



Centre for Life's Origins and Evolution

July-August 2022

CLOE NEWSLETTER

MESSAGE FROM MAX

Welcome back from your summer breaks (and a special welcome to new CLOE members). We are in the middle of exciting CLOE times with the refurbishment of the Darwin 4th floor in full swing. Thanks to everyone who has been so accommodating of the disruption this has caused. Some of us are temporarily hosted in the Medawar building and anticipate some new interactions with CBER. Looking ahead we are hoping to celebrate the new space in the early spring.

RECENT PUBLICATIONS

Marco Colnaghi, Nick Lane, and Andrew Pomiankowski have a paper on the origins of sexual reproduction in PNAS called 'Repeat sequences limit the effectiveness of lateral gene transfer and favoured the evolution of meiotic sex in early eukaryotes'

Hernán Burbano has a new collaborative paper in pre-print 'Polymorphic Inverted Repeats near coding genes impact chromatin topology and phenotypic traits in Arabidopsis thaliana'

Joel Dacks has a research article in Traffic entitled. 'Evolution of factors shaping the endoplasmic reticulum'.

Stuart Harrison, Raquel Palmeira, Aaron Halpern and Nick Lane have a paper published on the origin of the genetic code, 'A biophysical basis for the emergence of the genetic code in protocells.'

Ziheng Yang's group have published the following papers in the past few months, including one led by Yuttapong Thawornwattana. Yuttapong was an undergraduate student in GEE in 2009-12, finishing with a first-class degree. He was Max Telford's tutee and did a undergraduate project with Max and Ziheng, which was eventually published. He then came back to Ziheng's group to study for a higher degree and finished with an MPhil in 2018.

1. 'Bayesian phylogenetic inference using relaxed-clocks and the multispecies coalescent' from Tomas Flouri, Paschalia Kapli and Ziheng Yang
2. 'Full-likelihood genomic analysis clarifies a complex history of species divergence and introgression: the example of the erato-sara group of Heliconius butterflies.' from Yuttapong Thawornwattana and Ziheng Yang.

Upcoming Events

29th September

CLOE CBER Autumn Symposium
4pm

October

GEE Retreat. Details to be confirmed

October

Joint Group Meeting. 10am

WELCOME

Welcome to Omar Matar who joins the Marletaz Group. Omar is starting his PhD having completed his masters at UCL in Pharmaceutical Formulation and Entrepreneurship.

Elise Parey also joins the Marletaz group. She completed her PhD at the Institut de Biologie de l'Ecole Normale Supérieure in Paris, working on comparative genomics and chromosome evolution in teleost fishes. Elise will be investigating gene regulatory events that underline gene expression and patterning during larval metamorphosis.

Max Reuter has two new Postdocs in his group - welcome to Avishikta Chakraborty and Abhilesh Dhawanjewar
They will use experimental evolution, genome editing and phenotypic assays, alongside computational population genomics to identify and experimentally validate sexually antagonistic loci in the fruit fly genome. There will also be work to study evolution and contribution to standing genetic variation in natural fly populations.

Wenyng Shou has a review article published in eLife, '[Data-driven causal analysis of observational biological time series.](#)'

Daniel Leite and Laura Piovani from the Telford lab have a new paper, '[Genome Assembly of the Polyclad Flatworm *Prostheceraeus crozieri*](#)'

GRANTS

Many congratulations to Jon Bridle and Owen Lewis (University of Oxford) who were awarded a NERC Standard Grant last month on "The ecological and evolutionary legacy of extreme climatic events for community resilience". The project brings together Jon and Owen's ecological and evolutionary expertise to test how the extreme heat waves of the future will alter the resilience of ecological communities either by re-organizing food webs, or by altering the trait values of interacting species within them (or both). It will use a combination of field, experimental and metagenomic approaches, using tropical *Drosophila* and their parasitoids as model systems, with experiments at field sites in Queensland, Australia, and in collaboration with James Cook University, and the Czech Academy of Sciences.

CLOE CBER SUMMER SYMPOSIUM

Jon Bridle and Paola Oliveri will be hosting the next CLOE quarterly Symposium 'The evolution of networks in changing worlds'. The speakers are

- Phil Davidson, Indiana University, "Regulatory element evolution between and within species: exploring evolvability of gene networks using sea urchin larvae and beetle horns"
- James W. Clark University of Bristol [Gene networks, plasticity and fitness across environmental gradients]
- Daniel Montoya, Basque Centre for Climate Change, Bilbao [Ecological networks, productivity and resilience]

Please register at [Eventbrite](#), share the link and Tweet!

JOINT GROUP MEETING

A huge THANK YOU to Sandra Alvarez-Carretero for organising and running our monthly meetings for the past year. She has done an amazing job considering all the Covid challenges and following the various UCL guidelines.

As she is stepping down this year, we are looking for someone new to take charge. Please email myself or Max T if you are interested and maybe have any ideas to add to the existing program.

The next JGM will be in October, Sandra will be emailing the details soon.

OTHER NEWS

[Nick Lane's book launch talk](#) can be viewed on Youtube having received 73, 000 views in two weeks and [Quanta Magazine has a profile piece](#) on Nick in its August edition.

Mark Thomas' paper '[Genomes from a medieval mass burial show Ashkenazi-associated hereditary diseases pre-date the 12th century](#)' has received [press coverage](#) in The Independent.