



Normandie Université

CHANNEL Research Day

TUESDAY 19TH MARCH CAEN

MINUTES

NORMANDY



ALLIANCE MANCHE



Europe in my region|city
2018



UNIVERSITÉ
CAEN
NORMANDIE



European Committee
of the Regions

PROGRAMME

8h30 AM WELCOMING COFFEE

9h00 AM

WELCOME AND INTRODUCTORY SPEECH

9h30 AM Round table discussion

"Research and Innovation: what future for cooperation in the Channel area?"

- Mr. François-Xavier PRIOLLAUD, *Vice-President for European Affairs and International Relations - Normandy Region*
- Mr. Lucas BOSSER, *Senior Policy Officer – Conference of Peripheral Maritime Regions - CPMR*
- Dr. Jean ARLAT, *Science and Technology Counsellor - Embassy of France in the United Kingdom*
- Mr. Bruno BISSON, *Diplomatic Advisor to Fabienne BUCCIO, Prefect of the Normandy region*
- Mrs Katherine HORNBY, *Programme Facilitator for Normandy - INTERREG VA France (Channel) England Joint Secretariat*

11h00 AM

Theme 1 : Biomedical

- Dr. David VAUDRY – *INSERM/University of Rouen Normandy*

11h45 AM

Theme 2 : Chemistry

- Dr Thierry LEQUEUX – *University of Caen Normandy*
- Professor David C HARROWVEN, *Coordinator of LABFACT project – University of Southampton*

12h30 MEALS

Posters et stands

2h00 PM

Theme 3 : Renewable Marine Energies

- Dr. Gaële PERRET – *University of Le Havre Normandy*
- Professor Michael TOGNERI – *University of Swansea*
- Dr. Mahmoud BARAKAT, ITEG project - *University of Caen Normandy*

2h45 PM

Theme 4 : Marine Ecosystems

- Dr. Christophe MINIER – *University of Le Havre Normandy*
- Dr. Corina CIOCAN – *University of Brighton*

3h30 PM CONCLUSION

4h00 PM END OF THE DAY





In his introduction, Christophe MANŒUVRIER, deputy vice-president of the University of Caen Normandy (UNICAEN), speaks of the importance of collaborating with British universities. He recalls the fact that UNICAEN is considered the 3rd English university in the order of foundation (1432) after Oxford and Cambridge. UNICAEN is open internationally with more than 500 exchange agreements with foreign partners and nearly 2,500 foreign students per year.



Nathalie AUBOURG, Vice-President in charge of International Development for Normandy University points out that the organisation of the Channel Research Day is part of a voluntary approach led by Normandy University with Normandy's higher education and research institutions because collaboration with British universities is long-standing and strategic for the Norman site. However, the consequences of the Brexit on the future of research funding with the United Kingdom raise many concerns for the Norman site.

It is in this very uncertain climate that Normandy University has joined the Channel Alliance led by the Normandy Region in partnership with the Conference of Peripheral Maritime Regions. The Channel Research Day is therefore part of this framework and its objective is twofold: to promote existing scientific cooperation with British universities having an impact on the Channel area and to identify project ideas in order to feed into discussions on post-Brexit financing tools.

The presence at this event of the universities of Southampton, Sussex, Brighton, Greenwich and Swansea, testifies to the interest in scientific cooperation between Normandy and the United Kingdom



ROUND TABLE

RESEARCH AND INNOVATION: WHAT FUTURE FOR COOPERATION IN THE CHANNEL AREA?

Jean ARLAT, Science and Technology Counsellor, French Embassy in the United Kingdom

Jean ARLAT illustrates in figures the important place occupied by British universities in the world. Research is at the forefront of this process. Thus, many British universities are among the best in the world in world rankings (Shanghai, Times Higher Education). They have 71 Nobel Prize laureates.



The United Kingdom is a major beneficiary of the Horizon 2020 programme with six universities in 2017 in the Top 20. In particular, the United Kingdom is the main beneficiary of ERC grants (more than 1,800). However, in the United Kingdom in 2018, more than 50% of ERC scholarship recipients are foreign researchers. European researchers represent half of these foreign laureates.

In 2019, the Hubert CURIEN "Alliance" programme was re-launched in order to develop scientific and technological exchanges of excellence between laboratories in the two countries, by promoting new cooperation and the participation of young researchers and doctoral candidates.

Finally, in order to increase the attractiveness of French institutions of higher education, and research centres in the United Kingdom, France has just opened a Campus France UK Office in London.

Regarding Brexit, Jean ARLAT pointed out that there are still a lot of uncertainties about the Erasmus+ programme, the United Kingdom's positioning in relation to Horizon Europe and other programmes. Overall, there was a decline in European funding received by the United Kingdom in 2017-2018.

