'08)* – Reykjavik, Iceland  
<http://ice08.dimi.uniud.it/>
- 2003 – 2005** Contest area supervision (Staff supervisor in 2005) at the ACM programing contest sponsored by IBM (South-Western Europe Regional Contest), *École Polytechnique*.  
<http://www.acm.polytechnique.fr/2005/>
- Since 2004** Webmaster of the Union of Viêt Vu Dao Clubs in Paris.  
<http://www.vietvudao-paris.com>
- December 2003** Organisation of the colloquium *Journées GRM*.  
<http://www.liafa.jussieu.fr/~grm/journees/>

**2003 – 2004** Local organiser (LIX) of seminar *Graphes, Réseaux et Modélisation* (Graphs, Networks and Modelling).  
<http://www.liafa.jussieu.fr/~grm/seminaire/>

Miscellaneous

**June 2005** First Aid Training certificate (Attestation de formation aux premiers secours, AFPS).

**June 2004** Instructor certificate (Certificat d'aptitude à la fonction d'animateur, CAFA) — Viêt Vu Dao black belt (2 dang since 2005).

**June 2000** Economics and Commercial French Language certificate (Certificat pratique de la langue française économique et commerciale de la CCIP).

**1988 – 1993** A number of City Olympics in Mathematics diplomæ, St. Petersburg.

**Languages** Trilingual: Russian (native), English, and French.

**Sport** Viêt Vu Dao, aikido, badminton.

**Other interests** Reading, contemporary music and dance, martial arts, travelling.