

# RANTA Serban Radu

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**Date and place of birth :** .....8th of March 1970, Turda, Romania  
**Nationality :** ..... Romanian  
**Family situation :** ..... Married

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## Education

**2000 – 2003** **PhD (Doctorat) of Institut National Polytechnique de Lorraine**  
in Automatics and Signal Processing.

Title : *Processing and analysis of physiological sound signals.  
Application in phonoenterography.*

Date : 9th of December 2003.

Laboratory : CRAN – Centre de Recherche en Automatique de Nancy  
UMR CNRS-INPL 7039.

**1999 – 2000** **MSc (D.E.A). of Institut National Polytechnique de Lorraine**  
in Automatics and Digital Signal Processing.

Title : *Source separation. Application to bowel sounds processing.*

Supervisor : VALÉRIE LOUIS-DORR  
CHRISTIAN HEINRICH

**1989 – 1994** **Engineering diploma of “Politehnica” University Bucharest, Romania**  
in Automatics.

Mention : 8,40/10.

## Education complements

**2000 – 2003** Stages of pedagogical initiation (10 days/year), CIES Lorraine, Académie de Nancy / Metz.

**2-4 Mai 2000** Spring school in source separation : “De la séparation de sources à l’analyse en composantes indépendantes – Méthodes, algorithmes et applications” (NSI, LIS Grenoble) Villard de Lans (France).

**Juin 1998** Professional stage : maintenance in spectrometry (1 week) Bruker-Axs / Siemens - Karlsruhe (Germany).

**Mai 1996** Professional stage : industrial informatics (PLC) (1 week)  
Bernecker & Rainer - Eggelsberg (Austria).

## Professional experience

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- 2004 – . . . Assistant Professor ENSEM – INPL**  
- teaching in Signal Processing, Automatics, Instrumentation, Analog and Digital Electronics.  
- Co-supervisor for engineering/MSc stages
- 2003 – 2004 Temporary Assistant Professor (ATER) ENSEM – INPL**  
- 192 teaching hours in Signal Processing, Automatics, Instrumentation, Analog and Digital Electronics.  
- Co-supervisor for engineering/MSc stages
- 2000 – 2003 French Research and Education Minister Grant (PhD) CRAN – INPL**
- 2000 – 2003 Teaching assistant (Moniteur) EEIGM/ENSGSI – INPL**  
- 196 teaching hours (during 3 years) in Informatics, Automatics, Instrumentation, Analog and Digital Electronics.  
- Co-supervisor for engineering/MSc stages
- 1994 – 1999 Engineer in automatics Sanex/Pro-Hydraulic, Cluj-Napoca, Romania**  
- PLC programming / maintenance
- 1991 – 1994 Journalist (part time)**

## Languages

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French (fluent)	Roumain (native)
English (fluent)	Italian (basic).

## Publications

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### PhD thesis

- [1] R. Ranta. *Traitemet et analyse de signaux sonores physiologiques. Application à la phonoentérographie.* Doctorat de l'INPL, spécialité Automatique et Traitement du Signal, Institut National Polytechnique de Lorraine, Nancy, 2003.

### National and international journals

- [2] R. Ranta, C. Heinrich, V. Louis-Dorr, and D. Wolf. Interpretation and improvement of an iterative wavelet-based denoising method. *IEEE Signal Processing Letters*, 10(8) :239–241, 2003.
- [3] R. Ranta, V. Louis-Dorr, C. Heinrich, D. Wolf, and F. Guillemin. Débruitage par ondelettes et segmentation de signaux non-stationnaires : réinterprétation d'un algorithme itératif et application à la phonoentérographie. *Traitemet du Signal*, 20(2) :119–135, 2003.

### National and international conferences with review comitee

- [4] R. Ranta, C. Heinrich, V. Louis-Dorr, D. Wolf, and F. Guillemin. Wavelet-based bowel sounds denoising, segmentation and characterization. In *Proceedings of IEEE-EMBS, 23<sup>rd</sup> Engineering in Medicine and Biology Conference EMBC'01*, Istambul, Turquie, octobre 2001.
- [5] R. Ranta, V. Louis-Dorr, C. Heinrich, D. Wolf, and F. Guillemin. Automatic segmentation and classification of bowel sounds. In *IFMBE Proceedings, 2<sup>nd</sup> European Medical and Biological Engineering Conference EMBEC'02*, volume 3, pages 454–455, Vienne, Autriche, décembre 2002.
- [6] R. Ranta, V. Louis-Dorr, C. Heinrich, D. Wolf, and F. Guillemin. Towards an acoustic map of abdominal activity. In *Proceedings of IEEE-EMBS, 25<sup>th</sup> Engineering in Medicine and Biology Conference EMBC'03*, Cancun, Mexique, septembre 2003.
- [7] R. Ranta, V. Louis-Dorr, C. Heinrich, D. Wolf, and F. Guillemin. Principal component analysis and interpretation of bowel sounds. In *Proceedings of IEEE-EMBS, 26<sup>th</sup> Engineering in Medicine and Biology Conference EMBC'04*, San Francisco, USA, septembre 2004.

### Reports

- [8] R. Ranta. *Intelligent leg prothesis.* Engineering diploma report, Automatics Faculty, “Politehnica” University Bucharest, Romania, 1994.
- [9] R. Ranta. *Séparation de sources. Application aux bruits physiologiques.* Msc thesis of INPL, in Automatics et Traitement Numérique du Signal, Institut National Polytechnique de Lorraine, Nancy, 2000.

### Others

- [10] R. Ranta. Diagnostic médical à partir de signaux sonores. Session posters, Doctoriales de Lorraine, La Bresse, 2001.