INFORMATIVE BULLETIN FEBRUARY 2020

# RESEARCH AND INNOVATION









E DOCUMENTACIÓN EUROPEA DE ALMERÍA VICERRECTORADO DE INVESTIGACIÓN E INNOVACIÓN





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# READERS' OPINION



# R+I BULLETIN No 10

# WE VALUE YOUR OPINION

# Calls and dissemination

What I follow most often on the networks are the articles on innovation and everything that has to do with research.

I consider that this bulletin gathers most of the innovations that are emerging in the world in general, although I have missed topics related to the theme of the city, in the new concept of the "Smart Cities" a lot of research is being done. I think it has an ideal structure for a brief and clear reading, with the option of stopping and read more information from some section if you are more interested. In addition, the data represented in a schematic way are of great help to make you a global image of what is being told.

Finally, what I like best about the newsletter is the section on calls, after reading with so much interest the latest research and innovations around the world, it produces the motivation needed to apply to all calls and hope to participate in some way in improving society.

It would be great if schools and highschools could promote this type of news more in order to have at least a minimum of general culture. Looking forward to the next newsletter, great work!



The importance of data

The topic that I like the most and that attracts the attention of the newsletters is Research and Innovation.

It is motivating to see what is being done in Europe on issues such as technology and health, for example, and how progress is being made in achieving a higher quality of life for everybody. The statistics section is also entertaining, in a very schematic way and in a quick way you can learn important data, simply out of curiosity or it can even be used to look for information that can be used to do a work and it looks very good. In addition, it is always good to have relevant data, you never know when you can use it and look right, as in a job interview, who knows.

Another section that I like is the documentation of interest, there I can find current information on various topics that are in trend, in addition to the videos from the media library, which I recommend!



Information for everyone

Every time they publish a new newsletter, I consult them and it is clear to me that I will continue to do so. Specifically the I+I bulletins, I believe that they deal with current issues that are of interest to society today. Whether it is news, statistics or information on events, or innovations in technology that will make our lives easier in the not too distant future. On the other hand, I also think it is interesting that the advances in health care are reflected.

As for the formal aspect of the newsletter, I think it is very well structured and written in a clear, coherent and cohesive way. This helps readers, regardless of our background, to find the information offered here attractive.

Finally, with the section calls for proposals, I believe that you are being very helpful, as it is not always easy to find out about this type of information, but it is always useful.

I would like to say that this type of bulletin should have a greater scope since it deals with topics of interest and can be useful for everyone. Very good work!





# WE VALUE YOUR OPINION

R+I BULLETIN No 10



# Do you like our bulletins?

If you do so, now you have the chance to participate in their making. Send us your opinion telling what you liked the most and we will publish it in the next corresponding thematic bulletin.

Tell us about the news, call, or publication, —amongst others—, that you liked the most and why. You can send your opinion as many times as you want, and each one will count as a participation for the draw, so don't hesitate and send us all the opinions you want!







# Artificial intelligence presents new challenges for the EU

Source: Parlamento Europeo Published on UAL EDC: 24.01.2020

EPs want a strong set of rights to protect consumers in the context of artificial intelligence and automated decision-making.

Parliament's Internal Market and Consumer Protection Committee approved recently a resolution addressing several challenges arising from the rapid development of artificial intelligence (AI) and automated decisionmaking (ADM) technologies.

Those systems should only use highquality and unbiased data sets and *"explainable and unbiased algorithms"* in order to boost consumer trust and acceptance, states the resolution. Review structures should be set up to remedy possible mistakes in automated decisions.

It should also be possible for consumers to seek human review of, and redress for, automated decisions that are final and permanent.

"Humans must always be ultimately responsible for, and able to overrule, decisions"

FULL NEWS:



# Safety Regulations

AI-enabled products may evolve and act in ways not envisaged when they were first placed on the market. MEPs urge the Commission to table proposals adapting the EU's safety rules for products (e.g. directives on machinery and toy safety) to ensure that consumers are protected from harm, manufacturers are clear on their obligations and users are informed about how to use those products.

The product Liability Directive, adopted over 30 years ago, would also need to be updated to adapt concepts such as 'product' 'damage' and 'defect' as well as rules governing the burden of proof, says the committee.

MEPs call for a risk-assessment scheme for AI and ADM and for a common EU approach to help secure the benefits of those processes and mitigate the risks across the EU.

# Discrimination

Under EU law, traders must inform consumers when the price of goods or services has been personalised on the basis of ADM, MEPs recall, asking the Commission to closely monitor the implementation of those rules. It must also check how the EU regulation banning unjustified geo-blocking is applied to ensure that ADM is not being used to discriminate against consumers based on their nationality, place of residence or temporary location.





The latest developments and all newly discovered applications of AI, in addition to benefits, as highlighted by MEPs, may have negative consequences for both citizens and organisations in the EU.

All these changes have led to the European Commission's initiatives to regulate reliable and safe AI, as mentioned above.

This future regulation will be based on the concepts of robustness and explainability of AI systems.

TAs the European Commission's science and knowledge service, the Joint Research Centre (JRC) has published a document to support the robustness and explainability of AI.



# AI, a key tool against conflicts

The Global Conflict Risk Index (GCRI) expresses the statistical risk of violent conflict in a given country in the upcoming one to four years. This is the the quantitative starting point of the EU's conflict Early Warning System. The initial GCRI model was estimated by means of linear and logistic regression models.

