

# Early career researchers present at Aquaculture UK

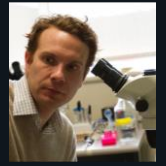


In a collaboration between ARCH-UK and SAIC, early career researchers will be showcasing their work at SAIC's Aquavation sessions, during Aquaculture UK.

*Come and see how your company can benefit from the latest research and discuss opportunities to collaborate with researchers!*



**Join us!**



**Dr Remi Gratacap**  
Roslin Institute  
*Screening for genetic resistance to viral disease using primary cell culture in Atlantic salmon*



**Dr Suzi Billing**  
Scottish Association of Marine Science  
*Social licence for aquaculture in Scotland*



**Dr Lynn Chalmers**  
University of Stirling  
*Health robustness in sterile triploid Atlantic salmon*



**Dr Karen Mooney**  
Queen's University Belfast  
*The future of seaweed farming in the UK*



**Dr Adam Brooker**  
University of Stirling  
*Improving the delousing efficiency of cleaner fish*



**Alessandro Laudicella**  
Scottish Association of Marine Science  
*Showcasing lipidomics for mussel hatchery production*

**When:** 23<sup>rd</sup> of May, 3.45 pm  
**Where:** Aquaculture UK - Conference Tent (Aviemore, Scotland); part of SAIC's Aquavation afternoon session on Innovation & Commercialisation  
**How:** ECRs will give a 5-min talk on their research project, relevance to industry and potential for collaborations; this will be followed by a Q&A session

### Want to know more?

Check the conference details at [Aquaculture UK](#) and Aquavation sessions at [Scottish Aquaculture Innovation Centre](#). For further information visit [Aquaculture Research Collaborative Hub](#) and [UK Aquaculture Knowledge Exchange](#) or follow us on  at [@Aquaculture\\_hub](#) and [@AquacultureKE](#).



# Meet the ECRs at Aquaculture UK – Dr Lynn Chalmers



UNIVERSITY OF STIRLING



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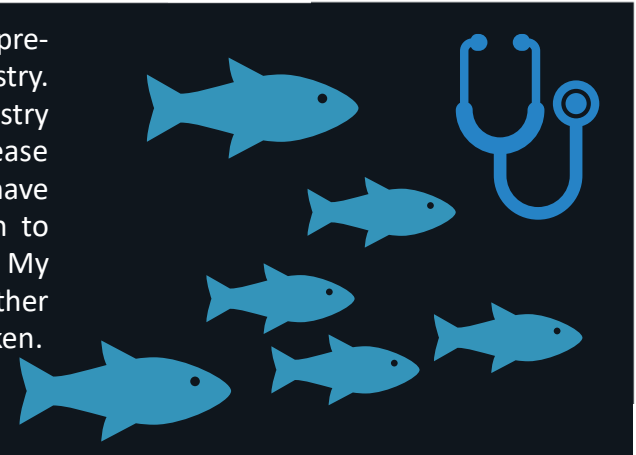
Meet the presenters and learn more about the research they will discuss



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## Health robustness in sterile triploid Atlantic salmon

Sterile triploid Atlantic salmon represent a solution to the issues caused by pre-harvest sexual maturation and escapees in the salmon farming industry. However, there continues to be scepticism regarding their use in the industry due to historical field reports of poorer performance, such as inferior disease resistance. In order to refute these historical claims, numerous studies have now been undertaken to assess the response of triploid Atlantic salmon to disease and disease treatments in comparison to diploid siblings. My presentation will give an overview of these studies, indicate areas for further research and highlight the industry relevance of the research being undertaken.



### Dr Lynn Chalmers - Short biography

**Dr Lynn Chalmers** completed a BSc in Marine Biology and a MSc in Aquatic Pathobiology (University of Stirling), during which time her research focused on assessing challenge model routes for Rainbow Trout Fry Syndrome. Last year, she concluded a PhD (Institute of Aquaculture) on health and immunology in sterile triploid Atlantic salmon, and has published research on the assessment of the response of triploid Atlantic salmon to disease challenges, treatment stress and vaccination. Lynn has since taken her current position as a post-doctoral researcher at the Institute of Aquaculture, where she has continued this research.

