

XXI CONGRESS OF THE
INTERNATIONAL UNION FOR QUATERNARY RESEARCH
"TIME FOR CHANGE"



SECOND CIRCULAR
AND
CALL FOR ABSTRACTS

ORGANISED BY



SAPIENZA
UNIVERSITÀ DI ROMA



INQUA

SCIENTIFIC PATRONAGE



Ministero della Transizione Ecologica



The Geological Surveys of Europe



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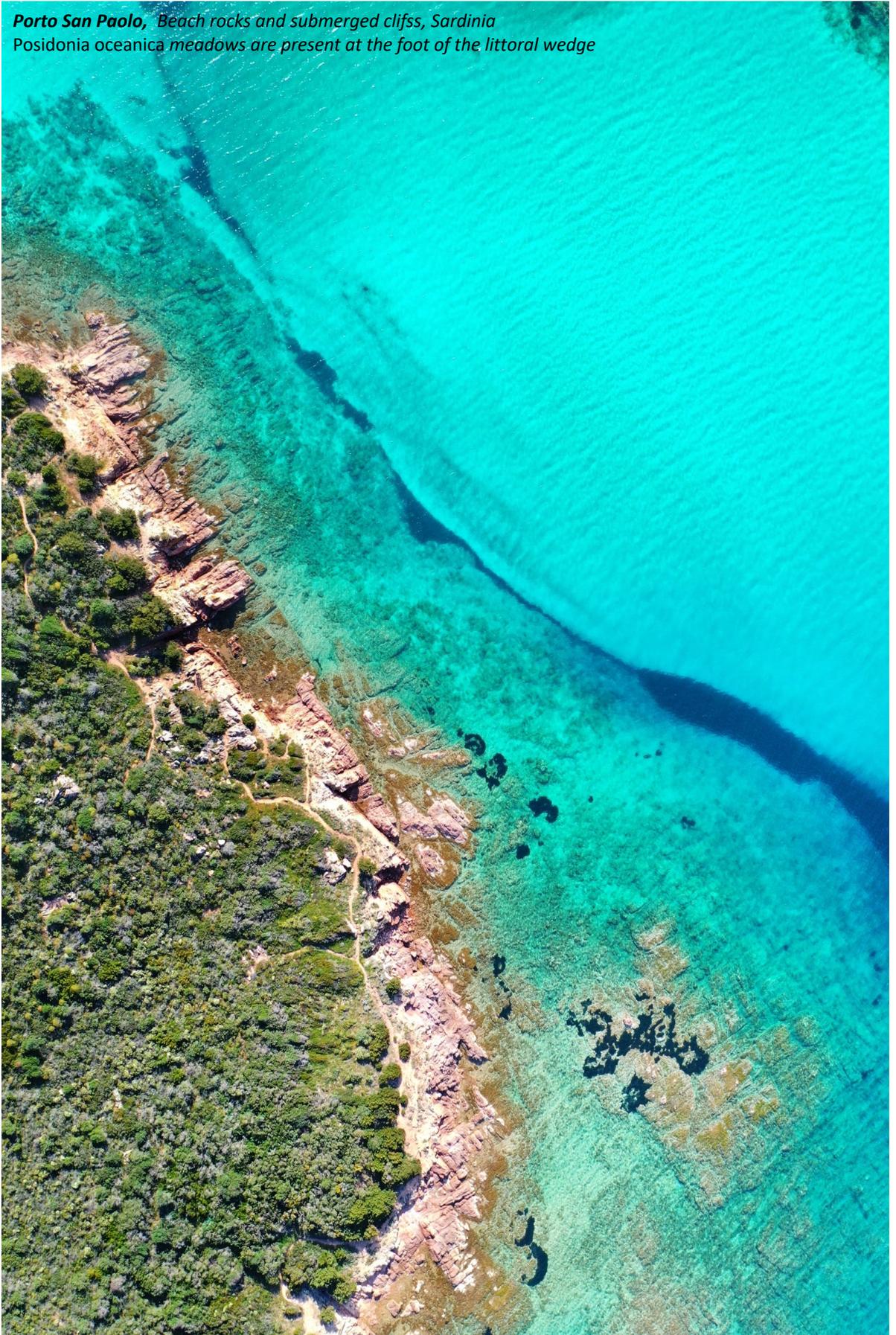
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General distribution of this and subsequent circulars for the XXI INQUA Roma Congress will be via email. Please feel free to forward it to others who may be interested. The Third Circular is scheduled for electronic distribution in June 2023.

Congress and pandemic

Despite the fact that we are still dealing with the pandemic situation and many restrictions, we are optimistic about the future and about the possibility to organize in person the next INQUA Congress in summer 2023. In any case, thanks to the good weather we are expecting in Rome and the facilities of the Sapienza University Campus, we plan to have as many activities as possible in open spaces outdoors. However, **if the situation is intermediate** (to read which is unlikely in summer, but we have to foresee this possibility) we are not planning a hybrid format but we will adopt a number of measures to protect congress participants for instance: 1) set up a test centre at the Congress venue; 2) adopt *ad-hoc* measures during the meeting such as mask wearing, hand disinfection, lunch bag and dispersed seating for meals, specific strategies to avoid queues; 3) organize the oral sessions with a limited number of participants in the room, even duplicating the screen between two or more adjacent lecture rooms. Only **if the situation is very bad** and travel abroad becomes impossible due to formal rules or restrictions issued by Italy or by the originating country, we plan to fully reimburse all the expenses for registration, including bank transfer costs.

