# Theoretical Models of Cultural Evolution during Modern Human Dispersals

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https://b02ws2017.wordpress.com

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Yasuo Ihara (University of Tokyo)

Speakers: Mark Collard (Simon Fraser University, Canada)

Maxime Derex (Arizona State University, USA)

Marcus W. Feldman (Stanford University, USA)

Joaquim Fort (University of Girona, Spain)

Jeff Wall (University of California, San Francisco, USA)

Yoshihiro Nishiaki (University of Tokyo, Japan)

Seiji Kadowaki (Nagoya University, Japan)

Naoyuki Takahata (SOKENDAI, Japan)

Atsushi Nobayashi (National Museum of Ethnology, Japan)

Hiroki Oota (Kitasato University, Japan)

Yutaka Kobayashi (Kochi University of Technology, Japan)

Kenichi Aoki (Meiji University, Japan)

Joe Yuichiro Wakano (Meiji University, Japan)

Date: November 27<sup>th</sup>\_29<sup>th</sup>, 2017

Venue: Meiji University Nakano Campus, 6F seminar room #603

### Workshop objective:

The goal of Mathematical modelling group (B02) of PaleoAsia project is to facilitate our understandings of cultural evolution during range-expansion of modern humans from Africa to the whole Eurasia continent. The ultimate goal is to clarify the cause of the replacement (or assimilation) of

archaic humans by modern humans, with special focus on cultural changes. Close cooperation is important between theoretical researches and empirical studies on **archaeology** (from Middle Paleolithic to Upper Paleolithic), **cultural anthropology** (cultural changes caused by the contact of several populations), **behavioral science** (innovation and transmission of culture and technology), **environmental sciences** (environmental changes), and **population genetics** (genome biology of ancient and modern humans). The aim of the workshop is to invite several researchers in these fields and to discuss how mathematical modelling (including theoretical methods in population genetics) can contribute to the ultimate goal of the PaleoAsia project.

See project webpages for more details;

http://paleoasia.jp/en/research\_overview/ http://paleoasia.jp/en/research\_projects/b02/

\*\*Tentative program (as of Sep 4<sup>th</sup>)

\*\*Please check our website for the updates

## Day 1 (Monday, November 27th)

10:00–10:20 Opening Remark

10:20–10:40 Yoshihiro Nishiaki

(PaleoAsia project overview)

10:40–11:30 Seiji Kadowaki

(Introductionary lecture on Paleoarchaology + research talk?)

11:30-12:20 Mark Collard

What can patterns in historical hunter-gatherer technology tell us about likely cultural changes during the period of modern human dispersal?

12:20–14:00 Lunch break (100 min.)

14:00–14:50 Kenichi Aoki

On the absence of a correlation between population size and "toolkit size" in ethnographic hunter-gatherers

14:50–15:40 Maxime Derex

The effects of population structure on cultural complexity

15:40–16:30 Open discussion

### Day 2 (Tuesday, November 28th)

09:00–09:50 Joaquim Fort

Demic-cultural models, archaeology and genetics of Neolithic spread

09:50–10:40 Atsushi Nobayashi, Mitsuhiro Nakamura

Detecting correlations between cultural factors in Paleoasian populations

10:40-11:30 Hiroki Oota

Is it sex-biased migration/admixture or social selection for contribution to population genetic structure in East Asians?

11:30–12:00 Document work for overseas speakers (30 min.)

12:00–18:00 Free afternoon

18:00–20:00 Conference Dinner

### Day 3 (Wednesday, November 29th)

10:00–10:50 Marcus Feldman

Genetic model for the evolution of culture

10:50–11:40 Naoyuki Takahata

Soft selective sweep in PaleoAsia

11:40–12:30 Jeff Wall

Inference of human demographic history from the GenomeAsia 100K project

12:30–14:10 Lunch break (100 min.)

14:10–15:00 Yutaka Kobayashi

Genealogies, ages, and frequencies of cultural traits

15:00–15:50 Joe Yuichiro Wakano

Ecocultural range-expansion models for the replacement or assimilation of Neanderthals by modern humans

15:50–16:00 Closing remark