

# La Lettre de la



Janvier 2019

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Cher.e développementaliste,

Voici donc la première édition de la Lettre de la SFBD nouvelle formule, que nous voulions être la plus informative possible.

Chaque janvier, vous y trouverez un éditorial, un récapitulatif des actions de la société l'année précédente, les plans pour l'année à venir et les courts textes que les jeunes scientifiques soutenu.e.s par une bourse de voyage nous ont envoyés à leur retour.

En septembre, en plus de l'éditorial, vous trouverez une présentation des heureux lauréat.e.s, de positions permanentes dans nos instituts et universités, et un point sur les contrats principaux (ANR, Europe, etc...) obtenus dans notre domaine.

Nous vous souhaitons bonne lecture de ce premier numéro.

Le CA de la SFBD

## Editorial

### Developmental Renaissance.

2018 was a good year for Developmental Biology: for the first time since the Science's "Breakthrough of the year" award was created two decades ago, our field was distinguished for "[Development cell by cell](#)" through single-cell RNA-seq. Two decades after the end of the last "golden age" of developmental biology in the 1980's and '90s, let's rejoice at this Renaissance!

Sequencing mature (or nascent [1]) transcripts in single-cells, either dispersed or within their 3D tissue environment [2], are just one side of the ongoing single-cell genomics revolution. Landscapes of local chromatin accessibility [1,2] or of 3D chromatin architecture [3] can now be studied in isolated cells providing dynamic mechanistic insight into transcriptional developmental programmes.

Single-cell approaches are not limited to genomics. Long-term tracking of individual cell geometries and cell contacts during morphogenesis was also achieved last year, opening the way to the quantitative analysis of intra- and inter-embryo variability [4–6]. Finally, the forces that cause stress and drive morphogenesis can now be measured in single cells either directly [4] or by inference from geometric data [5].

These single-cell, quantitative breakthroughs will receive ample coverage in 2019, first of all in the "Development at the single cell level" special issue of *Development*. They hold the potential to revolutionize our understanding of development, of its evolution, and of its control by the environment. For the first time, it is reasonable to think that we may bridge scales and explain tissue-scale phenotypes from the genome information and behaviours of individual cells. Will this reveal universal principles or reinforce the idea that biology is a messy business driven by "evolutionary tinkering"? Will nature prove to be parsimonious in its regulatory mechanisms or to frequently converge onto similar outcomes despite regulatory divergence? The growing realization that liquid liquid phase separation may be a universal physical principle guiding biological processes as diverse as transcription [6], signal transduction [7] or mitosis [8] gives

hope for the former.

Single-cell analyses may also redefine the model organisms we study. It has never been so simple to apply powerful genomics and imaging technologies to the embryos of “obscure” beings chosen for a specific property such as their ecology, phylogenetic position or a specific developmental trait. In addition, these data offer insights into the molecular paths that have allowed cell type emergence and diversification during animal evolution [9]. We should seize this opportunity to explore the biodiversity that surrounds us, making good use of our national land or marine resource centres. This is also an encouragement to ensure that each developmental biology student is sufficiently introduced to the riches of zoology and botany. Life extends beyond *Drosophila*, zebrafish, mouse, *Arabidopsis*, nematodes and mammalian organoids.

Going simultaneously single-cell and quantitative also raises issues and challenges. The first one is purely logistic: how to deal with, share, and compare such masses of information? As with all trendy and promising techniques, it is likely that a large fraction of labs are considering generating single-cell RNA-seq data (It would be amusing to know what fraction of this year’s developmental biology ANR applications are NOT proposing this approach...). In a time of limited financial resources, would it make sense to join efforts in each model organism, rather than generating redundant datasets that may not always be easy to compare? The INSERM transversal aim to build a “[Human Developmental Cell Atlas](#)” may provide some ideas on the best way to federate communities. The second one is to interpret and analyse these data. How will we store them? How will we integrate them with existing data? Will deep-learning, which started impacting image analysis [10], live up to expectations? How many of our labs have the necessary computational resources and analytical or modelling skills? Should we lobby for a better support for integrative model organism databases at the national or European level? How can we recruit and/or train the necessary physicists and applied mathematicians/computer scientists?