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# Meet the ECRs at Aquaculture UK – Dr Suzi Billing



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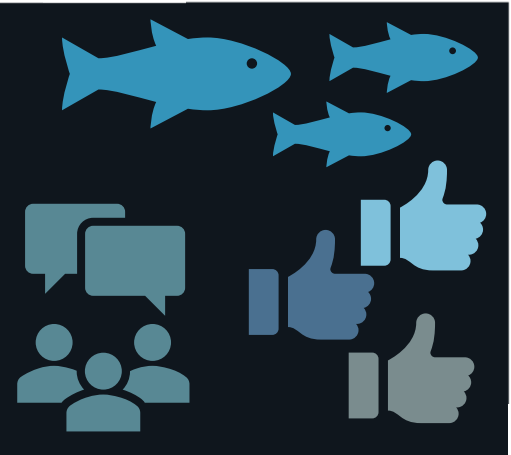
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## Social licence for aquaculture in Scotland

Social licence to operate is an industry coined term relating to the relationship that an industry has with the communities that host it. Social licence has become a popular theory in explaining why some companies/ industries are able to operate with limited or without local resistance while others are met with costly opposition at every turn. This talk unpacks the component parts of social licence to operate for aquaculture including its importance in rural communities and suggestions on how it is gained. The talk is based on the results from a study which examined the drivers for objecting or supporting finfish farm planning applications and the motivations of those who instigate anti-aquaculture campaigns.



### Dr Suzi Billing - Short biography

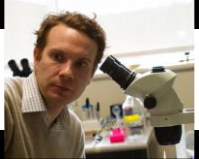
**Dr Suzi Billing** is a social scientist researching social licence to operate, rural development, and community agency within the context of the sustainable use of coastal and marine resources (aquaculture, wave and tidal energy, inshore fisheries). She successfully led the Scottish case study within the European research project AquaSpace (<http://www.aquaspace-h2020.eu/>) and is currently working with industry on social licence in two European projects; the expansion of seaweed cultivation (GENIALG) and mixed use platforms for marine aquaculture (BLUEFARM). Suzi also works as a consultant and has fulfilled private contracts relating to aquaculture.

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# Meet the ECRs at Aquaculture UK – Dr Remi Gratacap



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### Screening for genetic resistance to viral disease using primary cell culture in Atlantic salmon


Selective breeding can result in moderate improvements in disease resistance of salmon stocks and may take many generations. However, a revolutionary approach known as genome editing has potential to rapidly increase the rate at which disease resistant salmon can be produced. This talk will present results from Dr Remi Gratacap's work utilising primary cells from salmon embryos to identify and characterise genetic resistance to viral disease. This approach will potentially allow for resistance screening to multiple diseases from a few embryos, and enable identification of resistant families for selective breeding in a rapid and inexpensive manner without the need for disease challenge experiments.



### Dr Remi Gratacap - Short biography

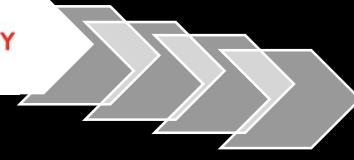
**Dr Remi Gratacap** obtained a PhD from the University of Stirling in 2008 for his work on bacterial vaccine development in Atlantic cod under the supervision of Alexandra Adams, Kim Thompson and Ian Bricknell. He has then leveraged his expertise in fish immunology to move to human diseases by pioneering a zebrafish model for the fungal mucosal infection by *Candida albicans* at the University of Maine, USA. Remi is now back in the UK, at the Roslin Institute, developing genome editing tools for the improvement of disease resistance in Atlantic salmon breeding.

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# Meet the ECRs at Aquaculture UK – Dr Karen Mooney



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## The future of seaweed farming in the UK


Seaweed culture has the potential to be integrated with existing finfish and shellfish aquaculture systems and to open the market to a range of bio-based industries, such as food and animal feed, biorefinery, waste reduction and bioremediation. Furthermore, unlike seaweed collection, seaweed culture allows for higher control over quality and growth, though technical challenges remain. Optimising seaweed culture development, deployment and harvesting methods aims to improve the economics of cultivation and provide a better understanding of the impact and sustainability of the seaweed farming industry. This talk will present QUB's research into assessing environmental effects of kelp culture and discuss the potential for seaweed farming in the UK.



