

***Production of next generation modulators
of pannexins and connexins as novel
therapeutics in the treatment of
inflammatory cardiovascular, hepatic and
joint diseases***



Funded by the Horizon 2020
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Deliverable number: D1.5
Deliverable title: Workshop organized in A Coruña-Spain
Work package: WP1
Leading partner: FPNS
Participating partners: VUB/UNIGE/PROTOQSAR
Due date: 31/12/2020
Submission date: 27/10/2020
Dissemination level: Public

1. Introduction

The first PANACHE/Science Xpression workshop was organized on 6 and 7 October 2020 as a full online event because of the COVID-19 situation. The program (attachment 1) consisted of 4 sessions, which are outlined in this report. A total of 98 participants attended the workshop (attachment 2). As much as 13 flash presentations were given by young investigators originating from 8 different countries. The workshop was highly visible and abundantly discussed on social media (attachment 3).

2. Sessions 1 and 2

Sessions 1 and 2 were confined to the PANACHE consortium members as well as members of the supervisory board and the FET project officer. In essence, the PANACHE principal investigators introduced their groups and work. The presentations used during these sessions are part of (confidential) deliverable D1.1. Early PANACHE results were equally presented. This has yielded a fruitful discussion between the PANACHE consortium and the supervisory board members. Several suggestions have been made for experiments planned in the upcoming months.

3. Session 3

Session 3 consisted of 2 keynote lectures and several flash presentations presented by young researchers from different research groups that are studying the role of pannexins and connexins in health and disease (attachment 4). These young researchers were affiliated to both PANACHE partners or non-PANACHE partners. The session was moderated by María Mayán (FPNS).

Keynote lecture 1:

Leigh Anne Swayne. Associate professor. University of Victoria-Canada.



Dr. Leigh Anne Swayne is an associate professor in the Division of Medical Sciences at the University of Victoria-Canada. Her team studies the fundamental mechanisms of cellular plasticity (e.g. growth and development, morphological changes, and survival/degeneration) in the brain and more recently in the heart.

Summary. Pannexin1 is implicated in many neurological diseases such as multisystem dysfunction diseases, Alzheimer's disease, Parkinson's disease and peripheral inflammation or infection. In her presentation, Dr. Swayne showed the latest results of her group on the role of pannexin1 and its interaction with regulators of the cytoskeleton in neurite formation, in the complexity of neuronal networks and in the dynamic dendritic protrusion movement.

Flash presentations of young researchers



Amanda Guitián. CellCom Research Group. Institute of Biomedical Research of A Coruña (INIBIC)-Spain.

Title: Role of connexins in modulating cellular senescence.

Summary. BRAF mutant melanoma patients usually acquire resistance to treatments, and as a consequence, a cancer relapse. In our group, we are developing a new connexin43 based therapy in order to avoid such resistance, when it is combined with BRAF/MEK inhibitors.



Olga Rusiecka. Department of Pathology and Immunology. University of Geneva-Switzerland.

Title: Pannexin1 as potential target for prevention of cardiac ischemia/reperfusion injury.

Summary. Being a number one world killer, coronary heart disease is still lacking an effective treatment in clinics. The goal of my study is to investigate the contribution of pannexin1 channels to cardiac ischemia-reperfusion injury, which might contribute to uncover a novel cardioprotective target and pave the way for the development of innovative therapies.



Axelle Cooreman. Department of *In Vitro* Toxicology. Vrije Universiteit Brussel-Belgium.

Title: Connexin expression in cholestatic liver injury.

Summary. The effects of cholestasis on the gene and protein expression of connexin26, connexin32 and connexin43 will be addressed. The well-known bile duct ligation model was used to study these effects *in vivo*, while the *in vitro* model was based on human hepatoma HepaRG cells exposed to cholestatic drugs and bile acids.



Laureano Carpio. ProtoQSAR S.L. CEEI Valencia. Parque tecnológico de Valencia-Spain.

Title: Short review of computational approaches for connexin modulation.

Summary. Computational tools are increasing their presence in chemical and biological fields. This presentation shows some examples of how these techniques could help in the study of connexins.



Emma van der Slagt. Swayne Cellular Plasticity Laboratory. University of Victoria-Canada.

Title: Factors affecting pannexin1 regulation of dendritic spine dynamics.