In 2019, our field will also be impacted by rapid changes in scientific publishing. Our work has never been so easy to share: preprints are increasingly posted ahead - or instead - of peer-reviewed publication [11] and now commented by young scientists in initiatives such as [preLights](#). In parallel, eleven European agencies, including the ANR, unveiled their “[Plan S initiative](#)” for “Radical open-access” (Quote: *Nature*). When Plan S is implemented on January 1st, 2020, authors will retain copyright and will have to publish under Creative Commons licence in compliant Open-Access (OA) journals. The plan also proposes to cap the cost of OA. It is of course highly desirable that our publicly-funded work is made accessible to the broadest audience. But we should also ensure this policy does not negatively impact quality not-for-profit journals, which use the product of their editorial activities to support and foster the developmental biology community. Briscoe and Brown’s New Year *Development* editorial is a good read on the topic [12], as is Pulverer’s in the *Embo Journal* [13].

All these - and many other - topics will be discussed during our yearly meeting this year: we teamed up with the ITMO BCDE and the French Society for Cell Biology ([SBCE](#)) to organize a three-day meeting on “[Developmental and Cell Biology of the Future](#)” (Paris March 27-29) whose scientific programme we entrusted to a group of enthusiastic young scientists who have done a wonderful job. The scientific talks (most speakers in each session will be selected from submitted abstracts) will be followed by round tables to discuss the institutional support that we need in order to stay abreast of these exciting new directions.

Our objective for 2019 is to further support the current renaissance of our discipline and to ensure that the developmentalists based in France can fully benefit from and contribute to it.

Patrick Lemaire

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# The SFBD in 2018

## How many are we?

As of today, there are more than 515 SFBD members (compared to 315 in 2016). Thank you for your trust!! This strong increase in membership is in part due to a change in the adhesion policy: in many cases, team memberships have supplanted individuals. We will continue with this policy, which makes it easier for you (and us) to handle memberships.

## Travel grants for young scientists

We distributed 12 travel grants for a total amount of 4900 euros, complementing the 2500€ subvention we received from the [ITMO BCDE](#) with our own funds. The reports on the meetings the supported young scientists have written are published at the end of in this issue of the Letter.

## PhD Prizes:

In 2018, we decided to award two runner-up prizes in addition to the ZEISS-sponsored SFBD PhD prize. The PhD prize was awarded this year to Mathilde Dumond (RDP, ENS, Lyon) for her doctoral [work](#) on the mechanical control of shape variability during arabidopsis flower formation. Mathilde received a 1000 euros cash prize and was invited to give a plenary talk on her work at the Porto joint meeting (she unfortunately fell ill and could not come to the meeting). The two runner-ups, who were each awarded a 300 euros cash prize, were Samuel Collombet (IBENS), for his [thesis](#) on the bioinformatic analysis of the regulatory network controlling the specification and reprogramming of blood cells, and Gantas Perez-Mockus (Pasteur Institute) for his [work](#) on the regulation of apical basal polarity and mesoderm invagination by the E3 ubiquitin ligase Neuralized in *Drosophila*.

## SFBD Meeting

This year's SFBD annual meeting was joint with our [Portuguese and Spanish colleagues](#). Approximately 200 scientists, including around 40 scientists either French or based in France, gathered for this very diverse, high-quality meeting in beautiful rainy Porto. The meeting included a public outreach session, organized by Sofia Araujo and [covered](#) by The Node. Thanks to the Toulouse co-organizers of this meeting on behalf of the SFBD: Alice Davy, Fabienne Pituello and Sophie Bel-Vialar for their investment.

## Support to third-party meetings and workshops:

Over the past couple of years, we have received an increasing number of sponsoring requests for meetings others than those organized by the society, possibly because it is getting harder to organize national meetings and workshops. Last year we funded 4 such meetings: The [Interdisciplinary spring school on animal and plant morphogenesis](#) (Montpellier), the workshop "[Mechanobiology and Physics of Life](#)" (Clermont-Ferrand), [Droso France 2018](#), and the 2018 Ecole polytechnique summer school on [Cell migration in Health and Diseases](#).

## Update of our statutes

We carried out a necessary update on our statutes, which was validated during the extraordinary general assembly held in Porto during the SPBD/SEBD/SFBD joint meeting. The main changes were: the introduction of anonymized electronic voting and proxy voting; the permanent domiciliation of the society headquarters at the IBDM, Marseille Luminy; an increase in the maximal number of members of the board to 16; an extension of the (outdated) goals of the society to include the support of young scientists. You can read the new statutes [here](#).