Porto San Paolo, Beach rocks and submerged cliffs, Sardinia
Posidonia oceanica meadows are present at the foot of the littoral wedge



ORGANISING COMMITTEES

Local Organising Committee

Chairperson Francesco Latino Chiocci (Sapienza University)

Vice Chairperson Laura Sadori (Sapienza University)

Secretary General Ilaria Mazzini (CNR-IGAG)

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Finance Committee Vincenzo Pascucci (Sassari University)

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Local Committee Members

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Website and Apps Luca Guerrieri and Anna Maria Blumetti (ISPRA)

Social Media Kathleen Nicoll (University of Utah) and Guido Stefano Mariani (Cagliari University)

Patronage Luca Guerrieri (ISPRA)

Sponsors and Expo Fabrizio Lirer (Sapienza University) and Paolo Mozzi (Padova University)

Relations with Local Institutions Raffaele Sardella (Sapienza University) and Martina Pierdomenico (CNR-IAS)

Social Programme Federico Di Rita and Daniele Spatola (Sapienza University)

Early Career Researchers Maria Francesca Ferrario (Insubria University)

Workshops and Short Courses Pierluigi Pieruccini (Torino University)

Outreach Ilaria Mazzini and Laura Sanna (CNR-IGAG), Annalisa Iadanza (CNR-DSSTTA) and Valerio Ruscito (ISPRA)

Other members: Adele Bertini, Alessandra Smedile, Alessandro Vanzetti, Anna Maria Mercuri, Assunta Florenzano, Cecilia Conati, Donatella Magri, Enza Elena Spinapolice, Fabrizio Antonioli, Francesca Bozzano, Franco Vallocchia, Giorgio Manzi, Giovanni Zanchetta, Letizia Di Bella, Mary Anne Tafuri, Matteo Vacchi, Mauro Coltorti, Paolo Carafa, Piero Lionello, Roberta Pini.

INQUA Executive committee

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Secretary General Enikő Magyar

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Past President Allan Ashworth

ECR Chair Nivedita Mehrotra

Secretary Aritina Haliuc



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MARINE



SCIENTIFIC COMMITTEES

Scientific Programme Committee

Chairs: Alessandro Maria Michetti (Insubria University), Giovanni Monegato (CNR-IGG) and Sandro Rossato (Padova University)

Commissions Presidents and Italian Representatives

CMP-Coastal and Marine Processes

Sarah Woodroffe (Durham University, UK), Matteo Vacchi (Pisa University, IT)

HABCOM-Humans and Biosphere

Anupama Krishnamurthy (Institute Francais de Pondichery, IN), Anna Maria Mercuri (Modena University, IT)

PALCOM-Palaeoclimates

Tom Johnson (University of Massachusetts Amherst, US), Lucilla Capotondi (CNR-ISMAR, IT)

SACCOM-Stratigraphy and Chronology

Lewis Owen (North Carolina State University, US), Adele Bertini (Firenze University, IT)

TERPRO-Terrestrial Processes, Deposits and History

James Mc Calpin (Geo-Haz consulting, Colorado US), Franz Livio (Insubria University, IT)

Italian Honorary Scientific Committee

Francesco Carraro, Maria Bianca Cita, Mauro Cremaschi, Daniela Esu, Carlo Giraudi, Odoardo Girotti, Giuseppe Orombelli, Maria Rita Palombo, Leonello Serva, Giovambattista Vai

INQUA Honorary Scientific Committee

Nat Rutter (Canada), John J. Clague (Canada) Allan Chivas (Australia), Margaret Avery (South Africa)

Scientific Advisory Committee

Abderrezak Djerrab (Algeria), Amel Chakroun (Tunisia), Amit Mushkin (Israel), Asfawossen Asrat (Botswana/Ethiopia), Daniela Kröhling (Argentina), Franck Audemard (Venezuela), Frank Preusser (Germany), Zhengtang Guo (China), Giancarlo Scardia (Brazil), Gilles Lericolais (France), Goran Durn (Croatia), Guzel A. Danukalova (Russia), Ioannis Papanikolaou (Greece), Jin Cheul Kim (South Korea), José Sebastian Carrion (Spain), Jürgen M. Reitner (Austria), Katerina Kouli (Greece), Kristine Asch (Germany), Kyoung-nam Jo (South Korea), Larbi Boudad (Morocco), Ljerka Marjanac (Croatia), Lynda Petherick (New Zealand), Marc Luetscher (Switzerland), María Magdalena Velázquez Bucio (Mexico), Marie-France Loutre (Switzerland), Sokol Marku (Albania), Mehmet Akif Sarıkaya (Turkey), Miloš Bavec (Slovenia), Neil Glasser (UK), Ollivier Vincent (France), Pablo Silva Barroso (Spain), Peter Coxon (Ireland), Petra Jamšek Rupnik (Slovenia), Philip Hughes (UK), Russell Drysdale (Australia), Stefanie Wirth (Switzerland), Takashi Azuma (Japan), Vandana Prasad (India), Yosih Saito (Japan), Fawzi Doumaz (Italy).



