INQUA - International Union for Quaternary Research

QUATERNARY PERSPECTIVES

The INQUA Newsletter

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Cover photo: A large 45 m high section at Lanslebourg (Savoie, France), interpreted as a model of pro-glacial sub-aquatic fan deposits, topped by till (CC BY-SA 4.0 Public License).
Credits: AFEQ-CNF-INQUA's field excursion, 27-29 may 2024

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QUATERNARY PERSPECTIVES
is the newsletter of

INQUA
INTERNATIONAL UNION
FOR QUATERNARY
RESEARCH

Established in 1928, INQUA is the representative body for Quaternary science worldwide. INQUA is dedicated to removing barriers and to fostering diversity and inclusivity by prioritising funding for early career and developing country researchers to enable their participation in the international scientific networks that INQUA supports. INQUA promotes – and operates according to – a philosophy of inclusivity, not discriminating against any individual on the basis of race, colour, religion, gender, gender identity or expression, sexual orientation, genetics or disability. We encourage you to join INQUA through any of its Commissions, and contribute to the development of Quaternary science worldwide.
inqua.org/about

Changes in biodiversity and the evolution of present biomes

A joint IUBS – INQUA meeting for Early Career Researchers

The International Union of Biological Sciences (IUBS) and the International Union for Quaternary Research (INQUA), with the engagement of the International Society of Zoological Sciences (ISZS), a scientific member of IUBS, decided to organize an international event fostering dialogue and collaboration among Early Career Researchers (ECR)* from IUBS, ISZS, and INQUA. The meeting will provide a platform for young* IUBS, ISZS, and INQUA scientists to engage in collaborative discussions.

The meeting will explore the convergence of modern and Quaternary research methodologies, focusing on changes in biodiversity and the evolution of present biomes. Overarching questions are: How did climatic changes affect biome evolution in the past? What can we learn from Quaternary research for current and future biome evolution? Can measures be defined to ameliorate the impact of global change and foster conservation?

We plan to host a four- to five-day in-person meeting in China in November 2025, possibly in conjunction with the World Young Scientist Summit. We expect to welcome 50 to 70 participants from the three organizations. Part of the event will be online.

ECRs should play a major role in the organization of the meeting and the composition of the scientific program, including the selection of the keynote speakers. Therefore, we expect the ECRs to dedicate some time to contribute to the organization of the event. ECRs* with a scientific interest in the meeting topic who would like to participate in the organization are invited to express their interest by emailing a motivation letter, a CV and the following application form to the INQUA or the IUBS secretariat at info@inqua.org or secretariat@iubs.org.

Deadline to submit candidacy: 30 September 2024

*For this application, young or Early Career Researchers (ECR) are defined as individuals with less than 7 years of active research after receiving the last degree.

IUBS INQUA ISZS APPLICATION FORM

Personal information
- *Name:*
- *Nationality:*
- *Date of PhD start or PhD completion:*
- *Place of work:*
- *Field of research:*

Involvement in international organizations/networks
Are you involved in:
- *INQUA*
- *A Scientific Member of IUBS (if yes, please specify):*
- *ISZS*
- *PAGE*
- *Other:*

Are you involved in an ECR network? If yes, please specify

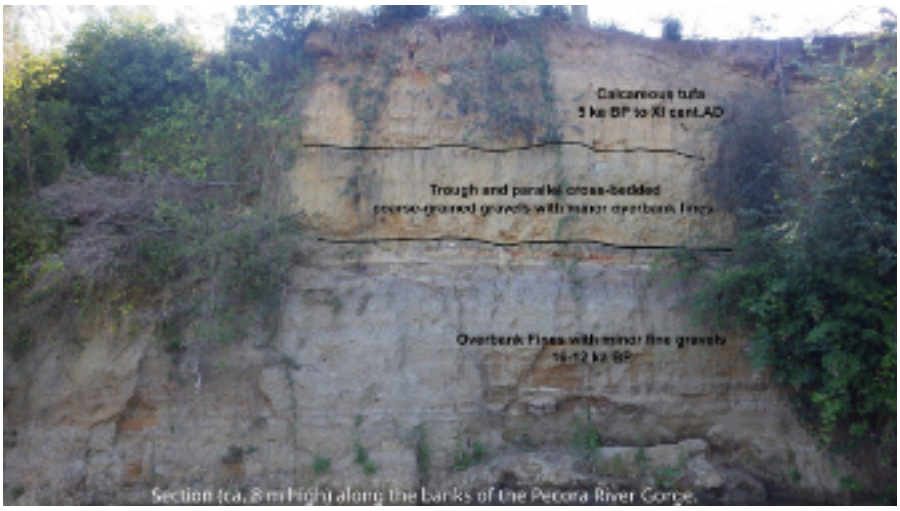
Previous experience
Describe any previous experience in organizing scientific events or projects. Have you worked collaboratively on interdisciplinary projects before? Please provide examples

Additional document to provide
- *motivation letter*
- *CV*

Adele Bertini[1], Enrico Capezzuoli[1], Alessandra Casini[2], Andrea Brogi[3], Massimiliano Ghinassi[4], Pierluigi Pieruccini[5], Davide Susini[5], Markus Fiebig[6], Guzel Danukalova[7]
EQ – European Correlation of Quaternary Stages Boundaries / INQUA Project 2444

SEQS 2024 Meeting – Gavorrano, Italy 28th September – 2nd October 2024

Quaternary stratigraphy and terrestrial carbonates: climate, tectonic and humans driven landscape changes



Section (ca. 8 m high) along the banks of the Pecora River Gorge.

The meeting will take placein Gavorrano, in Southern Tuscany, at the headquarters of the Tuscan Mining Geopark (National Park of the Metalliferous Hills, for further information https://parcocollinemetallifere.it/en/), located on the hilly landscape along the Tyrrhenian coast.