Summary. The Swayne lab has previously shown that the pannexin1 channel protein regulates dendritic spine dynamics and interacts with various cytoskeletal regulators. We are now using live-cell imaging to further investigate pannexin1 regulation of the cytoskeleton in order to advance our understanding of the molecular pathways regulating dendritic spine biology in health and disease.



Kaat Leroy. Department of *In Vitro* Toxicology. Vrije Universiteit Brussel-Belgium.

Title: Expression and functionality of gap junctions in human liver cancer cell lines.

Summary. The present study investigates changes in connexin gene and protein expression, connexin localization and gap junction functionality in liver cancer *in vitro*. For this purpose, 7 human liver cancer cell lines and primary human hepatocytes were subjected to real-time reverse transcription polymerase chain reaction, immunoblot analysis, immunocytochemistry analysis and a scrape loading/dye transfer assay, respectively.

Keynote lecture 2:

Robert Gourdie. Director at Center for Heart and Reporative Medicine. Fralin Biomedical Research Institute. Virginia Tech-USA.



Rob Gourdie is Director of the Center for Heart and Reporative Medicine Research at the Fralin Biomedical Research Institute. He is co-founder of several biotech companies and winner of the Tibbet's prize from the US Small Buiness Administration. His research is based on the study of connexins in different disorders. This includes studies on basic mechanisms of cardiac bio-electricity, drug discovery and translational studies of drugs targeting connexins.

Summary. His presentation covered their published studies on the Scn1b/beta1 voltage-gated sodium channel subunit in relation to the connexin43 (gap junction) perinexus, as well as new unpublished data on novel therapeutic candidates targeting Scn1b/beta1 interaction. The presentation also summarized their pre-clinical and clinical studies on connexin43 mimetic peptides as candidate therapeutics for skin wound healing and ischemic injury in the heart. New unpublished and exciting data on exosomal drug delivery strategies for connexin43-peptide therapeutics was also shown.

Flash presentations of young researchers



Sara Gutierrez Pelaz. Instituto de Neurociencias de Castilla y León (INCYL). University of Salamanca-Spain.

Title: Targeting metabolic plasticity in glioma stem cells *in vitro* and *in vivo* through specific inhibition of c-Src by TAT-Cx43266-283.

Summary. TAT-Cx43266-283 is an anti-tumoral peptide based on connexin43 that inhibits c-Src activity. Through c-Src inhibition, this connexin43 peptide impairs glucose metabolism and metabolic plasticity in glioma stem cells and enhances survival in preclinical models of glioma.



Lars Mørland Knudsen. Department of Molecular Oncology. Institute for Cancer Research. Oslo University Hospital-Norway.

Title: The E3 ubiquitin ligase IRCH regulates gap junction size by promoting connexin43 endocytosis and lysosomal degradation.

Summary: The E3 ubiquitin ligase ITCH is identified as a novel regulator of connexin43-based gap junctions. The findings have implications for our understanding of the mechanisms underlying the loss of gap junctional intercellular communication during cancer pathogenesis.



Paula Carpintero. CellCom Research Group. Institute of Biomedical Research of A Coruña (INIBIC)-Spain.

Title: Targeting CDK4/6 inhibitors resistance in breast cancer.

Summary. CDK4/6 inhibitors have become a good strategy to induce senescence in cancer cells in the last years. We have identified different factors implicated in CDK4/6 inhibitors response in breast cancer. This will help to implement current therapies based on these inhibitors.



Rachel L. Padget. Smyth Lab. Fralin Biomedical Research Institute. Virginia Tech-USA.

Title: Viral subversion of intracellular coupling: bridging the gap from mouse to human heart disease.

Summary. Myocarditis underlies sudden cardiac death events in up to 42% of young adults, with adenovirus being a leading etiological agent in such cardiac infections, but the relationship between viral infection and electrical coupling in the heart is largely unexplored. I will discuss our work on adenoviral targeting of cardiac gap junctions and the development of a new adult mouse model of myocarditis to understand mechanisms of arrhythmogenesis during acute infection.



Mannekomba R. Diagbougua. Department of Pathology and Immunology. University of Geneva-Switzerland.

Title: Primary cilia control endothelial permeability by regulating expression and location of junction proteins.

Summary. The dysfunction or lack of primary cilia in endothelial cells of polycystic kidney disease patients may be the cause of high incidence of intracranial aneurysms. In this study, we investigated how primary cilia can impact endothelial cell function, whereby special attention was given to intercellular junctions.



Carmela Errico. School of Health and Life Sciences. Glasgow Caledonian University-UK.

