Participant Introduction
Hanin Ahmed
PhD student
Simon Krattinger’s Lab
https://cerealgenomics.kaust.edu.sa
Thuwal, Saudi Arabia

Whole genome re-sequencing data of Fonio millet
- Genetic diversity and structure
- Is fonio a domesticated species?

High quality reference genome of Fonio millet (**Digitaria exilis**)

Genomic resources are the basis that will allow us to advance the crop improvement
Lane Atmore
PhD Candidate
University of Oslo

Current research:
Tracing early origins of Atlantic herring exploitation using ancient DNA and marine historical ecology

Academic Interests:
Genomics, population genetics, marine biology, human evolution and culture

Background:
B.A. in anthropology and Chinese
Grinnell College, USA
MPhil in applied biological anthropology
University of Cambridge
Adaptive responses in coexisting three-spined and nine-spined stickleback

Thijs M.P. Bal, PhD candidate
Nord University
Bodø, Norway
@Thijs_MP_Bal

Environmental conditions

Morphological divergence

The study area in Belgium and the Netherlands

Ecological divergence

Genomics of local adaptation
The blueberry domestication history: diversity, introgression, and signatures of selection

Northern Highbush Blueberry
*Vaccinium corymbosum*

Southern Highbush Blueberry
*Vaccinium spp.*

Interspecific hybridization with Florida native species

U.S. Chilling Hours Map (below 7°C)

Source: https://mrcc.illinois.edu/VIP/indexChillHours.html
Semyon Bodrov
Molecular systematics of mammals dept.
Zoological Institute of Russian academy of sciences
Saint-Petersburg, Russia
Olga Bondareva, PhD student

Molecular systematics of mammals dept.
Zoological Institute of Russian academy of sciences
Saint-Petersburg, Russia

Key words: underground rodents, adaptations, molecular evolution, underground lifestyle, Arvicolinae subfamily

Me

Underground rodent *Ellobius talpinus*
Andrea Borbón
PhD. Student
Department of Microbiome Science
Max Planck Institute for Developmental Biology
Tübingen, Germany

Background:
MSc. Microbiology / Computational biology
Gut microbiome of Andean bears

Current project:
Co-diversification of mammalian hosts and their gut microbiomes
TLR5 and bacterial flagellin
Andrea Bours, Doctoral Researcher
Max Planck Research Group for Behavioural Genomics
(Group Leader: Dr. M. Liedvogel)
(Statistical) models for hybridization and speciation

Alex Buerkle – University of Wyoming, USA
Demian Burguera
Fish Evolution Group
Charles University
in Prague

Aranda et al 2015
Burguera et al 2017

Adapted from Martin et al 2015
Alpine plant populations under environmental change

Pau Carnicero
pau.carnicero@uibk.ac.at

Phylogeography  Demography  Evolution
Le Qin Choo  @lqchoo

- Pteropods (shelled planktonic gastropods)
- Population structure and dispersal in global oceans
- Apply population genomics analyses to target capture dataset
  - high coverage SNPs
  - homologous regions
Impact from mercy release of Hybrid grouper/ Sabah grouper (Tiger grouper, *Epinephelus fuscoguttatus* × giant grouper, *E. lanceolatus* )

Arthur Y.C. Chung, Mphil student

Claudia Ciotir, PhD, University of Haifa Israel
Evolutionary history of Washington Lupine, *Lupinus polyphyllus*

Washington lupine
Natural populations

Russell Lupine, ornamental and feral populations
Márcio Coelho
Postdoc, Centre of Marine Sciences - University of Algarve

Biogeographical, Ecology & Evolution (BEE)
The genomic architecture of a hybrid species and its adaptive potential

Genomic landscape of population divergence

Population structure and isolation by adaptation

Angélica Cuevas
PhD candidate
Mastomys natalensis hybrid zones shaping arenavirus distribution

Laura Cuypers
PhD student
Evolutionary Ecology Group
University of Antwerp

Promotors:
Herwig Leirs
Joëlle Goüy de Bellocq
Stuart J.E. Baird
Phylogeography and Population Genomics of *Cyanoptila* Flycatchers in East Asia

GABRIEL DAVID
Evolutionary Biology, Husby Group
Uppsala University | gabriel.david@ebc.uu.se

Adaptive Structural Variants and Demography of Norwegian House Sparrows
Rachael Dudaniec
Senior Lecturer in Biological Sciences
Macquarie University, Sydney, Australia

