Lettre Mode, Mai 2019

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Envoyez vos contributions en format simple texte en remplissant le formulaire à l'adresse suivante :
http://www.lettremode.ovh,

ou par mail à l'adresse suivante :
contact@lettremode.ovh. Prière d'indiquer "pour la lettre MODE" dans l'objet du mail.

Site officiel et twitter SMAI-MODE

http://smai.emath.fr/spip.php?article330
https://twitter.com/smai_mode

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1) Annonce postdoc 18 mois, Equipe: Commands (cmap et Inria Saclay)

De : Frédéric Bonnans
Lien : https://jobs.inria.fr/public/classic/fr/offres/2019-01610

Title: Understanding and controlling microbial communities: optimal control of multiscale models

Web page: https://jobs.inria.fr/public/classic/fr/offres/2019-01610

Equipe: Commands (cmap et Inria Saclay)

En collaboration avec Inbio (Institut Pasteur et Inria Paris)

Durée 18 mois

SubjecT: the first task amounts to propose appropriate modeling frameworks for these multiscale systems. One will consider first principle representations, in the form of stochastic individual based models, but also continuous approximations thereof, leading to Fokker-Planck equation models with continuous couplings. The inclusion of cell-to-cell heterogeneity in this framework is non-trivial. The second task is to specify optimal control problems and develop optimal control strategies for this class of systems, and more generally for parabolic partial differential equations. Lastly, one will investigate the possibility to use optimal control tools to design optimally-informative experiments for this class of systems and apply this framework in active learning contexts.

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2) Open positions (10-12), Optimization and Optimal Control, University of Bremen

De : Frédéric Bonnans

Dear colleagues and friends,

in our working group on Optimization and Optimal Control at the
Center for Industrial Mathematics at the University of Bremen, we have

10-12 open positions

75%-100% of a full time job.
The open positions are linked to various topics, like

- Nonlinear Optimisation
- Optimal Control
- Nonlinear Model Predictive Control
- Numerics and Scientific Computing

and projects/tasks, e.g.
- Autonomous driving with our own research vehicle
- Autonomous asteroid mining and ship maneuvering
- Optimization of satellite swarms and constellations
- Optimal route planning for ship maneuvers through the Arctic
- Software tools for automated parameterization of digital twins
- Predictive maintanance
- Real world and industrial projects
- Positions in the Research Training Group on Parameter Identification

The possibility of a doctorade is given, but is not mendatory.
PostDocs are welcome.

We would be very pleased if you could forward our inquiry
to potential students and candidates.

Thank you verry much for supporting uns,
yours sincerely

Christof Bueskens

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3) PhD position in Optimization

De : Didier Aussel

Several PhD positions are still open (closing date: May 29th)
at the University of Florence.

We invite all who might be interested to look at the website https://www.unifi.it/p11549.html for details.
Of particular interest for Optimization are:
- the PhD program in Information Engineering, with a specific section devoted to Optimization
- the PhD program in Smart Computing
- the PhD program in Smart Industry (based in Pisa)

Do not hesitate to contact me if you need further information, in particular, on the PhD program in Information engineering

Best regards
Fabio Schoen

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Fabio Schoen
Professor of Operations Research
Coordinator of the PhD program in Information Engineering
GOL / Dip. Ingegneria dell'Informazione - Univ. di Firenze
via di S.Marta 3, 50139 FIRENZE (Italy)
New telephone: +39 055 275 8512

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4) PhD position in the area of *nonsmooth optimization*, Germany

De : Michel Thera
Lien : https://mytuc.org/gtrh

The numerical methods for PDEs group is seeking applications for a PhD position in the area of *nonsmooth optimization*. The envisioned starting date is July 1, 2019, or soon thereafter. The position comes with moderate teaching obligations.

Please find more information on https://mytuc.org/gtrh and visit the group's home page at https://www.tu-chemnitz.de/mathematik/part_dgl.