Title: Connexin and pannexin expression in eccrine tissue.

Summary. Eccrine glands are specialized glands in the skin of mammals that release secretions onto the skin surface and are involved in thermoregulation and metabolism. Studies have identified membrane receptors and proteins involved in ion transport and control of calcium signaling in eccrine glands, conversely, less understood is the expression and role of gap junctions in this gland. This work aimed to assess whether gap junctions play an active role in the signal transduction pathways in eccrine gland function preserving the integrity and homeostasis.



Daniel Domínguez Azorín. University Hospital Heidelberg-Germany.

Title: Connexin43 and cellular protrusions in cancer.

Summary. Our data show that connexin43 directly modulates the formation of pro-tumorigenic tunneling nanotubes (TNTs), which are cellular protrusions that connect non-adjacent cells to facilitate cellular communication, including the direct cell-cell transfer of organelles. We identify several important cancer signaling pathways that affect TNT formation and show that this effect is strongly influenced by the presence or absence of connexin43.

4. Session 4

Session 4 consisted of 3 keynote lectures and a final discussion about science communication skills, ethics and the actual situation of women and minorities in science (attachment 5). The session was moderated by Brenda Kwak (UNIGE) and María Mayán (FPNS).



Alexia-Ileana Zaromytidou. Chief Editor of Nature Cancer. New York-USA.

Dr. Zaromytidou completed her PhD in the laboratory of Richard Treisman at the London Research Institute of Cancer Research UK (now the Francis Crick Institute) in London-UK. She carried out her postdoctoral research in the lab of Joan Massagué at Memorial Sloan Kettering Cancer Center in New York-USA. She joined the Nature Cell Biology editorial team in 2010, championing cancer biology as a major field at the journal while also handling a broad range of other areas from core cell biology to biophysics. Alexia was promoted to Chief Editor of Nature Cell Biology in 2015 and became the launch Chief Editor of Nature Cancer in 2019.

Summary. Dr. Zaromytidou gave an in-depth lecture with valuable guidance to better communicate science, taking into account the audience as well as the medium (in person, virtual, written). She further discussed guidelines for the writing of a good scientific paper. Among other issues, she stressed the crucial importance of a comprehensive cover letter and encouraged researchers to directly contact editors with unresolved questions.



Lluís Montoliu. President of CSIC Ethics Committee. Centro Nacional de Biotecnología (CNB-CSIC) & CIBERER-ISCIII. Madrid-Spain.

Lluís Montoliu is currently a CSIC scientific researcher at the National Centre for Biotechnology (CNB), a researcher and a member of the Management Committee of the Centre for Networked Biomedical Research on Rare Diseases (CIBER-ER) of the ISCIII. He has been an honorary professor at the Universidad Autónoma de Madrid for 20 years (1998-2018) and has been the Director of the Spanish part of the European Mutant Mouse Archive (EMMA-Infrafrontier) since 2007.

Summary. Dr. Montoliu gave an inspiring talk about ethics in biomedical research, making reference first to the Nagoya protocol. He explained the different principles in bioethics *i.e.* principles of non-maleficence (do not harm), beneficence (obligation to produce benefit), respect for autonomy (freedom of every individual to decide on any intervention-informed consent) and justice (equal access to benefits, biomedical progress and well-being to everyone). He also presented the ethics involving human subjects and human samples and pointed the importance of integrity in biomedical research.



Ashani T. Weeraratna. Biochemistry & Molecular biology Bloomberg Distinguished Professor. Johns Hopkins Bloomberg School of Public Health. Baltimore-USA.

Dr. Weeraratna is the Chair of Biochemistry and Molecular Biology at the Johns Hopkins School of Public Health, a Bloomberg Distinguished Professor, and Co-Program Leader of the Cancer Invasion and Metastasis Program at the Sidney Kimmel Comprehensive Cancer Center, Johns Hopkins School of Medicine. Born in Sri Lanka and raised in Southern Africa, Dr. Weeraratna first came to the United States in 1988 to study biology at St. Mary's College of Maryland. She earned a Ph.D. in Molecular and Cellular Oncology at the Department of Pharmacology of George Washington University Medical Center. From 1998 to 2000, she was a postdoctoral fellow at The Sidney Kimmel Comprehensive Cancer Center at Johns Hopkins Oncology Center, before joining the National Human Genome Research Institute as a staff scientist. In 2003, she moved to the National Institute on Aging, where she started her own research program, before joining the Wistar Institute from 2011-2019.