The territory of the Metalliferous Hills stretches between the provinces of Grosseto, Livorno, Pisa and Siena, in a predominantly hilly area covered by extensive wooded areas over a surface of 1087 square kilometres (about a quarter of the size of the Province of Grosseto) and includes the territories of seven municipalities: Follonica, Scarlino, Gavorrano, Massa Marittima, Montieri, Monterotondo Marittimo and Roccastrada.

The Indoor Meeting will take place at the Geopark headquarter, whereas the hotels and overnights will be in Follonica (about 10 km) on the seaside. A Bus shuttle service is kindly offered by the Geopark to and from Gavorrano in the morning and in the afternoon.

LIST OF PRELIMINARY SCIENTIFIC SESSIONS

1. Terrestrial carbonate: multidisciplinary tool for Quaternary reconstructions.
2. Quaternary stratigraphy: correlations as a tool for disentangling long-term to short-term climate, tectonic and humans driven landscape changes.
3. The Middle Pleistocene new frontier: an European perspective.
4. Biostratigraphy across Europe: new data and perspectives for Quaternary stratigraphy

FIELDTRIP

Monday 30th of September: Fieldtrip (day 1) - The terrestrial carbonates of Massa Marittima, stratigraphy, sedimentology, paleoenvironments, tectonics and Late Pleistocene river diversions. Urban Geology with visit to the early Medieval town of Massa Marittima.

Tuesday 1st of October: Fieldtrip (day 2) - Late Pleistocene-Late Holocene stratigraphical record of changing environments and landscapes: the Pecora River valley.

Wednesday 2nd of October: Fieldtrip (day 3) - Middle Pleistocene-Holocene stratigraphical, palaeoenvironmental and tectonic signature on terrestrial carbonates: Rapolano Terme.

The fieldtrip ends in Florence in the afternoon. From Florence it will be possible to reach most cities by train and/or plane.

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[6] *BOKU University, Austria*
[7] *Academy of Sciences, Ufa, Russia*

Elvira Roquero: soil scientist (1963-2024)

After five years of fighting disease, our dear friend and colleague Elvira Roquero passed away on 6 April 2024, but she remains with us forever. Everyone who knew Elvira is broken-hearted and soils and paleosols around the world are in mourning.

Elvira was a enior Lecturer in Geology at the School of Agricultural Engineering (UPM) since 1990and she defended her PhD Thesis in Geological Sciences at the Complutense University of Madrid (UCM) in 1994. Her scientific interests both as a geologist and as a soil scientist drove her to study the genesis and evolution of soils throughout her career. Within this widetopic, Elvira was deeply interested in the analyses of soil – especially geomorphology relationships for specifically resolving chrono-sequences of the fluvial terrace systems in the Tagus River Basin and other river valleys of the Iberian Peninsula.

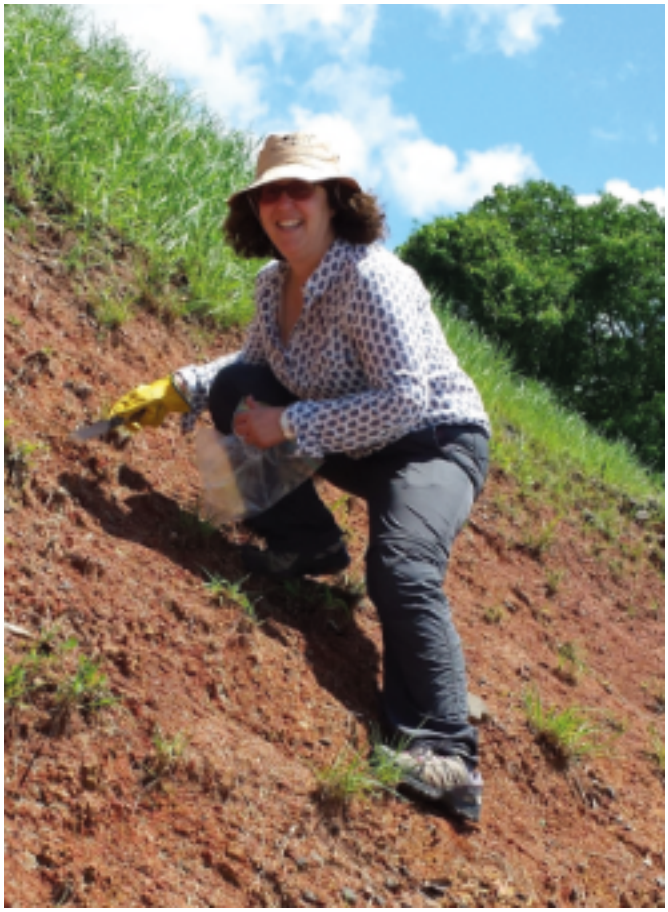
Elvira's deep understanding of soils and geomorphology led her to apply her knowledge to other Quaternary fields, includingneotectonics, paleoseismicity and paleoenvironmental analyses of alluvial, aeolian, coastal, and volcanic sequences.. She viewed soils and paleosols as important climatic, environmental and even tectonic archives, studying their macro and micromorphological features jointly with geochronological analyses (e.g. OSL, 14C).. She made great efforts to set up chronological indices for soils developed along fluvial and coastal sequences under Mediterranean climates. Her continuous improvement of all these research lines was an endless challenge that she performed across wide areas in Spain (Central Spain, Betic Cordillera, Guadalquivir Basin, Balearic and Canary Islands) as well as in Portugal, Cape Verde, Tunisia and the Caribbean region. Furthermore, she extended her scientific interests to the analysis of soil erosion and degradation, and the geomorphological response of certain coastal environments to Quaternary sea-level and environmental changes.

From the very beginning of her career, Elvira belonged to the Spanish Quaternary, geomorphology and soils families, being an active member of the Spanish Association of Quaternary (AEQUA), Spanish Society of Geomorphology (SEG) and Spanish Society of Soil Science (SECS), where she participated in different positions of their executive boards and working groups. In addition, she was deeply involved in INQUA activities through several projects and Focus Groups within TERPRO such as Past Soils, Paleopedology and Paleoseismology & Active Tectonics. She also participated in international conferences on Soil Micromorphology (ICSM) organized by the International Union of Soil Sciences (IUSS).