Landscape and Evolutionary Genetics Lab

1. Species adaptive response to environmental change
2. Landscape and climatic effects on genetic connectivity
3. Host-parasite coevolution, speciation and hybridization

What?
• Damselflies
• Grasshoppers
• Bumblebees
• Darwin’s finches + parasitic flies

How?
• RADseq
• RNAseq
• WGS

www.dudanieclab.weebly.com
Duncan Edgley
PhD, University of Bristol
Just arrived Institute Pasteur Shanghai
And I am hiring....
- *Eudyptes* penguins
- Historical and contemporary patterns of connectivity
- Barriers to dispersal
- Taxa under taxonomic debate

**María José Frugone W.**
PhD student in Ecology and Evolutionary biology
Universidad de Chile
Evolutionary biology - Genomics - Bioinformatics - Management applications

- BSc from Universidad del Valle, Colombia
- PhD from Dalhousie University, Canada
- Postdoctoral researcher in Leif Andersson’s Lab, Uppsala University, Sweden

Currently: Population genomics, transcriptomics, and ecological adaptation of Atlantic herring and other fish species
Species delimitation and introgressive hybridization of *Ficus auriculata* complex in an obligate symbiotic system based on the whole genome resequencing

Jie Gao   Xishuangbanna tropical botanic garden  Yunnan, China

F. auriculata   F. oligodon   F. hainanensis   F. beipeiensis   pollinator wasps
SpeciationClock: How fast does the "speciation clock" tick in selfing versus outcrossing lineages?

How long it takes for new, reproductively isolated species to arise and what factors influence the rate of speciation?

Develop and empirically test theoretical models on the impact of mating systems on the genetic architecture and rate of speciation (i.e. the ticking of the ‘speciation clock’)

Mt Kenya

Mt Kilimanjaro
Charles Christian Riis Hansen

Population genomics of white-tailed eagles in Iceland
PhD student at the University of Iceland, supervisor: Snæbjörn Pálsson
M.Sc. Biology (populations genetics), Copenhagen 2016
Daphnia Resilience - Genomic and ecological changes within peri-alpine populations of the Daphnia-longispina-species-complex under trophic change

University of Innsbruck, Department of Ecology, Molecular Ecology Group

Tania Holtzem MSc
Markus Möst Dr.
Birgit Schlick-Steiner Dr. Univ.-Prof.

Tania.Holtzem@uibk.ac.at
@tania_holtzem
Hu Ai-Qun, Daisy
Ph.D. The University of Hong Kong
IUCN SSC Orchid Specialist Group
Postdoctoral Researcher
Biodiversity Research Center
Academia Sinica
Email: daisyhu2012@gmail.com

Research focuses
Elucidating diversification and adaptive evolution in tropical flowering plants:
Using Orchidaceae and Begonia as models
Jun Ishigohoka
Max Planck Institute for Evolutionary Biology
Supervisor: Dr Miriam Liedvogel

Me with a well-dressed Neanderthal

@junishigohoka

Behavioural Evolution

Genetic & evolutionary basis
- Genetic architecture
- Differentiation & speciation
- Demography
- Structural variations

Molecular & neural basis
- Specialised brain regions
- Gene expression pattern & regulation
- Cell-type specific expression

Bachelor: Neural basis for species-specific song learning

Master & PhD: Evolutionary genomics of avian migration
Mechanisms underlying behaviour, sociality and diversification of species

Julia Jones

School of Biology and Environmental Science, UCD Dublin
Population structure of *Myotis nattereri* species complex

Evolutionary history of two lineages – *M. nattereri* & *M. crypticus*
Remi N. Ketchum
University of North Carolina
Charlotte
Verena Kutschera, Stockholm (Sweden)

Bioinformatician

- Bioinformatics support for research projects at Swedish universities
- Population & conservation genomics, genome annotation
- Non-model organisms
Population genomics of *Trichaptum abietietinum* - a window into fungal speciation

Phd project of Dabao Lu, University of Oslo
PhD project: Genomics of hybridization and speciation

Supervised by Reto Burri & Holger Schielzeth

Research background:
• MSc in evolutionary biology (Montpellier)
• Phylogeography & cyto-nuclear conflicts
• Comparative transcriptomics & convergent molecular evolution

PhD project
• 3 replicated hybrid zones
• Chromosome scale reference genome & physically phased resequencing data

AIMS
- Infer the histories of colonization and hybridization
- Admixture mapping of the genomic regions underpinning plumage coloration
- Identify the genomic regions involved in reproductive isolation
- Infer the genomic underpinnings of parallel phenotypic evolution

Admixture mapping of the genomic regions underpinning plumage coloration

Infer the genomic underpinnings of parallel phenotypic evolution

Identify the genomic regions involved in reproductive isolation

Genetic composition (PCL)

Longitude
What is the genetic basis of adaptation to new environments?