Summary. Dr. Weeraratna discussed and gave striking examples of about the gender bias in science which starts in early childhood, but this trend is (fortunately) changing. More women are entering the STEM scientific field, but few stay. She discussed that several factors may contribute to this phenomenon. She presented data illustrating that women are not considered as frequently as men for career opportunities, receive less grant money and salary as their male counterparts, and receive less prestigious prizes. For example, a study published in Nature showed that 23 women have won Nobel Prizes for Physics, Chemistry, Economics or Medicine compared with 668 men in over 100 years. Among the reasons involved, she discussed that this disparity can be attributed to the historical systemic bias, unconscious and conscious bias, fewer women submit papers and grants and the inequality of domestic burdens.

Attachment 1

Science Xpression 2020

Conference sessions

Communication skills, ethics and women in science

October 06 - 07, 2020 | VIRTUAL MEETING

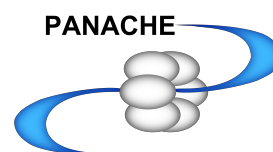
Organised by CellCOM Research Group on behalf of PANACHE

SPEAKERS Leigh Anne Swayne | University of Victoria, Canada; Steven Ballet | Vrije Universiteit Brussel, Belgium; Beatrice Coornaert | Galapagos NV, Belgium; Rob Gourdie | Fralin Biomedical Research Institute at VTC, USA; Rafael Gozalbes | ProtoQSAR SL, Spain; Alexia-Ileana Zaromytidou | Nature Cancer, USA; Brenda Kwak | University of Geneva, Switzerland; Esther Lutgens | Amsterdam UMC, Netherlands; María Mayán | INIBIC, Spain; Lluís Montoliu | CNB-CSIC, Spain; Ashani T. Weeraratna | Johns Hopkins Bloomberg School of Public Health, USA; Mathieu Vinken | Vrije Universiteit Brussel, Belgium.

<http://www.panache-project.eu>



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October 6

• 9.00 h Welcome

María Mayán. *INIBIC, Spain.*

Mathieu Vinken. *Vrije Universiteit Brussel, Belgium.*

Session 1. Chair: María Mayán (INIBIC)

9.10 - 12.40 h

Speakers

9.10 h Mathieu Vinken. *Vrije Universiteit Brussel, Belgium.*

9.40 h Rafael Gozalbes. *ProtoQSAR SL, Spain.*

10.10 h Brenda Kwak. *Université de Genève, Switzerland.*

10 min break

10.50 h Steven Ballet. *Vrije Universiteit Brussel, Belgium.*

11.20 h María Mayán. *INIBIC, Spain*

11.50 h Mathieu Vinken. *Vrije Universiteit Brussel, Belgium.*

10 min break

12.30 h Discussion

12.40 h Break

Session 2. Chair: Mathieu Vinken (VUB)

13.20 - 16.00 h

• Keynote lectures

13.30 h Esther Lutgens. **Costimulatory immune checkpoints as therapeutic targets for cardiovascular disease.** *Amsterdam UMC, Netherlands.*

14.15 h Beatrice Coornaert. **From identifying a target to identifying a preclinical candidate: the ups and downs of the drug discovery process at Galapagos.** *Galapagos NV, Belgium.* 15.00 h Break

• 15.15 h General discussion. PANACHE

Session 1 and 2: only researchers involved in PANACHE. Registration is free but mandatory.

For registration, please submit the form at <https://rb.gy/3apn2w>

October 7

Session 3. Chair: María Mayán (INIBIC)

9.00 - 13.00 h

9.00 h Keynote lecture. Leigh Anne Swayne. **Pannexin 1: shaping neuronal development.** *University of Victoria, Canada.*

9.40 h **Flash presentations** (young researchers)

11.00 h Break

11.30 h Keynote lecture. Rob Gourdie. **Connexin 43: Novel roles in cardiac conduction and injury response.** *Fralin Biomedical Research Institute at VTC, USA.*

12.10 h **Flash presentations** (young researchers)

Open session. The webinars are limited to 100 persons. Registration is free but mandatory.

For registration, please submit the form at shorturl.at/mHSX3

October 7

Session 4. Workshop. Chairs: María Mayán (INIBIC) and Brenda Kwak (UNIGE)

- **15.00 h - 17.00 h** Communication skills, Ethics and Women in Science.