Despite all the consequences of AI that MEPs are talking about, it has recently been presented a new GCRI model based on the Artificial Intelligence (AI) random forest (RF) approach. This new model reinforces the idea of how AI well applied and under human supervision can present important advances for the EU.

The models' hyperparameters are optimized using a ten-fold cross validation. Overall, it is demonstrated that the random forest GCRI models are internally stable, not overfitting, and have a good predictive power.



Finally, it is necessary to create a resolution addressing the challenges of the rapid development of artificial intelligence (AI) and automated decision making (ADM) technologies. However, we cannot detract from the many benefits that these advances can offer ■



# The European Green Deal: Europe the first climate-neutral continent by 2050

Sourcee: Comisión Europea Published on UAL EDC: 12.12.2019

he European Commission has presented The European Green Deal – a roadmap for making the EU's economy sustainable by turning climate and environmental challenges into opportunities across all policy areas and making the transition just and inclusive for all.

The European Green Deal provides a roadmap with actions to boost the efficient use of resources by moving to a clean, circular economy and stop climate change, revert biodiversity loss and cut pollution. It outlines investments needed and financing tools available, and explains how to ensure a just and inclusive transition. The European Green Deal covers all sectors of the economy, notably transport, energy, agriculture, buildings, and industries such as steel, cement, ICT, textiles and chemicals.

To set into legislation the political ambition of being the world's first climate neutral continent by 2050, the Commission will present within 100 days the first 'European Climate Law'. To reach our climate and environmental ambition. the Commission will also present the Biodiversity Strategy for 2030, the new Industrial Strategy and Circular Economy Action Plan, the Farm to Fork Strategy for sustainable food and proposals for pollutionfree Europe. Work will immediately start for upping Europe's 2030 emissions targets, setting a realistic path to the 2050 goal.

Meeting the objectives of the European Green Deal will require significant investment. Achieving the current 2030 climate and energy targets is estimated to require €260 billion of additional annual investment, representing about 1.5% of 2018 GDP. This investment will need the mobilisation of the public and private sectors.



The Commission will present in early 2020 a Sustainable Europe Investment Plan to help meet investment needs. At least 25% of the EU's long-term budget should be dedicated to climate action, and the European Investment Bank, Europe's climate bank, will provide further support. For the private sector to contribute to financing the green transition, the Commission will present a Green Financing Strategy in 2020.

Fighting climate change and environmental degradation is a common endeavour but not all regions and Member States start from the same point. A Just Transition Mechanism will support those regions that rely heavily on very carbon intensive activities. It will support the citizens most vulnerable to the transition, providing access to reskilling programmes and employment opportunities in new economic sectors



# CryoSat brings us closer to understanding what happens in the Antarctica's biggest glacier

Source: European Space Agency Published on UAL EDC: 29.01.2020

A lthough Pine Island Glacier is one of the most intensively and extensively investigated glacier systems in Antarctica, different model projections of future mass loss give conflicting results. Some suggest mass loss could dramatically increase over the next few decades, resulting in a rapidly growing contribution to sea level, while others indicate a more moderate response.

Identifying which is the more likely beIn a paper published in Nature Geoscience, scientists from the University of Bristol, UK, describe how they used information from CryoSat to help clarify the situation. They discovered that the pattern of ice loss is evolving in complex ways, both in space and time. Rates in the fast-flowing central trunk of the glacier have decreased by about a factor of five since 2007 – and this is the opposite of what was observed prior to 2010.

These new results suggest that rapid migration of the grounding line, the place where the grounded ice first meets the ocean, is unlikely over the next decades, without a major change in the role of the ocean in ice loss. Instead, the results support model simulations that imply that the glacier will continue to lose mass, but not at much greater rates than present.

FULL NEWS:



Lead author Prof. Jonathan Bamber from the University of Bristol's School of Geographical Sciences, said, "This could seem like a 'good news story', but it's important to remember that we still expect this glacier to continue to lose mass in the future and for that trend to increase over time, just not quite as fast as some model simulations suggested."

Tommaso Parrinello, ESA's CryoSat mission manger, added, "In April, CryoSat will have been in orbit for 10 years, far exceeding its expected life. We continue to be proud of the contribution to science this extraordinary satellite mission is making." and "CryoSat has helped clarify the situation at Pine Island Glacier, which is not only important for our scientific understanding, but ultimately for society at large"



# The revolutionary method for clinical trials in

Source: Comisión Europea Published on UAL EDC: 18.12.2019

he ISLET project is a multi-center collaboration of leading European researchers that has been awarded 8 million euros from the Horizon 2020 funding programme for research and innovation in a 5-year period.

Type 1 Diabetes is a global health challenge, affecting more than one million children and adolescents worldwide, with close to 129,000 new cases diagnosed each year. Diabetes impacts on quality of life and is a major cause of blindness, kidney failure, heart attacks, stroke and lower limb amputation. The condition is a severe economic burden on healthcare and the labour force.

Based on in-house methods, ISLET will deliver a product composed of clusters of insulin-producing beta cells, derived from human pluripotent stem cells, ready to be used in phase 1 clinical trials.

The project will develop advanced stem cell products ready for use in clinical trials in Type 1 Diabetes. The project will develop a manufacturing pipeline for stem cell-based products to treat patients with Type 1 Diabetes. In Type 1 Diabetes a patient's immune system destroys the beta cells within the islets of Langerhans in the pancreas making a patient dependent on life-long delivery of insulin.