Applications and inquiries should be directed until *May 31* to roland.herzog@mathematik.de

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5) PhD position, Optimisation, University of Strathclyde

(Glasgow)

De : Michel Thera
Lien : http://icelab.uk

NON PARAMETRIC OPTIMISATION FOR ENGINEERING APPLICATIONS

The Department of Mechanical & Aerospace Engineering at the University of Strathclyde (Glasgow, UK) is looking for a motivated student to be enrolled in their PhD program.
The student will be part of the Intelligent Computational Engineering Laboratory (ICE Lab http://icelab.uk/), and he/she will be working, alongside the other researchers in the group, in the development and application of the latest computational intelligence techniques to the solution of challenging engineering problems.

Project Aims and Objective
Development and application of non-parametric optimisation methods and tools to find the best configuration of innovative engineering devices – or some of their components.
With the spread of modern additive manufacturing techniques, non-parametric optimisation techniques (operating at the node/element level to derive optimal structures) represents an advanced methodology for engineering optimisation with additional design freedom with respect to parametric methods.
Non-parametric optimisation algorithms address the problem of optimising a geometry, by targeting the optimal distribution of material, and void regions, within a predefined design space.
As in other fields of optimisation, also in non-parametric optimisation, gradient-based optimisation techniques have the well-known limitations for engineering applications (need of a smooth model, convergence to local solutions). The proposed research is aiming at investigating novel technologies, such as neuro-evolution, that are more suitable for practical engineering problems.
This research project is about the development of non-parametric optimisation techniques and their application on a real case study, to the design of engineering devices, or their components – to achieve the best fluid-structural design.

Qualifications
Applicants should hold a Masters degree in mechanical engineering, applied mathematics or physics.

Experience
Experience in the field of engineering analysis, machine learning and optimisation is an asset.

Starting date Academic year 2018/2019

Student eligibility
UK and EU students.
This project is fully funded.

Contact
Annalisa Riccardi (name.surname@strath.ac.uk)
Edmondo Minisci (name.surname@strath.ac.uk)

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6) PhD Position: INP-ENSEEIHT-IRIT, Université de Toulouse

De : Olivier Cots

Position:

We are looking for a Ph.D. student in applied mathematics to work on an interdisciplinary project. The student would be situated in the Institut de recherche en Informatique de Toulouse (https://www.irit.fr/?lang=en) supervised by Professor Joseph Gergaud and Nataliya.Shcherbakova. The overarching project is multidisciplinary (with collaboration with chemical and process engineering teams) and focuses on the calculation of thermodynamical diagram. This requires some concepts in geometrical geometry and knowledge in ordinary differential equation. The objectif is to develop a software based on path-following algorithms in the context of ode couple with automatic differentiation of thermodynamical models.

Candidate:

Eligible candidates for the position must have a Masters or equivalent degree in mathematics. The candidate is expected to have a solid background in applied mathematics and computer science with experience in numerical analysis, linear algebra, dynamical system, and programmation. Having done a masters thesis, bachelors project, or other such work in ordinary differential equation and programmation field would be an asset, and strong consideration will be given to such candidates.

Application:

Application packages need to contain a CV, a letter of motivation, copies of degree certificates, and relevant course

transcripts along with contact details of at least two academic referees.

Materials should be sent by email to: gergaud@enseeiht.fr, nshcherb@ensiacet.fr

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7) Annonces de séminaires

Une rubrique pour signaler quelques liens pour les séminaires ayant lieu ce mois-ci et organisés dans nos laboratoires.
N'hésitez pas à l'alimenter, préférentiellement via un lien vers la page du séminaire.
Pour cela, envoyez un mail à l'adresse contact@lettremode.ovh.

- Séminaire Parisien d'Optimisation (IHP)
  https://sites.google.com/site/spoihp/

- Séminaire du programme PGMO
  https://www.fondation-hadamard.fr/fr/pgmo-seminars/seminars

- Groupe de Travail CalVa de Calcul de Variations (suivant les séances (lieu : voir site) :
  https://www.ljll.math.upmc.fr/fr/seminaires/article/gdt-calcul-des-variations

- Groupe de Travail Analyse Non-linéaire et EDP (ENS et UPMC)
  http://www.math.ens.fr/-Seminaires-?id_seminaire=14

- Séminaire Pluridisciplinaire d'Optimisation de Toulouse (lieu : voir site)
  http://projects.laas.fr/spot/