Lluís Montoliu. Ethics in Biomedical Research. Centro Nacional de Biotecnología (CNB-CSIC). President of the CSIC Ethics Committee. SPAIN.

Ashani T. Weeraratna. Women in Science. Department Chair, Biochemistry & Molecular Biology Bloomberg Distinguished Professor. Johns Hopkins Bloomberg School of Public Health. USA.

Alexia-Ileana Zaromytidou. Chief Editor, Nature Cancer. Nature Research




Open session. The webinars are limited to 100 persons. Registration is free but mandatory.

For registration, please submit the form at <https://cutt.ly/XaPYGjE>

Attachment 2




Attachment 3

 **Maria D. Mayán** @MariaDMayan · Oct 7

Thank you very much to speakers and participants in this workshop within @FET_PANACHE & @ScienceXpress

We were able to keep more between 60-73 researchers connected during 4 hours, including people from USA! 🇺🇸

Many young talented people in connexins and Pannexins field 🧡🧠

 **Dr. Swayne** @dr_swayne · Oct 6

Pumped to give a 2020 #ScienceXpression keynote & for MSc student @emmaslagt to give a flash presentation in just over a day from now

Looking forward to connecting with #pannexin & #connexin colleagues!!


🧡🧡


@ScienceXpress #ionchannels #gapjunctions

 ScienceXpression Retweeted

 **Lluís Montoliu** @LluisMontoliu · Oct 7


Today at 15:00 I will participate in the (online) meeting of the EU Project @FET_PANACHE led by @MariaDMayan who kindly invited me to talk about "Ethics in Biomedical Research" within a most interesting afternoon where we will also hear about communication and women in Science.


 ScienceXpression Retweeted

 **Olalla Ramil** @olyramil · Oct 7

Great talk at @ScienceXpress virtual meeting @amandagcaamano Good job!

💬 1 ↺ 2 ❤️ 7 📤 ⚠️

 ScienceXpression Retweeted

 **CLSigulinsky** @CSigulinsky · Oct 7

Replying to @FET_PANACHE and @dr_swayne

Great pannexin and connexin talks during part 1 of Science Xpression 2020 Session 3! So glad I didn't pass up the opportunity due to the 1-5 am time slot! Looking forward to the next set.

💬 1 ↺ 2 ❤️ 6 📤 ⚠️ Tip

 ScienceXpression Retweeted

 **Beth Williams** @williamsbeth98 · Oct 7

Absolutely brilliant session today, thanks to @FET_PANACHE - really enjoyed the fascinating talks by @dr_swayne and @gourdier1 in addition to the early careers talks. Hoping to attend something similar soon 🧡🧡

💬 4 ↺ 4 ❤️ 11 📤 ⚠️

 **Maria M Caffarel** @MariaCaffarel · Oct 7

Amazing and very inspiring workshop! Congrats Maria and team for the organisation and thanks to all the speakers


 **Amanda Guitián-Caamaño** @amandagcaamano · Oct 7

Today I just presented our results @adrianvarelavaz on BRAF/MEK inhibitors and Cx43 in melanoma at @ScienceXpress. I hope you enjoyed it 🧡🧡

 **Paula Carpintero-Fernandez** @PaulaCarpintero · Oct 7


3 women...6 laptops @amandagcaamano @MariaDMayan

This is Women in Science 🧡🧡 #WomenInSTEM @ScienceXpress

 **Jonathan Bcr** @Boucher62424287 · Oct 7

Always cool to be back in Cx/Panx world... even at 4 am in 🇨🇦

@ScienceXpress @FET_PANACHE

 **Maria D. Mayán** @MariaDMayan · Oct 7

This is the example to follow #WomenInScience #WomenInSTEM

Here in this awards we see equality in gender and diversity

This is the way


@AshaniTW now at @FET_PANACHE @ScienceXpress

 **Paula Carpintero-Fernandez** @PaulaCarpintero · Oct 7

Science Xpression Session 3 now happening online. @ScienceXpress @FET_PANACHE

Thank you very much to our keynote speakers and good luck to all young researchers that are presenting today.

Hope you enjoy the day! 🧡

 **Maria D. Mayán** @MariaDMayan · Oct 7

This is my favourite moment today

@LluisMontoliu feels very conformable and happy being a minority in the panelist sección 🧡🧡

@FET_PANACHE @fet_eu @ScienceXpress


 ScienceXpression Retweeted

 **Scott Johnstone** @ScottRJ_VT · Oct 7

Replying to @MariaDMayan @FET_PANACHE and 9 others

Thank you Maria and the Panache team! It was a great meeting and excellent opportunity for early career researchers to present.