Regarding her scientific trajectory, Elvira collaborated in the elaboration of cartographies and soil characterisation for different sheets of the Geological Map of Spain 1:50,000 (MAGNA, IGME) and in about 22 National and International funded projects. Elvira's scholarly productivity includes more than 130 contributions in monograph, books, and first-order scientific journals. Remarkably, her continuous activity persisted even during the last 5 years, once her fatal disease was known. It is certain that we will still see the name of Elvira Roquero in many papers completed by her collaborators in the coming years.

On this note, our deepest condolences to her family, and the large group of friends and colleaguesin the world of Quaternary Sciences, Geomorphology and Soil Science that Elvira has left behind.

Pablo G. Silva & Teresa Bardaji.



Elvira Roquero enjoying the sampling of a tropical soil in the Panama Channel working area, June 2016.

Ignacio A. Jara[1], Syed Azharuddin[2] and Sudhir Bhadra[3]

TROPQUA 2024: An INQUA-sponsored workshop for early-career researchers

Two years after the last INQUA-PAGES sponsored workshop in Chile, the early-career community is back with an upcoming in-person reunion. We are pleased to report on the ongoing organization of the 3rd joint INQUA-PAGES workshop for early-career researchers entitled Tropical Hydroclimate Variability in the Quaternary (TROPQUA) 2024, which will take place in the Council for Scientific and Industrial Research-National Institute of Oceanography (CSIR-NIO), Goa, India, between 3-7 November, 2024.

TROPQUA will focus on tropical hydroclimate variability during the Quaternary – a research topic with implications for billions of people worldwide. Tropical climate directly influences the occurrence of extreme events such as floods, cyclones, droughts, and landslides, having significant consequences for livelihoods and food security, as well as influencing conflicts that involve both social and environmental dimensions. However, large uncertainties remain regarding past changes in low-latitude hydroclimate and their forcing mechanisms during the Quaternary period. Such uncertainties are mainly the results of the limited number of oceanic and continental records, which impedes a better understanding of the natural ranges of hydroclimate variability and its future projections under accelerated warming.

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TROPQUA welcomes contributions focusing on the integration and comparison of proxy data with climate models. Model simulations of past climate states provide critical insights into the mechanisms and dynamics associated with paleoclimate events. The complementary nature of proxy and model data is further highlighted by the fact that paleoclimate data are one of the best inputs to test climate model performances outside the range of instrumental variations. Considering the potential of proxy-modeling integration in enhancing our comprehension of tropical hydroclimate across Quaternary timescales, the TROPQUA workshop will promote interdisciplinary collaborations, bringing together paleoscientists from a wide range of countries and research backgrounds. The main aim of the workshop is to provide a platform to the Quaternary early-career researchers working on proxies and/or models and encourage them to share their work and seek collaborative approaches.

TROPQUA will be a dynamic 5-day workshop featuring oral and poster presentations alongside focused breakout groups for in-depth discussions. To foster research collaboration, TROPQUA will include an excursion and networking dinners, providing a relaxed social setting to build connections. Furthermore, the workshop shall incorporate outreach activities, including scientific communication workshops, collaborative discussions and laboratory visits.

The call for abstracts opened in March and closed on 30th April. A total number of 74 abstracts were received from

23 countries. The Organizing Committee is currently working on the selection of participants. Registration is expected to open by mid-June. An important number of grants will be available to support early-careers for registration and travel.

KEYNOTE SPEAKERS

The TROPQUA organizing committee is excited to announce a lineup of advanced early-career keynote speakers at the forefront of past tropical hydroclimate research. Dr. Feng He, from the Center for Climatic Research, University of Wisconsin, USA, will join the team this November. Dr. He is an expert in paleoclimate modeling, and pioneered the use of long-term simulations of past glaciations. We are also delighted to include Dr. Sze Ling Ho (Institute of Oceanography, National Taiwan University) to our TROPQUA keynote speaker list. Dr. Ho's expertise lies in reconstructing past ocean temperatures, offering insights into how oceans and the atmosphere interplayed during critical paleoclimate periods like the Last Glacial Maximum and the Late Pliocene. Also joining our TROPQUA keynote lineup is Dr. Peter Hopcroft (University of Birmingham, UK). Dr. Hopcroft will delve into abrupt environmental shifts throughout Earth's history using cutting-edge Earth system models he helped develop. From the Indian Institute of Technology, Dr. Yama Dixit will contribute with her expertise in proxy reconstructions and paleoclimate dynamics related to past monsoonal changes and their impact on ancient societies. Finally, Dr. Georgy Maja Falster, from the Australian National University, will complete our keynote lineup in Goa, to give a keynote talk about how she uses climate variability of the past millennium obtained from proxy, model and instrumental datasets, to provide context for current and future climate change.

Worth mentioning is that TROPQUA will also be supported by the Ministry of Earth Sciences, India, along with other institutions. More information about the workshop can be retrieved from the official website. With less than 5 months remaining until TROPQUA, the organizing committee is working diligently to coordinate this enthralling event. Our aspiration for TROPQUA is to become an interdisciplinary platform where early-career paleoscientists will further their research and foster new collaborations. See you in November!

TROPQUA ORGANIZING COMMITTEE

Sudhir Bhadra (Indian Institute of Science, India)
Aditi K. Dave (Babeş-Bolyai University, Romania)
Syed Azharuddin (National Taiwan University, Taiwan)
Udita Mukherjee (University of Wisconsin-Madison, USA)
Ignacio Jara (University of Tarapacá, Chile)
Opeyemi Adewumi (University of Coimbra, Portugal)
Michaela Falkenroth (Technische Universität Darmstadt, Germany)
Thejasino Suokhrie (CSIR- National Institute of Oceanography, India)
Angela Effiom (University of the Witwatersrand, South Africa)

The Council for Scientific and Industrial Research-National Institute of Oceanography (CSIR-NIO), Goa, India, where TROPQUA will take place between 3-7 November, 2024.

