Dr Nathalie Just Curriculum Vitae

Currently: Research Fellow
Danish Research Center for magnetic Resonance
(DRCMR)
nathaliej@drcmr.dk

Personal data

Born: 1973
Place of Birth: France
Nationality: French
Statut: Senior scientist
https://www.researchgate.net/profile/Nathalie_Just
https://scholar.google.com/citations?user=HSCWH_QAAAAJ&hl=fr

Scientific Career

05.08.2019-30.03.2021 Senior Research Fellow INRA Nouzilly, Tours, France, NHyRVana

23 October 2020 : Paris-Saclay University- French habilitation to direct Research Programs (Habilitation à Diriger des Recherches)

01.02.2017 French qualification to teach in Universities

08..2015- 06.2019 **Senior MR scientist.** Départment of Magnetic Resonance Translational Research Imaging Centre (Department Chair : Prof. Cornelius Faber), Universitäts Klinikum Münster and University of Münster, Münster, Germany

07.2011- 31.08.2015 **Senior scientist- In charge of the project « Small animal fMRI at 9.4 and 14.1T»** Centre d'Imagerie Biomédicale (CIBM), Ecole Polytechnique Fédérale de Lausanne, Lausanne, Suisse, Prof. Rolf Gruetter

06.2006-06.2011 **Premier Assistant** Laboratoire d'Imagerie Fonctionnelle et métabolique (LIFMET), Université de Lausanne, Lausanne, Suisse, Prof. Rolf Gruetter

09.2003-05.2006 **Study director Imaging department,** Oncodesign, Dijon, France
- Installation of a 4.7 T Bruker magnet in a Specific Pathogen Free animal facility
- Design of Imaging Protocols and MR sequences for investigating anti-cancer treatments on rodents
- Operator for all MR imaging performed
- Management of Studies (MR and non-MR)-
Writing Study protocols and reports for various customers: MediciNova, Negma-Lerads, Nanobiotix, Guerbet, Novacea
- Study director and Researcher for various R &D studies: Hormonotherapy, vascular targeting agents, cytotoxic agents….
- Creation of OPASIS (Oncodesign Parametric Analysis Software for Imaging and Spectroscopy)
- Translational research projects
Nakamura K, Taguchi E, Miura T, Yamamoto A, Takahashi K, Bichat F, Guilbaud N, Hasegawa K, Kubo K, Fujiwara Y, Suzuki R, Kubo K, Shibuya M, Isae T. KRN951, a highly Potent Inhibitor of Vascular Endothelial Growth Factor Receptor Tyrosine Kinases, has Antitumor activities and affects functional vascular properties. Cancer Research 2006; 66 (18). Although not acknowledged in the authors, as responsible of the MRI department at Oncodesign, I acquired, analyzed, summarized the MRI results of this work.

09.2003-09.2004 **Post-Doctoral work** Unité INSERM U594, Domaine Universitaire de la Tronche, Université Joseph Fourier, Grenoble, France Prof. C. Segebarth

11.1999-08.2003 **Scientific officer and PhD thesis « Magnetic Resonance Imaging techniques for non-invasively investigating the characteristics of tumour vasculature »** Supervision: Prof Martin O. Leach et Dr Gail Ter Haar ;Co-superviseurs: Drs Anwar Padhani, Carmel Hayes; Institute of Cancer Research et University College London presented on November 3rd 2003 in Sutton, Surrey, United Kingdom

04.1997-09.1997 **Research Assistant** Alabama A&M University**,** Center for Irradiation of Materials, Huntsville, Alabama, USA
Design, improvement and irradiation of thin polymer films of PES(Polyethersulfone) -Infrared Spectroscopy for the study of optical materials - Electron Microscopy

Education

11.1999-08.2003 **PhD thesis « Magnetic Resonance Imaging techniques for non-invasively investigating the characteristics of tumour vasculature »** Supervision: Prof Martin O. Leach et Dr Gail Ter Haar ;Co-supervisers: Drs Anwar Padhani, Carmel Hayes; Institute of Cancer Research et University College London presented on November 3rd 2003 in Sutton, Surrey, United Kingdom

