Workshop: reconstructing subsistence using the Bayesian model FRUITS

8 – 9 November, 2018 – UNIARQ, University of Lisbon, Portugal

Applications for the workshop "**Reconstructing subsistence using the Bayesian model FRUITS**" are now open. The workshop will be held at **University of Lisbon (8-9 November, 2018)**.

Registration fee is 30 Euros. Those interested in participating must register at https://www.uniarq.net/fruits.html. In their registration the submitters must specify if they want to propose a case study for discussion. Space at the workshop is limited to 25 participants and is available on a first come, first served basis.

During the workshop **a new R-based version of FRUITS together with its user friendly graphical interface** will be presented. No previous experience using FRUITS is required. However, attendees must be familiar in general with diet reconstruction from isotopic data and have a basic understanding of the mechanisms of isotopic signal transfer from diet to consumers. The latter is essentially the answer to the question: "what is the exact dietary source of a consumer isotopic signal?". FRUITS is flexible and allows users to implement different model instances that reflect novel research within dietary physiology and results from controlled feeding experiments.

Workshop topics:

- Designing a FRUITS model instance to fit a specific problem
- Model feasibility (tests prior to implementation)
- Importing data from datasheets. Saving, loading, and sharing FRUITS model instances
- Defining model uncertainties for different parameters (including target/consumer uncertainty)
- Defining food groups and their nutritional and caloric compositions
- Dietary examples (simple C & N models, models with multiple proxies, concentration vs. non-concentration dependent models, routed vs. scrambled models)
- Reconstructing pottery use from isotopic signals in fatty acids
- Using FRUITS estimates to correct radiocarbon dates in samples exhibiting radiocarbon reservoir effects
- Interpreting multiple model outputs (total caloric contributions, nutrient contributions, elemental contributions)
- Adding prior archaeological and physiological information (assigning prior to different model estimates or parameters)

- Assigning prior relationships of equality or inequality among model parameters and defining prior strength
- Advanced dietary modelling (e.g. constraints on nutrient intakes, handling weighted contributions from protein and other nutrients, diet-to-consumer isotopic offsets dependent on protein quality or levels of protein intake)
- Some non-dietary examples (e.g. geology or environmental research)
- Handling FRUITS graphical outputs (raster and vector images, file types, exporting data points)
- Assessing model robustness and convergence

About FRUITS (Open Access):

Food Reconstruction Using Isotopic Transferred Signals (FRUITS): A Bayesian Model for Diet Reconstruction:
http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0087436

Download FRUITS: https://sourceforge.net/projects/fruits/

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