Andrea Zerboni[1], Petra Štěpančíková[2], Carlos H. Costa[3], Christoph Grützner[4], Paula Marques Figueiredo[5], Irene Puliti[6]

TERPRO news: from fieldwork to the community

TERPRO ONE YEAR AFTER THE INQUA CONGRESS ROME 2023

Almost one year ago the TERPRO community – as much as the whole INQUA community – was struggling under the exceptional heatwave hitting Rome. Despite the temperatures, the congress was a great success in terms of participation and quality of contribution from the TERPRO people. During the Congress the TERPRO community discussed the challenges for the next four years of activities (the INQUA intercongress period 2023-2027) and one of the most interesting discussions was on how to communicate the importance of our scientific results to a more general audience and how to interact with stakeholders in the case of studies related to geologic/seismic/geomorphic hazards.

We are happy to notice that the community has understood this necessity and the three projects that have been awarded by the INQUA ExComm last winter aim at reconstructing the effect of hazards for the Quaternary record offering to the international community and the stakeholders. A few days ago, the ExComm invited the Project leaders to a videocall to present the development of each project and the main result was to explain the necessity to bring scientific results onto a global stage. The CHAMP Project is focusing on the cascading effects of earthquakes, which is an emerging research topic and intersects with research in extreme hydrometeorological events. They plan to interact with stakeholders during the next PATA Days meeting in Chile. The PHADMA Project is investigating another important topic related to the effects of extreme events (floods and droughts) on landscapes and their relationship with a rapidly warming climate. Finally, the Peribaltic group – that is one of the most active groups acting under the umbrella of INQUA – is organizing a meeting in Estonia, including a long fieldtrip looking at evidence of Quaternary events that can serve as comparison for ongoing processes.

A scientific community committed to communicate its discoveries and to make available collected data to understand present-day geological risks is vibrant and guarantees that the development of science will not stay withing the walls of research institutions but will permit the progress of global knowledge and awareness on future geo-hazards.

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STATE OF THE ART OF THE ONGOING TERPRO PROJECTS

Project CHAMP: PATA Days 2024 in Chile

The main activity of project CHAMP will be the PATA Days meeting in Chile from 6-11 October, 2024. PATA stands for Paleoseismology, Active Tectonics and Archaeoseismology. This conference series brings together researchers on active tectonics since 2009. In Chile, ca. 120 participants will see three full days of presentations and several intra-meeting field trips. These joint field trips have always been a core activity of PATA. This time, the participants will learn about the San Ramón thrust fault and Quaternary tectonics of Santiago region, about the Cariño Botado thrust fault, and about paleotsunami deposits along the coast of the Valparaiso region. In addition, pre- and prost-conference field trips will be held by the organisers. Before the meeting, there is the chance to see "Subduction earthquake processes, near surface ruptures and Quaternary landscape evolution in the northern Chilean forearc". After the meeting, an excursion will deal with "The Active Andean Orogenic Front at the Precordillera FTB, Argentina". More information is available at https://www.patadayschile.cl.

Peribaltic working group field symposium in August 2024

The INQUA Peribaltic Working Group is a regional group of researchers active in various fields of Quaternary science (http://inqua-peribaltic.ut.ee/inqua-peribaltic-working-group). It was founded in the 1990s, and since then, it has provided a cooperation platform for approximately 100-120 Quaternary researchers and students. In 2024, the Peribaltic WG Field Symposium "Quaternary Sediments, Landscapes and Early Settlement History in Western Estonia" is scheduled for August 26-30, 2024, and will be held in western Estonia, including the islands of Saaremaa and Hiiumaa. More than 60 researchers and students have registered, and more than 40 oral and poster presentations will be presented during the event. During the four-day field trip in western Estonia, the various topics with site visiting will be discussed, including environmental geology (landslides in proglacial clays, wetland restoration, flooding of coastal areas), relative sea-level changes and storminess scenarios, shallow sea-bed mapping, coastal processes and the health of beaches, and geoarchaeology opening the links between landscape and early settlement pattern. INQUA

TERPRO Commission, the Geological Survey of Estonia, and the University of Tartu have supported this field symposium.

The PHADMA project of the Global Continental Palaeohydrology working group

GLOCOPH's (INQUA's Global Continental Palaeohydrology working group) project 'Palaeo-Hydrology: Ancient Disasters Modern Application' (PHADMA) focusses on bridging the gap between the knowledge and data gathered within the palaeo-data community on hydrological trends and Holocene extreme hydrological events (floods and droughts) and the application of such information in modern flood risk assessment and the attribution of recent extreme events. As modern measurement series do often lack sufficient precedent to establishing the magnitudes, recurrence, and variability of truely extreme events, an investigation of the spatio-temporal distribution of such events in the past may uncover spatio-temporal patterns and indicate their forcings. The working group will have its first meeting between 24-26th November at the Vrije Universiteit Amsterdam (the Netherlands). The main aim of this meeting will be to consolidate a network of interested participants, to generate a general workflow, and to decide on focal periods of the Holocene that will be targeted for this assessment. We kindly invite researchers with an interest in palaeo-data on trends in (palaeo-)hydrology and its extremes and climatologists, particularly early career scientist and researchers from emerging economies. In June 2025 we will host a mid-term conference and field trip; dates and location will be announced soon. For any updates please subscribe to our mailing list or contact us.

A NEW COLUMN FROM TERPRO

To conclude, since this issue of QP we decided to host a box illustrating with a picture and a short message the fieldwork of the TERPRO community. Fieldwork is crucial for our investigation, and we invest a lot of efforts on it. It is nice to see the TERPRO scientist in their natural environment. To start, we have Christoph our secretary that recently had an amazing fieldwork in Central America looking at active faults. Enjoy!