Bruno BISSON, Diplomatic Advisor to the Prefect of the Normandy Region



Bruno BISSON, who has led several working groups in recent months on the consequences of Brexit for Normandy, underlines that a dynamic has been established and that Norman research is a pioneer in this dynamic process. Brexit is not going to cut off the bridges between France and the UK. In January 2018, the importance of maintaining the Franco-British relationship was reiterated at the 35th Franco-British Summit (regular meetings during which the French President and the British Prime Minister meet personally). This cooperation will continue. Even if there are many uncertainties about the future following Brexit. It will be necessary to be inventive and be ambassadors to promote Normandy.

Didier PERALTA, Regional Councillor, Normandy Region



The 56 projects of the Interreg- France-Channel-England programme in which Norman higher education and research institutions have participated since 2007, demonstrate the importance of research for the Channel Area.

The Channel Alliance led by the Normandy Region with the Conference of Peripheral Maritime Regions is not a legal structure as such but aims to bring joint projects to the European Union for different actors in the Channel Area. The aim is to bring together all the historical French and British partners around the same table to ensure that cooperation beyond Brexit continues. Didier Peralta is delighted with the organisation of Channel Research Day, which is the Channel Alliance's first concrete action.

Lucas BOSSER, Senior Policy Officer, Conference of Peripheral Maritime Regions



The Conference of Peripheral Maritime Regions (CPMR) is an influential body for its members in the European Parliament and the Member States. The CPMR has been very active in recent months in influencing the negotiation processes of the European programmes for the future programming period 2021-2027. Working with Member States is not always easy due to sometimes divergent positions. On the other hand, to date there have been 284 amendments proposed to the European Parliament by the CPMR with rather positive results so far:

- The budget proposed by the European Parliament for European Territorial Cooperation is higher than that proposed by the

European Commission and close to that desired by the CPMR

- Cross-border maritime cooperation would be maintained as such and no longer considered as a sub-programme of transnational cooperation, which means that the France-Channel-England programme could exist as such in 2021-2027
- Coastal areas eligible for maritime cross-border cooperation programmes may not be limited to those within a 150 km radius of the coast on the other side of the border as proposed by the European Commission

The CPMR will continue to monitor the ongoing negotiations very closely and will continue to defend the Franco-British cooperation. On the other hand, even if the final legal texts are in favour of British participation, it is very difficult today to know what the position of the British government will be.

Katherine HORNBY, Programme Facilitator for Normandy, INTERREG VA France (Channel) England Joint Secretariat

The Managing Authority of the INTERREG France-Channel-England (FCE) programme states that leaving the European Union with an agreement remains one of the British Government's priorities. Thus, the managing authority continues to work in the usual way.

Katherine HORNBY recalls that there are still FCE funds to be spent (132.9 million euros). It is important to spend the budget - both to continue to address common challenges and to demonstrate the value of the Programme.

Katherine HORNBY then outlines the key points for an effective candidature. She strongly recommends using the document «Intervention logics» to validate the main lines of the project before embarking on the writing of the complete dossier. Finally, she concludes by presenting some of the projects currently being funded



The day continued with presentations on 4 scientific themes of major interest for the Channel area.

The interventions were not intended to be exhaustive but aimed at illustrating with past or ongoing projects the importance of the Interreg Programme for cross-Channel scientific collaboration.

THEME 1

Biomedical

Dr. David VAUDRY, INSERM/University of Rouen Normandy

David Vaudry presented a summary of his 10 years experience (2005-2015) in cross-Channel cooperation. He illustrated the creation of real cross-Channel networks through his participation as a partner and coordinator in 4 Interreg projects.

2005-2008 (INTERREG IIIA) : "APROBIO - CROSS-CHANNEL ADVANCED PROTEOMICS CENTRE FOR BIOMARKER DISCOVERY" PROJECT

This project then had 3 partners: 2 French and 1 English (University of Sussex). This collaboration has continued and has resulted in various important publications as illustrated by a PNAS published in 2014. 2008-2011 (Interreg IVA): projet "AdMiN – Centre transmanche d'excellence en microscopie"

2008-2011 (INTERREG IVA): "ADMIN - CROSS-CHANNEL CENTRE OF EXCELLENCE IN MICROSCOPY" PROJECT

This larger project involved 6 partners including the University of Portsmouth and companies; each working on different models with complementary methodologies in the field of imaging from subcellular to animal. This collaboration has continued with one more publication in 2018.