FULL NEWS:



ISLET also aims to advance this product by engineering clusters of hormone-producing cells that not only consist of the insulinproducing beta cells but also other hormoneproducing islet cells, thereby engineering a product that is more alike the islets of Langerhans that are found in the pancreas.

type 1 diabetes

Finally, ISLET researchers will develop innovative solutions to a common bottleneck in stem cell therapy, namely how to predict the therapeutic capacity of stem cell products.

The funding is awarded through the Horizon 2020 EU Research and Innovation actions programme that also supported the discoveries that laid the foundations for ISLET, in previous funding rounds ■



# The construction sector has the largest waste stream in the EU

Source: European Environment Agency Published on UAL EDC: 27.01.2020

t present, many of the material streams from demolition and renovation works are not suitable for reuse or highgrade recycling. This is stalling efforts in shifting to a circular economy.

The EEA briefing 'Construction and demolition challenges waste: and opportunities in a circular economy,' says more must be done in preventing or recycling the large amount of waste produced by the construction and demolition sector in Europe. Such waste, such as scrap metal, used cement or wood products, currently make up the largest waste stream in the European Union.

The briefing examines how circular economy-inspired actions can help achieve EU waste policy objectives, such as waste prevention and increasing the quantity and quality of recycling for the waste produced on building sites, while also reducing hazardous waste materials. The briefing is based on a report compiled by the EEA and the European Topic Centre on Waste and Materials in a Green Economy.

The briefing notes that construction and demolition waste totaled 374 million tonnes in the EU in 2016, excluding excavated soil. The high volume and nature of produced waste are challenging to manage, but also present a clear opportunity to implement sound waste management practices according to the circular economy principles. Besides, the construction sector is considered a priority sector according to the forthcoming European Commission circular economy action plan.

The briefing notes that better waste prevention and higher and better quality recycling can be achieved if certain measures are followed to improve pricing, improve information on which materials are used in existing and new buildings and to improve users' trust in the quality of using secondary materials like recycled aggregates. Circular economy-inspired actions, like improved information sharing on material properties, and better re-use of secondary raw materials can go a long way in increasing circularity in the sector





# The EU Interreg programme celebrates 30 years of bringing citizens closer together

Source: Comisión Europea Published on UAL EDC: 18.02.2020

Lee year 2020 marks 30 years since the start of Interreg, the EU's emblematic programme that aims at encouraging territorial cooperation between border regions.



Launched in 1990, the European Territorial Cooperation (ETC), better known as Interreg, is an emblematic Cohesion Policy programme that provides a framework for the implementation of joint actions and policy exchanges between national, regional and local actors from different Member States.

The overarching objective of European Territorial Cooperation (ETC) is to promote a harmonious economic, social and territorial development of the Union as a whole. Interreg is built around three strands of cooperation: crossborder (Interreg A), transnational (Interreg B) and interregional (Interreg C). The Interreg cooperation programmes cover the entire European continent with a total budget of over €12 billion, including EU and Member States' contribution, during the 2014 – 2020 programming period.

The Interreg 30 year campaign will roll out throughout 2020 under the themes: neighbours, green and youth.

The campaign will take stock of the past achievements and look forward to what can be done more and better in the future

Five programming periods of Interreg have succeeded each other:

INTERREG I (1990-1993) INTERREG II (1994-1999) INTERREG III (2000-2006) INTERREG IV (2007-2013) INTERREG V (2014-2020)





# **EU Sustainable Energy Week**

Source: Comisión Europea Published on UAL EDC: 09.01.2020

his year, the EU Sustainable Energy Week 2020 (EUSEW) will be taking place on 23-25 June 2020 in Brussels. It is organised by the European Commission, and it is the biggest event dedicated to renewable energy sources and efficient energy use in Europe.

This events brings together public authorities, private companies, NGOs and consumers to promote initiatives to save energy and move towards renewables for clean, secure and efficient power. The event provides a unique platform for sharing ideas and knowhow, to showcase projects, network and gain immediate feedback from policymakers and citizens alike.

If your work supports an economy built on clean, secure, efficient energy, this event is for you. The EU Sustainable Energy Week is an opportunity to meet stakeholders promoting energy efficiency and renewable energies, learn about successful policies and inspire innovation to meet the EU's energy and climate goals.

Public authorities, energy agencies, industry associations, businesses, civil society organisations and the media are all invited to take part in the conference. Past speakers and participants have come from city councils and the European institutions, private companies and research organisations, citizen groups and NGOs. Applications for hosting a session at the 15th edition of EUSEW Policy Conference were closed on the 20th January 2020.

Registration for attending EUSEW will be launched in April 2020 ■

This year, the event takes on a particular significance in the context of the European Green Deal, presented by the European Commission in December 2019.





# The effect of wastewater contaminants

# on crops

Source: CORDIS Published on UAL EDC: 23.01.2020

G rowing antibiotic resistance is risking the health of future populations. As part of the problem stems from antibiotics entering agriculture via treated wastewater.

With increasing demand for freshwater resources due to climate change and global population growth, reusing wastewater has become a viable alternative for crop irrigation in water stressed regions. However, this wastewater is known to contain the residues of pharmaceuticals, including the many antibiotics that are prescribed for treatment. Although these occur as mixtures of multiple compounds in wastewater irrigation, little is known about the effect they have on soil and plant health.

# **PhytoPharm Project**

Using barley as its model crop, the EUsupported PhytoPharm project investigated the impacts of antibiotic mixtures. The researchers showed that plants in their early growth stages were most susceptible, with increased antibiotic exposure resulting in fewer seeds germinating. This effect occurs at concentrations predicted for wastewater effluent. Furthermore, evidence suggested that the impacts of antibiotic exposure may be enhanced when combined with other stressors.



