



NOTICIERO JULIO 2020



POST-DOCTORAL POSITION AT THE INSTITUTE OF GENETICS AND MOLECULAR AND CELLULAR BIOLOGY (ILLKIRCH, FRANCE) IN THE TEAM OF DANIEL METZGER

PROJECT: "TISSUE SPECIFICITY AND MOLECULAR CROSSTALK OF STEROID HORMONE RECEPTORS"

Aim of the project. The project aims at understanding the molecular mechanisms underpinning the tissue specificity and the crosstalk between steroid hormone receptors through integrative analyses. Our team has recently developed projects based on genomewide characterization of transcription factor cistromes and transcriptomes in various tissues of genetically modified mice, thereby providing the unique opportunity to decipher the *in vivo* mode of action of nuclear receptors. The fellow's tasks will be to identify tissuespecific receptor partners and characterize the associated epigenetic marks using cuttingedge technics like Atac-seq, Hi-C and Rapid Immunoprecipitation Mass Spectrometry (RIME). Genome-wide data obtained in various tissues will be strengthened in *in vitro* models to delineate these complex molecular mechanisms.

The project will be developed at the Institute of Genetics and Molecular and Cellular Biology (IGBMC), the largest French academic research unit, involving INSERM, CNRS and the Strasbourg University. The institute develops interdisciplinary research at the interface of biology, biochemistry, physics and medicine, hosts state-of-the art scientific services and technological platforms, and attracts students from around the world by offering high-level education in biomedical sciences. IGBMC is located at the "Parc d'Innovation d'Illkirch", an exceptional scientific, academic and industrial environment next to Strasbourg.

We offer a 2-year contract, starting September 2020, with the possibility of extension. Remuneration and social benefits will be based on the CNRS agreement for public-sector employees. The applicant will be involved in a multidisciplinary group including basic scientists, pathologists and bioinformaticians, integrated in international collaborations. She/he will have access to various technologies to perform this scientific project with high clinical relevance.

Requirements. Applicants should have a PhD in biological science, a strong background in molecular biology with a sound knowledge in transcriptional regulation and chromatin remodeling. Está abierto a todas las áreas del conocimiento.

YOUR RESPONSIBILITIES WILL INCLUDE:

- Molecular biological assays on tissues of genetically modified mice (ChIP-seq, Atac-seq, imaging, ...)
- Establishment of new genome-wide technics using in vivo models
- Bioinformatics analyses

Your application. Candidates should send a curriculum vitae with a publication list, a short summary of research achievements and mastered techniques, as well as contact information of at least two references to metzger@igbmc.fr.

SELECTED PUBLICATIONS OF THE TEAM:

Ando S, Malivindi R, Catalano S, Rizza P, Barone I, Panza S, Rovito D, Emprou C, Bornert JM, Laverny G et al. 2017. Conditional expression of Ki-Ras(G12V) in the mammary epithelium of transgenic mice induces estrogen receptor alpha (ERalpha)-positive adenocarcinoma. *Oncogene* **36**: 6420-6431.

Chambon C, Duteil D, Vignaud A, Ferry A, Messaddeq N, Malivindi R, Kato S, Chambon P, Metzger D. 2010. Myocytic androgen receptor controls the strength but not the mass of limb muscles. *Proc Natl Acad Sci U S A* **107**: 14327-14332.

Duteil D, Chambon C, Ali F, Malivindi R, Zoll J, Kato S, Geny B, Chambon P, Metzger D. 2010. The transcriptional coregulators TIF2 and SRC-1 regulate energy homeostasis by modulating mitochondrial respiration in skeletal muscles. *Cell Metab* **12**: 496-508.

Gali Ramamoorthy T, Laverny G, Schlagowski AI, Zoll J, Messaddeq N, Bornert JM, Panza S, Ferry A, Geny B, Metzger D. 2015. The transcriptional coregulator PGC-1beta controls mitochondrial function and anti-oxidant defence in skeletal muscles. *Nat Commun* **6**: 10210.

Huet T, Laverny G, Ciesielski F, Molnar F, Ramamoorthy TG, Belorusova AY, Antony P, Potier N, Metzger D, Moras D et al. 2015. A vitamin D receptor selectively activated by gemini analogs reveals ligand dependent and independent effects. *Cell Rep* **10**: 516-526.

Parisotto M, Grelet E, El Bizri R, Dai Y, Terzic J, Eckert D, Gargowitsch L, Bornert JM, Metzger D. 2018. PTEN deletion in luminal cells of mature prostate induces replication stress and senescence in vivo. *J Exp Med* **215**: 1749-1763.

Rovito D, Belorusova AY, Chalhoub S, Rerra AI, Guiot E, Molin A, Linglart A, Rochel N, Laverny G and Metzger D. Cytosolic sequestration of the Vitamin D Receptor as a therapeutic option for vitamin D-induced hypercalcemia. *Nature Communication*, in revision.

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The University of Lyon is an international research university with 154,000 students, 5000 PhD students and 6,800 researchers. With an excellent domestic and international reputation, Lyon University is among France leading universities and it was recently awarded the title of University of Excellence.