2010-2014 (INTERREG IVA): "TC2N - TRANS CHANNEL NEUROSCIENCE NETWORK" PROJECT

Project involving 16 neuroscience research teams (from Brest to Rotterdam) and 5 technical platforms. This project, based on the LARC-Neurosciences network, has strengthened Neuroscience research in the cross-Channel region.

2012-2015 (INTERREG IVA): "PERENE - PEPTIDE RESEARCH NETWORK OF EXCELLENCE" PROJECT

Project coordinated by David VAUDRY involving 23 research teams, 3 technical platforms, 2 SMEs and 1 competitive cluster (Cosmetic Valley). This project has made it possible to network many teams working on peptides in the cross-Channel region, to share tools and skills and thus to carry out research activities that could not previously be carried out.

These 4 projects have made it possible to develop new protocols, develop new procedures, increase staff exchanges, develop training for students and staff and disseminate this new knowledge and know-how through scientific conferences and actions with the general public. There has been a real increase in the competence of the teams on these activities. These projects have enabled the teams to structure themselves into networks and develop themes that now benefit from competitive financing (ANR, ERC, H2020).

These projects were also a great opportunity to allow French and English students to go and study in one of the partner laboratories while benefiting from supervision (site visits, dedicated supervision staff, etc.) and a privileged environment (financial support, access to state-of-the-art equipment, new techniques developed as part of the project, etc.) provided by the projects.

Finally, these projects have had a considerable leverage effect on the IBiSA PRIMACEN and PISARO platforms. They have thus been able to move from local to international visibility.

David VAUDRY regretted that today the Interreg VA FMA programme has become an economic development programme and that, such projects, essential for the creation of scientific communities, are no longer funded because they are too far from the market



THEME 2

Chemistry

Dr. Thierry LEQUEUX, University of Caen Normandy

Professor David C HARROWVEN, Coordinator of LABFACT project – University of Southampton

The cross-Channel molecular chemistry community had already been structured in 1990 with the implementation of conferences such as the ANORCQ - Anglo-Norman Organic Chemistry Colloquium. During its various exchanges, the FR-UK partners came together to create European networks in molecular chemistry based on calls for INTERREG FMA projects. Thierry Lequeux and David Harrowven came to present 3 Interreg projects that illustrate the evolution of their collaboration.

2008-2013 (INTERREG IVA FMA) : "IS : CE CHEM - INNOVATIVE SYNTHESIS: CULTURE AND ENTREPRENEURSHIP IN CHEMISTRY" PROJECT.

This first project focused primarily on cross-Channel mobility, involving students in training (some 50 master degree students and some 30 doctoral candidates) and professors-researchers. In addition to the academic and scientific added value provided by these exchanges, the project has increased the visibility of the research laboratories involved and improved the quality of the production of scientific publications. Following the success of this first project, the partners have planned to extend their action to regional SMEs to facilitate the transfer and enhancement of the work resulting from the partnership.

2012-2015 (INTERREG IVA FMA): "AI CHEM CHANNEL – ACADEMY INDUSTRY CHEMISTRY CHANNEL"

The A-I CHem CHannel project, for its part, brought together 9 partners and aimed to promote the transfer of cross-fertilization of skills between industrialists and academics in the cross-Channel region in the field of molecular chemistry. The objective of this project was to create a high-level scientific platform in molecular chemistry to facilitate the development of laboratories and the transfer of their academic know-how to local, regional and European industries by involving higher education institutions, innovation agencies, incubators, technopoles and companies. This phase has enabled the acquisition of a mutual knowledge between academic and industrial circles, and to raise concrete problems related to the development of molecular chemistry in the near future.

2017-2022 (INTERREG VA FMA): "LABFACT – TURNING LABORATORIES INTO FACTORIES"

The LabFact project is an economic development project concerning flow and non-reactive chemistry, in response to the chemical industry's concern for pollution. LabFact aims to synthesize molecular architectures that target the needs of regional industries with new and cleaner methods (flow, pressure, microwave, electrochemistry, etc.) while addressing a new and more efficient molecular structure discovery aspect in the field of drugs.

These 3 successive projects have made it possible:

- The development of strong cross-Channel academic collaboration (exchanges of teachers at master level, exchanges of students at master and thesis levels, international scientific conferences)
- The progressive development of a network with SMEs
- The development of a solid network in the field of green chemistry (techniques without reagents, transfers to academic and industrial actors)
- Wealth creation for the territory, a factor of economic attractiveness

There are uncertainties about the future today, but the willingness to continue collaborations is real. These Interreg funds have also been a leverage effect for other national (ANR, CIFRE) and European (Erasmus, Horizon 2020 including ERC) funds.