Christoph Grützner is TERPRO's secretary and interested in active faulting. In his DFG-funded project, "Active tectonics of the Caribbean-North American plate boundary in Guatemala," he works on the Motagua Fault in Guatemala. The fault ruptured the surface in a M7.5 earthquake in 1976 but apart from this, little is known about the fault's seismic history. Together with Tina Niemi and Aleigha Dollens from the University of Missouri-Kansas City, Carlos Pérez, and Omar Flores from the Universidad de San Carlos de Guatemala, he opened paleoseismological trenches across the Motagua Fault. Geophysical prospection helped to narrow down the fault location before trenching. At the trench site, a sag pond formed due to the strike-slip motion of the fault. Faulted deposits from within the sag pond will be used to date the tectonic activity. The trenches also exposed a complicated fracture network which the team was able to study in 3D. From January 30 to February 6, 2026, TERPRO's PATA Days will be held in Guatemala to commemorate the 50th anniversary of the catastrophic earthquake. During this conference on active tectonics, the participants will be able to see the fault zone and paleoseismological trenches during field trips.

Excavating a paleoseismological trench across the Motagua Fault in Guatemala.

Aerial photo of two parallel trenches across the Motagua Fault, Guatemala.

Erwan Messager[1], Pascal Ruffaldi[2], Riccardo Vassallo[3], Christian Crouzet[3], Jean-François Buoncristiani[4], Stéphane Grange[5], Christophe Griggo[6], Fabien Hobléa[1], Laurent Astrade[1], Philip Deline[1], Gérard Nicoud[1], Ludovic Ravanel[1], Thibault Roattino[3], Pierre-Jérôme Rey[1], Julien Jacquet[1], Jean-Jacques Delannoy[1], Emilie Chalmin[1], Claudia Defrasne[1], Eric Thirault[7]

The Quaternary of the Savoie region (France), an history of glaciers and mankind

AFEQ-CNF-INQUA's field excursion, 27-29 may 2024

The AFEQ CNF INQUA excursion took place this spring in the French Alps of Savoie and looked at the history of glaciers and human occupation from the Savoyard foreland to the Maurienne valley, between the Rhône, Isère and Arc valleys. Nearly thirty members took part in the excursion led by Christian Crouzet, with the support of the ISTerre and EDYTEM teams (Universities of Savoie Mont Blanc, CNRS) as well as speakers from the Biogeosciences laboratories (CNRS, Université Bourgogne Franche Comté), Chrono-Environnement (CNRS, Université de Franche-Comté), Archéologie et Archéométrie (CNRS, Université Lumière Lyon2) and GINGER BURGEAP.

Chronology and scale of glaciation in the Alps was the guiding theme of the three-day event (27-29 May 2024), which took place from west to east, from the Jura massif to the Chartreuse massif and finally to the Vanoise massif, in a progression that left nothing to chance. There are many traces of the glaciers, but you have to know how to unmask the clues, so it's a well-organised hunt that begins on Monday, rich in glacial remains and human history.

On the first day, the Petit-Bugey landscape will bear witness to the passage of glaciers, starting with Lac d'Aiguebelette, which has also witnessed human occupation since the Neolithic period (palafittic sites). Archaeological digs have also uncovered ancient religious buildings. Erwan Messager presents the results of two large-scale coring operations carried out in the lake fill (15.6m and 11.9m), covering the Holocene and the Late glacial period (awaiting radiocarbon dating). The varved sedimentation in the deepest part of the lake has been very

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testifying to the maximum extension of glaciers during the last ice ages (LGM) and the extent of the Lyon lobe. Recent work allows Christian Crouzet, Riccardo Vassallo and Jean-François Buoncristiani to present us with the results of dating using the cosmogenic 10Be nuclease carried out on blocks of the front moraine of the Innimond sector and to evoke the work of reconstitution of the glacial front (Roattino, 2023). The age range of 21-24 ka is consistent with known chronologies of LGM foreland glaciers in the Alps.

In the Rhône valley, 700 m lower down, an erratic boulder at Culoz gave an age of 16.50 ±1.08 ka, also indicating a nearby glacial front. In the afternoon, the rain caught up with us, so we didn't get to see this 70-tonne boulder. Nevertheless, Stéphane Grange spoke to the bus to the structural sedimentological context of the Chautagne region, north of Lac du Bourget. He explains the importance of the coarse alluvial deposits (deltaic formation) that fill in the former glacier-abandoned umbilicus for drinking water resources.

Mont du Chat (1496 m asl) watched over us on the first evening. This is a long anticline that we had guessed through the clouds that very morning from Lac d'Aiguebelette.

informative, containing instantaneous deposits, probably seismo-induced, with a Holocene rhythm of 3,000 or 4,000 years (Banjan, 2023). The deep core has also made it possible to study the palaeoenvironments of the last 1,800 years, using pollen and sedimentary DNA markers, among others.

From Lac d'Aiguebelette, we join the Rhône valley and get some elevation with a first stop at Lac de Cerin were a high resolution Late glacial pollen analyses was performed (Ruffaldi, 1993). The second stop on Mont Pela, at an altitude of 1,000 m, where glacial boulders have been deposited,

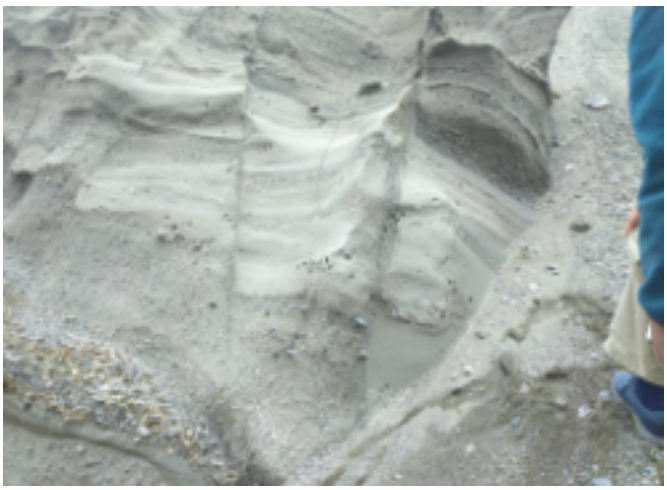
Although the summits are occasionally shrouded in mist, the next day sees the sun returns as we make our way along the Jura mountain range, at the bottom of which we start by taking the bus across a drumlin field. The second day's outing began with Christophe Griggo's exploration of the Val de Couz on the north-western edge of the Chartreuse subalpine Massif and his description of its human occupation, with some historical bonus.