09.1998-09.1999 **Diplôme d'Etudes Approfondies (DEA)** en Génie Biologique et Médical Université Claude Bernard Lyon 1, Lyon, France Prof. André Briguet. Title of the project: "Study of Metabolism using Phosphorus 31 NMR Spectroscopy and Development of NMR surface coils for the study of the rat vigilance states" Mention AB

09.1997-09.1998 **Maîtrise de Physique** ERASMUS Exchange University of Strathclyde, Glasgow,Scotland, United Kingdom- Université Claude Bernard Lyon 1, Lyon, France ; Project title: "Study of the profile of Residual Radioactivity in the Concrete shield of the UTR300 reactor measured with high resolution Gamma-ray detection". Mention AB

1992-1996 **DEUG A- Licence** Physics

1991 **BAC C** Lycée Juliette Récamier, Lyon

Grants :

2011- 2018 National Competence Center for Biomedical Imaging (NCCBI) (**PI, 187000 SFr**)
Thesis of Matthieu Auffret : « High resolution functional Magnetic Resnance Imaging of the mouse barrel cortex »

2012- 2017 National Competence Center for Biomedical Imaging (NCCBI) (**coPI, 187000 Sfr**)
Thesis no : 7684 of Sarah Sonnay :« Study of Cortical energy metabolism during sensory stimulation-induced brain activity by 13C magnetic resonance spectroscopy in-vivo »

2007-2009 Collaborator on the project: Neuroprotection in perinatal brain injury: Multi-modal approach using advanced magnetic resonance imaging, histopathological and somatosensory functional analysis. PI : Stephane Sizonenko- Fonds National Suisse

Scientific Societies Membership

2001- Today ISMRM (International Society of Magnetic Resonance in Medicine)
2011- Today ISCBFM (International Society of Cerebral Blood Flow and Metabolism)
2014- Today ESMI (European Society of Molecular Imaging)
2001-2013 ESMRMB (European Society of Magnetic Resonance in Medicine and Biology)

Reviewing/ Moderation :

Scientific Societies : ISMRM ISCBFM ESMI OHBM

Journals : Neuroimage ; European Radiology ; J. Cerebral Blood Flow and Metabolism ; NMR in Biomedicine, Magnetic Resonance Imaging, British Journal of Cancer

Research Agency : Agence Nationale pour la Recherche (ANR)
Children for Cancer UK

Editiorial work :

Since Sept 2019 : Associate Editor of Frontiers in Brain Imaging Methods and Frontiers in Neuroscience.

2013-2015: - Asssociate Editor for Journal of Cerebral Blood Flow and Metabolism

- Invited associate Editor Frontiers in Endocrinology in charge of the topic: "Mechanisms underlying the deregulation of food intake in eating disorders and novel methods to investigate the disruption of the homeostatic control of feeding "

2013-Today - Invited associate Editor: Frontiers in Endocrinology et Frontiers in Neuroscience

Prizes : 1999 Doctoral grant Université Claude Bernard Lyon1 ; **2004 1st Prix (Best poster)-7ième Rencontres Rhône-Alpes de RMN ;** 2006 Medicinova Research Prize ; 2009 :Nomination for best poster at *17th ISMRM Scientific Meeting*, Honolulu, Hawaï.
2014 NCCBI young Researcher award for Sarah Sonnay, Etudiante en thèse Dr Nathalie Just, Dr J. Duarte

Administratives Tasks:

- Certificates for animal experimentation (Swiss **Module1**) & authorisations for animal experimentation projects
- Active particapation to maintenance : Magnets, RF coils…
- Organisation and visits of Centre d'Imagerie Biomédicale/ démonstrations, Lausanne, Switzerland : Elderly people, schools, invited professors…
- Participation in Lausanne Marathon for collecting funds for the Physics association at EPFL

Teaching :