THEME 3

Marine Renewable Energies

Dr. Gaële PERRET, OFELIA project - University of Le Havre Normandy

Dr. Mahmoud BARAKAT, ITEG project - University of Caen Normandy

Dr. Michael TOGNERI, MONITOR project - University of Swansea

The theme of marine renewable energies (MRE) was illustrated by the presentation of 3 Interreg projects. Each project was able to highlight the natural potential of the Channel Area for MRE. These projects also illustrate the need for collaboration between private and academic partners in order to pursue the development of the various technologies necessary to establish a major economic sector in the Channel Area



OFELIA (INTERREG IVA FMA / 2013-2015) – OFFSHORE FOUNDATIONS' ENVIRONMENTAL IMPACT ASSESSMENT

The OFELIA project aimed to improve the modelling of the environmental impact of offshore wind farms. The complementarity of the equipment of the various partners and the experimental and digital approaches has made it possible to model the turbulent wake of single-pile foundations at different scales.



ITEG (INTERREG VB NORTHWEST EUROPE / 2017-2020) - INTEGRATING TIDAL ENERGY INTO THE EUROPEAN GRID

ITEG aims to develop and validate an integrated hydrogen production solution for clean energy generation and storage in isolated areas with a low connection to the energy grid.



MONITOR (INTERREG VB ATLANTIC SPACE / 2017-2021) - MULTI-MODEL INVESTIGATION OF TIDAL ENERGY CONVERTER RELIABILITY

Tidal current energy represents a significant potential for industrial growth in the Atlantic Area. There are obstacles to this growth, caused by uncertainties regarding the design of the energy recovery devices used. As a result, current technologies are still too expensive or too risky to attract financial investment. The MONITOR project will study the mechanical loads on the blades and structures of tidal kinetic energy converters (TECs) and their impact on reliability.

THEME 4

Marine Ecosystems

Dr. Christophe MINIER, University of Le Havre Normandy

Dr. Corina CIOCAN, University of Brighton

Christophe MINIER begins by recalling that many Interreg France – , Channel – and England projects are linked to marine ecosystems. Over the 2007-2013 period this represents 41 projects on themes such as knowledge, exploitation and management of marine resources (34), impact on the environment and health (11), ecosystemic services (16), ports (7) etc.

The Interreg projects have strongly enabled Christophe MINIER to develop research and expertise in ecotoxicology at the University of Le Havre Normandy. From two people in 1998, Le Havre laboratory now has a team of about fifteen people who are internationally recognized on its themes and particularly on endocrine disruptors.

It has been shown, among other things, that endocrine disruptors are responsible for sex reassignment of fish and bivalves on the Channel coast. Innovative methods for identifying some of these pollutants from biological measurements have been developed and are now used in both the public and private sectors. TOXEM Company was set up out of this laboratory at the University of Le Havre and now employs 3 researchers from Normandy.

Corina CIOCAN insists that much work remains to be done. There is an urgent need to build a database of biomarkers of endocrine disruptors in different species. In addition, it is necessary to understand how endocrine disruptors spread throughout the food chain.

Christophe MINIER continues on the challenges that will have to be met in the coming years. Today, endocrine disruptors interact with scientists and change legislation (particularly in Europe). These compounds are responsible for significant effects at very low doses. They also act differently according to the stages of development and show that there are periods of high vulnerability. Finally, they show a cocktail of harmful effects that require a rethinking of chemical risk assessment.



Today we are in the era of Big Data, integrative methods, systemic vision and therefore multidisciplinary studies. Health is a system that integrates all the effects of the environment. There are many pressures on populations. The human population, in particular, is very present on the seaside in the Channel area.

Pollution at source must be reduced in the Channel area (decreasing the number of substances, controlling discharges, etc.), particularly that linked to endocrine disruptors. Cross-Channel collaborative work must be intensified to enable the scientific and appropriate implementation of environmental control measures in the Channel area in order to improve the effectiveness of protection measures against these compounds that affect natural and human populations.

Should the United Kingdom leave the European Union, it will be necessary to ensure that efforts in Europe are jointly pursued to preserve this common marine environment.

CONCLUSION

Lamri ADOUI, President of Normandy University

This day highlighted the density of Franco-British scientific cooperation, even if the existing fields of collaboration are more extensive than those presented during the workshops.

The various themes discussed showed the willingness of the partners to cooperate together and the many scientific challenges that remain to be jointly addressed.

For the future of the forthcoming European programmes following Brexit, there will be no miracle solution, but the key is to remain proactive.

To perpetuate these scientific partnerships, Normandy University is ready for regional funds to be earmarked for excellence research chairs, for the creation of international laboratories, and for joint supervision theses.

Finally, Lamri ADOUI points out that there are still funds to be mobilised from the Interreg France - Channel - England programme until 2020.





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