CACHE ITN

Shell production for shellfish farming and biotech in a changing world

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MARIE CURIE ACTIONS

"**CA**lcium in a **CH**anging **E**nvironment"

- was a €3.6M Marie Skłodowska Curie Actions Initial Training Network (ITN) funded by the People Programme of the European Union's Seventh Framework programme FP7/2007-2013/ under REA grant agreement n° [605051]13.

It brought together 10 partners from 6 different European countries, and included three SMEs and a shellfish consultancy.

Started in 2013, by October 2017 it had 13 Early stage researchers (9 Ph.D. students) and 3 Post-doctoral fellows in areas of the Blue Economy

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Fundamental Science

Shells through time & space

Variations in populations

Environmental impacts

Cost of making shells

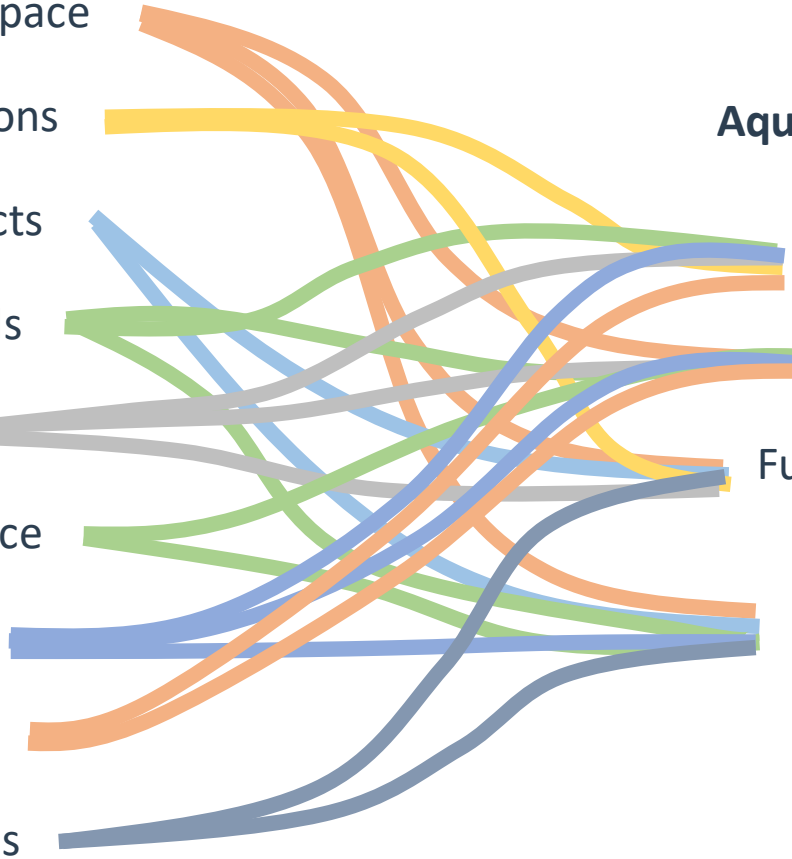
Shell genes

Animal - shell interface

Calcium in cells

Calcium transport

Resilient populations



Aquaculture & Biotechnology

Bioinformatics hub

Shell biomimicry

Future predictions for the aquaculture industry

Shell waste utilisation

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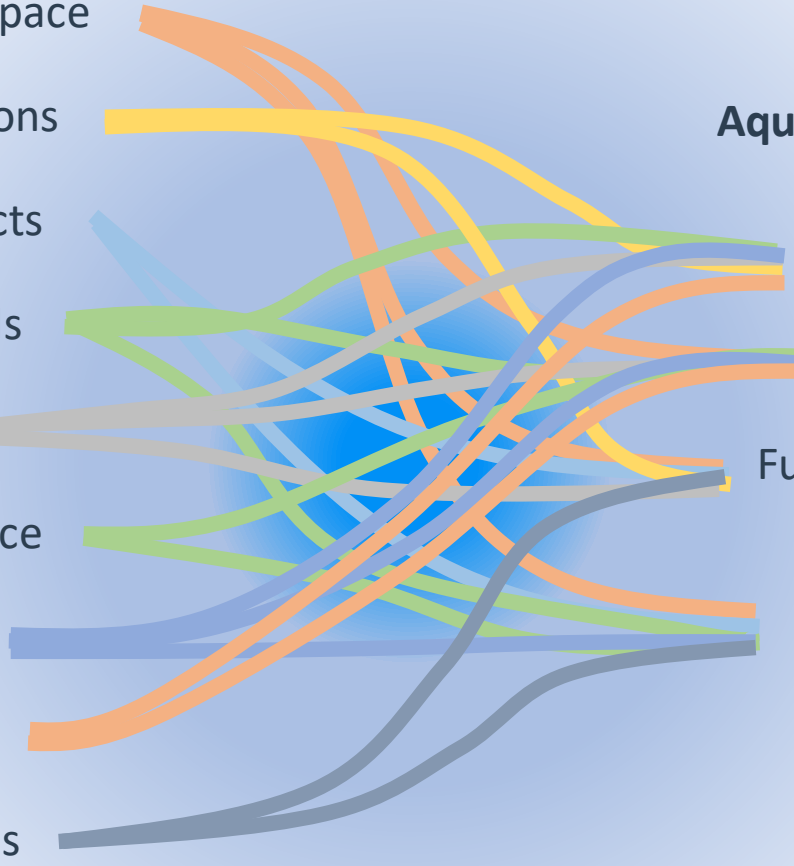

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BLUE GROWTH / BLUE ECONOMY

Work-package 6 – Waste shell re-purposing from aquaculture

Marine Genomics
Volume 27, June 2016, Pages 85-90

Biomimetic and bio-inspired uses of mollusc shells

J.P. Morris [a] [1] ✉, Y. Wang [a] [2] ✉, T. Backeljau [a, b], G. Chapelle [a, c]

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https://doi.org/10.1016/j.margen.2016.04.001

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REVIEWS IN Aquaculture

Review

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Discarded oyster shells can help us grow food, make cement, and fight climate change

Solutions on the half shell.

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ISLE OF MULL SCALLOPS

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Benefits of MSCA-CACHE-ITN style training

Exposes early career researchers to multi-disciplinary- and applied science- perspectives, whilst they are still pursuing fundamental science training

Provides them with a network of contacts in academia and industry, and exposes them to international aspects of science through "mobility" promotion – *Secondments should be mandatory*

Deliverables-based funding keeps each work-package inline with the wider project aims, and with the initial proposal

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Areas for consideration

Ph.D. funding should be for 4 years rather than 3, in line with many national requirements. Some CACHE partners had to find extra funding to extend their Ph.D. candidates to 4 years. *MSCA Salaries are very high, and could be easily be spread across 4 years.*

It can be difficult to build dialogue and collaboration between academia and industry, particularly for early career researchers - *higher proportion of industry partners on projects would facilitate this.*

Eligibility criteria for ESRs and ERs is very strict and confusing, and precludes returning or mature students.

Professional management courses, and "blue branded" courses would further facilitate marine graduate training

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Marie Skłodowska Curie Actions – CACHE
Initial training network

James Peter Morris

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European Parliament – Young Talent & the Blue Economy

25th September 2018

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