Mont Blanc Massif, Italy-France

IMPORTANT DEADLINES

May 2022	Abstract submissions open
15 July 2022	Financial support request opens
1 November 2022	Deadline abstract submission and financial support request, Early Bird registration opens
20 January 2023	Formal notification of acceptance for abstract and financial support
20 February 2023	Early Bird registration and payment closes Field trip registration and payment closes Regular Registration opens
20 March 2023	Deadline for presenting authors to finalise their payment, in order to be included in or be deleted from the final programme.
15 June 2023	Third Circular: final programme
10 July 2023	Regular registration closes and late registration opens
13 July 2023	On site registration opens

OVERALL STRUCTURE OF THE XXI INQUA CONGRESS

Pre-Congress Field Trips and Short Courses	Friday 7 July to Thursday 13 July 2023
Onsite registration opens, Exhibition setup, some business meetings	Thursday 13 July 2023
Icebreaker party	Thursday evening, 13 July 2023
Opening Ceremony and First Session	Friday 14 July 2023
Scientific Programme	Friday 14 July to Thursday 20 July 2023
Mid-Congress Field Trips, Short Courses and Workshops	Sunday 16 July 2023
Congress Dinner	Tuesday 18 July 2023
General Assembly and Closing Ceremony	Thursday 20 July 2023
Post Congress Field Trips	Thursday 20 July to Tuesday 25 July 2023

REGISTRATION AND REFUND POLICY

Congress registration fees are reported hereafter.

Early Registration	450 €
Regular Registration	580 €
Late Registration	750 €
Student Early Registration	180 €
Student Regular Registration	220 €
Student Late Registration	300 €
One-day Registration	350 €
Accompanying person	200€
Children (<15 years old)	FREE

Registration fees will cover lunches, morning and afternoon refreshments, the icebreaker party and congress materials including a congress programme and abstracts (on pendrive). Early registration will be available until 20 February 2023, after which the regular registration fees will apply. On-site registration will be possible at higher rate (late registration).

Students (Bachelors, Masters and PhDs) will be required to submit their studentship certification.

Accompanying persons' fee cover lunches, morning and afternoon refreshments and the icebreaker party. The accompanying person and children will have special badges and will be granted access in the congress rooms only to follow the presentation of their related participant.

We are planning to provide the programme and abstracts on a Congress app, which will be downloadable for tablets and smartphones and will allow users to compile their own personalised programme.

Please note that due to potential unforeseen conditions in summer 2023, we reserve the possibility to cancel the Congress or part of it (fieldtrips, for instance). In case of Congress cancellation, the full registration fees that have been transferred will be reimbursed. In case the Congress will be confirmed, no refund policy will apply.

CALL FOR ABSTRACTS

GENERAL INFORMATION

The Scientific Committee invites authors to submit their abstracts. The Scientific Committee proposes 209 sessions subdivided into 7 main themes and 30 sub-themes.

The accepted abstracts will be presented as posters or oral communications. Sessions not reaching the minimum number of abstracts will be combined with related sessions.

The presenting author will have to register to the conference for the abstract to be included in the final program.

- ✓ A maximum of TWO abstracts from **each presenting author** will be considered, in order to assure broad participation and scientific exchange (one oral and one poster, or two posters).
- ✓ Authors should indicate their preferred session and presentation mode (oral or poster) although the final decision will be made by session's convener(s) and organizing committee.
- ✓ It is possible to change the presenting author at short notice in case of unforeseen absence of the registered presenter.

KEY DATES

- ✓ Abstract submission opens: in May 2022
- ✓ Abstract submission deadline: 1 November 2022.
- ✓ Abstract evaluation deadline: 20 January 2023.

The Session Convener(s) will review the abstracts and evaluate their acceptance and presentation form, in consultation with the Scientific Committee.

ABSTRACT SUBMISSION

- ✓ All abstracts must be submitted in English.
- ✓ Number of words: minimum 250 maximum 350, excluding titles, authors and affiliations.
- ✓ Plain text should be used without any special characters.
- ✓ No references should be included.
- ✓ Graphics will not be accepted.

SCIENTIFIC SESSIONS

In the following pages, you will find the list of the scientific sessions subdivided by scientific themes.

For each session you will find the title and the convener(s) list.

Session details can be accessed through the website of the congress.

<https://inquaroma2023.org/conference-sessions/>

The organizing committee reserves the possibility to cancel or merge sessions if the number of abstracts is insufficient. The final decisions regarding the sessions that will be held at the Congress will be announced by mid-December 2022, and the overall session programme will be finalized by March 2023.