Within the Val de Couz, prehistoric human occupations are known and some have been excavated; their ages and the position of the shelters within the gravity-flow deposits, for example, set against the Urgonian limestone wall, contributes to an understanding of the Quaternary geomorphological evolution of the area. It is possible that a proglacial lake pre-existed the settlement of Magdalenian populations, around 16,000 ± 800 cal. BP, who had fished, as evidenced by the fish bones (trout and burbot) found in abundance in the Jean-Pierre shelter. The recovery of core CA 44, taken from the palaeolake during surveys for the Lyon-Turin high-speed rail link and described by Gérard Nicoud, could provide further confirmation.

The tour continues with an afternoon presentation by Fabien Hoblea and his colleagues on the collapse of Mont Granier. It was the event of 1248 that is remembered for its sheer size: according to the lowest estimates, 500 million m3 of limestone and marl fell from this perched syncline. The landslide destroyed human settlements (estimated to at less one thousand dead), covering the slopes and valley floor as far as the southern end of the Bauges Massif, which faces Mont Granier. This catastrophic event was highlighted by surveys carried out by Gérard Nicoud on the occasion of the future Lyon-Turin TGV. The Granier is currently being monitored and a participatory and collaborative observation and warning system project is underway, including the local population.

The second point of the afternoon is devoted to the middle Isère valley in order to discuss the origins of this subalpine trench, which owes its specific features to its lithology, structure and glacial erosion. Shaped by glaciers from the Arc valley in the Maurienne since the end of the Pliocene, the last two Alpine glacial phases of the Riss and Würm are recorded here. In the case of the Riss, these are mainly umbilical lake sediments, several decametres thick, or fluvial alluvial deposits showing the filling in of the lake in the upstream zone, as observed at the La Gache quarry.

This quarry exploits the material from sandy deltaic filling (delta progradation in lacustrine context) to fluvial



deposits (gravels and pebbles) during the Riss-Würm interglacial. A lignite horizon illustrating the early interstages of the Würm, > 50,000 years old, is no longer visible in the quarry, unlike the fluvio-glacial sandy-stony alluvium, which will eventually be eroded by the advancing Würm glaciers. These almost 100 m of sandy-gravelly materials leave no one indifferent, and this afternoon is definitely one of excess. We then followed the retreating glaciers as we entered the Maurienne valley late afternoon, following the Arc river. Christian Crouzet took us through the story, commenting on the valley's geological features as we went along: from the external crystalline massifs to the coal-bearing Briançonnais zone, then to the gypsum zone before the piemontais "schistes lustrés", a truly geological journey of initiation. The geomorphology of post-glacial deposits such as the cones, including the famous pedagogic one at La Chapelle.

The third day's excursion echoes the 1997 AFEQ excursion, but develops the results of new works. It was a day that focused on Lateglacial records and once again highlighted the dating obtained using cosmogenic age data (10Be) on erratic boulders and glacial polishes. Between Montsapey, Aussois and Bessans, from the bottom to the top of the Maurienne, the ages obtained rise from 14.9 to 14.3 and then 12.8 ka. The last two show a retreat of the Arc Glacier (Aussois date) during the Bølling-Alleröd and an advance (front moraines and Bessans dates) during the Recent Dryas. These data are supplemented by observations of certain outcrops, including the one at Lanslebourg (Contamines outcrop).

The large 45 m high section raises questions about the nature of the filling of this umbilicus. The organisation of the different facies allows Jean-François Buoncristiani and his colleagues to propose a model of pro-glacial sub-aquatic fan deposits, topped by till. In this case, questions remain about the relationship between this record and the gravelly alluvium of fluvial origin, which is very present at Lanslebourg and upstream. Between "striated greenstone pebbles" and "greenstone pebbles that have undergone fluvial transport", the evidence and clues vary, although they are not completely mutually exclusive. The glaciolacustrine deposits at Lanslebourg could have been deposited during the Bølling-Alleröd period and could ultimately be used as proxies to highlight the stabilisation and re-advancement stages of the glaciers, illustrating the cold events within the Bølling-Alleröd region. This proposal has been tested using modelling that will be published shortly.

It's only a short step from Lanslebourg to Bessans, which we cross at the gigantic collapse of the Madeleine, which blocked the valley and created a lake upstream.

The tour continues on to the magnificent frontal moraines that bear witness to the advance of the Recent Dryas over the lacustrine deposits. The tour concludes with Pierre-Jérome Rey and Julien Jacquet evoking human occupations at Rocher du Château, a shelter at the foot of the rock face. Although known occupations in the Maurienne valley date back to the Neolithic period, the extensive heritage of rock engravings and paintings has not been dated, although it does constitute an original ensemble (feet, figures, symbols, etc.), which can be attributed to the Iron Age.

- Banjan, M., 2023. **Le signal sédimentaire comme élément de caractérisation de l'activité sismique au front des Alpes, à l'Holocène** (Thèse de doctorat). Université Savoie Mont Blanc, Chambéry, France.
- Roattino, T., 2023. **Dynamique et chronologie des glaciers des Alpes occidentales françaises et leur piémont depuis le maximum du dernier cycle glaciaire.** (Thèse de doctorat). Université Savoie Mont Blanc.
- Ruffaldi, P., 1993. **Histoire de la végétation du Jura méridional depuis le retrait du glacier wurmien à partir des analyses palynologiques du lac de Cerin (Ain, France)** (Thèse de doctorat). Besançon, France.

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One year of QEH

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Quaternary Environments and Humans (QEH) – the INQUA and Elsevier's new journal – was launched in July 2023 during the INQUA Congress in Rome and is now celebrating its first birthday. In this first year, QEH has been supported by an advertising campaign from INQUA and Elsevier aimed at spreading the name of the journal and its goals, seeking to explain that it represents a new opportunity to publish open-access scientific research results obtained by that broad part of the INQUA community that studies the complex relationship between climatic and environmental changes and human activities.