## Twitter account

You are now 273 to follow [@sfbd\\_biodev](#) on Twitter, and this despite our somewhat patchy coverage of the Dev Bio scene... If you wish to help us improve our coverage, we are more than welcoming!

## Diffusion lists

To facilitate communication with our members and within our scientific community, we created two email diffusion lists:

The [biodevfr diffusion list](#) provides a link between members of our community, irrespective of their SFBD membership status. This is the list that should be used to post meeting announcements, calls of all sorts, requests, job offers, PhD viva announcements and all things related to the scientific life of our discipline. The list currently has 212 subscribers. If you have not yet subscribed, you can do it simply by sending a mail to [sympa@groupes.renater.fr](mailto:sympa@groupes.renater.fr) with subject "sub biodevfr" (without quotes).

The [sfbd-membres diffusion list](#) is only used by us to communicate institutional information to our members (e. g. votes, invitation to general assemblies...). As a member, you are automatically subscribed but you cannot post on this list, through which very few messages will be posted every year.

## Funding situation of French Developmental Biology labs:

In 2017, we teamed up with the team of [Jérôme Aust](#), a sociologist focusing his research on Higher Education and Research policies, to survey the funding situation in our field. You have received the first results of this survey in a separate mail on the biodevfr list. Jérôme would like to complete this survey with team leader interviews. To volunteer, simply fill in this online [form](#).

## Speaking up for Science:

Learned societies in many countries play an active role in the promotion of science in society at large. This has not traditionally been the case in France. The SFBD and SF2A (astronomy and astrophysics) have initiated an effort to federate learned societies of all academic disciplines to strengthen the voice of academia in public debates. We organized in September in Paris a first meeting of the presidents of 49 societies totalling 48000 members, to which we also invited the association of science journalists (AJSPI), the Petits Débrouillards, the association of

science and technology museums (AMCSTI), the parliamentary office of evaluation of scientific and technological choices (OPECST). The first decision taken was to precisely define what a learned academic society is and establish an internet portal for these societies. We also started working together, with the societies for Mathematics (SMF), Neurosciences (SdN), Ecology and Evolution (SFE2), and Political Science (AFSP), we drafted a [budgetary note](#) which was sent to selected members of Parliament. As a response we had several discussions with members of parliament and senate, in particular with the member of parliament in charge of the research budget, Amélie de Montchalin. We are expecting to continue these discussions in the coming year and hope to have an impact on the road map for science that will be crafted this year. In parallel, we also created a transdisciplinary working group on the professional outlooks for PhDs, and wrote several tribunes in Le Monde on the [Palais de la découverte](#), on the [science budget](#) and on the proposed [increase in tuition fees](#) for extra-EU students.

## What's up in 2019?

### A renewed board

First of all, as each year, the board of the society has been partially renewed. Thank you to the four leaving members: Isabelle Le Roux, our general secretary, Laure Bally Cuif, Pascale Gillardi and Pascal Dollé. Your personal investment was a great help! Welcome to the newly elected members: Marie-Ange Bonnin (IBPS, Paris), Glenda Comai (Pasteur, Paris), Alice Davy (CBI, Toulouse), Andrea Pasini (IBDM, Marseille) and Julien Vermot (IGBMC, Illkirch). A special welcome to Marie-Ange, who is the first lab engineer in a long time to join the board. The first board meeting of the year will take place on February 11th in Paris.

### A new website

As you may have noticed, our current website is showing alarming signs of aging. The layout is suboptimal, and not all information is available anymore. We had anticipated this (not enough) and a new website is already being built. Among various novelties, this website will offer real member lab pages, a blog section, and the ability to pay membership fees by credit cards.

### Membership renewal

It is time for the renewal of your membership. We are again encouraging you to register whole teams rather than individual members. A general email with detailed information about the procedure to follow will be sent to all current members as well as on the biodevfr list. Note that by becoming a member, you are not (only) being a science philanthropist: members enjoy reduced fees in the activities organised by the SFBD. Furthermore only members are eligible to travel grants and PhD prizes. By becoming a member you are therefore (also) buying a service, satisfying a condition for the use of purchase orders in some institutes.