The laboratory of **Prof. Christophe MARCELLE** at the Faculty of Medicine, NeuroMyoGène Institute, Lyon, France, invites applications for a 3 year

PhD position: 'Blood cells as a therapeutic tool to repair ailing muscles from heritable muscle diseases'

Our laboratory is interested in understanding various aspects of early myogenic differentiation in the embryo using the avian (mainly) and rodent models. Our recent work has focused on the process of fusion, whereby myofibres become multinucleated. As a "spin-off" of those fundamental studies, we have initiated a translational program aimed at determining whether blood cells that have been genetically engineered to express the fusion master gene Myomaker (MYMK)¹ can be used to repair dystrophic muscles. We obtained (unpublished) remarkable data showing that blood cells expressing MYMK, fuse to muscles *in vitro* and *in vivo* (both in WT and *Mdx* mice, a model of Duchenne Dystrophy). The research project aims at following a number of leads to significantly improve the efficiency of fusion to myofibres in adult mice. In the *Mdx* model, therapeutic blood cells will carry in addition to MYMK a gene repair toolkit (e.g. CRISPR/Cas9) aimed at correcting mutant nuclei. Molecular (dystrophin expression) and functional recovery will be monitored. This translational project combines innovative approaches and technologies to pave the way for the design of novel strategies to repair muscles of patients affected by hereditary diseases.

¹ Millay, D, O'Rourke, J, Sutherland, L, Bezprozvannaya, S, Shelton, J, Bassel-Duby R, Olson, E (2013). Myomaker is a membrane activator of myoblast fusion and muscle formation. *Nature*, 499:301-305.

Techniques that will be used: FACS, immunohistochemistry, mouse handling, intra-venous injection, cardiotoxin injury of tibialis, cell culture, lentivirus construction and production.

Your qualifications:

- A Master degree in Genetics, Biology, Immunology or a related field
- Experience in mouse handling is preferred
- A strong drive to succeed and an ability to work both independently and in a team
- Solid communication/writing skills (preferably also in English)

We offer:

- 3 year salary
 - A position in a vibrant scientific environment and in a research-active international laboratory
- (<https://www.inmg.fr/marcelle/?lang=en>)

Please send your complete **application documents** (consisting of a CV, list of publications, letter of motivation, names of two references) to (christophe.marcelle@univ-lyon1.fr) by **31.07.2020**.



FACULTAD DE CIENCIAS BIOLÓGICAS
PONTIFICIA UNIVERSIDAD CATÓLICA DE CHILE



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Ciclo de Webinars FCB

¡Este miércoles 8 de julio de 2020 a las 17:00 horas!

Con motivo de contribuir a que la sociedad reciba información científica de primera calidad sobre la pandemia que nos afecta, los Departamentos de la Facultad de Ciencias Biológicas realizarán una serie de webinars sobre COVID-19.

Los invitados son:



Dr. Alexis Kalergis
Universidad Católica de Chile

Investigación y desarrollo de vacunas contra virus respiratorios: desde la ciencia básica hasta la vacunación e implicancias en tiempos de pandemia.



Dr. Mauricio Canals
Universidad de Chile

Epidemia Covid en Chile:
Monitoreo y Modelos

Inscripciones en el código QR

**Evento liberado mediante inscripción
Cupos limitados**

**Para todo público especialmente miembros
de toda nuestra comunidad FCB**

**Organiza: Facultad de Ciencias Biológicas
con el apoyo de la VRI**





COLOQUIOS

XVII COLOQUIOS DE MICROBIOLOGÍA VALPARAÍSO 2020

CICLO DE COLOQUIOS MENSUALES JUEVES 12:15 PM
INGRESA A WWW.GAMBIO.CL

30 ABRIL

Dra. Alexandra Stoll

Centro de Estudios Avanzados en Zonas Áridas (CEAZA). La Serena, Chile

With a little help from my friends:

bacterial modulation of the plant response to abiotic stress

25 JUNIO

Dra. Pilar Junier

Université de Neuchâtel. Neuchâtel, Suiza

*Las interacciones entre bacterias y hongos:
del suelo a la salud humana*

27 AGOSTO

Dra. Sara Cuadros

Universidad Católica del Maule. Talca, Chile

Bioinformatic challenges in metagenomic studies

15 OCTUBRE

Dra. Martha Hengst

Universidad Católica del Norte. Antofagasta, Chile

*Desierto de Atacama: La diversidad microbiana que
habita a la sombra de la humedad y el calor*

17 DICIEMBRE

Dr. Hector Levipan

Universidad de Playa Ancha. Valparaíso, Chile

*Biopelículas bacterianas: la faceta más desconocida
de patógenos acuáticos emergentes*

11 JUNIO

Dr. Aldo Gaggero

Universidad de Chile. Santiago, Chile

SARS CoV-2, un desafío actual y futuro

30 JULIO

Dra. So Fujiyoshi

Hiroshima University. Hiroshima, Japón

*Characteristics of the microbial community
in bioaerosol in Chile and Japan*

24 SEPTIEMBRE

Dra. Macarena Marin

Ludwig-Maximilians-Universität München.

München, Alemania

*Journey to the inside of the cell:
how symbiotic rhizobia infects plants*

12 NOVIEMBRE

Dr. William Fenical

Scripps Institution of Oceanography.

San Diego, Estados Unidos

*Marine bacteria provides new opportunities in
drug discovery*



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Sociedad de Microbiología
de Chile

Organizadores:
Dr. Michael Seeger Pfeiffer (UTFSM)
Dra. Beatriz Cámara Herrera (UTFSM)
Dra. Carolina Yáñez Prieto (PUCV)
Dra. Verónica Molina Trincado (UPLA)