- Séminaire SAMOCOD (séminaire Avignon Montpellier Optimisation Contrôle et Dynamique)
  http://www.i3m.univ-montp2.fr/index.php?option=com_content&view=article&id=59&catid=19&sem=618

- Séminaire hebdomadaire de l'équipe MOD de l'Université de Limoges
  https://indico.math.cnrs.fr/categoryDisplay.py?categId=36

- Séminaire Parisien de Théorie des Jeux (IHP, salle 05, 201 ou 314)

https://sites.google.com/site/theoriedesjeux/

- Séminaire de Mathématiques Discrètes, Optimisation et Décision, Centre d'Economie de la Sorbonne et Université Paris 1
  http://ces.univ-paris1.fr/membre/seminaire/MDOD/

- Séminaire de géométrie sous-riemannienne - IHP
  http://webusers.imj-prg.fr/~davide.barilari/seminar.php

- Séminaire de l'équipe Statistique, Probabilités, Optimisation et Contrôle (SPOC) - IMB
  https://math.u-bourgogne.fr/spip.php?page=seminairespoc

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8) Conférence Flacam (New Trends in Applied Mathematics) 2019 (5-8 novembre)

De : Francisco Silva
Lien : http://eventos.cmm.uchile.cl/flacam2019/

Conférence Flacam (French Latin-American Conference on New Trends in Applied Mathematics) 2019 (5-8 novembre), à l'occasion des 80 ans du CNRS

http://eventos.cmm.uchile.cl/flacam2019/

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9) FGS'2019 (last call)

De : Jean-Baptiste Caillau
Lien : https://fgs-2019.sciencesconf.org

FGS'2019 (last call)

**** Submissions (talks & MS) deadline: May 15, 2019 ****

**** Registrations are now open, early bird deadline: June 30, 2019 ****

The 19th French-German-Swiss conference on Optimization will take place in Nice from September 17 to 20, 2019. This series

of conferences began in 1980 at Oberwolfach and has gathered since French and German colleagues in optimization every other year. It is customary to invite a third country to participate.

In 2019, the invited country is Switzerland.

Theses conferences usually gather from 100 to 150 mathematicians and are the main meeting of European researchers in optimization in the broad sense. The 2019 edition is organized by LJAD and I3S labs from CNRS, and by Inria Sophia Antipolis Méditerranée center. The conference will be located on the Valrose campus of Université Côte d'Azur, on the heights of Nice.

A limited number of grants has been planned to cover the registration fees for students (undergraduate, graduate or postdoc). Students wanting to apply for these grants shall
- send an email to fgs-2019@sciencesconf.org including a cv and asking for a grant
- submit a talk (contributed or within a mini-symposium)

before May 15, 2019.

More information: fgs-2019.sciencesconf.org

- Didier Auroux & Jean-Baptiste Caillau, chairs of FGS'2019

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10) Optimization workshop in Edinburgh: 1-2 July 2019

De : Jacek Gondzio
Lien : https://www.icms.org.uk/advancesinlinear.php

After NA Conference in Glasgow (25-28 June)
https://numericalanalysisconference.org.uk/
and EUROPT in Glasgow (28-29 June)
http://icelab.uk/europt-2019/
there will be a workshop in Edinburgh:
Advances in Linear Algebra and Huge-Scale Optimization,
https://www.icms.org.uk/advancesinlinear.php
ICMS, The Bayes Centre, 47 Potterrow, Edinburgh EH8 9BT
1-2 July 2019
with the following list of invited speakers:

Luca Bergamaschi, Università degli Studi di Padova
Jordi Castro, Universitat Politècnica de Catalunya

Daniela di Serafino, Università degli Studi della Campania
Anders Forsgren, KTH Royal Institute of Technology
Daniel Loghin, University of Birmingham
Benedetta Morini, Università di Firenze
Miroslav Rozložník, Czech Academy of Sciences
Ekkehard Sachs, Universität Trier
David Silvester, University of Manchester
Jemima Tabeart, University of Reading

The registration is free, but if you plan to attend please do register as we need this information for catering purposes.

