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Working with AROLD. What is the ARchaeological Organic residues Literature Database ?

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Site Map

AROLDDatabase

ARchaeological Organic residues Literature Database

Virtual visit of the contributor interface

Structure design

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    graph TD
      A[Identify the needs] --> B[Definition of the project]
      B --> C[Reading of published literature]
      C --> D[Extraction of various data]
      D --> E[Matching data together]
      E --> F[Selection of the fields]
      F --> G[Defining of the data structure]
      G --> H[Associating fields together]
      H --> I[Creation of the operable structure]
      I --> J[Linking fields together]
      J --> K[Categorize the links]
      K --> L[Testing the deliverable]
      L --> M[Improved interoperability]
      L --> N[Improved valuation]
      L --> O[Improved thesaurus]
      L --> P[Improved navigation]
      M --> Q[Making a request]
      Q --> R[First data analysis]
      R --> S[Data and structure reinforcement]
      S --> T[Adding secondary data]
      S --> U[Thesaurus standardisation]
      S --> V[Massive import of new data]
      V --- W[350 articles]
      S --> X[Database query, validity check]
      X --> Y[Improved valuation]
      Y --> Z[Evaluation of sensitive data]
      Z --> AA[Selection of operable data]
      AA --> AB[Setting up a public viewing interface]
      AB --> AC[Trial run]
      AC --> AD[Paper publication]
      AD --> AE[Request for open collaboration]
  
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Context and Goal

Research on the characterisation of organic residues applied to archaeology has been rapidly expanding since the 1980's. The field is continuously growing with newly discovered biomarkers, additional extraction techniques and further method development. Nowadays, publications are numerous and readers are challenged to compile and extract information from various studies on sample sets that can be studied several times using additional approaches and/or in response to new questions.

We hereby present the ARchaeological Organic residues Literature Database (AROLD) which aims to provide a extendable and collaborative solution by following an open science FAIR (Findability, Accessibility, Interoperability, and Reuse) data census resulting in a sharable tool. Datasets are deposited in the perennial Nakala directory of Huma-num services (French national storage). The structure, operation and functionality of this tool was published in *Archaeometry* in May 2023 ([doi:10.1111/arc.12869](https://doi.org/10.1111/arc.12869)). Thus far, the database content comprises a compilation of published data of peer-reviewed articles.

AROLDDatabase is accessible via two interfaces, through the official public website and the restricted-access Filemaker web solution, offering **3 ways of interactions**:

- Public access via the website: <https://www.cepam.cnrs.fr/datas/arold.php>
- Contributor access available on request: contact the team
- Developer contribution: contact the team (inbox@arold.sendboard.com)

Up to date, the AROLDDatabase includes over 420 articles, 1329 sites, 1752 sample lots and 24005 samples. All sites are integrated into a global coordinate system (DMS), either by exact location or nearest city.

This allows to edit maps, referencing studies by type of 'identified products' and/or 'amount of extracted lipids' for a given region and/or a time period.

Site	Product	Occupation
Hamanaoka 2, Lot.6		750 950
Hamanaoka 2, Lot.5		750 950
Hamanaoka 2, Lot.4		550 750
Hamanaoka 2, Lot.3		400 500
Hamanaoka 2, Lot.2		400 500
Hamanaoka 2, Lot.1		400 500
Nong Hoa Rae, Lot.1		-465 -429
Arashiyama, Lot.1		-1000 -300
Luxamanda, Lot.1		-1000 -1000
Luxamanda, Lot.1		-1000 -1000
Luxamanda, Lot.1		-1000 -1000
Hamanaoka 2, Lot.1		-1050 350
Hamanaoka 2, Lot.2		-1050 350
Hamanaoka 2, Lot.2		-1050 350
Hamanaoka 2, Lot.2		-1050 350
Ban Non West, Lot.1		-1480 -266

Recommendations for future literature

Accurate and transparent description of:

- location of the sites
- published material (e.g. origin, types, numbers)
- extraction and analytical methods
- systematic chronological referencing

If you are interested in collaboration, fell free to contact us!

Current developments and outlook

World map visualisation: distribution of lipid quantities against artifacts (object, from, culture) and various extraction methods.

We also aspire to include other types of studies via collaborations, and to open up a discussion between researchers on the reliability of the compiled data

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