Does migration from differently adapted populations change the potential for local adaptation?

To what extent is evolution during adaptation parallel?
Milan Malinsky

Short CV
2007-2010 BSc Computer Science, Birmingham, UK
2010-2011 Master in Computational Biology, Cambridge, UK
2011-2015 PhD in Evolutionary Genomics, Cambridge, UK
2016-present EMBO Fellowship + Postdoc, Basel, Switzerland

Biology:
1. Genetic diversity in Lake Malawi cichlids
2. Genomics of speciation
3. Convergent evolution

Technical interests:
1. Population structure inference → fineRADpainter
2. Gene flow inference → Dsuite
3. De novo genome assembly → including PacBio genomes
Lourdes Martínez-García
University of Oslo
Department of Biosciences

2011-2015

Biology

2017-2019

Conservation Biology

CEES
Centre for Ecological and Evolutionary Synthesis

2019-2022

PhD Archaeogenomics and Marine Biology

Interests: DNA, fish, marine biology, plants

l.m.garcia@ibv.uio.no
From Boston, Massachusetts (USA)
- 1st year PhD Student at the University of Copenhagen (Evolutionary Genomics Section, Marine Mammals Ecology and Evolution Group)
- Currently mapping and comparing genomes of three species of beaked whales, including one new species (Sept. 2019)
- Generally interested in marine mammal population structure, speciation, bottlenecks, aDNA, eDNA
Genomics and evolutionary relationships of arbuscular mycorrhizal fungi

Mercè Montoliu Nerín
Uppsala University
Barriers and drivers of gene flow across ploidy barrier in wild Arabidopsis

Emma Jane Morgan
Charles University in Prague
Parentage, relatedness and colony structure in Damaraland mole-rats Golden moles (*Amblysomus*):
- Phylogeography and phylogenomics
- Reproductive neurobiology
- eDNA sampling from soil

Population genetics of Suni antelope
Speciation and genome evolution in butterflies

Karin Näsvall
PhD-student

Dept of Ecology and Genetics, EBC
Norbyvägen 18D
SE-752 36 Uppsala
Sweden
Culture as an evolutionary force: Does song learning accelerate speciation in a bat ring species?

Martina Nagy

Greater sac-winged bat (Saccopteryx bilineata)
My PhD project:
Population genomics of parasite adaption: insights into diversification and speciation of parasites
Genomic underpinnings of host plant adaptation in *Tephritis* flies

- Phenotypic responses to host plant adaptation and secondary sympatry with a close congener
- How does colonizing a new niche affect evolvability?
- The genomic landscape of host race plant adaptation
- What are the relative roles of coding genetic divergence and regulation of expression in host plant adaptation?
Etsuko Nonaka
Postdoctoral researcher
University of Jyväskylä, Finland

- Ecologist and modeler
- Research interests
  - Interaction between ecological and evolutionary processes
  - Especially, in a spatial context
  - Genetically explicit (individual-based) population models
- Projects
  - Inferring pollinator movement from population genomics of spatially structured plant populations (*Primula farinosa* in Öland, Sweden)
  - Effects of density dependent attack on the extinction risk of inbreeding parasitoid populations
  - Fisheries-induced evolution and population dynamics in complex food webs
- From Osaka, Japan
- Studied/Worked in US, Sweden, and Finland
Ph.D. project: Genomic and ecological bases of adaptation in aphids in the context of fruit tree domestication

Dysaphis plantaginea
Passerini
Rosy apple aphid

Biotic environment
*Malus domestica*
Borkh
Cultivated apple

Adapted to local host and/or local climate?
Genomic architecture of local adaptation?

Sergio Gabriel OLVERA-VAZQUEZ Ph.D. candidate University of Paris-Saclay-France/GQE Le Moulon-INRAE
Amandine CORNILLE Supervisor CNRS/GQE Le Moulon-INRAE/University Paris-Saclay-France
Genetic rescue of the Helmeted Honeyeater

Diana Robledo-Ruiz
Supervisor: Paul Sunnucks

Helmeted Honeyeater

gippslandicus

Genomic consequences!
Black is the new Orange
The Story of the Pseudomelanistic Tigers of India

Vinay Sagar
Research Scholar
Uma Ramakrishnan’s Lab
NCBS, Bangalore (India)
The dynamics of diversification
Adaptive radiation
Convergent evolution
Chromosomal evolution
Genotype X Phenotype
Biodiversity Conservation