1- FROM NATURAL PROCESSES TO GEOHAZARDS

72	The role of Tephrochronology in the study of Earth system dynamics during the Quaternary: event timings, duration and frequencies	B. Giaccio, P. Albert, S. Wulf, G. Zanchetta
94	Quantifying carbon dioxide fluxes from carbonates: processes and proxies for the global geological carbon cycle and related climate changes	A. Mancini, F. Frondini, S. Kele, E. Capezuoli
122	Applications of Ostracoda in Quaternary Research	P. Frenzel, A. Pint, S. Mischke
154	Quaternary research in South America: paleoclimate, tectonic, volcanic and surface processes	D.M. Kröhlhng, V.F. Novello, A. Alvarado, S.M. Moreiras, S. Hidalgo,
179	From coastal geomorphology to earthquake hazard (F-Coast2EHZ): new perspectives and multidisciplinary approaches	C. Yildirim, J. Jara-Munoz, K. Tsanakas, S. Racano
181	Transferring scientific knowledge on Quaternary geological processes and geohazards into disaster risk reduction activities	F.L. Chiocci, D. Di Bucci, M. Okuno, D.S. Torres, T.H. Jordan
1A- Earthquakes, palaeo-earthquakes and seismic hazard		
4	Bridging earthquakes over time scales – from the seismic cycle to Quaternary landscape evolution: contributions from the EDITH INQUA-TERPRO-Terrestrial Processes, Deposits and History Project	F. Livio, S.P. Naik, S. Siman-Tov, Z. Mildon, S. Arora, P. Victor
34	Discussion Panel on Assessing Fault Capability in Different Geodynamic and Environmental Settings	L. Serva, P.M. Figueiredo, A. Sarmiento, L. Bonadeo
38	Reconciling deformation through Geomorphology, Active tectonics and Paleoseismology investigations along the India plate	T. Singh, C.P. Rajendran, R. Caputo
47	The geological record of capable faults	S. Baize, P. Buncio, O. Scotti, R. Caputo
78	Subduction zone in palaeoseismology	E. Hocking, E. Garrett, J. Moermant
107	More than the sum: fault re-ruptures and cumulative damage during seismic sequences	M.F. Ferrario, J. Rimando, G. Tringali, S. Valkaniotis, M. Velazquez-Bucio
123	Advances in tectonic geomorphology, paleoseismology, and multi-disciplinary active fault studies	C. Grützner, T. King, J.D.B. Dianala, L. Pousse-Beltran
171	Detecting Active Deformation in Low-Strain Intraplate Regions	J. Thompson Jobe, P. Figueiredo, C. Grützner, J. van der Wal
176	Tectonic and Climate-driven Landscape Evolution a never-ending challenge for modern society (Thoughts from LEMON project, INQUA - AIQUA)	N. Parrino, E. Srivastava, P. Burrato, J.N. Malik, S. Todaro
178	TRAVITONICS twenty years later: the remarkable role of travertine in decoding big geological events from the past	A. Brogi, C. Alçiçek, E. Capezuoli, V. Karabacak, T. Uysal
182	From Cores to Code: Data-Model Integration to Improve Reconstructions and Forecasts of Coastal Change	J. Pilarczyk, C. Hein, A. Lau, N. Ramos
184	Seismic hazard assessment in populated areas of Latin America: incorporating seismogenic faults	M. Ortuño, M. Velázquez-Bucio, P. Lacan, O. Gómez-Novell, S. Moreiras
1B- Active volcanoes		
5	Multidisciplinary hazard and risk study on active coastal and insular volcanoes	D. Casalbore, R. Quartau, P. Cole, N. Mitchell, M. Mulas, R. Ramalho
204	Late Quaternary Faulting and Earthquake Geology in volcanic areas	R. Nappi, A.M. Michetti, R.P. López, G. Groppelli, S. Porfido, T. Walter
1C- Tsunami and marine geohazards		
75	Coupling onshore and offshore record of tsunami deposits	P.J.M. Costa, V.M.A. Heyvaert, S. Dawson, M. De Batist, M. Engel
93	Past, Present, and Future Risk: improving paleorecords of coastal geohazards using proxies and their modern analogues	J. Majewski, I. Hong, K. Joyse, L. Buck
180	Sedimentary record of past catastrophic coastal floodings (tsunami, storms)	W. Szczuciński, P.J.M. Costa, P.M. De Martini, F.C. Johnson, J.E. Pilarczyk
1D- Active tectonics as multi-scalar driving processes		
185	Active faults evolution: revelations from different timescales	I. Puliti, L. Benedetti, J.F. Walker, A. Pizzi
209	Tectonics and sedimentation in the Quaternary of the Mediterranean Region	R. Butler, F. Gamberi, R. Maniscalco, A. Di Stefano
1E- Short to long-term environmental changes (flooding, landslides, desertification, tectonics), and societal response		
95	Impacts of abrupt climate change on ecosystems, landscapes and societies through INTeGration of Ice-core, MARine and TERrestrial records (INTIMATE)	D. Sachse, C. Blanchet, R. Kearney, Z. van Kemnade, C. Lane
97	Mediterranean Islands: tectonics, climate, sea level, chronology, evolution, & archaeology of a Quaternary “Galapagos”	E. Scerri, V. Herridge, A. van der Geer, D. Richards, G. Lyras, M. Meschis
132	The role of Holocene architecture in driving land subsidence and saltwater intrusion in deltas, estuaries, lagoons and coastal plains	D. Ruberti, C. Buffardi, P. Teatini, L. Tosi, P.S.J. Minderhoud
159	Human-environment interactions in coastal areas: new ways to learn from the past	S. Vervust, L. Chamberlain, H. Hadler, B. S. Majchczack, H. J. Pierik, M. Schepers
166	Quaternary palaeohydrology: from the reconstruction of spatial impact of extreme events to long-term changes in catchments and landscapes	A. Fontana, J. Herget, L. Schulte, J. A. Ballesteros Cánovas