### Scientific meetings

The SFBD is co-organizing with the SBCF and the ITMO-BCDE a meeting entitled: "[Developmental and Cell Biology of the Future](#)" (Paris, March 27-29, 2019). [Registration](#) is free but compulsory. This meeting is unusual in (at least) two respects: Its scientific programme was entrusted to team of 11 young scientists (PhD students, post doctoral fellows and staff

scientists early in their career); and the meeting will include several round tables to discuss how our labs and institutions could best support the exciting new recent developments in our discipline. Your participation is crucial: most talks in each session will be selected from submitted abstracts (see [template](#); Deadline: February 10). A poster session will also be organized.

In addition, Europe will hold this year its first [European Developmental Biology Congress](#) (Alicante, October 26-29; deadline for abstract submission: June 2nd). The scientific programme is very attractive and diverse, including Denis Duboule, Edith Heard, Nipam Patel, Alex Schier as plenary speakers.

## Travel grants for young scientists

With the help of the ITMO-BCDE, we will continue supporting PhD students and Post-docs with three calls for international traveling awards (400 euros for a European meeting, 500 euros for other regions, around 10 awards for the year). The first two calls ([Deadlines: January 31th and May 3rd 2019](#)) are open to all developmental biology meetings. The third call (Deadline June 21st 2019) is dedicated to supporting participation to the European Developmental Biology Congress in Alicante (see above).

## PhD prize

Thanks to the renewal of our Zeiss sponsorship, we will award again a best PhD prize and up to two runner up prizes ([Deadline for application: January 31 2019](#)). The selection criteria are of course the scope and quality of the research results obtained, but the presentation and quality of writing of the entire manuscript and the relevance of the discussion of the results are also important criteria.

## Sponsorship of developmental biology events in France

We will continue supporting, with small grants of up to 1000 euros, events (workshops, courses, schools...) organized by our community in France. In 2019, we will introduce specific calls for this form of support. This will be announced on the biodevfr list after the first meeting of the board.

## Science funding

2019 will (again) not be a good year for science funding in France, the budget of public Higher Education and Research just keeping up with inflation. The ANR success rate may barely reach 14% (40% for FNS in Switzerland, more than 30% for the DFG in Germany, 23% for the NSF in the US...). We will pursue our joint efforts with other learned societies to convince the government of the necessity to increase both permanent and grant-based funding.

## Speaking up for Science in society

At night, a torch does not decide where you should go, but using the torch to explore your surroundings gives you critical information to decide what is the best option. Science is like a torch for society, no more no less: Scientists should not decide, but we should help society take informed decisions.

Those of us who work on applied science projects can be considered to do this on a daily basis.



But there are many ways to help Science penetrate society. You can participate to public outreach events such as the Fête de la Science, Cercle FSER/Déclics, the Semaine du Cerveau, Ma thèse en 180 secondes ([MT180](#)), or even [Ma thèse en jeu video](#)! Explaining what a PhD is in France is a necessity: we are one of the few countries in the world where a PhD is considered a lab rat, rather than a highly selected and gifted individual.

In 2018, we discussed how the SFBF could help promote Developmental Biology in Society. Should we introduce a section on public outreach on our new website where we would collect or link out to already existing material to help you prepare for public outreach events? Should we sponsor public conferences in cultural centers? Should we take census of the best Dev Bio videos on Youtube? We will come back to you in 2019 with propositions.

### Help us improve: give us your opinion

Finally, your expectations and your opinion should have an impact on our activities. You will be proposed to fill in an online questionnaire in the spring. This will be a good opportunity to have an impact on what our society does for the community!

## 2018 Travel grant reports



Picture credit: Jennifer Durant-Vesga

You will find in this final section the short texts that ten PhD students and post-docs awarded an SFBF/ITMO-BCDE travel fellowship have written to share their experience and their preferred talks.

### Jennifer Durant-Vesga

2nd year PhD student with Jean-François Riou, IBPS, Paris, [Transcription and Chromatin EMBL conference](#), Heidelberg, 25-28 August 2018

There I was at the EMBL Advanced Training center, a high-tech building assigned to hold the most important conference on transcription of the year.

