

# Alberto SONNINO

## PERSONAL DATA

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PLACE AND DATE OF BIRTH: Brussels, Belgium | 12 February 1992  
ADDRESS: Rue Vautier 32, 1050, Brussels, Belgium  
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## EDUCATION

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2015 - 2016 Master Degree in INFORMATION SECURITY  
**University College London (UCL)**, London, United Kingdom.  
2013 - 2015 Master Degree in INFORMATION TECHNOLOGY ENGINEERING  
**Karlsruhe Institute of Technology (KIT)**, Karlsruhe, Germany.  
2013 - 2015 Master Degree in ELECTRICAL ENGINEERING  
**Université Catholique de Louvain**, Louvain-La-Neuve, Belgium.  
2010 - 2013 Bachelor Degree in ENGINEERING, **Université Catholique de Louvain**, Belgium.

## WORK EXPERIENCE AND STUDENT JOBS

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2016 - Employee as Information Security Consultant, **Smals ICT for Society**, Brussels (BE).  
National cybersecurity - Focus on social and health care.  
2014 - Private teacher, Brussels (BE).  
Main focus on mathematics (algebra and analysis), electronics, informatics (programming) and statistics.  
2013 - Co-author of more than 14 scientific papers published in the International peer-reviewed journals (see below) - **ResearchGate number** (RG number): **12.43**.  
2013-2014 Coach of the water-polo University team, Louvain-La-Neuve (BE).  
Provide coaching and training to the water-polo team of the UNIVERSITÉ CATHOLIQUE DE LOUVAIN.  
Winner of the Inter-University National Tournament 2013-2014.  
2008-2010 Professional water-polo player, Brussels (BE).  
Member of the water-polo team ROYAL BRUSSEL POSEIDON, 1<sup>st</sup> National Division.

## SCHOLARSHIPS AND CERTIFICATES

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SEPT. 2014 Scholarship for European students with outstanding curriculum (€2,500)  
JULY 2014 International English Language Testing System (IELTS)® 7/9  
JUNE 2013 Winner of the CLUSTER DUAL DEGREE program: First Belgian student admitted to the double Master degree at Université Catholique de Louvain and at Karlsruhe Institute of Technology (KIT).  
MARCH 2010 YOUNG ENTERPRISE INTERNATIONAL EXAMINATION Diploma, Brussels (Belgium).

## LANGUAGES

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FRENCH: Mother tongue	ENGLISH: Fluent	DUTCH: Scolar Level
ITALIAN: Mother tongue	GERMAN: Intermediate	SPANISH: Basic Knowledge

## COMPUTER SKILLS

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Programming: Java, Python, C, C++, Swift, SystemC, MicroC/OS, HTML/CSS, JavaScript, PHP, SQL, Verilog/SystemVerilog, VHDL, MIPS Assembly.  
Software: Mathworks MATLAB, Wolfram Mathematica, Altera Quartus II, Xilinx ISE/Vivado, Microchip MpLab, NI Labview, CadSoft Eagle, L<sup>A</sup>T<sub>E</sub>X, Microsoft Office, Apple iWork.  
OS: MacOS, Windows 7/8/10, iOS, NIOS II, Linux/Unix Systems (desktop and server)

## INTERESTS AND ACTIVITIES

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Technology, Security and Privacy Engineering, Embedded Systems, Artificial Intelligence, Programming.  
Water-polo, Piano (with diplomas), Judo.

## LIST OF PUBLICATIONS

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1) Alberto Sonnino et al . *Elliptic-Curves Cryptography on High-Dimensional Surfaces*. International Journal of Advanced Engineering Research and Science(ISSN : 2349-6495(P) | 2456-1908(O)),vol 4, no. 2, 2017, pp.140-146 AI Publications.

2) S. P. D. Figuli, Alberto Sonnino, Peter Figuli, Jürgen Becker, J. (2016, June). *A variable FPGA based generic QAM transmitter with scalable mixed time and frequency domain signal processing*. In Telecommunications and Signal Processing (TSP), 2016 39th International Conference on (pp. 453-457). IEEE.