💬 1 ↺ 3 ❤️ 9 📤 ⚠️ Tip

 **Trisha Martin** @Trisha_CxGCU · Oct 7

Replying to @MariaDMayan @FET_PANACHE and 9 others

Thank you for organising Maria. Great to hear so many excellent talks and exciting data


💬 1 ↺ 3 ❤️ 8 📤 ⚠️ Tip

 **FET_PANACHE** @FET_PANACHE · Oct 6


Thanks to everybody for a great workshop between researchers involved in #PANACHE 🧡🧡 @fetopen @EUSciencelInnov


See you tomorrow online!

Session 3 and session 4 will be open sessions 🧡

 **Ashi_W** @AshaniTW · Oct 6

Since we are talking about prizes and equity today, I present to you 2 slides from the presentation I'll be giving tomorrow. Thanks to @MariaDMayan for the invitation! The "Big Five" data including @ASCO @AACR and AHA was encouraging in its rapid growth, but still a ways to go.

 ScienceXpression Retweeted

 **Marisol Soengas** @msmelanoma · Oct 7

🧡🧡🧡 What I like the most are the happy faces of everyone. Science is hard, so it was great to get together with engaging, enthusiastic and positive people! @MariaDMayan @AshaniTW @LluisMontoliu @alexia_zz

Attachment 4

Science Xpression 2020

Session 3 - Flash Presentations

9.00 AM - 1.00 PM CEST - Wednesday 07 October 2020. Virtual meeting

Chair: María Mayán (INIBIC, Spain)

9.00 h Welcome

9.10 h Keynote lecture. Leigh Anne Swayne. Pannexin 1: shaping neuronal development. University of Victoria. British Columbia. Canada

9.50 h - 10.40 h Flash Presentations. Young researchers.

FP1. Amanda Guitian. Role of connexins in modulating cellular senescence and apoptosis in tumour cells. CellCOM group. Institute of Biomedical Research of A Coruña (INIBIC). **Spain.**

FP2. Olga M. Rusiecka. Deletion of pannexin1 improves the outcome of cardiac ischemia/reperfusion. Department of Pathology & Immunology. University of Geneva. **Switzerland.**

FP3. Axelle Cooreman. Connexin expression in cholestatic liver injury. Department of *In Vitro* Toxicology, Vrije Universiteit Brussel. **Belgium.**

FP4. Laureano Carpio. Short review of computational approaches for connexin modulation. ProtoQSAR SL. CEEI Valencia. Parque Tecnológico de Valencia. **Spain.**

FP5. Emma van der Slagt. Study of the factors affecting pannexin 1 regulation of dendritic spines. Division of Medical Sciences, University of Victoria. **Canada.**

FP6. Kaat Leroy. Expression and functionality of gap junctions in human liver cancer cell lines. Department of *In Vitro* Toxicology. Vrije Universiteit Brussel. **Belgium.**

10.45 h Break

Chair: María Mayán (INIBIC, Spain)

11.30 h Keynote lecture. Robert Gourdie. Connexin 43: novel roles in cardiac conduction and injury response. Fralin Biomedical Research Institute at VTC. Virginia Tech. USA.

12.10 - 13.00 h Flash Presentations. Young researchers.

FP1. Sara Gutierrez Pelaz. Targeting metabolic plasticity in glioma stem cells in vitro and *in vivo* through specific inhibition of c-Src by TAT-Cx43266-283. Instituto de Neurociencias de Castilla y León (INCYL). Universidad de Salamanca. **Spain.**

FP2. Lars Mørland Knudsen. The E3 ubiquitin ligase ITCH regulates gap junction size by promoting connexin43 endocytosis and lysosomal degradation. Department of Molecular Oncology. Institute for Cancer Research. Oslo University Hospital. **Norway.**

FP3. Paula Carpintero. Targeting CDK4/6 inhibitors resistance in breast cancer. CellCOM group. Institute of Biomedical Research of A Coruña (INIBIC). **Spain.**

FP4. Rachel L. Padget. Viral subversion of intercellular coupling; bridging the gap from mouse to human heart disease. Smyth Lab, Fralin Biomedical Research Institute at VTC. Virginia Tech. **USA.**

FP5. Mannekomba R.Diagboug. Primary cilia control endothelial permeability by regulating expression and location of junction proteins. Department of Pathology & Immunology. University of Geneva. **Switzerland.**

FP6. Carmela Errico. Connexin and Pannexin expression in eccrine tissue. School of Health and Life Sciences. Glasgow Caledonian University. **United Kingdom.**

FP7. Daniel Domínguez Azorín. Cx43 and cellular protrusions in cancer. Neurology Clinic and National Center for Tumor Diseases. University Hospital Heidelberg. **Germany.**



Open session

The webinars are limited to 100 persons.
Registration is free but mandatory.

