



N°4 DÉCEMBRE 2014

En ce début d'année 2015, l'équipe de direction du GDR REPRO est heureuse de vous présenter tous ses vœux pour vous-mêmes et ceux qui vous sont chers. Puisse cette année vous apporter toutes sortes de joie et de petits bonheurs, ainsi que le succès dans vos entreprises professionnelles.

### ✓ Les nouvelles

## • ReproSciences 2015

Le programme est à présent finalisé et disponible à l'adresse suivante :  
<http://gdrepro.com/reprosciences-2015/>

Les inscriptions sont ouvertes depuis le 1<sup>er</sup> décembre et se font par l'intermédiaire du site web. **Afin de nous faciliter le travail d'organisation, nous vous demandons instamment de ne pas attendre la dernière minute pour vous inscrire sur: <http://gdrepro.com/reprosciences-2015/inscriptions/>**

Il est fondamental pour l'avenir du GDR que cette première édition de ReproSciences soit un succès. Aussi, nous vous engageons à participer et à encourager vos collègues à en faire autant. L'inscription est très bon marché et, pour encourager la participation des plus jeunes, elle est gratuite pour les étudiants. Nous espérons également pouvoir lever suffisamment de fonds pour financer une partie de leurs frais.



## Venez nombreux





### ✓ Les événements



- January 10-13, 2015. 41<sup>st</sup> IETS (International Embryo Transfer Society) Annual Conference Versailles, France (<http://www.iets.org/2015/>)
- January 29-30 2015: XXXième Congrès de la Société d'Andrologie de la Langue Française, Dijon, France  
Les inscriptions pour le congrès sont ouvertes.  
(<http://www.salf.fr/site/>)
- February 8-11 2015: Reproductive biology of fish: from major breakthroughs to future research, Rennes, France  
(<https://colloque.inra.fr/isrbf2015>)
- February 8-9 2015: 3rd International Congress of Large Animal Practitioners (ICLAP 2015), Tehran, Iran  
(<http://iclap.ir>)
- February 9-10 2015: CRB-Anim Séminaire Bi-annuel 2015 Paris 15<sup>ème</sup>  
 <http://www.crb-anim.fr/Page-d-accueil/Actualites/CRB-Anim-Seminaire-Bi-annuel-2015>
- February 25-27 2015: International Symposium on Reproductive Biology and Comparative Endocrinology, Varanasi, India (<http://isrbce.wordpress.com>) 
- March 12-13 2015: European Society of Human reproduction and Embryology, Copenhagen, Denmark  
<http://www.humanrep2015.com>)



### ✓ Les événements (suite)

- March 18-21 2015: World Congress on Human Reproduction 2015, Berlin, Germany (<http://www.humanrep2015.com>)

- Avril 13-15 2015: ReproSciences 2015 »  
Rennes, France

Les 1ères journées du GDR

<http://gdrepro.com/reprosciences-2015/>



Avril 13-15 2015 : Perspectives in Environmental and Systems Biology Grenoble France <http://www.beesy2015.com/>



NOUVEAU

June 7-12 2015: EMBL-EBI- Wellcome Trust workshop on In Silico Systems Biology Hinxton, Cambridge, UK

<http://advanced-courses-wellcome.msgfocus.com/c/1603VEPBAEPZXF67bCPVXEY>



NOUVEAU

save  
the  
date!

11 décembre 2015 Réunion transversale "Différenciation des Gonades » à Nice

- June 26-30th 2016 International Congress of Animal Reproduction Tours France ICAR (site en cours de création)
- More events at : <http://gdrepro.com/evenements/>



