

Vincent  
AUVRAY

## Brief vitae

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<http://www.irisa.fr/vista/Equipe/People/Auvray/Vincent.Auvray.English.html>

### Current position

10/03 – 10/06

#### **GE Healthcare / IRISA – PhD thesis.**

We are concerned with fluoroscopic sequences from X-Ray exams, acquired under limited radiation and thus very noisy. We aim at efficiently denoising them without bringing any artifacts. To do so, we compensate the organs' motions in the image sequences and filter them spatio-temporally.

This problem is very challenging because of the specificity of X-Ray exams, that are generating transparent images. New motion estimation schemes have to be designed specially for these transparent images.

More details: <http://www.irisa.fr/vista/Equipe/People/Vincent.Auvray.html>.

This work is carried out both in an academic environment (in the IRISA lab, monitored by Patrick Bouthemy) and in the industrial world (by GE Healthcare, monitored by Jean Lienard).

#### **International publications:**

- *Transparent motion estimation in X-Ray images sequences* (IEEE Transaction on Medical Imaging, submitted).
- *Estimation paramétrique multirésolution de mouvements transparents* (GRETSI'05, Louvain-la-Neuve).
- *Multiresolution Parametric Estimation of Transparent Motions* (ICIP'05, Genova).
- *Multiresolution Parametric Estimation of Transparent Motions and Denoising of Fluoroscopic Images* (MICCAI'05, Palm Springs).
- *Motion-based segmentation of transparent layers in transparent videos* (Workshop MCRS'06, Istanbul).
- *Motion estimation in X-Ray image sequence with bi-distributed transparency* (ICIP'06, Atlanta).
- Three patents.

### Work experience

1/03 – 10/03

#### **GE Healthcare – Image quality engineer (contractor by SIVAN Consulting).**

I was part of the Image Quality team, developing the new Innova angiography and cardiac imaging system. We had to optimize the

<p><b>Teaching experience</b></p>	<p>image quality under various radiation conditions and to guarantee its conformity to the norms. I was more particularly in charge of the denoising algorithms, finetuning the present noise reduction algorithm and developing the next one.</p>
<p><i>04/04 and 02/05</i></p> <p><b>Educational background</b></p>	<p>Teaching at associate degree level, ENSAI (Ecole Nationale de la Statistique et de l'Analyse de l'Information). « Computationally Assisted Statistical Inference ».</p>
<p><i>10/00-11/02</i></p> <p><i>9/98-06/00</i></p> <p><b>Special skills</b></p>	<p><b><u>University of Aachen, Germany (RWTH Aachen)</u></b></p> <p>Master's degree in the <u>computer science and telecommunication</u> chair (Elektrotechnik – Technische Informatik und Nachrichtentechnik). The TIME exchange program allowed me to spend these two years in Germany as a normal german student, and to complete two master's degrees in an international environment during my scholarship.</p> <p>I carried out a 6 months research project in the <u>Laboratory for Measurement Technique and Image Processing</u> in Aachen, which is specialized in medical image processing. I defined at which optimal resolution human tissue samples had to be imaged to allow an automatic efficient cancer cell detection.</p> <p><b><u>Ecole Centrale de Paris (ECP)</u></b></p> <p>Prestigious general engineer school. It delivers a diploma equivalent to a master degree, and is well known for its extremely selective entrance exam.</p>
<p><b>References</b></p>	<p><b><u>Languages</u></b> : English, German and Italian fluently spoken. French is my mother language.</p> <p><b><u>Programming</u></b> : Large culture in the field of computer science (Pascal, Fortran, Visual Basic..). Programming in C, Matlab and IDL during the PhD.</p>
	<p>Available upon request.</p>