### Dr Karen Mooney - Short biography

**Dr Karen Mooney** is a postdoc based in the Marine Lab at Queen's University Belfast (QUB), and managing the seaweed cultivation site in Strangford Lough. Her research interests lie in the optimisation of sustainable cultivation of kelp for bioproducts (biogas and high value products), looking specifically at methods to improve biomass production and the environmental and genetic impacts of cultivation. Karen is currently working on the BBSRC/Innovate UK funded SeaGas project, and provides support to seaweed industry start-ups. She is passionate about science communication and does a lot via STEM initiatives, school talks and public outreach. Karen is also involved in teaching, postdoc life at QUB and the Green Impact Team. See more @KarenMooney01

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# Meet the ECRs at Aquaculture UK – Dr Adam Brooker



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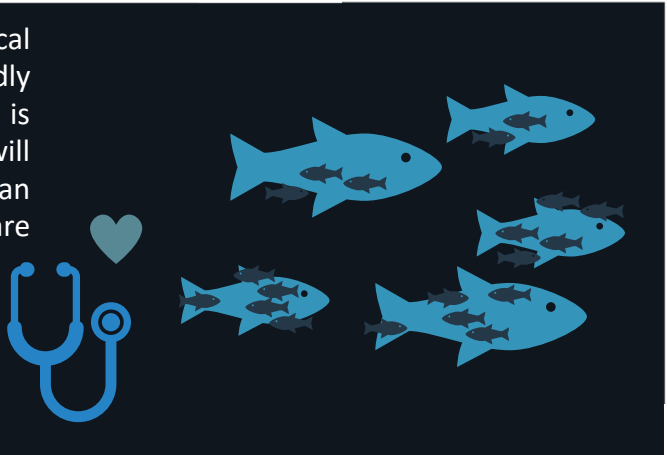
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## Improving the delousing efficiency of cleaner fish

Cleaner fish are now widely used in salmon farming for the biological control of sea lice and are viewed as a sustainable, environmentally friendly alternative to chemical treatments. However, delousing behaviour is dependent on the health and welfare of the cleaner fish. This talk will address how studying cleaner fish behaviour in commercial conditions can be used to refine husbandry practices, to improve their health and welfare and promote delousing behaviour.



### Dr Adam Brooker - Short biography

**Dr Adam Brooker** is a marine biologist, currently working as a postdoctoral researcher in cleaner fish behaviour at the Institute of Aquaculture, University of Stirling. He studied for an MSc in aquaculture in 2001, and since completing his PhD in 2008, has gained broad experience in aquaculture research and working with the aquaculture industry. Adam's main interest is in animal behaviour, and he seeks to apply his research to develop innovative solutions for the aquaculture industry.

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# Meet the ECRs at Aquaculture UK – Alessandro Laudicella



SAMS



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## Showcasing lipidomics for mussel hatchery production

Though blue mussels are one of the top species cultured in the UK, mussel production has grown slower than other aquaculture sectors. Main constraints to culture include variability of recruitment and production of larvae/spat for commercial on-growing. Crucial to increasing the supply, is understanding the fundamental physiology that underpins the growth and nutrition of mussels. Lipids play a key role in mussel physiology but their dynamics are almost unstudied. This talk will present how the study of the lipidome (or the variety and totality of lipids) is being used to unveil the optimal nutritional requirements during hatchery production of mussels. This information has the potential to be used to optimize diets and reduce hatchery costs, increasing the quality of mussel spat produced.



## Alessandro Laudicella - Short biography

**Alessandro Laudicella** is a PhD student at the Scottish Association for Marine Science. He applies cutting-edge liquid chromatography/mass spectrometry techniques to unveil the lipidome and proteome during hatchery production of the blue mussel. Alessandro is particularly interested in the effect of different diets on the physiology of mussels during early life stages and gonad conditioning. In the past, he contributed to different research projects aimed at the recovery of bioactive compounds from fisheries and aquaculture byproducts with the Università degli studi di Palermo (Italy). Alessandro is a marine biologist and has a Master degree in Marine Ecology (2016) and a MSc in Applied Aquatic Biology (2012).

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