**NOTE.** It should be stated that I am not a specialist of Plasma Physics, Category theory and Symmetry Group and Group representation. My role in the manuscripts dealing with these concepts is just to perform numerical calculations *i.e.*, to determine the numerical solutions of the PDE, to perform simulations, and to produce graphics by using MATLAB and/or MATHEMATICA.

3) Giorgio Sonnino, Jarah Evslin, Alberto Sonnino, György Steinbrecher, Enrique Tirapegui, *Symmetry Group and Group Representation Associated with the Thermodynamic Covariance Principle*, Physical Review E, **94**, 042103 (2016).

4) György Steinbrecher, Alberto Sonnino, Giorgio Sonnino, *Category Theoretic Properties of the A. Rényi and C. Tsallis Entropies*, Journal of Modern Physics (JMP), **7**, 251- 266 (2016).

5) Giorgio Sonnino, Alberto Sonnino, Jarah Evslin, Pasquale Nardone, György Steinbrecher, *Determination of the Dynamic ITER Energy Confinement Time Scalings*, Journal of Modern Physics, **7**, 1429-1439, (2016).

6) Giorgio Sonnino, Jarah Evslin, Alberto Sonnino, *Minimum Dissipation Principle in Nonlinear Transport*, Entropy, **17**, 7567-7583 (2015); doi:10.3390/e17117567

7) Giorgio Sonnino, Philippe Peeters, Alberto Sonnino, Pasquale Nardone, György Steinbrecher, *Stationary distribution functions for ohmic Tokamak-plasmas in the weak-collisional transport regime by MaxEnt principle*, Journal of Plasma Physics (JPP), **81**, 905810116 (2015).

8) Giorgio Sonnino, Alessandro Cardinali, Philippe Peeters, György Steinbrecher, Alberto Sonnino and Pasquale Nardone, *Derivation of reference distribution functions for Tokamak-plasmas by statistical thermodynamics*, The European Physical Journal D (EPJD), **68**, 44 (2014).

9) Giorgio Sonnino, Alessandro Cardinali, Alberto Sonnino, Pasquale Nardone, György Steinbrecher, Fulvio Zonca, *A note on the application of the Prigogine theorem to rotation of tokamak-plasmas in absence of external torques*, Chaos, **24**, 013129 (2014).

10) Giorgio Sonnino, Alberto Sonnino, *The Thermodynamic Covariance Principle*, Journal of Thermodynamics & Catalysis, **5**, 129 (2014) - doi: 10.4172/2157-7544.1000129 - arXiv:0805.3265.

11) Mustapha Tlidi, Alberto Sonnino, Giorgio Sonnino, *Delayed feedback induces motion of localized spots in reaction-diffusion systems*, Phys. Rev. E, **87**, 042918, (2013).

12) Giorgio Sonnino, György Steinbrecher, Alessandro Cardinali, Alberto Sonnino and Mustapha Tlidi, *Family of probability distributions derived from maximal entropy principle with scale invariant restrictions*, Phys. Rev. E, **87**, 014104, (2013).

13) Giorgio Sonnino, György Steinbrecher, Alberto Sonnino, *The Rényi entropy of Lévy distribution*, Physics AUC, **23**, 10-17 (2013)- arXiv:1402.5909.

14) Giorgio Sonnino, Alessandro Cardinali, György Steinbrecher, Philippe Peeters, Alberto Sonnino, Pasquale Nardone, *Reference distribution functions for magnetically confined plasmas from the minimum entropy production theorem and the MaxEnt principle, subject to the scale-invariant restrictions*, Physics Letters A, **377**, Issue 43, 3071-3077, (2013).

### Manuscripts in preparation

15) Giorgio Sonnino, Jarah Evslin, Alberto Sonnino, Matteo Falessi and Fulvio Zonca, *Thermodynamic Covariance Principle (TCP) with Applications*, proceedings of the International Conference XV International Workshop on Instabilities and Nonequilibrium Structures, Valparaiso (Chile), (2015) - in print.

16) Giorgio Sonnino, Massimo Marinucci, Alberto Sonnino, Gianluca Pucella, Fulvio Zonca, *Nonlinear heat Losses in highly collisional FTU-Plasmas*, In preparation, (2016).