MARCOS SILVA
University of Basel
PhD Student
Bio-diversity

Ecological response ------ Local adaptation ------ Ecological speciation

Changing environmental conditions over time

• To study the effect of land cover on the abundance of a range of mosquito species including both forest and rice agro-ecosystem adapted species and its implications on malaria epidemiology in Meghalaya, North-east India. (Ecological response)

• Population genomics studies of An. baimaii to identify genomic regions putatively involved in adaptation to well-breeding in South-eastern Myanmar (Local adaptation)

• Speciation genomics to understand genomic changes under different modes of speciation i.e. allopatric and sympatric in An. dirus species complex and to reveal their evolutionary history (Speciation)

Upasana Singh
PhD Ecology and Evolution
Supervisor: Dr Catherine Walton
František Sklenář
PhD. student
Charles University, Faculty of Science, Department of Botany
Institute of Microbiology of the Czech Academy of Sciences

Aspergillus
Microscopic fungi

Phylogeny
Reproductive barriers
Rapid diversification in Neotropical cichlids
Adaptive radiation
Cichlids

Combining behavioural data with genomics, ecology, etc.
Interaction of gene flow and natural selection

**Development of methods** to detect and quantify:
- Demographic history of populations
- Gene flow and divergent selection
- Effect of deleterious mutations (background selection)

Analysis of data from **experimental evolution** and **natural populations**
Laboratory of Molecular Ecology and Evolution

Jan Štefka

Population genetics/omics of host-parasite co-evolution

*recruiting a postdoc!
Rapid adaptation and diversification

Hannes Svardal
hannes.svardal@uantwerpen.be

Adaptation to fishing

Role of gene flow

Role of genomic inversions in adaptive diversification

Malawi cichlid adaptive radiation

Looking for a PhD student! Computational genomics + experiments
Anne Thielsch
Molecular Ecology Group

Population genetics

Molecular systematics

Population genomics

Life history studies

D. magna
D. pulex

Carmen Dietrich 2006
Emiliano Trucchi

Population genomics
The Evolutionary History of Alba
An Ancient Life-history Polymorphism

Kalle Tunström
@kallekarlhugo
Differential impact of habitat fragmentation on genetic connectivity and population structure of ungulates in India

Abhinav Tyagi
Ph.D. Student
National Centre for Biological Sciences, India

Habitat fragmentation
- Habitat loss
- Land use change
- Road network

Genomics and landscape genetics
Identify potential barriers
- Animal movement/Gene flow
- Isolated populations
- Conservation units

Body Size

SNP
aDNA

Speciation and population genetics

Deep learning

Reproducible research

Transposon biology

Genome assembly


Poelstra et al. Science 2014 Jun 20;344(6190):1410-4


Per Unneberg

National Bioinformatics Infrastructure Sweden

Science for Life Laboratory, Uppsala
Margret Veltman, PhD candidate

- MSCA-ITN Plant.ID PhD dissertation: “Genomic barcoding to identify and trace traded orchids”
- MSc Biology from Wageningen University: “Domestication and dispersal of African rice”
Sofie Vranken

- 2012: MSc. Ecology & Evolution, Ghent University, Belgium

- PhD student, Wernberg lab, The University of Western Australia: Common kelp (Ecklonia radiata): population connectivity, local adaptation, (re)colonization pathways, different reproduction modes

sofie.vranken@research.uwa.edu.au
@vranken_sofie
Dr. Tanisha Williams
David Burpee Postdoctoral Fellow
Botany Conservation, Genetics, and Ecology & Evolution of Plant Reproduction Group
Biology Department
Bucknell University, Pennsylvania, United States

@T_Marie_Wms

tmw018@bucknell.edu

**Past Research:** plant ecology, plasticity, functional traits, climate science using common gardens, species distribution modeling, and phenology/herbarium specimens (South Africa)

* I have dabbled in population genetics research trying to understand gene flow and hybridization patterns among three Populus species found throughout California and Nevada.

**Current Research:** conservation science (rare species in Pennsylvania), new species discovery (Australia), ecology and evolution of plant reproduction in the plant family Solanaceae (Australia)

** I am currently using GBS tools to understand how biogeographic barriers impact population structure in a widespread legume found throughout northern Australia.
General Research Interest:
Evolutionary genetics of sexual conflict and/or differences

Current Work:
Evolutionary genetics of male color polymorphism (and related chromosomal evolution) in guppies