I remember pasting my poster on the designated spot #129. "Role of hox transcription factors and TALE cofactors in the renal precursor's specification of *Xenopus pronephros*". Quite humble I thought while looking at the program on my smartphone via the sophisticated EMBL events app. Only big shots as speakers and outstanding researchers from all over the world gathered there to share their knowledge

The conference's organization was impeccable we had a pre-conference which was pretty much an update of the most recent launches in scientific research engines. Then the talks began, some of them given by legends like Michael Levine who talked about transcriptional hubs and his studies on transvection by live imaging methods to visualize enhancers that can co-activate separate reporter genes in cis and trans across homologous chromosomes. Transcription and chromatin was a gender-balanced conference. I was amazed seeing so many women group leaders like Minna Kaikkonen, who use Gro-seq to identify pri-RNAs and enhancers and Karen Adelman working on eRNAs who pointed at the difficulty to study their function due to their lack of transcriptional progressivity. Throughout the venue, networking was highly encouraged. We all had the opportunity to exchange with experts, young scientists, and even companies. Remarkably during the poster session where I could receive valuable feedback from experts in *Hox* or *Xenopus* from Duboule's, Krumlauf's, and Veenstra's Lab.

Thanks SFBD and André Picard for such an unforgettable opportunity!

### Laurent Formery

4th year PhD student with Jennifer Croce, LBDV, Villefranche/mer, [7<sup>ème</sup> Euro-Evo-Devo Meeting](#), Galway, June 26-29 2018

Grâce à la bourse de voyage de la SFBD, j'ai pu participer au 7<sup>ème</sup> Euro-Evo-Devo Meeting à Galway, Irlande. Tous les deux ans, ce congrès international vise à mettre en avant les dernières découvertes obtenues dans le but de comprendre les mécanismes évolutifs ayant abouti, au cours de l'évolution, à la diversité du vivant telle que nous la connaissons. Il regroupe ainsi, à l'échelle mondiale, des thématiques très diverses incluant la génétique, la biologie cellulaire, la génomique, l'embryologie, et la biologie de la régénération, pour ne citer que les principales ; ainsi que divers sujets d'études menés sur des organismes issus de l'ensemble des branches du vivant, avec un intérêt particulier pour les métazoaires. Participer à ce congrès m'a permis de me tenir informé des dernières avancées réalisées par des équipes pionnières dans le domaine de l'Evo-devo, comme par exemple les équipes des Drs. Andreas Hejnol et Shigeru Kuratani. En outre, j'ai pu discuter avec des spécialistes de mon sujet d'étude, les Drs. Jean-François Brunet et Maria Byrne, ce qui a également été l'occasion pour moi d'envisager de nouvelles collaborations pour le futur. En ce sens, ma participation au 7<sup>ème</sup> Euro-Evo-Devo Meeting a été pour moi très positive, et restera un des moments forts de mon doctorat.

### Hereroa Johnston

4th year PhD student with Eric Röttinger, IRCAN, Nice, [7<sup>ème</sup> Euro-Evo-Devo Meeting](#), Galway, June 26-29 2018

I am really grateful to have been awarded the SFDB travel grant. Thanks to this grant I had to opportunity to attend for the first time the European Evo Devo meeting, which took place at the National University of Ireland, Galway. This was truly an enriching experience, given the high diversity of background and field that were represented. But for me this was mostly the opportunity to give my first talk in an international meeting and gain a maximum of exposure. As a result of this large gathering, the choice of talk to attend was tough. Since I am working on the cnidarian model *Nematostella vectensis*, I really enjoyed the presentation of the first single cell RNA sequencing work on this organism. I also could attend to several talks on

regeneration, which is my main research area. It was interesting to see and talk about regeneration in different models. Such as the regeneration of the acoel *Hoeftenia miamia* exhibiting a general wound response. This was associated with the *Egr* pathway and is seemingly conserved across bilaterians.

As a PhD student in his 4th year, this meeting was for me a great success and a unique opportunity to present my work to internationally renowned scientists and to introduce myself to this community that I would like to integrate. That's why I thank the SFBD and the ITMO BCDE for giving me this travel grant which allowed me to take a crucial step in my young career as a researcher.