-Courses et Practical courses

-August 2021 : Invited speaker in the Symposyum of the International Society of Neurochemistry, Kyoto, Japan

May 2018- Course for Physics and Biophysics master students Master: BOLD- fMRI

– February 2018 and all along the year : Examination of Bachelor and master students:

-17-18 October 2017 : ESMRMB Lectures on MR – Small Animal MRI- Barcelona- Espagne

– Basics of fMRI : Alternatives to BOLD fMRI

– Advanced Applications : functional MR Spectroscopy (fMRS)

-2015-2019 Organisation and teaching in the Praktikum course : "Biophysikalische Methoden"- Master in Biophysics

-Since November 2015: Mouse Imaging Academy (MIA), Münster, Germany

September 2014: PhD Course on MRI techniques, CIBM, Lausanne, EPFL

November 2013: The Basics of MRI- Course for the Master in Chemistry, EPFL

April-May 2014: The Basics of MRI and Cancer MRI Bachelor in Chemistry, EPFL

Mai 2014- ISMRM Educational sessions on Cancer MRI

2007-2014: The Basics of MRI and Cancer MRI PhD Course in MRI- LIFMET/EPFL

Supervision of students

- Saeedeh Amirmosehni: Supervision : 20-30%: spinal cord MRS and pain mechnisms assessed by BOLD fMRI

- Sarah Sonnay : Supervision 100%

- Matthieu Auffret : Supervision 100 % (2013-2015) and 50% (since EPFL departure).

-Elise Vinckenbosch : Supervision 20% (development of CEST)

-Xavier Pena Pina, Bias Field correction in MR images of a rat brain, Master Thesis, EPFL, 2007-2008

- Alfredo Liubomir Lopez Kolkovsky- Development of a BOLD fMRI protocol to investigate the mouse barrel cortex at high field, EPFL,2011

-Véronique Rancier Creation of Image processing Interface for Oncodesign, OPASIS, 2004, DIJON

-Jonathan Rentsch Comparison between volume and Surface coils in MRI, EPFL, 2006-2007

-Martin Sandbrink- Bachelor student, University of Münster, Germany: "Construction d'un stimulateur mécanique pour l'investigation des mécanismes de traitement de la douleur chez le rat"

-Nicole Krekenberg- Bachelor in Biology - "Resting-State fMRI

Other

Animal experimentation:

-Swiss Certificate for animal Experimentation, university of Zurich, 2007-2015

-Manipulation of animals, anesthesia: Isoflurane, alpha-chloralose, médétomidine, intubation rats and mice

-Implantation of optical fibers and electrodes, virus injection

Computing:

Languages: Pascal, Fortran, C/C++, IDL, MATLAB, Mathematica, LATEX, Magnan, Python, R

Systems: UNIX, Windows, Linux

-Certificate for Statistical Parametric mapping (SPM), Zurich, 2009

-Sequence Programing on Varian, Bruker (PV5.1 et 6.1)

Othr courses:

- Practical and theoretical course in Radiotherapy: Brachytherapy, Radiobiology and QA (March 2000)
- Practical and theoretical course in Medical Imaging : Diagnostic Radiology, PET, MRI (March 2000)
- Practical and theoretical course in Medical Imaging: Nuclear Medicine, Ultrasound, Signal Processing (January 2000)
-IPEM course: " MRI of the 21st century: Advances in Cardiac MRI, MR Perfusion Imaging,and Multimodal Imaging Meeting"(March 2000)
-IPEM course: "The role of Magnetic Resonance Imaging in Cancer Diagnosis and Treatment"(November 2001)
-British Institute of Radiology: "Hypoxia and Cancer"- (November 2002)

Languages : French : Mother tongue : Spoken, read, written

English : Fluent : Spoken, read, written
Spanish : Fluent : Spoken, read, written
Russian : Certification 1995 ; German : basic

References : Dr Martine Migaud martine.migaud@inrae.fr
Prof Rolf Gruetter rolf.gruetter@epfl.ch