# Results

The researchers utilised the algorithm to conduct a mesocosm study of barley irrigated with a synthetic wastewater composed of antibiotics at representative concentrations. The team found that certain compounds are more mobile than others in the plant-soil system. However, they also showed that there was not a significant accumulation of antibiotics added by routine irrigation, indicating that the compounds are being degraded either biotically (microbial degradation) or abiotically through hydrolysis and photolysis. Results also showed that despite a toxic effect in the early stages of barley growth, the mature plant was not measurably impacted by antibiotic exposure.

Regarding increased resistance, the team suspects that it is influenced more by length of exposure time, than increasing concentrations. The transmission of greenhouse gases from the mesocosms was also measured and revealed subtle impacts on the net ecosystem exchange of CO2, resulting from antibiotic exposure. The team is now connecting changes in gas flux with changes in the structure of the microbial communities which produce them



# PRIMA 2020 Information day at the University of Almería

Source: CDE Almería Published on UAL EDC: 27.02.2020

n the occasion of the opening of PRIMA 2020, the University of Almeria has offered an information day.

On February 26th, the PRIMA call: sections 1 and 2, was presented at the University of Almeria in an information day. PRIMA, as explained in the 2020 call, aims at promoting research and innovation capacities and at developing knowledge and innovative solutions to improve the efficiency, safety, security and sustainability of agri-food systems and integrated water supply and management in the Mediterranean region.

The Vice-rector of Research and Innovation of the University of Almeria, Diego Valera, together with the General Director of PITA of Almeria, Diego Clemente, and Antonio Palanco, Director of the Andalusian Agency of Knowledge (AAC) and moderator of the conference, welcomed the attendees to this information day. In this information day, aimed at companies, universities and other public research bodies, the opportunities for funding projects in the PRIMA programme: sections 1 and 2 were and recommendations discussed. were offered for the preparation of proposals. In addition, CDTI funding mechanisms for cooperation in North Africa and the East were discussed, and projects of sections 1 and 2 funded by the PRIMA programme were presented. The importance of the support offered by the Enterprise Europe Network for international technological (EEN) cooperation was also explained





# D. Diego Luis Valera Martínez Vice-Rector for Research and Innovation

piego Luis Valera Martínez opened the presentation of the PRIMA 2020 Programme at the University of Almería on 26 February.

Professor of Agroforestry Engineering, he is the author of numerous articles of international impact, especially in the agro-food sector.

He has also received several awards for best communication, mentions of excellence and recognition prizes.

Since 2000 he has been responsible for the "Rural Engineering" Research Group, which has received the Social Council Award from the University of Almeria for the promotion of Society-University Research.

How relevant is the presentation of the PRIMA program for the University of Almeria?

s it is well known, the University of Almeria focuses most of its research efforts on the agrofood sector, as it could not be otherwise, since this is the economic engine of our province.

The PRIMA programme is of capital importance for the province of Almeria, given its orientation towards agri-food systems and water management in Mediterranean countries.



# INTERVIEW

# The PRIMA program is of capital importance for the province of Almeria

he presentation of this program at the University of Almeria is, therefore, an opportunity to know in depth all the possibilities that this program offers through its calls for projects so that our researchers and the companies of the province can carry out their research and innovation projects linked to these topics. What benefits can this program bring to the University of Almeria and to the socio-economic development of the province?

he most direct benefit to the University and the companies participating in the PRIMA program is the obtaining of funds to carry out the research projects. The results of these innovation and research projects are those that will affect the socioeconomic development of Almeria.



The University of Almeria has 30 European projects working in 2020 (172 million euros); one of them is from the PRIMA programme

# Why is this event held at PITA and not at the UAL campus?

his event is held on the campus of the University of Almeria. Within the campus of the UAL we have a building called PITA BUILDING and it is there where the event takes place. The fact that this event is held there is not accidental, it has been intentional due to the collaboration in the organization of the event with the Scientific and Technological Park of Almeria and due to the interest that this program arouses for the companies. We should not forget that, in addition to the PRIMA programme, we will be presenting other financial instruments of the CDTI scientific technological for and collaboration in North Africa and the Middle East.

Does the University of Almeria currently have any active projects in this program?

he University of Almeria has 30 European projects working in 2020 (172 million euros); one of them from the PRIMA programme, granted in the previous call. This is the IGUESMED project, which deals with innovative support systems for greenhouses in terms of fertigation and pest management through climate control, based on the Internet of Things. The project has an approximate budget of  $\in$  1.5 M. The main researcher at the University of Almeria is Professor María Luisa Gallardo Pino.

# CALLS AND AWARDS



# PRIMA 2020 Call: Partnership for research and innovation in the Mediterranean area

PRIMA aims to promote research and innovation capacities and to develop knowledge and innovative solutions to improve the efficiency, safety, security and sustainability of agri-food systems and integrated water supply and management in the Mediterranean region.

The program, with a duration of ten years and seven calls (2018-2024), will receive 220 million euros from H2020 (social challenges 2 and 5 and LEIT-NMBP) and 274 million euros provided by the 19 countries that make up the association, for the implementation of research and innovation projects, in three priority thematic areas defined in its Strategic Research Agenda and Innovation (SRIA); water management, agricultural systems and the sustainable agrifood chain, as well as crosscutting issues to them.