### Audrey Desgrange,

Post-doc with Sigolène Meilhac, Institut Imagine – Institut Pasteur. Paris, EMBO Workshop “[Imaging Mouse Development](#)”, Heidelberg, 24 - 27 July 2018

I attended the EMBO Workshop « Imaging Mouse Development », in Heidelberg last July 2018. The aim of this workshop (every 2 years) is to establish a community of people aiming to develop 4D imaging of the mouse embryo development. Among the amazing speakers invited were Hiroshi Hamada, James Sharpe and Philip Keller. The workshop was limited to 80 people and this really facilitated meeting and connecting with the other participants. In particular, I had the chance to meet future collaborators for my research project, with whom we are currently planning a research visit in their lab during 2019. We also had the opportunity to visit the imaging facilities of the EMBL. One of my favorite talk was given by K. McDole (from P. Keller lab in Janelia), who has shown her [work on time-lapse 3D imaging of the mouse embryo](#) after implantation at single cell resolution thus generating an atlas: they produced amazing movies and with image processing were able to follow cell divisions and lineages over 48h. The next workshop will be held in Janelia, in 2020 and I can't wait to see what the future of mouse embryo imaging will look like. So, thank you very much to the SFBD and ITMO BCDE for giving me the opportunity to participate in this workshop and meet future collaborators.

### Sarah Dinvaut,

3rd year PhD student with Julien Falk, Institut NeuroMyoGène, Lyon. [Molecular Mechanisms of Neuronal Connectivity](#) Cold Spring Harbour, 25-29 september 2018

La bourse de voyage m'a permis d'assister à une conférence Cold Spring Harbor sur la connectivité neuronale. Nous avons eu la chance d'avoir une session entièrement dédiée au guidage axonal, au cours de laquelle des travaux ont été présentés mettant en évidence l'implication dans le guidage axonal de mécanismes cellulaires tels que les cils primaires ou la polarité planaire. De plus, deux conférences particulières de Carol A. Mason et de Marc Tessier-Lavigne ont porté respectivement sur l'analyse des avancées dans le domaine du guidage depuis les prémices jusqu'à aujourd'hui et sur la polémique actuelle autour du guidage axonal médié par les nétrines. Ces conférences de chercheurs impliqués depuis longtemps dans le domaine étaient très intéressantes. La plupart des posters présentaient des travaux non-publiés et de nombreux sujets abordaient la question du guidage axonal sous un angle original, comme des propositions de modèles stochastiques ou de modèles de reconnaissance cellule-cellule basées sur le lignage.

Ce meeting m'a permis de voir que mon projet s'intégrait à l'évolution du domaine. Cette perception a été confirmée par le fait que mon poster a fait l'objet d'un highlight au cours d'une conférence plénière dans la catégorie « new frontier », de la forte affluence et du prix que j'ai reçu pour ce poster.

Nous n'avons pas clairement établi de collaborations, mais j'ai eu des discussions intéressantes et j'ai pu établir des contacts avec différents chercheurs. Nous avons également accepté la proposition de tester dans notre modèle de guidage axonal chez l'embryon de poulet un plasmide permettant un marquage fluorescent différentiel en fonction de l'introduction ou non d'une modification génétique, ce qui pourrait être utile à différents projets de l'équipe.

### Léa Rambaud-Lavigne

3rd year PhD student with Pradeep Das, RDP, ENS-Lyon, [29th International Conference on Arabidopsis Research \(ICAR\)](#), Helsinki, 25-29 June 2018

I spent the travel grant awarded by the ITMO BCDE to attend the International Conference on Arabidopsis Research (ICAR) held in Helsinki in June 2018. I decided to attend this yearly international conference because it gathered a wide range of topics, some of which I did not know much about. Moreover, I was looking for a post-doc position at that time and I wanted to meet potential collaborators. I think this conference is very well adapted to PhD students finishing their thesis in the field of plant research, and it was a great opportunity for me to present my work in front of a broad audience since I had the opportunity to give two different talks. From the different sessions I attended, I particularly appreciated the talk of Guido Grossmann, who presented his microfluidic imaging platforms designed to study the development of root hair in *Arabidopsis*, revealing the polarization of growth machinery components. I am very grateful for this travel grant and I am happy to promote the SFBD activities to PhD students!

### João E. Carvalho

FRM Post-Doc with Eric Röttinger, IRCAN, Nice, [Joint Meeting of the Portuguese, Spanish and French Societies for Developmental Biology](#), Porto, 7-10 November 2018

Thanks to a travel grant from the SFBD and ITMO-BCDE I had the opportunity to participate to the Joint Meeting of the Portuguese, Spanish and French Societies for Developmental Biology that took place in Porto from the 7-10 November 2018. During this meeting I had the chance to listen to great talks and discuss with outstanding developmental biologists.

