

Dr ROUGER Nicolas

Work :(604) 827-3412
rouger.nicolas@gmail.com
Born : 05-18-1981
Marital life
French Citizenship

4467 11th Avenue W.
Vancouver BC V6R 2M2
CANADA

Actual Position

Doctor in Electrical Engineering. [Grenoble Institute of Technology](#) (France).
Since September 2008 **Postdoctoral fellow** in the [MiNa research group](#) at the University of British Columbia ([UBC - Vancouver, CA](#)). Supervisor : [Dr Lukas Chrostowski](#), assistant professor.
Topic : *HBT modeling, simulation and design. Application to Tx-Vcsel. SOI nanophotonics devices analysis and design.*

Education

September 2005 to August 2008 **PhD Student** in electrical engineering. Granted by the French education Ministry. *Topic :* **"Monolithic integration within power transistors : driver supply and optical insulation"**. [Grenoble Electrical Engineering Lab](#) (G2ELab – France) & [Interuniversity Microelectronics Centre \(Minatec\)](#). PhD defended July 16th, 2008. *Power transistors modeling and design, low cost monolithic integration, optical insulation, optical fiber transmission, novel power converters with high-power density.*

June 2005 **Master's degree**, Electrical Engineering major. French *Master Recherche* diploma. *Magna cum laude*. "Integrated Functions in Silicon". [G2elab](#) and [INPG](#).

June 2004 Became "**Agrégé**" in Electrical Engineering, High school and university teacher after nationwide competitive exams, *rank : 3rd out of 300 candidates*. [Ecole Normale Supérieure de Cachan](#) (Paris – France).

June 2002 **Bachelor's degree**, Electrical Engineering major. French *Licence* diploma. *Lower second class honours*. University of [Paris Sud – Orsay](#) and [ENS Cachan](#).

September 1999 to July 2001 **French undergraduate courses** to prepare nationwide competitive exams in sciences (Physics and Engineering), *Received in "Ecole Normale Supérieure de Cachan" – 41 laureates out of 2000 candidates*. [Jean Perrin High school](#) (Marseille – South France).

July 1999 – French Baccalauréat – **high school degree**, science major (Mathematics and Industrial Engineering), *Magna cum laude*. [Jean Perrin High school](#) (Marseille – South France).

Teaching Experiences

2005–2008
192 hours Moniteur - **Teaching Fellow** in the [Physic department of Grenoble University](#). *64h of lectures and labs each year*. Different degrees (grad and undergrad) in different fields, such as electrical engineering (power electronics, electrical machines, power systems) and applied electronics (control theory, system modelling and high frequency electronic).

Fall 2007 **Scientific awakening** in a primary school (Grenoble - France). With a group of 6 instructors, I have prepared experimental materials around solar energy on earth. I was in charge of 2 classes for four 45 min courses. (8 years old children).

2004–2005
74 hours **Temporary teacher** in [French undergraduate university degree in technology](#). *32h in power electronics* (undergraduate) and *42h in electrical engineering* (master's degree) – Grenoble France.

February 2003
25 hours **Training course as teacher** in [Jean-Perrin High School](#) (Marseille France) , Three levels in three topics : electronics, power electronics, physics and chemistry. **lectures and labs**.

Practical Periods

<i>Summer 2003</i> <i>8 Weeks</i>	Second year Master's degree Trainee in the Mechanical and Acoustic Laboratory, Instrumentation : <i>Design of an accurate HP-impedance meter</i> (Marseille - France).
<i>Summer 2002</i> <i>6 Weeks</i>	First year Marster's degree Trainee in ASPOne Society (South France), <i>computer inventory and design and implementation of a Windev software.</i>

Summer Jobs

<i>Summer 2000</i>	Stock Controller in Le Froid S.A during 2 months (Marseille).
<i>Decemb. 1999</i>	Hi-Fi seller in Darty Society during 1 week (Cannes – France).

Languages

French	Mother tongue.
German	Good knowledge : 9 years of scholar study and a 15 days stay in a Hamburger Family (North Germany).
English	Good oral and written comprehension : 3 years of scholar study (775/990 at TOEIC in 2003). Good reading and writting skills for scientific papers.
Mandarin	<i>Expected</i> elementary knowledge. 6 courses at UBC (9 hours in a first level class - Feb 2009 / March 2009).
Hungarian	Very basic understanding (personal interest and family background).

Computer and experimental skills

<i>Computer</i>	Operating systems : Linux (debian, ubuntu, mandriva), Windows. Programming : VHDL, VHDL-AMS, C / C++, Windev, Matlab, Html and Css. Semiconductor design and analysis : Silvaco, Cadence. Mathematical analysis : Mathcad, Matlab ; Electrical simulation (ECAD) : Psim, Pspice, Simplorer, Altium Designer ; Optical devices / waveguides simulation : Lumerical FDTD ; Word and Desktop Processing : L ^A T _E X, Office, Gimp and Computer Aided Music : Audacity, Cubase.
<i>Experimental</i>	Semiconductor devices analysis : HP 4555A / B, Time and spectral Measurea-ments : oscilloscope, dSpace cards, impedance measurement, Spectral Analyser HP8560A. Very good experimental skills : power converter design and practical implementation.