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11) Prix de thèse PGMO 2019, date limite le 20 Mai

De : Stephane Gaubert
Lien : https://www.fondation-hadamard.fr/fr/pgmo/students/phdawards

Dernier appel à candidatures Prix de Thèse PGMO 2019

Le Programme Gaspard Monge pour l'optimisation, la recherche opérationnelle et leurs interactions avec les sciences des données, avec
la participation et le patronage scientifique de la ROADEF et de la SMAI
(groupe MODE), lance un appel à candidatures pour deux prix de thèse
(1000€ chacun).

- Critères : thèses de doctorat, soutenues en France en 2018, apportant
des contributions significatives dans le domaine de l'optimisation et de
la recherche opérationnelle. Ces contributions peuvent être théoriques
ou applicatives et relever des mathématiques ou de l'informatique.

- Remise des prix et présentation des travaux des lauréats à la
prochaine conférence PGMO (3 et 4 Décembre 2019)

Les soumissions devront être téléchargées sur le site easychair du prix
: https://easychair.org/conferences/?conf=pgmophdprize2019

** au plus tard le 20 mai 2019 à minuit, délai de rigueur **

L'historique du prix de thèse est disponible sur :
https://www.fondation-hadamard.fr/fr/pgmo/students/phdawards

-- Les docteurs peuvent candidater directement ou être présentés par une
personnalité externe.

-- Documents à fournir: manuscrit de thèse, résumé de la thèse en
Anglais, rapports de pré-soutenance et de soutenance, CV avec liste des
publications. De manière facultative, toute lettre de soutien peut être
ajoutée au dossier, ou transmise à Magali Le Chaponnier
magali.lechaponnier@fondation-hadamard.fr qui la communiquera au jury.

-- Le jury pour cette édition est présidé par Ludovic Rifford.

Il est composé des 9 personnalités scientifiques suivantes:

Membres nommés par le conseil scientifique du PGMO
Anne Auger, Inria / Polytechnique
Olivier Spanjaard, Sorbonne-Université
Tristan Tomala, HEC

Membres nommés par la ROADEF
Nadia Brauner, G-SCOP, UJF Grenoble
Pierre Lopez, LAAS-CNRS Toulouse
Frédéric Roupin, LIPN, Institut Galilée Paris 13

Membres nommés par le groupe MODE de la SMAI
Olivier Ley, IRMAR, INSA de Rennes
Claire Mathieu, Collège de France
Ludovic Rifford, Université de Nice, CNRS

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L'équipe de coordination du PGMO
pgmo@fondation-hadamard.fr

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12) Appel : nominations for the 2021 Stampacchia Gold Medal

De : Michel Thera
Lien : http://umi.dm.unibo.it/en/prizes/gold-medal-guido-stampacchia/

We encourage nominations for the 2021 Stampacchia Gold Medal. The Medal is awarded by the Italian Mathematical Union and the Ettore Majorana Foundation to a young researcher for outstanding contributions to the fields of the calculus of variations, optimization, variational analysis, and control theory.

Past winners were

2003 Tristan Rivière (ETH Zürich)
2006 Giuseppe Mingione (University of Parma)
2009 Camillo De Lellis (University of Zurich)
2012 Ovidiu Savin (Columbia University)
2015 Alessio Figalli (ETH Zurich)
2018 Guido De Philippis (SISSA Trieste)

The awardee will be at most 35 years old. The nominations should be sent to the secretariat of the Italian Mathematical Union before March 31, 2021.

The official announcement of the prize can be found at http://umi.dm.unibo.it/en/prizes/gold-medal-guido-stampacchia/

The directors of the International School of Mathematics G. Stampacchia
Giuseppe Buttazzo, Franco Giannessi, and Michel Thera
The organizers of the workshop "Variatinal Analysis and Applications" 2021
Jérôme Bolte and Gianni Dal Maso

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13) Livre : 'Convex and stochastic optimization', J. Frédéric Bonnans

De : Frédéric Bonnans
Lien : https://www.springer.com/us/book/9783030149765

Parution de 'Convex and stochastic optimization', de J. Frédéric Bonnans,
chez Springer (coll. Universitext), en mai 2019 :
https://www.springer.com/us/book/9783030149765

Fin de la lettre MODE