### ✓ Les jobs



- **2 Post-doctoral Fellowships in Cell and Developmental Biology**  
Faculty of Health and Medical Sciences, University of Copenhagen The NNF Danish Stem Cell Center -DanStem  
The tenure of the positions is initially for two years, with the possibility of extension. <http://danstem.ku.dk/join/jobs/postdoctoral-fellowships>
- **Mid-career/Senior Group Leader Position in stem cell Biology**  
Institut Pasteur PARIS  
Profil de poste sur <http://gdrepro.files.wordpress.com/2014/10/gazette-2-institut-pasteur-2014.pdf>  
Contact : [g5revive@pasteur.fr](mailto:g5revive@pasteur.fr)
- **"Posdoctoral position in Preimplantation development"**  
A post-doctoral position is currently open at the GRED (Clermont-fd) in the team of Claire Chazaud (<http://www.gred-clermont.fr>). This position is funded for at least two years. The team is addressing the topics of cell lineage specification, pluripotency and differentiation.  
Contact: [claire.chazaud@udamail.fr](mailto:claire.chazaud@udamail.fr)
- **Post-doctoral position in Neural stem cells microgenomics .**  
A post-doctoral position at junior or senior level is currently open at the NeuroPSI Institute (CNRS and Paris-Saclay University), in collaboration between the research teams of Jean-Stéphane Joly and Laure Bally-Cuif. This position is funded for one year by the Paris-Saclay Idex, starting on Jan. 1st, 2015.  
Profil de poste sur [http://www.inaf.cnrs-gif.fr/ned/equipe01/accueil\\_01.html](http://www.inaf.cnrs-gif.fr/ned/equipe01/accueil_01.html) et [http://www.inaf.cnrs-gif.fr/ned/equipe08\\_eng/accueil\\_08.html](http://www.inaf.cnrs-gif.fr/ned/equipe08_eng/accueil_08.html)  
Contact : [joly@inaf.cnrs-gif.fr](mailto:joly@inaf.cnrs-gif.fr) et [bally-cuif@inaf.cnrs-gif.fr](mailto:bally-cuif@inaf.cnrs-gif.fr)
- **Post-doctoral position: laboratory of Fish Physiology and Genomic (INRA LPGP) in Rennes (France)**  
Title of the project: Responses of HPI axis and brain neurogenesis to early stress and nutritional stress in rainbow trout.  
Contact: [Patrick.prunet@rennes.inra.fr](mailto:Patrick.prunet@rennes.inra.fr)





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Contact : [joly@inaf.cnrs-gif.fr](mailto:joly@inaf.cnrs-gif.fr) et [bally-cuif@inaf.cnrs-gif.fr](mailto:bally-cuif@inaf.cnrs-gif.fr)
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### ✓ Les Formations



- Registrations for the next edition of the European course on "Comparative Genomics" are open.

This year the course will be held on 26 January - 6 February 2015 at the ENS (Lyon, France). This course is organized by the Ecole Normale Supérieure (ENS) of Lyon (France) since 2008. It is aimed at students from the ENS and is open to master and PhD students from European universities.

The course focuses on major discoveries, big challenges, innovative concepts and original approaches in the field of comparative genomics, their applications in biology, medicine and biotechnology, and their impact on society.

Registration is free. Lectures are in English.

The preliminary program and registration form are available at: <http://lbbe-dmz.univ-lyon1.fr/spip.cgi/>

Jean-Nicolas Volff (ENS, Lyon) and Céline Brochier (Univ. Lyon1)

### ✓ Stages à Taiwan pour étudiants en thèse



- Research and Practical Training Program in Taiwan 2015  
June 29 - August 21

The Ministry of Science and Technology of Taiwan (MOST) has opened the call for its Research and Practical Training Program in Taiwan 2015. Through this program, the MOST intends to provide grants to French graduate students interested in undergoing a first-hand research or practical experience in Taiwan. The goals of the program are to introduce students to Taiwanese cultural, scientific and technological development, and to initiate personal relationships that will better enable them to collaborate with foreign counterparts in the future. Application is open to students from all fields of study. 30 grants will be offered in 2015. <http://france.most.gov.tw>



### ✓ Les Formations



- EMBL-EBI-Wellcome Trust workshop on In Silico Systems Biology, 7-12 June 2015

Open for Applications (apply by 23 January)

<http://advanced-courses-wellcome.msgfocus.com/c/1603VEPBAEPZXF67bCPVXEY>

Applications are invited for this joint EMBL-EBI-Wellcome Trust workshop. The week-long programme will combine lectures on modelling approaches, led discussions to identify the key challenges, opportunities and bottlenecks, and practical sessions on network analysis and network-based modelling.

