

# Luxmiram Vijayandran

**Ph.D. Fellow with 3 years Industrial Experience as Software/ RF Telecom Engineer**

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| <b>CONTACT INFO.</b> | French citizen, Single<br>29 years old<br>Tidemand's Gate 3A<br>7030 Trondheim, Norway | <i>Mobile:</i> +47-94213776<br><i>E-mail:</i> luxmiram.vijayandran@gmail.com<br><a href="http://www.iet.ntnu.no/%7Evijayand">http://www.iet.ntnu.no/%7Evijayand</a><br>French, Tamil, English, Norwegian |
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## EDUCATION

June 2008 **Ph.D., Electrical and Computer Engineering**  
~ Oct. 2011 - Location: *Institute of Electronics and Telecommunications, NTNU, Norway*  
- Thesis: Analysis and Optimization in Wireless Sensor Networks and Cognitive Radio Systems.  
- Research visit: University of Virginia, **USA**, Mar.-May 2011  
- Research visit: HKUST, **Hong Kong**, Feb.-June 2010  
- Development: Algorithm implementation using NS-Miracle/C++

Aug. 2004 **Master of Science (2nd)**  
Dec. 2005 - Location: **Chalmers University, Sweden**  
- Major: Digital Communication Systems and Technology.  
- Thesis: Modeling of the effects of PA nonlinearity in MB-OFDM system over UWB.

Aug. 2000 **French Engineer degree**, (equivalent to M.Sc.)  
June 2005 - Location: **EFREI, Grandes écoles, Paris, France**  
- Major: Electronics and Telecommunications

Sep.- **International Business Communication** (part of EFREI curriculum)  
Dec. 2002 - Location: *Birkbeck College, London, U.K.*

## PROFESSIONAL EXPERIENCES (3 years)

Jan. - **Software Engineer, Thales Raytheon**  
June 2008 - Location: Massy-Palaiseau, Paris  
(6 months) - Area: Military Air Traffic Control (ATC) for NATO  
- Project LOC1 (unified european air traffic control): **(2)** Software Error correction while migrating to the new platform requirements; **(1)** Software Evolution - data communication protocol.  
- **Skills:** C++, UML, ADA - Linux - CVS - Air traffic management protocols

Aug. 2006 **Software Engineer, Thales ATM (Evosys)**  
Dec. 2007 - Location: Bagneux, Paris  
(17 months) - Area: Civilian ATC, Flight Plan (FP)  
- Projects: **(5)** Software migration from DG format to Linux format; **(4)** Software Evolution for AIDC protocol based FP system; **(3)** Part of a complete ATC system migration from DG environment to Linux, one for the Bruxelles Airport (CANAC project) and another for the Holland Air Army (PHAROS project) ; **(2)** Correction of a software crash related to lower layer system; **(1)** Software Evolution (Mode S) for Radar system (DAF, "Data Analysis Facility")  
- **Skills:** ADA, C - Linux - Integration - CVS - Air traffic management protocols

Jan. - **RF/Telecom Engineer, EADS Telecom**  
June 2006 - Location: St. Quentin en Yvelines, Paris  
(6 months) - Area: Military mobile equipments  
- Project: R&D on a NEW product based on OFDM. In charge of proposing a TX/RX chain, with the appropriate available commercial elements. Test/Analysis of the trade-off between effective transmission, energy efficiency and distortions.  
- **Skills:** Electronic / RF development, OFDM design, Matlab - TETRAPOL

Jan. - **RF/Telecom developer (Technical Internship), GLOBALSYS**  
June 2004 - Location: Créteil, Paris  
(5 months) - Area: Wireless communication equipments for airports ground communication  
- Project: Build a new TX/RX prototype (half-duplex) based on DECT technology (NS, DECT CVM) for future possible market - Team of 2 engineer students. **Financial bonus compensation for the successful 1st version prototype!**  
- **Skills:** Assembler PIC, RF development - NS DECT CVM microcontroller  
- Others: Users formation in different French airports (Lyon, Bordeaux, Paris)

## SKILLS

**Prog. L.** [*Industrial experience*] C++, ADA, C, Matlab ; [*Internship*] Assembler ; [*Academic*] Turbo Pascal, VHDL  
**O.S.** [*Industrial experience*] Linux, Windows ; [*Academic*] Unix  
**Web** HTML, PHP/MYSQL  
**Wirel. Pr.** [*Industrial experience*] DECT, TETRAPOL ; [*Research*] UWB, WIMAX, LTE, WiFi, GSM  
**Electronic / RF** [*Industrial experience*] Amplifiers (narrowband & Wideband), IQ Modulator/Demodulator; Vector Generator and Analyzer, Network Analyzer; PIC  
**Languages** [*Fluent*] **French, Tamil, English;** [*Basics*] Norwegian (National level 2/4), German (5 years)

## PUBLICATIONS

Journals:  
**L. Vijayandran**, P. Dharmawansay, T. Ekman and C. Tellambura, "Analysis of Aggregate Interference and Primary System Performance in Finite Area Cognitive Radio Networks", (submitted).  
**L. Vijayandran**, S. Byun, G. Øien, T Ekman, "Increasing Sum Rate in Large Scale Cognitive Radio Networks by Centralized Power and Spectrum Allocation", (in preparation).  
**L. Vijayandran**, M. Brandt Pearce, K. Kansanen and T. Ekman, "Efficient State Estimation with Energy Harvesting and Fairness Control Using Stochastic Optimization ", (in preparation).

Conferences:  
**L. Vijayandran**, M. Brandt Pearce, K. Kansanen and T. Ekman, "Efficient State Estimation with Energy Harvesting and Fairness Control Using Stochastic Optimization ", (submitted to GLOBECOM11).  
**L. Vijayandran**, K. Kansanen, M. Brandt Pearce and T. Ekman, "Energy Efficient State Estimation through Stochastic Optimization", IEEE SPAWC, San Francisco, USA, June 2011.  
**L. Vijayandran**, P. Dharmawansay, T. Ekman and Chinthananda Tellambura, "Aggregate Interference and System Performance in Finite Area Cognitive Radio Networks", (accepted) IEEE CROWNCOM, Osaka, Japan, June 2011.  
**L. Vijayandran**, S. Byun, G. Øien, T. Ekman, "Increasing Sum Rate in Multiband Cognitive Radio Networks by Centralized Power Allocation Schemes", Proc. IEEE PIMRC, Tokyo, Sep.09.

## EXTRA-CURRICULUM (Management / Organization)

**IEEE Student Branch, NTNU / Norway** ; Secretary (2009-2010) and Vice-president (2010-2011)  
**Forum Alliance Plus, Paris**, (2002-2004); In charge of prospecting companies; Forum with over 40 industries and 12 French Engineer schools

## REFERENCES

**Prof. Geir Øien**, supervisor, faculty Din, NTNU University, Norway; geir.oien@iet.ntnu.no; +47 735 94315; (Norwegian, English)  
**Prof. Maïté Brandt-Pearce**, collaborator, University of Virginia, USA; mb-p@virginia.edu; +1 434 924 1470; (English, French)  
**Ass. Prof. Torbjörn Ekman**, supervisor, NTNU University, Norway; torbjorn.ekman@iet.ntnu.no; +47 735 94604; (Swedish, Norwegian, English)  
**Ass. Prof. Kimmo Kansanen**, collaborator, NTNU University, Norway; kimmo.kansanen@iet.ntnu.no; +47 735 50214; (Finnish, Norwegian, English)  
**Former recommendation letters:** <http://www.iet.ntnu.no/%7Evijayand/Rletters.html>