11 EU countries participate in PRIMA (Germany, Cyprus, Croatia, Slovenia, Spain, France, Greece, Italy, Luxembourg, Malta and Portugal) and 8 from the southern Mediterranean (Algeria, Egypt, Israel, Jordan, Lebanon, Morocco, Tunisia and Turkey).

# Deadline

Stage 1: Deadline stage 1: 1/04/2020. Deadline stage 2: 2/09/2020. Stage 2: Deadline stage 1: 15/04/2020. Deadline stage 2: 16/09/2020.

# Info days

3/02/2020 Barcelona and broadcast online 7/02/2020 Madrid 26/02/2020 Almería



MORE INFORMATION

SITIO WEB

# **Remunerated intership at ENISA**

The European Union Network and Information Security Agency (ENISA) is a specialized knowledge center for cybersecurity in Europe and is offering a paid internship. The aims are:

- Providing students with an understanding of the objectives and activities of ENISA.
- Allowing students to gain practical experience and knowledge of the daily work of the departments and units of ENISA.
- Promoting European integration within the spirit of a new governance and through active participation to raise awareness about true European citizenship.
- Allowing students to put into practice the knowledge acquired during their studies or professional careers.



Deadline: 18 June 2020

Place: Athens, Greece

### MORE INFORMATION:

**WEBSITE** 

# 15 PhD positions in Marie Sklodowska Curie ITN "A Nanovaccine Approach for the Treatment of Pancreatic Cancer"



Deadline: 30 September 2020

MORE INFORMATION:

**WEBSITE** 

it is an established team of 10 academic and 3 industrial partner organizations from 7 European countries specialized on nanovaccines, immunotherapy, personalized nanomedicine approaches, image guided surgery, molecular imaging.

# Requirements

- Not having resided or performed their main activity in the country of the host institution for more than 12 months in the 3 year period immediately prior to the start date of the PhD research.
- Applicants for the ESR PhD positions should be in the first 4 years of their research careers and not yet have been awarded a doctorate.
- Excellent command of spoken and written English, communication skills as well as team spirit are essential.

# H2020: New biotechnologies to remediate harmful contaminants

This topic is part of the EU-China flagship initiative on Biotechnology for Environment and Human Health, which will promote substantial coordinated and balanced research and innovation cooperation between the EU and China.

Proposals should cover the following activities:

- Research and innovation for efficient and low cost remediation strategies using microorganisms by means of emerging biotechnologies that require minimum or zero external energy.
- Work to ensure remediation in soil, sediments, mines, surface water, groundwater or industrial water.
- Develop a system to remove different contaminants,
- Field trials to prove an acceptable performance for field applications will be a plus.



Deadline: 15 April 2020 MORE INFORMATION: <u>WEBSITE</u>

# H2020: Al for the smart hospital of the future



New digital technologies will play a role in transforming health and care systems. In particular, artificial intelligence and robotics, have the potential to transform health and care facilities across their range of functions from the clinical aspects to organisational and logistical aspects.

The objective is to develope a devise in-facility pilot demonstrators that deliver innovative AI-based solutions in a health and care setting such as a hospital, primary care facility or care home.

Pilots should enable or support clinical, diagnosis and treatment, etc. carried out with clinical outcomes comparable to human delivered procedures and with comparable results.

Deadline: 22 April 2020

### MORE INFORMATION

### **WEBSITE**

# PhD fellowship in the area of Biomedicine and Health Sciences

The University of Barcelona is searcihng for a PhD candidate to apply for a PFIS fellowship in the area of biomedicine and health sciences in the current call for "Acción Estratégica en Salud (AES) 2020" grants from Instituto de Salud Carlos III (Ministerio of Science, Innovation and Universities).

The PhD thesis research topic is the study of HDV and HBV infection their impact on liver disease progression.

# Requirements

Excellent communication skills in written and spoken English, ability to work and interact with others in a dynamic and supportive research group.

Previous experience in molecular and cellular biology, flow cytometry and statistical analysis will be highly valued. Knowledge of virology and immunology will be also desirable.



Deadline: 01 July 2020

Place: Barcelona, Spain

### MORE INFORMATION

WEBSITE

# Postdoctoral position available at the Ohio State University, Columbus, USA.

The Ohio State University is seeking highly motivated individuals (two or thee) to join our lab as postdocs.

# Requirements

The Ohio State University is searching fot scientists with a background and training in neurosciences, cell biology, biochemistry, and/or molecular biology with solid first author publication(s).

Deadline: 31 May 2020 Place: Ohio, USA



MORE INFORMATION

# STATISTICS AND INFOGRAPHICS



# <section-header>STATISTICSConstantConstantConstantConstantConstantConstantConstantConstantConstantConstantConstantConstantConstantConstantConstantConstantConstantConstantConstantConstantConstantConstantConstantConstantConstantConstantConstantConstantConstantConstantConstantConstantConstantConstantConstantConstantConstantConstantConstantConstantConstantConstantConstantConstantConstantConstantConstantConstantConstantConstantConstantConstantConstantConstantConstantConstantConstantConstantConstantConstantConstantConstantConstantConstantConstantConstantConstantConstantConstantConstantConstantConstantConstantConstantConstantConstantConstant<td

Electricity prices (including taxes) for household consumers, first half 2019



# THE FUTURE OF AGRICULTURE IN THE EU +2%

Fuente: Eurostat

# Agricultural labour productivity on the rise again



According to the latest data of economic accounts for agriculture, the index for agricultural labour productivity is estimated to have increased slightly for the EU in 2019 (+2%), following on from a decline in 2018, nearing one quarter (+23%) above the level in 2010.