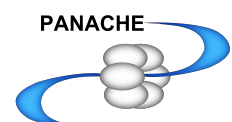
For registration, please complete the form at shorturl.at/mHSX3

<http://www.panache-project.eu>

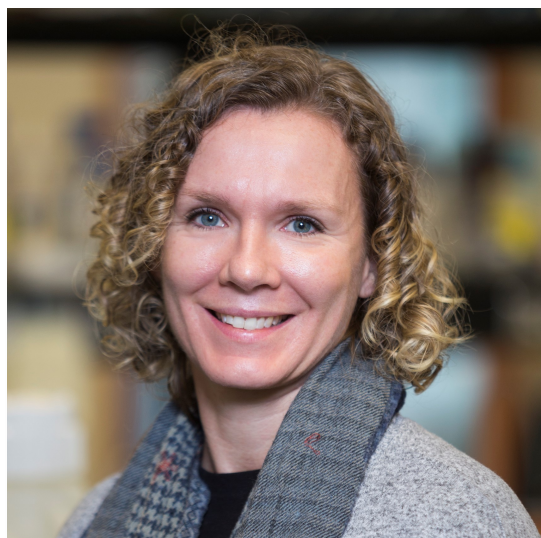


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Keynote Speakers



Leigh Anne Swayne

Associate Professor | Division of Medical Sciences | University of Victoria. British Columbia. Canada.

The team of Leigh Anne Swayne studies the fundamental mechanisms of cellular development in the brain and the heart, in particular, how these processes are controlled by ion channel proteins (large regulated 'doorways' enabling ion and metabolite flux across cellular membranes) and their interacting partners. The primary focus of her research centres on pannexin channel proteins, including the role(s) of pannexins in regulating the development of nerve cells as well as the mechanisms that govern pannexin localization within cells. The outcomes of this work have important implications for the understanding of neurodevelopmental disorders, as well as other diseases and disorders involving pannexins within and outside the nervous system. Additionally, part of her team is investigating the role(s) of an ion channel anchoring protein, called ankyrin-B, in heart and nerve cell development in collaboration with Dr. Laura Arbour's group at the University of British Columbia. Dr. Swayne's research is currently supported by operating grants from the Canadian Institutes of Health Research and the Natural Sciences and Engineering Research Council of Canada.

Website: <https://www.uvic.ca/medsci/people/faculty/swayneleigh-anne.php>

Twitter: @dr_swayne



Robert Gourdie

Professor | Director | Center for Heart and Reporative Medicine Research | Fralin Biomedical Research Institute at VTC. Virginia Tech. USA.

Gourdie has authored 150+ peer-reviewed publications (H index= 56) on heart development and function, wound healing and cancer. He holds more than a dozen issued patents, with another 50 patent applications pending – nearly all of which are licensed to biotech companies. His research is on the connexins - proteins key to intercellular communication. Gourdie is co-founder of FirstString Research Inc - a clinical-stage biotech company, now in Phase III clinical trials on its lead drug. FirstString was awarded the Tibbet's prize by the US Small Business Administration in a ceremony at the Whitehouse and recently closed on a \$35m series B and C financings with Menlo Park-based Sophos Capital Management. He has recently spun-off two further companies from his lab: Acomhal Inc, which is undertaking preclinical development of a novel drug that targets cancer stem cells and is presently closing on its first venture deal; and 2) The Tiny Cargo Company – his newest venture, which is focused on an exosomal drug delivery technology developed in his lab.

Website: <https://fbri.vtc.vt.edu/people-directory/primary-faculty/gourdie.html>

Twitter: @gourdie1



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Attachment 5

Science Xpression 2020

Session 4 - Communication Skills, ethics and women in science

15.00 h - 17.00 h CEST - Wednesday 07 October 2020. Virtual meeting

Chairs: María Mayán (INIBIC) and Brenda Kwak (UNIGE)

15.00 h Welcome

15.15 h **Alexia-Ileana Zaromytidou**. Communication skills. Chief Editor, Nature Cancer. Nature Research. New York. **USA**.