2-LANDFORMS, FACIES ARCHITECTURE AND SEQUENCE STRATIGRAPHY

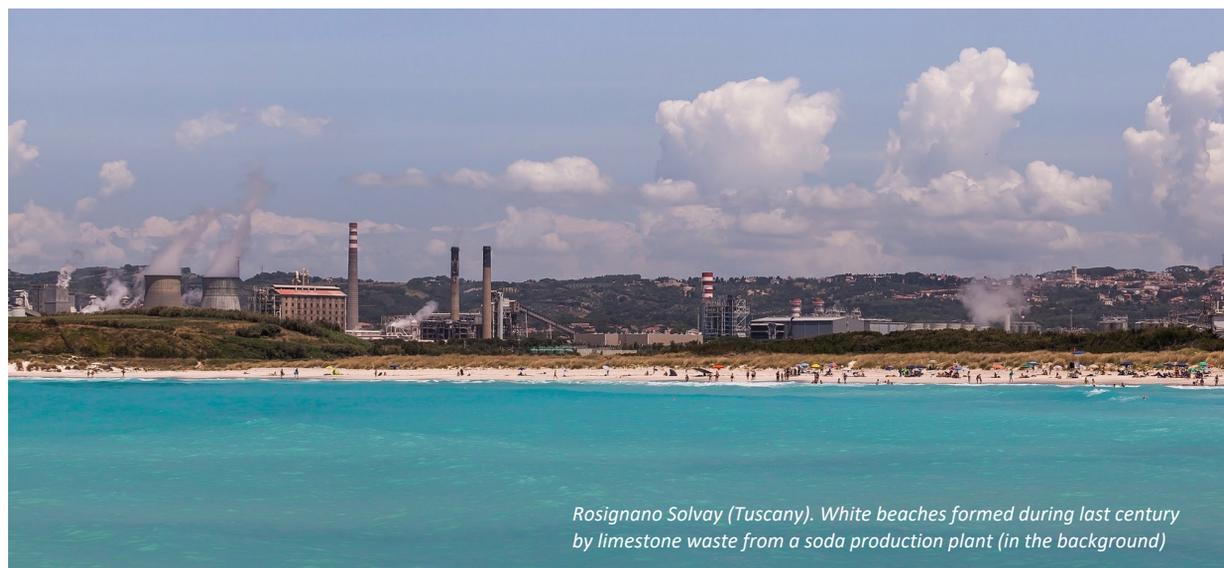
37	Reconstructing Quaternary ice sheets	A.S. Dalton, E.J. Gowan, A.L.C. Huges, B.J. Davies
48	Quaternary climate, landscape and surface processes in mountain belts	P. Srivastava, B. Phartiyal, R. Theide, V. Jain
49	Time lags and lag times in sedimentary environments	T. Kolb, G. Rixhon, D. Faust
50	Glacial-lake outburst floods and their impact on past, present and future environmental changes	P. Weckwerth, E. Kalińska, J.A. Piotrowski, A. Russell, J. Winsemann, W. Wysota
68	Rivers and fans: sediment and landform archives of long-term Quaternary landscape development and environmental change	M. Stokes, P. Proença Cunha, P. Mozzi, B. Thalmeier, G. Peri
91	Micromorphological investigations of Quaternary environments	B. Reinardy, L. Linch, A. Palmer
145	Climate Records from Coastal Systems	D. Ellerton, C. Nixon, J. Shulmeister, M. Kylander
156	Multidisciplinary approaches of calcareous tufas and travertines: investigating environments and climates from Prehistory to today	J. Dabkowski, J. Aranbarri, M. Gradzinski, S. Kele, E. Tagliasacchi
183	Frontiers in drylands research	A. Stone, K. Fitzsimmons, N. Lancaster, D. Thomas, J. Sinagarayer
2A- Geomorphic processes and sedimentary record		
20	Subglacial erosion, transport, and deposition: from landform and sediment evidence to modeling	R.C. Paulen, N. Putkinen, M. Krabbendam, N. Eyles, M. Ross
24	Fluid venting as a submarine geomorphic process	D. Spatola, D. Casalbore, A. Micallef, C. Gorini, D. Praeg
63	Late Quaternary fluvial archives from the time of Homo sapiens: Stratigraphical, sedimentological, palaeontological and georchaological records	T. Kalicki, T. Lauer, D. Bridgland
111	The impact of climate change on continental hydro-systems and their environmental response: a diachronic perspective from the East African Rift System	C. Mologni, A. Asrat, A. Zerboni, M. Schuster, I. Mazzini
112	Micromorphology as a tool in Quaternary studies to reconstruct changes in natural and anthropogenic sequences	G.S. Mariani, V. Aldeias, N. Égüez, A. González
146	Developing an understanding of past sea-level changes in the low latitudes: challenges and opportunities	S. Woodroffe, J. Sefton, N. Khan, F. Hibbert, L. Toth
158	The geomorphic signature of marine and continental Quaternary deposits	E. Valente, C. Cerrone, F. Pavano
160	Geoheritage: role of scientists to keep earth scientific treasures for future generations	H.J. Pierik, H. Alkemade, C. Giovagnoli, C. Glanville
169	Quaternary Proglacial Lakes: Sediments, Landforms, Impacts	C. Delaney, K. Adamson, A. Palmer, R. G. Lucca M. Carney