The workshop is aimed at PhD students and researchers with a minimum of one year's experience in the field of systems biology modelling, and who are using systems-based modelling approaches to understand biomedical problems. It is beneficial if participants have experience of using pathway modelling in their work. Full details are on the workshop website.

Limited bursaries for PhD students covering up to 50% of the workshop fee are also available. Bursaries are awarded on merit. Applications and bursary requests must be received by 23 January 2015.

- German Cancer Research Center (DKFZ) in Heidelberg, Germany

The Winter Selection has now opened for the Helmholtz International Graduate School for Cancer Research, an interdisciplinary PhD program providing students with the opportunity to conduct research at the forefront of basic and translational cancer research. The next deadline for PhD applications is 5th January 2015 and the online application system is open now: [www.dkfz.de/phd](http://www.dkfz.de/phd)





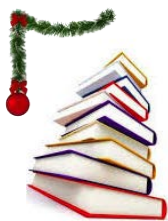
# La gazette du GDR

N°4

Décembre 2014

## 3606 REPRO

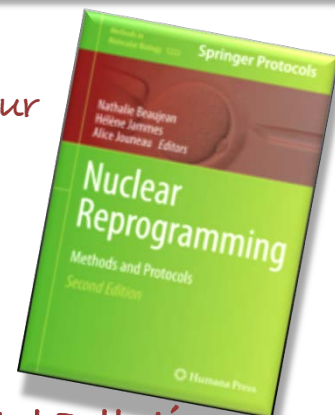
### ✓ La librairie



- Numéro spécial de *Methods in Molecular Biology* sur le thème "Nuclear Reprogramming"

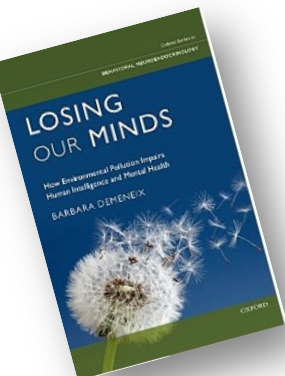
Editors : Nathalie Beaujean, Hélène Jammes, Alice Jouneau.  
Informations:

<http://www.springer.com/life+sciences/cell+biology/book/978-1-4939-1593-4>



- **Losing Our Minds: How Environmental Pollution Impairs Human Intelligence and Mental Health**

De notre collègue Barbara Demeneix, Professeure au MNHN  
Oxford Series in Behavioural Neuroendocrinology (2014)

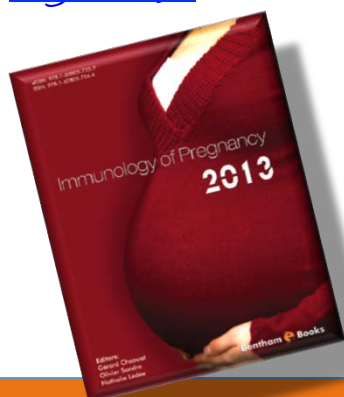


- Une édition spéciale sur le développement du blastocyste - De la pluripotence à la différenciation - vient d'être publiée par la Royal Society:

**'From pluripotency to differentiation: laying the foundations for the body pattern in the mouse embryo'**  
compiled and edited by Magdalena Zernicka-Goetz and Anna-Katerina Hadjantonakis

Philos Trans R Soc Lond B Biol Sci. 2014 Dec 5, Vol 369  
Issue 1657!

<http://rstb.royalsocietypublishing.org/content/369/1657>



- **"Immunology of pregnancy 2013"**

Editors : Gérard Chaouat, Olivier Sandra, Nathalie Lédée Bentham E book

Informations:

<http://www.isir.org.in/immunologyofpregnancy.pdf>







### Publications des Equipes du GDR

#### Leptin-dependent neuronal NO signaling in the preoptic hypothalamus facilitates reproduction.

Bellefontaine N, Chachlaki K, Parkash J, Vanacker C, Colledge W, d'Anglemont de Tassigny X, Garthwaite J, Bouret SG, Prevot V.