15.45 h **Lluís Montoliu**. Ethics in Biomedical Research. Centro Nacional de Biotecnología (CNB-CSIC) & CIBERER-ISCIII. President of the CSIC Ethics Committee. Madrid. **Spain**.

16.15 h **Ashani T. Weeraratna**. Women in Science. Department Chair, Biochemistry & Molecular Biology Bloomberg Distinguished Professor. Johns Hopkins Bloomberg School of Public Health. Baltimore. **USA**.

16.45 h Discussion.



Open session

The webinars are limited to 100 persons. Registration is free but mandatory.

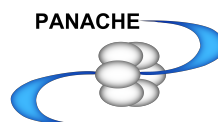
For registration, please complete the form at <https://cutt.ly/XaPYGjE>

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Keynote speakers



Alexia-Ileana Zaromytidou. Chief Editor Nature Cancer. USA.

Dr. Zaromytidou completed her PhD in the laboratory of Richard Treisman at the London Research Institute of Cancer Research UK (now the Francis Crick Institute) in London, UK. She carried out her postdoctoral research in the lab of Joan Massagué at Memorial Sloan Kettering Cancer Center in New York. She joined the Nature Cell Biology editorial team in 2010, championing cancer biology as a major field at the journal while also handling a broad range of other areas from core cell biology to biophysics. Alexia was promoted to Chief Editor of Nature Cell Biology in 2015 and became the launch Chief Editor of Nature Cancer in 2019.

Email: a.zaromytidou@nature.com **Twitter:** @alexia_zz



Lluís Montoliu. Professor. National Centre for Biotechnology (CNB-CSIC) & CIBERER-ISCIII. President of the CSIC Ethics Committee. Spain.

Dr. Montoliu is the Director of the Spanish node of the European Mouse Mutant Archive. His laboratory has generated numerous animal models of human rare diseases, such as albinism, through standard genetic modifications or using CRISPR-Cas9 genome editing tools. He is involved in collaborative efforts towards the universal genetic diagnosis of all known forms of albinism and collaborates with patients associations, such as ALBA. He is the President of the CSIC Ethics Committee and a member of the Ethics Panel at the ERC in Brussels. He founded and was the first President of the International Society for Transgenic Technologies and is the current President of the European Society for Pigment Cell Research and of the Association for Responsible Research and Innovation in Genome Editing. He has published over 120 scientific publications, 3 books and 7 patents. He has received several awards for his scientific achievements, such as the ISTT Prize, the Honor Plaque from the Association of Spanish Scientists and the H.S. Raper Medal by the ESPCR; and for his outreach activities, such as the SINC Award, and the Antama Foundation award.

Email: montoliu@cnb.csic.es **Twitter:** @LluísMontoliu



Ashani T. Weeraratna. Bloomberg Distinguished Professor of Cancer Biology. E.V. McCollum Chair of Biochemistry and Molecular Biology. Johns Hopkins Bloomberg School of Public Health. USA.

Dr. Weeraratna is an expert in melanoma metastasis, Wnt signalling and aging. She is a fierce champion of and a mentor for junior faculty, women in science and girls pursuing a science, technology, engineering, and math (STEM) education. Prior to joining Johns Hopkins, she was the Ira Brind Professor and Co-Program Leader, Immunology, Microenvironment & Metastasis Program Member at the Wistar Institute. Her research focuses heavily on the effects of the tumor microenvironment on metastasis and therapy resistance. She is one of the first studying how the aged microenvironment guides metastasis and therapy resistance in melanoma. Her studies encompass biophysical changes that affect the ability of both tumor and immune cells to migrate, that affect vasculature integrity thus dictating routes of metastasis, and also secreted changes that drive metastatic signalling and response to therapy. The Weeraratna laboratory has also undertaken a global analysis of how the aged microenvironment promotes metastasis, using a unique resource of normal skin fibroblasts from healthy donors of differing ages, proteomics analysis, and animal models. The clinical implications of these data may also result in a change in clinical practice, as they are finding age-related differences in responses to both targeted and immunotherapy. Dr. Weeraratna is using these proteomics data to guide further studies on how the microenvironment affects tumor dormancy and cellular metabolism.

Email: aweerar1@jhu.edu **Twitter:** @AshaniTW



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