198	Late Quaternary Hydroclimate Records of Dryland Endorheic Basins	B. Fenerty, J. Windingstad
2B- Glacial and periglacial geomorphology		
23	Mountain dynamics: From the Quaternary to the Anthropocene	J. Knight, S. Harrison
33	Quaternary Glaciations: Processes, Sediments and Landforms	L. Linch, D. Pearce, J. Piotrowski, D. Evans
51	Infill history and formation of glacial overdeepenings as paleoenvironmental archives	F. Preusser, F. Anselmetti, M. Fiebig, G. Gabriel
117	Proglacial lakes: insights from the Quaternary record on physical properties, glaciological and downstream impacts, and glacier floods	J. Sutherland, J. Carrivik, J. Yde, F. Tweed, A. Emmer, G. Veh
1	Quaternary Mediterranean Glaciers	A. Ribolini, M. Delmas, M. Žebre, M. Spagnolo P. Hughes, M.A. Sarikaya
206	Himalayan glacial response to post-glacial climate variability and its implication for understanding the recent and future climate change	S. Sharma, N. Rana
2C- Wetlands and paralic environments – no session proposals		
2D- Coastline changes under the effects of climate and geological processes		
43	Millennial paleo-landscape reconstructions of coastal areas. From field data to modelling approaches	G. Mattei, C. Caporizzo, A. Novak, L. Ronchi, M. Seeliger
106	Evolution of coastal environments under natural and anthropogenic processes: the role of geoscience	S. Cappucci, D. Bertoni, A. Trembanis, S. Andreucci, J. Benjamin
155	Linking land and sea - multiple approaches to investigating human-environment interactions in the coastal zone	H.L. Filipsson, K. Hirose, K. Ljung
189	Deciphering the record of Arctic palaeo-storms and coastal changes from proxy data	M.C. Strzelecki, W. van der Bilt, S. Lindhorst
2E- Geomorphology and stratal architecture of continental margins		
6	Recent advances in understanding the Quaternary geomorphological evolution of continental margins	D. Casas, D. Casalbore, G. Ercilla, A. Micallef, A. Savini, S. Krastel
129	The shelf-edge: the dynamics of a physiographic and environmental boundary in Quaternary climatic and sea-level variations	F. Gamberi, A. McArthur, C. Olariu, S. Distefan
2F- Karst process, deposits, landforms, and landscape		
110	Karst processes and their effect on the archaeological and palaeoanthropological record	R. Iovita, D. Stratford, A. Varis
203	Quaternary cave faunal remains in Mediterranean realm	L. Sanna, M. Zedda, D. Zoboli
202	The Dryland Cave and Karst Record: Reconstructing hydroclimate change and hominin palaeoenvironments	M. Rogerson, T. Makhubela, R. Pickering, M. Markowska, P. Randolph-Quinney