Pedro Rifes' presentation about human pluripotent stem cells and microfluidic culturing techniques and how to use it to study early regionalization of human neural tube was certainly amongst the most interesting talks. Also very interesting the talk of Covadonga Díaz-Díaz on how epiblast cells that express heterogeneous levels of Myc (low and high) communicate and define which of those will be selected and eliminated, in which Gap-junctions seem to play a fundamental role. Furthermore, it is worth mentioning the great talk given by Eloisa Herrera showing that Wnt/ $\beta$ -catenin signaling can work, not only via the canonical nuclearization of  $\beta$ -catenin, but also it has a clear direct function in the extracellular matrix.

## Alexandre Chuyen

2<sup>nd</sup> year PhD. student with Andrea Pasini, team Biology of ciliated epithelia, IBDM, Marseille. [Joint Meeting of the Portuguese, Spanish and French Societies for Developmental Biology](#), Porto, 7-10 November 2018

Thanks to an SFBD travel fellowship I attended the joint Meeting of SPBD, SEBD and SFBD in Porto. Besides being my first travel to Portugal, it was really nice to witness this very well organized meeting which reviewed most of the leading-edge research in developmental biology. This congress has shown the broad multi-scale spectrum of developmental biology research from epigenetics involved in X-chromosome reactivation during the migratory phase of primordial germ cells (Bernhard Payer), to *in-silico* modelization of diverse processes to predict their dynamics and range of interaction.

Jean-François Brunet opening keynote lecture showed how much developmental biology is changing our view of biology by questioning century-old dogma legacy of physiological research. I was intrigued by how morphogenesis can explain both eye degeneration in the blind Mexican cavefish (Sylvie Rétaux) and asymmetric eye migration of the flatfish eye (Marco António Campinho). In both model eyes first developed symmetrically with conserved developmental process then in one case the eyes regress while it moves in the second case. Both speakers through they research nicely explain how and why those models have conserved the first step of symmetrical eye development followed by regeneration or asymmetric migration of one eye.

On top of that it was pleasant to build a rich scientific network. I remember how much poster session was intense and allow me to meet potential collaborators for further research. Nevertheless, social events are also important and gave me the opportunity to discuss with other PhD students that experienced the same technical issues with their own model and upon discussion we exchanged information to improve our own settings for further experiments.

I want to thank all SFBD members to give me this opportunity to be there

## Anabelle Planques

Post-Doc with Michel VERVOORT, Inst. J. Monod, Paris [Joint Meeting of the Portuguese, Spanish and French Societies for Developmental Biology](#), Porto, 7-10 November 2018

The joint Meeting of the Portuguese, Spanish and French Societies for Developmental Biology hosted in Porto from 7 to 10<sup>th</sup> of November 2018 provided those scientific communities with a wide range of ongoing researches. Jean-François Brunet opened the conference with an emphasis on the limit of scientific dogma, pushing each scientist to question the rational of those dogma and to think out of the box. Among several topics discussed, the rostro-caudal patterning of the nervous system was highlighted by two complementary presentations: Pedro Rifes presented an ingenious tool to model, *in vitro*, morphogenetic gradient while Stephane Nedelec exposed human induced pluripotent stem cells data on cell identities. In addition, two poster sessions gave the opportunity to many students and post-docs to share ideas and have critical feedback from researchers coming from different developmental biology background.

## Nathan Hervieux

Post-doc with Benedicte Sanson, Physiology, development et Neuroscience dpt, U. Cambridge, UK [Joint Meeting of the Portuguese, Spanish and French Societies for Developmental Biology](#), Porto, 7-10 November 2018

I'm very happy to have been able to participate to the Joint Meeting of the Portuguese, Spanish and French Societies for Developmental Biology (also the 4th Meeting of the Portuguese Society for Developmental Biology) which took place in Porto, Portugal on 7 - 10 November 2018. I really enjoyed this relatively small meeting but with a large diversity of topics and model organisms, even if plants were under-represented with only one talk from Olivier Hamant (ENS Lyon). The last session on morphogenesis/biomechanics and biophysics was particularly relevant for me. I particularly enjoyed the talk of Verena Ruprecht from the CRG in Barcelona, showing how embryos can 'clean themselves' using adaptative protrusion formation in specific tissue types that guarantee robustness against errors via rapid apoptotic cell clearance. In addition to a very nice scientific program, the organisation of the meeting was excellent, particularly with the meeting dinner organised in an amazing venue 'La Casa da Música'. This joint meeting was a brilliant idea and I really hope that this type of meeting will happen more often.