Publications

Journal papers (4)

IEEE trans. on Power elec.	Loss Free Gate Driver Unipolar Power Supply For High Side Power Transistors J-C. Crebier, N. Rouger - Volume 23 Issue 3 May / June 2008.
IEEE trans. on Industry App.	High Efficiency and Fully Integrated Self Powering Technique For Intelligent Switch Based Flyback Converters N. Rouger , J-C. Crebier, S. Catellani - Volume 44 Issue 4 May / June 2008.
IEEE trans. on Power elec.	Toward generic fully integrated gate driver power supplies N. Rouger , J-C Crebier - Volume 23 Issue 4 July / August 2008.
RIGE French Journal	Promotion d'une Approche Systeme dans l'Integration Monolithique pour Semi-Conducteurs de Puissance J-C. Crebier, B. Nguyen, L. Vincent, N. Rouger , L. Aubard, C. Shaeffer. 01-2007.

International (7) and National (2) Conference papers and presentations

- PCAMM08 *Transistor Lasers*
Victoria CAN L. Chrostowski, B. Faraji, W. Shi, M. Greenberg, M. Torres, R. Vafaei, **N. Rouger**. **Oral Session**. 29 Nov 2008.
- PCAMM08 *SOI Nanophotonics devices analysis and fabrication*
Victoria CAN M. Torres, **N. Rouger** et al. Poster session. 29 Nov 2008.
- IEEE Pesc08 *Toward Integrated Gate Driver Supplies : Practical and Analytical Analysis of High-Voltage Capabilities*
Rho. GREECE **N. Rouger**, J-C. Crebier, H. Manh, C. Schaeffer, L. Aubard - Poster session. June 2008.
- IEEE Ispsd08 *Integrated Photoreceiver For An Isolated Control Signal Transfert In Favour Of Power Transistors*
Orlando USA **N. Rouger**, J-C Crebier. Poster session. 18 - 23 Mai 2008.
- IEEE IAS'06 *High Efficiency and Fully Integrated Self Powering Technique For VIPer Based Flyback Converters*
Tampa USA **N. Rouger**, S. Catellani, J-C. Crebier - **Oral session**. Oct 2006.
- IEEE IeCon06 *Toward generic fully integrated gate driver power supplies*
Paris FRANCE **N. Rouger**, J-C. Crebier, L. Aubard, C. Schaeffer - **Oral session**. Nov 2006.
- IEEE Ispsd06 *Fully integrated driver power supply for insulated gate transistors*
Napoli ITALY **N. Rouger**, J-C. Crebier, R. Mitova, L. Aubard, C. Schaeffer- **Oral session : speaker**. June 2006.
- EPF2008 *Intégration Monolithique d'Un Récepteur Optique Au Sein De Transistors De Puissance : Enjeux Et Possibilités*
Tours **N. Rouger**, J-C Crebier. Poster Session. July 2008.
- EPF06 *Promotion d'une Approche Système dans l'Intégration Monolithique pour Semi-Conducteurs de Puissance*
Gre. FRANCE J-C. Crebier, B. Nguyen, L. Vincent, **N. Rouger**, L. Aubard, C. Shaeffer. July 2006.

Referees

Other references upon request.

C Schaeffer Professor in Electrical Engineering. Deputy Vice-President of Education ([Grenoble Institute of Technology](#)). Director of the [Interuniversity Microelectronics Centre \(Minatec - 2002-2008\)](#). **Thesis director**.
Christian.Schaeffer@inpg.fr - Tel : +33 (0) 4 56 52 94 03.

J-C Crebier Full time researcher in Electrical Engineering. **Thesis co-director**.
crebier@g2elab.grenoble-inp.fr - Tel : +33 (0) 4 76 82 71 43.

Personal Interests

Lead and rythm Guitarist in several bands since 1996 : I play concert in english pubs (almost English and US band cover). More than 50 different songs (rock, hard-rock, pop-rock).

Bass guitar player since 2001. 2 years of study in a musical school : **music theory and Cello** ([Grenoble](#)).

Week-end Guitar Luthery : I design and realize guitar effect stompboxes ("DIY"). I also make custom electric guitars with integrated and modified electronic circuitries.

President of a 45 musicians association during 1 year (may 2002-may 2003) in ENS Cachan.

Events manager and co-manager : school gala (2003), 5 concerts on the campus (2002-2003).

Sport : 4 years of **Judo** (green belt), 1 year of **japanese swordery** (Iaido and Batto-do), **daily biking**.
Occasionnally swimming and hiking. Week-end soccer player (Midfielder).

I read a lot, especially Sci-Fi, Korean Manwha and Japanese Seinen Manga (O. Tezuka, N. Urasawa, ...)
Clean and **full French Driving licence** (car and motorbike).