J Clin Invest. 124:2550-2559.

Humans and mice lacking the adipose-derived hormone leptin fail to complete puberty and are infertile; however, the mechanisms underlying leptin's effects on the reproductive axis are unknown. This paper shows that leptin acts on nitric-oxide (NO)-synthesizing neurons in the preoptic region of the hypothalamus to regulate peripheral levels of luteinizing hormone (LH). Mathematical modeling suggested that leptin action in the preoptic region leads to NO build-up that is of a sufficient concentration to induce the release of gonadotropin-releasing hormone (GnRH), the neurohormone controlling fertility, and subsequent LH secretion by the pituitary. These data demonstrate that leptin communicates the status of peripheral energy stores to GnRH neurons via the NOergic neurons of the preoptic hypothalamus to regulate fertility.

#### Brain Endothelial Cells Control Fertility through Ovarian-Steroid-Dependent Release of Semaphorin 3A

Giacobini P, Parkash J, Campagne C, Messina A, Casoni F, Vanacker C, Langlet F, Hobo B, Cagnoni G, Gallet S, Hanchate NK, Mazur D, Tanaguchi M, Mazzone M, Verhaagen J, Ciofi P, Bouret SG, Tamagnone L, Prevot V (2014) PLoS Biol 12:e1001808.

In the developing embryo, endothelial cells release chemotropic signals such as Semaphorin 3A (Sema3A) that regulate neuronal migration and axon guidance; however, whether endothelial cells in the adult brain retain the ability to secrete molecules that influence neuronal function is unknown. This paper shows that, in the adult brain, vascular endothelial cells release Sema3A to promote the outgrowth of axons of hypothalamic neurons that release gonadotropin-releasing hormone (GnRH) towards the endothelial wall of portal blood vessels. Notably, this endothelial-cell-mediated sprouting of GnRH axons regulates neuropeptide release at a key stage of the estrous cycle, the proestrus, when the surge of GnRH triggers ovulation and hence plays a pivotal role in orchestrating the central control of reproduction. Vascular endothelial cells thus appear to be dynamic signaling components that relay information to the brain to control key physiological functions, including species survival.

#### Neonatal testosterone suppresses a neuroendocrine pulse generator required for reproduction.

Israel JM, Cabelguen JM, Le Masson G, Oliet SH, Ciofi P (2014) Nat Commun 5:3285.

Brain hormones are secreted into the blood stream in pulses, instead of continuously, to prevent fatigue of target organs. What causes pulsatility is unknown. The authors studied the pulsatile electrical activity of the neurons secreting oxytocin, the hormone provoking contractions of the uterus at birth and of the mammary gland for milk release. They discovered that oxytocin neurons' pulsatility is driven by a neuronal network similar to those controlling activities like breathing or walking. The pulsatility-network was active in new-borns of both sexes but later degenerated in males during the process of sexual differentiation whereby brain sex adjusts to body sex.





### Publications des Equipes du GDR

Toutes nos félicitations à **Fatima Smagulova**, équipe Atip-Avenir de l'Irset, dont la dernière publication scientifique intitulée

"**Recombination initiation maps of individual human genomes**"  
vient de paraître dans le journal **Science** !

Réf. : Science 14 NOVEMBER 2014 • VOL 346 ISSUE 6211

Abstract : <http://www.sciencemag.org/content/346/6211/1256442.abstract>

**Anti-Müllerian Hormone Regulation by the Bone Morphogenetic Proteins in the Sheep Ovary: Deciphering a Direct Regulatory Pathway**  
Anthony Estienne, Alice Pierre, Nathalie di Clemente, Jean-Yves Picard, Peggy Jarrier, Camille Mansanet, Danielle Monniaux, and Stéphane Fabre

Endocrinology (2015) 156: 301-313