The labour productivity in agricultural industry can be measured as factor income expressed per full-time labour equivalent. It is a measure of the net value added by the equivalent of each full-time worker in the agricultural industry and it is measured in real terms (adjusted for inflation) and expressed as an index (so-called Indicator A). Therefore, the development of this index is influenced by the real income generated in agriculture and/or the changes in labour.

It should not be confused with total income of farming households or the income of a person working in agriculture.

After a decline in 2018, a majority of Member States recorded rises in this index of agricultural income in 2019.

The highest rates of increases were reported for Denmark (+68%), followed by Estonia (+38%), Germany (+32%), Sweden (+28%) and Lithuania (+27%).

On the other hand, three of the large countries which contribute almost half of the EU factor income reported decreases: Spain (-10%), France (-8%) and Italy (-3%).



# The EU organic area in the EU continues growing





# **Agricultural Census**

An Agricultural Census is a statistical operation for collecting, processing and disseminating data on all farms and farmers in a country. The census is carried out every 10 years, as advised by the Food and Agriculture Organization of the United Nations (FAO) and it is complemented by sample data collections organised every 3-4 years between the decennial censuses.

Within the European Union (EU), each of the Member States will be tasked with collecting set data for each farmer and farm above certain physical thresholds in their country. This will mean collecting data on as many as 10.5 million farms (2016 data) in the EU. This graphic represents the total organic area in the EU and some Member States in 2018.

The total organic area in the European Union (EU) was 13.4 million hectares in 2018, corresponding to 7.5% of the total utilised agricultural area.



Among the EU Member States, the countries with the largest shares of organic area in 2018 were Austria (24.1% of total utilised agricultural area), Estonia (20.6%) and Sweden (20.3%), followed by Italy (15.2%), Czechia (14.8%), Latvia (14.5%), Finland (13.1%) and Slovenia (10.0%).

In the remaining EU Member States, the share of organic area was below 10 %, with the lowest proportions observed in Malta (0.4%), Romania (2.4%), Bulgaria, Ireland and the United Kingdom (each with 2.6%).



Source: Eurostat

# Safer ship recycling for a greener world



Source: European Commission



Oth

**Women in** science and technology





Wind and water provide most renewable electricity





How long is a hospital stay on average in the EU?



# RECOMMENDED BIBLIOGRAPHY



# **EUROPEAN GREEN DEAL**





# EU AS A GLOBAL LEADER. THE EUROPEAN GREEN DEAL

**ABSTRACT**: Climate change and the environmental degradation affect every human being. This needs a global solution.

Publication date: 12-12-2019

Author: Directorate-General for Communication (European Commission) Key words: adaptation to climate change, climate change policy, cooperation policy, degradation of the environment, environmental cooperation, environmental protection, EU environmental policy, quality of the environment, reduction of gas emissions, sustainable development ISBN/ISNN: 978-92-76-13461-9

### ACCESS THE PUBLICATION:



# THE EU'S TRACK RECORD ON CLIMATE ACTION. THE EUROPEAN GREEN DEAL

**ABSTRACT**: The EU is already making progress on tackling climate change. It has started to modernise the economy while reducing emissions. But much remains to be done.

Publication date: 12-12-2019

Author: Directorate-General for Communication (European Commission)

**Key words:** climate change policy, environmental protection, EU environmental policy, quality of the environment, reduction of gas emissions, sustainable development

ISBN/ISNN: 978-92-76-13371-1

### ACCESS THE PUBLICATION:



# JUST TRANSITION MECHANISM. MAKING SURE NO ONE IS LEFT BEHIND: THE EUROPEAN GREEN DEAL

**ABSTRACT**: The Just Transition Mechanism (JTM) will provide targeted support to regions and sectors that are most affected by the transition towards the green economy.

Publication date: 12-12-2020

Author: Directorate-General for Communication (European Commission) Key words: climate change policy, environmental protection, EU environmental policy, quality of the environment, reduction of gas emissions, sustainable development ISBN / ISSN: 978-92-76-14060-3

# **MARINE POLLUTION**

### ACCESS THE PUBLICATION:



DETECTING MARINE POLLUTION FROM SPACE



# CLEANSEANET SERVICE. DETECTING MARINE POLLUTION FROM SPACE

**ABSTRACT:** CleanSeaNet is the European satellite-based oil spill monitoring and vessel detection service. It analyses images to: detect possible oil on the sea surface, including illegal discharges of mineral oil, identify potential polluters, and monitor the spread of oil during maritime emergencies.

Publication date: 13-12-2019

Author: European Maritime Safety Agency

Key words: marine pollution, sustainable development, monitoring, oil, detection, space

### ACCESS THE PUBLICATION:



# EUTROPHICATION IN MARINE WATERS. HARMONIZATION OF MSFD METHODOLOGICAL STANDARDS AT EU LEVEL. STUDY

**ABSTRACT**: This report presents the results of the joint work between JRC and a network of Member State (MS) eutrophication designated experts to assess the level of harmonization in Eutrophication methodological standards and threshold definition at regional and EU level.

Publication date: 20-12-2019

Author: Joint Research Centre (European Commission)

Key words: environmental monitoring, eutrophication, marine pollution, North Sea, remote sensing, territorial waters ISBN/ISNN: 978-92-76-11224-2 / 1831-9424

# ACCESS THE PUBLICATION:



# EU MARINE BEACH LITTER BASELINES. ANALYSIS OF A PAN-EUROPEAN 2012-2016 BEACH LITTER DATASET. STUDY

ABSTRACT: Measures against marine litter require quantitative data for the assessment of litter abundance, trends and distribution. While beach litter monitoring has been ongoing in some European areas since years, so far it was yet not possible to obtain an overview and to analyse litter abundance, litter category distribution and trends at the different spatial scales from local to EU.

