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Jérémy Rouot

Born on 7th of March 1990 in Langres, France
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Current Affiliation

Dec. 2016 - Present Postdoctoral researcher.
Laboratory for Analysis and Architecture of Systems (LAAS), Methods and Algorithms for Control, Toulouse (with Jean-Bernard Lasserre and Didier Henrion)

Education

2013 - 2016 **University of Nice Sophia Antipolis**
Ph.D., Applied Mathematics.

- Thesis : "Geometric and numerical methods in optimal control and applications to low thrust orbital transfer and swimming at low Reynolds number"
- Advisors : Bernard Bonnard (University of Burgundy), Jean-Baptiste Pomet (INRIA Sophia Antipolis)

2010 - 2013 **Grenoble Institute of Technology**
Engineer, École Nationale Supérieure d'Informatique et de Mathématiques Appliquées de Grenoble. Modelisation, Computations and Simulation.

Publications

The referenced documents are available on my personal website
http://jeremyrouot.github.io/homepage/.

1. B. Bonnard, H. Henninger, J. Rouot. *Lunar perturbation of the metric associated to the averaged orbital transfer.* Analysis and geometry in control theory and its applications, conférence en juin 2014, published in Springer InDam series, vol. 11, 2015.

2. P. Bettiol, B. Bonnard, L. Giraldi, P. Martinon, J. Rouot. *The three links Purcell swimmer and some geometric problems related to periodic optimal controls.* Variational methods in Imaging and geometric control, conference in Nov 2015, published dans Radon Series on Computational and Applied Math, vol. 18, de Gruyter, 2016.

3. B. Bonnard, M. Chyba, J. Rouot, D. Takagi. *A Numerical Approach to the Optimal Control and Efficiency of the Copepod Swimmer.* Dans Proceedings de la 55ième "IEEE Conference on Decision and Control", Las Vegas, 2016.

4. B. Bonnard, A. Jacquemard, J. Rouot. *Optimal Control of an Ensemble of Bloch Equations with Applications in MRI.* Dans Proceedings de la 55ième "IEEE Conference on Decision and Control", Las Vegas, 2016.

5. P. Bettiol, B. Bonnard, J. Rouot. *Optimal strokes at low Reynolds number: a geometric and numerical study of Copepod and Purcell swimmers.* Submitted 2016.

6. P. Bettiol, B. Bonnard, A. Nolot, J. Rouot. *Optimal control theory and the efficiency of the swimming mechanism of the Copepod Zooplankton.* Submitted 2016.

7. B. Bonnard, M. Chyba, J. Rouot. *Working Examples In Geometric Optimal Control.* Submitted 2016.

Talks

Student seminar, Institut de Mathématiques de Bourgogne, Dijon, France, 04/'14.
Carnot-Pasteur's Doctoral School, Dijon, France, 06/'14.
Student seminar, Institut de Mathématiques de Bourgogne, Dijon, France, 02/'15.
Workshop, Nonlinear Control and Geometry,Stefan Banach Center, Będlewo, Poland, 08/'15.
Student seminar, Universität Basel, Switzerland, 10/'15.
Student seminar, Institut de Recherche Mathématique Avancée de Strasbourg, France, 12/'15.
Conference, 10th International Young Researcher Workshop on Geometry, Mechanics and Control, Henri Poincaré Institute, Paris, France, 01/'16.
Workshop, Société de Mathématiques Appliquées et Industrielles (SMAI), ENSEEIHT, Toulouse, France, 03/'16.
Meeting day between teams of INRIA McTAO and Mokaplan, Paris, 09/'16.
Conference, 55th IEEE Conference on Decision and Control, Las Vegas, USA, 12/'16.

Teaching

Tutorial classes of Mathematics, University of Burgundy 2015-2016 (Algebra for 1st and 2nd year student).

Miscellaneous

- Organiser of a weekly student seminar of the Carnot-Pasteur's Doctoral School in Institut de Mathématiques de Bourgogne, Dijon (2015-2016).
- Stimulated by bicycle repairing in various associations:
    . uN p'Tit véLo dAnS La Tête (http://www.ptitvelo.net/, Grenoble, 2010-2013)
    . La rustine (http://larustine.org/, Dijon, 2013-2015)
    . Vélorution (http://velorutiontoulouse.free.fr/, Toulouse, 2016-...)