3- QUATERNARY ENVIRONMENTS AND HUMAN EVOLUTION: FOSSIL RECORD, PHYLOGENY, PALAEOBIOLOGY, PALAEOECOLOGY AND CULTURAL MODELS

30	A multiscale geoarchaeological approach for the interpretation of palaeo-landscapes and human activities	D. Susini, L. Forti, J. Jotheri, J. Meister
45	Plants as Resources for Early Humans – Availability and potential exploitation of useful wild plants through Pleistocene human history	A. A. Bruch, K. Hahn
54	Pleistocene human behavior in Central and North Asia: subsistence strategies and migration patterns during critical periods	B. Gunchinsuren, A.M. Khatsenovich
55	Understanding the human-animal-environment interface in Quaternary South Asia	A.P. Kaur, S.B. Mehra, V. Singh
70	Global and local views on the ecological, environmental, and climatic backdrop for hominin dispersal out of Africa in the early Pleistocene	M. Belmaker, H-A. Blain, A. Barash Azrieli
71	Quaternary of North Africa: chronostratigraphy and paleoclimatic variations	A. Chakroun, L. Boudad, A. Djerrab
73	Altered landscapes (Pleistocene and Holocene) of the archaeological sites	A. Rao, V. Upadhyay
88	Human-environmental Interactions Along the Ancient Silk Roads	J. Hou, X. Yang, H.F. Nashli
96	From lush forests to empires: The shifting ecosystems of the Eastern Mediterranean Basin under human expansion	H. Caner, B. Ekberzade, N.K. Kılıç
100	Multi-methods geochronological approaches on Palaeolithic sites	A. Pereira, M. Richard
102	West African Quaternary: understanding past climate oscillations and human responses to anticipate future adaptations	I. Yabi, O.A. Boboye, M.G. Tossou
104	Novel molecular tools (biomarkers and DNA) in climatic and environmental archives – challenges, advances, and prospects	M. Morlock, T. Schneider, D. Yu-Tuan Huang
109	Quaternary environments and Human evolution: fossil record, phylogeny, palaeobiology, palaeoecology and cultural models	P. Sukumaran, C. Hertler, P.R. Chauhan
128	African Acheuleans in the Early/early Middle Pleistocene: triggers, techno-subsistences, time-lines	R. Gallotti, C. Daujeard
163	Quaternary palaeoenvironmental dynamics/variability: promoting multiple proxy records from West-Central Africa	P. Adegbenga Adeonipekun, E. Orijemie, A. Oyel
186	The Long Walk to the Anthropocene: Exploration within Quaternary contexts	A. Krishnamurti, S. Pappu, P. Langdon, K. Morris A.A. Isa, K. Akhilesh
190	Paleosol memory of environmental change and man-landscape interactions: from soil profile to geosystem	E.S. Rebolledo, F. Scarciglia
191	Environment, culture and biology of <i>Homo sapiens</i> hunter-gatherers in Europe	M. Peresani, F. Badino, F. Fontana, A. Maier, G. Monegato, C. Posth
192	North African territorial compressions and the Islands: paleoenvironnement, anthropobiology and culture	I. Amara, A. Chakroun, K. Roumane, A.C. Ordóñez Perrin, I. Sidera,
201	New developments in chronology and palaeogeography of the human occupation of Central Asia	R. Kurbanov, J-P. Buylaert, D. Wright, T. Stevens, Knudsen,
205	The environment background and human adaptations during the transition or shift from archaic humans to modern humans in East Asia	F. Chen, D. Zhan
3A- Geological and climate forcing on ancient societies and feedbacks		
39	Paleoenvironmental Impacts on Human Evolution in eastern Asia during the Quaternary	C.J. Bae, H. Hong, Z. Lai
46	Application of biomarkers and CSIA in Pleistocene archaeology	D. K. Jha, R. Patalano, P. Roberts, J. Ilhner, M. Petraglia
56	The Palaeolithic of the Americas: population dynamics, behavioral variability and techno-cultural diversity around the Last Glacial Maximum (MIS 2-3)	C. F. Ardelean, A.Pérez-Balarezo
64	Mapping Ancient Africa: Climate, Vegetation & Humans	W. Gosling, S. Kaboth-Bahr, R. Kinyanjui, L. Quic Ivory
79	The Global Tropics from the Pliocene to the Anthropocene	P. Riris, P. Roberts, E. Scerri
115	Palaeoenvironmental research in SW Asia: Recent advances & future opportunities	J. Sherriff, D. Wolf, A. Malinski-Buller, A. Brittingham, T. Karambagdis
130	Advancing paleoscience in underrepresented regions: promoting records of past socio-environmental systems in the Global South and beyond	G. Camperio, I. Jara, N. Mehrota, C. Kulkami, M. Mariani, E. Orijemie and PASES organizers
137	Geological and climate forcings on human groups / ancient societies, and their feedbacks	T. Beuzen-Waller, P. Kühn, L. Proctor, F. Schlütz
138	Wet Environments and Human Communities: Interaction and Resilience in the Holocene and Antiquity	S. Stoddart, A. Babb, A. Celant, P.M. Guarino, M. Lucarini, F. Michelangeli
139	Holocene Global Landuse	M. Madella, K. Morrison, N. Whitehouse, M-J. Gaillard
3B- Geoarchaeology: from landscape to site and back		
60	Geoarchaeology and paleoenvironmental evolution of the coastal areas	M. Ghilardi, F. Di Rita, V. Rossi, E. Borgia, M. Vac
90	Ancient DNA from Quaternary and Archaeological Sediments	L. Parducci, F.G. Ficetola, V. Slon, I. Alsos Greve, Brown
92	Zooming into the Quaternary Research in South Asia: Understanding the landscape-cultural-climatic evolution	K.S. Chakraborty, S. Mukhipadhyay, D.K.Jha
99	Lipid biomarkers as molecular archives of human activity from archeological sites	M. Jambriña-Enríquez, N.E. Gordon, R. Connolly, Simões
165	En plein air: processes, preservation and potential of open-air prehistoric archaeological contexts in arid lands	M. Di Matteo, E. Cancellieri, S. Costanzo, R. Rotu
3C- Preserving and disseminating the cultural heritage		
127	Uncovering the environmental legacies of colonialism	M-S. Fletcher, M. Mariani, S. Connor, Y. Maezuno Romano
3D- Palaeoanthropology		
87	Prehistoric hunter-gatherers' adaptation during the Last Glacial in Europe	A. Picin, A. Zerboni, G. Muttoni, S. Talamo
125	African Quaternary Anthro-environments: Palaeoecology and cultural responses to environmental variance	J.N. Cerasoni, E.Y. Hallett

4- ECOSYSTEMS AND BIOGEOGRAPHY FROM LATEST PLIOCENE TO “ANTHROPOCENE”