Publication date: 13-01-2020

Author: Joint Research Centre (European Commission)

**Key words:** anti-pollution device, data collection, data processing, environmental indicator, environmental protection, marine pollution, pollution control, prevention of pollution, protection of animals, research report, sea, water pollutant **ISBN/ISNN:** 978-92-76-14243-0 / 1831-9424

# FISHING INDUSTRY

### ACCESS THE PUBLICATION:



# EUROPEAN FISHERIES CONTROL AGENCY: MULTIANNUAL WORK PROGRAMME 2020-2024 AND ANNUAL WORK PROGRAMME 2020

**ABSTRACT:** This document contains the Multiannual work programme 2020-2024 and the annual work programme 2020 of the European Fisheries Control Agency (EFCA) provides a comprehensive overview of the allocation of resources granted by the European Union Budget to the agency in accordance with the objectives, indicators and deliverables of the EFCA next year.

Publication date: 07-1-2019

Author: European Fishery Control Agency

Key words: annual programme, multiannual programme, objectives, indicators, budget

### ACCESS THE PUBLICATION:



# REVIEW OF THE RESEARCH KNOWLEDGE AND GAPS ON FISH POPULATIONS, FISHERIES AND LINKED ECOSYSTEMS IN THE CENTRAL ARCTIC OCEAN (CAO)

**ABSTRACT:** This study was funded by the European Commission as an EU contribution to the international cooperation within the Agreement to Prevent Unregulated High Seas Fisheries in the Central Arctic Ocean. **Publication date:** 03-02-2020

Author: Executive Agency for Small and Medium-sized Enterprises (European Comission)

Key words: Arctic Ocean, conservation of resources, data collection, fishery management, fishery research, fishery resources, international cooperation, international waters, marine ecosystem, sustainable fisheries ISBN/ISNN: 978-92-9202-810-7

### ACCESS THE PUBLICATION:



# FISHERIES DEPENDENT INFORMATION. FDI (STECF-19-11). STUDY

**ABSTRACT**: Commission Decision of 25 February 2016 setting up a Scientific, Technical and Economic Committee for Fisheries. The STECF reviewed the report of the EWG on Fisheries-dependent Information during its winter 2019 plenary meeting.

Publication date: 03-02-2020

Author: Joint Research Centre (European Commission), Scientific, Technical and Economic Committee for Fisheries (European Commission) Key words: conservation of fish stocks, data collection, fishery management, fishery research, fishing fleet, research report ISBN / ISSN: 978-92-76-14096-2 / 2467-0715

# TRANSITION TOWARDS SUSTAINABILITY

### ACCESS THE PUBLICATION:



# TURNING THE TIDE ON SINGLE-USE PLASTICS.

ABSTRACT: New EU rules target the vast amount of single-use plastic and fishing gear containing plastic that is polluting our seas, endangering marine life and harming our health. The goal? Reduce litter, help develop a circular economy and promote a sustainable future for everyone!

Publication date: 13-01-2020

Author: Directorate-General for Environment

**Key words:** circular economy, environmental protection, marine pollution, plastic waste, plastics, pollution control measures, prevention of pollution, product life, sustainable development **ISBN/ISNN:** 978-92-76-12903-5





# FORWARD-LOOKING REFLECTION ON THE FUTURE OF EU ENVIRONMENTAL POLICY AND THE 2050 SUSTAINABILITY TRANSITION.

**ABSTRACT**: Three European services of the European Commission and the European Environment Agency joined their efforts to run an inclusive and participatory forward-looking process to support the reflection on the future of EU environmental policies

Publication date: 12-12-2019

Author: European Environment Agency, Joint Research Centre (European Commission)

**Key words:** action programme, consumer policy, degradation of the environment, environmental indicator, EU environmental policy, food consumption, industrial policy, report, sustainable development **ISBN/ISNN:** 978-92-76-12942-4 / 1831-9424

### ACCESS THE PUBLICATION:



BLUE BIOECONOMY



# BLUE BIO-ECONOMY. SITUATION REPORT AND PERSPECTIVES. STUDY

**RESUMEN**: El objetivo del presente informe es ofrecer un panorama general del sector de la bioeconomía azul en la Unión Europea. Por "bioeconomía azul" se entiende cualquier actividad económica asociada con el uso de recursos biológicos acuáticos renovables para fabricar productos. **Fecha de Publicación**: 04-02-2020

Autor: Directorate-General for Maritime Affairs and Fisheries (European Commission), EUMOFA

**Palabras clave:** algae, aquaculture, economic activity, economic growth, exploitation of resources, fish product, fishery resources, foodstuff, integrated maritime policy, report, sustainable development

ISBN/ISNN: 978-92-79-96713-9

# **INNOVATION IN TRANSPORT**





# THE FUTURE OF ROAD TRANSPORT. IMPLICATIONS OF AUTOMATED, CONNECTED, LOW-CARBON AND SHARED MOBILITY. STUDY

**ABSTRACT**: new technologies and new business models is transforming not only our vehicles, but everything about how we get around and how we live our lives. These developments are the focus of this report, which is based on independent research aiming to support policy debate at the European level.