Submissions opened on September 2023 and during its first year of activity, QEH has received more than 70 submissions, and 11 papers have been published (here) online and are freely accessible. About 30 manuscripts are currently under review and 5 special issues are in the process of being finalised. If we compared these numbers with those of journals that have been active for many years, they might seem low in terms of published and submitted articles. But considering that currently, most institutions encourage researchers to publish in established and indexed journals with high bibliometric values, we can say that QEH is successful.

And where does this success come from? We can make some hypotheses. The reference community: the community of researchers studying the Quaternary – the INQUA people – is extremely active and interested in new editorial initiatives and has therefore immediately supported QEH. Open access policy: the journal is open access and guaranteed free

submissions for the first year. The topics covered by the journal: QEH is based on four pillars (Geoarchaeology, Bioarchaeology, Material culture, Modelling studies) and offers the possibility to publish highly interdisciplinary articles. The editorial team: a group of people that is continuously spending time in supporting the editorial processes, including an international and diverse editorial board members (here).

Submissions of research papers, review papers, invited papers, short papers, perspective papers, editorials and comments related to these topics are welcomed to QEH, as well as the submission of proposals for special issues from symposia, workshops and meetings sponsored by INQUA and paper collections from specific research projects (see authors guidelines here). QEH is an open access journal and certain promotional discount and privileges will be provided to Special Issue articles and guest editors in the early stage of the journal.

Finally, the Editorial board would like to extend their gratitude to the entire INQUA community for the support demonstrated during this first year of the journal. We are looking forward to continuing publishing your research!

MEET THE EDITORS!

You have the chance to meet the editors of QEH and discuss with them your proposals for papers/special issues or to volunteer yourself as a reviewer in Rome (28-31 August 2024) at the 30th Annual Meeting of the European Association of Archaeologists in Rome (here) and in Anaheim (22-25 September 2024) at the Geological Society of America Connects 2024 meeting (here). Don't miss this opportunity!

Jule Xiao[1,2] & Thijs van Kolfschoten[3,4]

Quaternary International: New Releases

Cover page of the current issue of Quaternary International (Volumes 677–678)

In the first half of the year 2024 a total of 18 Volumes were published in Quaternary International including 12 Regular Issues and 3 Special Issues (3 Special Issues as double Volumes). For more information, please visit the Quaternary International website.

REGULAR ISSUES

The 12 Regular Issues presented a total of 60 articles. Among these articles, 4 were devoted to Coastal & Marine Processes (CMP),240 to Humans & Biosphere (HABCOM), 13 to Palaeoclimates (PALCOM), 7 to Stratigraphy & Chronology (SACCOM), and 12 to Terrestrial Processes, Deposits & History (TERPRO).

SPECIAL ISSUES

The 3 Special Issues presented a total of 30 articles and 4 Editorials. Among these 3 Special Issues, 1 is devoted to Humans & Biosphere (HABCOM), 1 to Palaeoclimates (PALCOM), and 1 to Stratigraphy & Chronology (SACCOM). Below is a list of the 3 Special Issues.

Volumes 683–684

Shepherds and Animal Husbandry, Origins, and Development: New Theoretical and Methodological Approaches
Edited by Mónica Alonso-Eguiluz, Rosa María Albert, Josep María Vergès
Handled by QI Editor Andrea Zerboni

Volumes 686–687

Quaternary Stratigraphical Information from Central and Eastern Europe (INQUA-SEQS 2021 Meeting, Poland) as A Prerequisite to Understand Developments of Our Ecosystem
Edited by Guzel Danukalova, Markus Fiebig, Pierluigi Pieruccini, Krzysztof Stefaniak
Handled by QI Editor Qingzhen Hao

Volumes 689–690

Dynamic Influences of Climate Change on Prehistoric Lifeways in the Americas
Edited by Kurt M. Wilson, Weston C. McCool
Handled by QI Editor Hema Achyuthan

MOST CITED TOP 8

Below is a list of the most cited top 8 articles published since January 2021. Among these 8 articles, 1 is devoted to Humans & Biosphere (HABCOM), 3 to Palaeoclimates (PALCOM), and 4 to Terrestrial Processes, Deposits & History (TERPRO). In addition, all the 8 articles are from Special Issues.

1. Gohain, K.J., Mohammad, P., Goswami, A., 2021. **Assessing the impact of land use land cover changes on land surface temperature over Pune city, India.** Quat. Int. 575–576, 259–269. [Cited by 104]
2. Alam, A., Ahmed, B., Sammonds, P., 2021. **Flash flood susceptibility assessment using the parameters of drainage basin morphometry in SE Bangladesh.** Quat. Int. 575–576, 295–307. [Cited by 70]
3. Kumar, V., Shukla, T., Mehta, M., Dobhal, D.P., Bisht, M.P.S., Nautiyal, S., 2021. **Glacier changes and associated climate drivers for the last three decades, Nanda Devi region, Central Himalaya, India.** Quat. Int. 575–576, 213–226. [Cited by 55]
4. Guha, S., Govil, H., Gill, N., Dey, A., 2021. **A long-term seasonal analysis on the relationship between LST and NDBI using Landsat data.** Quat. Int. 575–576, 249–258. [Cited by 53]
5. Taloor, A.K., Joshi, L.M., Kotlia, B.S., Alam, A., Kothyari, G.C., Kandregula, R.S., Singh, A.K., Dumka, R.K., 2021. **Tectonic imprints of landscape evolution in the Bhilangana and Mandakini basin, Garhwal Himalaya, India: A geospatial approach.** Quat. Int. 575–576, 21–36. [Cited by 50]
6. Sood, V., Gusain, H.S., Gupta, S., Taloor, A.K., Singh, S., 2021. **Detection of snow/ice cover changes using subpixel-based change detection approach over Chhota-Shigri glacier, Western Himalaya, India.** Quat. Int. 575–576, 204–212. [Cited by 44]
7. Kabukcu, C., Chabal, L., 2021. **Sampling and quantitative analysis methods in anthracology from archaeological contexts: Achievements and prospects.** Quat. Int. 593–594, 6–18. [Cited by 42]
8. Lakhote, A., Thakkar, M.G., Kandregula, R.S., Jani, C., Kothyari, G.C., Chauhan, G., Bhandari, S., 2021. **Estimation of active surface deformation in the eastern Kachchh region, western India: Application of multi-sensor DInSAR technique.** Quat. Int. 575–576, 130–140. [Cited by 39]

For more information, please visit the Quaternary International website.