Publication date: 20-12-2019

Author: Joint Research Centre (European Commission)

**Key words:** consumer behaviour, geographical information system, information technology, intelligent transport system, motor vehicle, motor vehicle industry, new technology, research and development, road safety, road transport, urban transport **ISBN/ISNN:** 978-92-76-14318-5 / 1831-9424

### ACCESS THE PUBLICATION:





# TOWARDS A SINGLE AND INNOVATIVE EUROPEAN TRANSPORT SYSTEM.

**RESUMEN**: Innovation is essential to the integration of Europe's transport systems and to reach a single multimodal European transport network. However, several barriers still hinder the transition from research and innovation (R&I) to deployment.

Fecha de Publicación: 23-01-2020

Autor: DG Movilidad y Transportes (Comisión Europea), HaCon Ingenieurgesellschaft mbH, KombiConsult GmbH, PwC EU Services EESV , Stichting CeTIM – Center for Technology and innovation Management Palabras clave: combined transport, innovation, intelligent transport system, public transport, sustainable mobility, transport market, transport network, transport policy, urban transport ISBN/ISNN: 978-92-76-14652-0

### ACCESS THE PUBLICATION:



# CLEAN TRANSPORT AT SEA. SETTING A COURSE FOR EUROPEAN LEADERSHIP

**RESUMEN**: While it is important to recognise that shipping is part of the problem in tackling climate change and halting the degradation of the world's oceans, it must not be forgotten that it can also very much be part of the solution, especially if it continues with progress made in past decades – as well as under the Juncker Commission – to become greener and more efficient.

Fecha de Publicación: 12-02-2020

Autor: European Political Strategy Centre (European Commission) Palabras clave: clean technology, climate change policy, maritime transport, sustainable development, transport policy ISBN/ISNN: 978-92-76-11810-7 / 2467-4222

# EU HEALTH



# FIRST ANNUAL FORUM ON ENDOCRINE DISRUPTORS. EXCHANGING KNOWLEDGE, IDENTIFYING CHALLENGES, BUILDING SYNERGIES

**ABSTRACT:** The aim of this forum was to exchange knowledge and best practices, and to identify challenges and build synergies. The outcomes of the annual forums will feed into the Commission's policy framework on endocrine disruptors. This is the report of the first Annual Forum on Endocrine Disruptors.

Publication date: 09-01-2020

Author: Directorate-General for Environment (European Commission)

**Key words:** chemical product, endocrine disease, endocrine disruptor, health legislation, health risk, public health, scientific cooperation, toxic substance

ISBN/ISNN: 978-92-76-14274-4





# SYPHILIS AND CONGENITAL SYPHILIS IN EUROPE. A REVIEW OF EPIDEMIOLOGICAL TRENDS (2007–2018) AND OPTIONS FOR RESPONSE

**ABSTRACT**: Since 2010, syphilis notification rates in the EU/EAA have been on the increase, but in recent years this trend seems to accelerate, and similar trends have been observed in high-income countries outside the EU/EAA. In September 2018, the ECDC STI asked ECDC to prepare an update on syphilis epidemiology, assess the current risk level, and indicate options for response. **Publication date:** 23-01-2019

Autor: Centro Europeo para la Prevención y el Control de las Enfermedades Key words: control sanitario, enfermedad congénita, enfermedad de transmisión sexual, epidemiología, estadística de sanidad, informe de investigación, medicina preventiva, salud pública

**ISBN/ISNN:** 978-92-9498-391-6

### ACCESS THE PUBLICATION:



# THE EUROPEAN UNION ONE HEALTH 2018 ZOONOSES REPORT

**ABSTRACT**: In the European Union, there are around 5 000 reported outbreaks of food-borne zoonoses per year involving more than 40 000 individuals. Many victims need to be hospitalized and some cases are fatal. Many milder food poisoning episodes may go unnoticed. Together, they represent a major public health problem and have important implications for trade within the EU and with other countries.

Publication date: 12-12-2019

Author: European Food Safety Authority

Key words: Campylobacter, Listeria, foodborne outbreaks, monitoring, parasites, Salmonella, zoonoses

# MAGAZINES AND SERIALS







# **MEDIA LIBRARY**



# Solar Orbiter launch highlights



Highlights from the preparation and liftoff of ESA's Sun-exploring mission Solar Orbiter. Solar Orbiter lofted to space aboard the US Atlas V 411 rocket from NASA's spaceport in Cape Canaveral, Florida at 04:03 GMT (05:03 CET) on 10 February 2020.

Source: European Space Agency

# World Cancer Day

4 February is World Cancer Day, an opportunity to focus on the causes, treatment and prevention of one of the EU's top health priorities.MOSTRAR MÁS

Source: European Parliament

# HBM4EU – Science and Policy for a Healthy Future



only when we learn that we have cancer,

Origin of the chemicals which enter our body, ways of entry and how our body assimilates them.

Source: European Environment Agency

# Women in science and technology in the EU



This video made with Eurostat data shows the presence of women in science and technology in the EU.

Source: CDE Almería

# PRIMA 2020 Information Day The Enterprise Europe Network (EEN)



Cristina Head of the Knowledge Agency and in charge of the Enterprise Europe Network (ENN) tells us about the support that the Network offers to international technological cooperation and to researchers and companies that wish to participate in initiatives such as PRIMA

Source: European Documentation Centre

# PRIMA 2020 Information Day: cooperation projects in developing countries



Jose Manuel Durán, Delegado Norte de África y Oriente Medio del CDTI, nos habla de la importancia de las iniciativas como PRIMA para los países en vías de desarrollo.

Source: European Documentation Centre



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