MOST DOWNLOADED TOP 8

Below is a list of the most downloaded top 8 articles in the last 90 days. Among these 8 articles, 4 are devoted to Humans & Biosphere (HABCOM), 2 to Palaeoclimates (PALCOM), and 2 to Stratigraphy & Chronology (SACCOM). In addition, 3 are regular articles, and 5 are from Special Issues.

1. Lane, K., Marsh, E.J. **Absolute Chronology revisited: Integrating precise Bayesian models from Machu Picchu with Inca ethnohistoric praise narratives.** Quat. Int., in press.
2. Zalasiewicz, J., Waters, C.N., Williams, M., Barnosky, A.D., Cearreta, A., Crutzen, P., Ellis, E., Ellis, M.A., Fairchild, I.J., Grinevald, J., Haff, P.K., Hajdas, I., Leinfelder, R., McNeill, J., Odada, E.O., Poirier, C., Richter, D., Steffen, W., Summerhayes, C., Syvitski, J.P.M., Vidas, D., Wagreich, M., Wing, S.L., Wolfe, A.P., An, Z., Oreskes, N., 2015. **When did the Anthropocene begin? A mid-twentieth century boundary level is stratigraphically optimal.** Quat. Int. 383, 196–203.
3. Benjamin, J., Rovere, A., Fontana, A., Furlani, S., Vacchi, M., Inglis, R.H., Galili, E., Antonioli, F., Sivan, D., Miko, S., Mourtzas, N., Felja, I., Meredith-Williams, M., Goodman-Tchernov, B., Kolaiti, E., Anzidei, M., Gehrels, R., 2017. **Late Quaternary sea-level changes and early human societies in the central and eastern Mediterranean Basin: An interdisciplinary review.** Quat. Int. 449, 29–57.
4. Carvalho, A.F., Fernández-Domínguez, E., Arroyo-Pardo, E., Robinson, C., Cardoso, J.L., Zilhão, J., Gomes, M.V., 2023. **Hunter-gatherer genetic persistence at the onset of megalithism in western Iberia: New mitochondrial evidence from Mesolithic and Neolithic necropolises in central-southern Portugal.** Quat. Int., 677–678, 111–120.
5. Lister, A.M., Stuart, A.J., 2019. **The extinction of the giant deer Megaloceros giganteus (Blumenbach): New radiocarbon evidence.** Quat. Int. 500, 185–203.
6. Jha, D.K., Vaishnav, H.K., Roy, N., 2024. Late **Quaternary human-environment relationship in**

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the Ganga Plain, India. Quat. Int. 680, 1–16.
7. Wieland, A., Römer, P., Torbenson, M., Greule, M., Urban, O., Čáslavský, J., Pernicová, N., Trnka, M., Büntgen, U., Esper, J., Keppler, F., 2024. **Tree-ring stable isotopes in cellulose and lignin methoxy groups reveal different age-related behaviour.** Quat. Int. 693, 38–48.
8. Radini, A., Nikita, E., 2023. **Beyond dirty teeth: Integrating dental calculus studies with osteoarchaeological parameters.** Quat. Int. 653–654, 3–18.

For more information, please visit the Quaternary International website.

REMARKS

Quaternary International, the official journal of the International Union for Quaternary Research (INQUA), publishes peer-reviewed high-quality research articles that reflect recent advances in all the disciplines of Quaternary science and that appeal to the wide audience of the global Quaternary community. In addition to regular submissions, special issues that are organized by leading scientists for addressing major scientific questions in contemporary Quaternary research are welcomed.

We would like to take this opportunity to invite Quaternary scientists to propose special issues for publication in Quaternary International.

Dear colleagues and friends,

I am contacting you to briefly introduce myself as the new Editor-in-Chief of Quaternary International. I am Pierluigi Pieruccini from the University of Torino, Italy, and since July 1st, I have been assigned this new role following the colleague Dr. Jule Xiao, who successfully managed the Journal since 2019.

My thanks, and those of the entire INQUA community, go to Jule Xiao for his impressive and effective work. I also take the chance to sincerely thank the INQUA Executive Committee and Elsevier for entrusting me with this responsibility.

During my tenure as Editor-in-Chief, I intend to continue the tradition of our Journal by providing the INQUA community and the broader scientific community with two main types of service:

1) a channel where the results of all activities related to INQUA (projects, workshops, congresses, etc.) can be published, for example as Special Issues.

2) a Journal whose indexes guarantee a high ranking, thus attracting international interest i.e. from the young scientific community, which is increasingly being asked to publish in high-ranking indexed journals.

To achieve this goal, I am not alone. Together with the Editorial Team (https://www.sciencedirect.com/journal/quaternary-international/about/editorial-board), we will work to ensure the high quality of the research products submitted and subsequently published in our Journal. However, the collaboration of our entire community will also be extremely important.

In this perspective, I would like to extend an invitation to all the Quaternary Community to submit both Regular Articles and proposals for Special Issues related to INQUA-related projects and to any other research activities pertinent to the Quaternary International topics.

I invite anyone interested in submitting or playing the role of Guest Editors for Special Issues to look at the main information available on https://www.sciencedirect.com/journal/quaternary-international

If necessary, do not hesitate to contact me or any of the colleagues on the Editorial Team personally.

I conclude this brief message by wishing to the entire INQUA Community a broad and effective participation in our Editorial project and wishing the entire Quaternary International Team a good work in the coming months and years.

Pierluigi Pieruccini

University of Torino, Italy