26	Source-to-sink propagation of pollutants in marine environments: the role of sedimentary and oceanographic processes and impacts on ecosystems	C. Lo Iacono, M. Pierdomenico, P. Harris, M. Claire
36	Conservation paleobiology: late Neogene to Quaternary records as a baseline for conservation of modern ecosystems	V. A. Bracchi, S. Danise, E. Saupe, R. Nawrot, N. Santodomingo Aguilar
42	Ecosystem change and hunter-gatherer behavioral decisions in the terminal Pleistocene Pacific Rim	F. Iizuka, K. Terry, L. Davis
74	Advances and new challenges in modeling landscape change in the “Anthropocene”: Transdisciplinary approaches using remote sensing and geoarchaeology	S.M. Krause, T. Beach, A.E. Thompson, B. Smith
27	Resilience versus collapse: Human responses to climate change in the Quaternary	N. Kehrwald, P. Henne, E. Gobet, A. Hafner, C.M. del Molino, C. Schwörer
4A- Response of biota to palaeoenvironmental changes		
16	Linking paleoenvironmental proxies at different scales: potential, problems and limits	A. Uzunidis, G. Semperebon, F. Rivals
28	Timing and structure of freshwater ecosystem response to external forcing: evidence from high-resolution multi-proxy lake and peat bog records	S. Engels, M. Slowinski, V. van den Bos
44	Environment-human interfaces, new frontiers of concilience in the reconstruction of the past	A. Izdebski, P. Carafa, A. Masi
67	Exceptional archives: Leveraging visible and non-visible lagerstätten with cutting-edge methods to broaden our knowledge of Quaternary ecosystems	S. Cocker, T. Murchie, S. Crump
82	Data science and paleoecology: current intersections and advances	Q. Asena, J. Williams
131	A global view on Early Pleistocene climate and vegetation dynamics	K. Sniderman, A. Bruch
135	Mammals biochronology and palaeoecology of the Euro-Mediterranean Quaternary	R. Sardella, A. Iannucci, G.E. Konidaris, D.S. Kostopoulos, J. Madurell-Malapeira
149	Late Quaternary rhinoceroses through time and space	K. Pawlowska, L. Pandolfi
152	Archaeological cave sediments: a key to decipher past human behavior and palaeoclimatic change	M. Morley, A. Zerboni, N. Eguez, I. Sifogeorgaki
170	Biotic markers and measures of biodiversity of Holocene environmental change	E. Panagiotakopulu, J.E. Schofield
174	Tracing the impact of palaeoenvironmental changes in ancient DNA	C. Schwörer, M. Leunda, C. Sperisen
197	How can archaeology and palaeoecology contribute towards a more sustainable and culturally informed future?	N. Whitehouse, E. Jenkins, A. Ordóñez, S. Jackson
207	Not only z-corals: Quaternary reefs across the latitudinal and depth gradients	D. Basso, C. Betzler, S. Spezzaferri, E. Samankassou
4B- Islands, continental bridges and drowned landscapes		
12	Submerged Palaeolandscapes of the Southern Hemisphere (SPLOSH): Challenges and opportunities	I. Ward, H. Farr, F. Sturt, A. Green, H. Cawthra, A. Bastos, D. Carabias
25	Islands and their relationship with the continent to investigate time and mode of their colonization by terrestrial vertebrates and Homo dispersal	F. Antonioli, V. Forgia, C. Speciale, M.R. Palombo
4C- Palaeoecology as a tool for ecosystem management		
141	How can the Quaternary sciences contribute to scientific assessment of biodiversity, ecosystems, and nature?	S.T. Jackson, D. Fordnham, H. Ngo, D. Noguez-Bravo
142	Palaeoecology and restoration ecology	L. Gillson, W. Tinner
4D- Human environment in the (paleo-) Anthropocene		
9	The Anthropocene – Its geo-archaeological indicators and early inceptions through the modern	A. Zerboni, K. Nicoli
143	Environmental responses to climatic and human impacts in endangered biodiversity hotspots: past and present for future	A. Bertini, N. Combourieu-Nebout, Y. Gunnell, O. Peyron



Rosignano Solvay (Tuscany). White beaches formed during last century by limestone waste from a soda production plant (in the background)

5- CLIMATE RECORD, PROCESSES AND MODELS

2	Recent advances in understanding the causes of changes in regional and global palaeofire regimes: resources, tools and new approaches	S.P. Harrison, J. Marlon, A-L. Daniau, A. Feurdean
3	Orbital and millennial vegetation changes at global and regional scales during the Quaternary: insights from data and models	M.F. Sanchez Goñi, D. Oliveira, D. Urrego, N. Weitzel
7	Varve records as high-resolution archives for continental Quaternary research	C.M. Puertas, A. Palmer, C. Blanchet, M. Żarczyński, A. Becket, B. Zolitschka
11	Proxy-based reconstructions of atmospheric and oceanic patterns	H. Hernandez, L. Boyall, P. Moffa-Sanchez, C. Martin-Puertas
15	Understanding regional and global monsoons changes across timescales	C. Zorzi, D. Oliveira, Q. Yin, F. Peterse
18	Dansgaard-Oechger events in climate models and the real world	L.C. Sime, S.P. Harrison, K. Rehfeld, I. Malmierca-Vallet
21	Records of climate change from MIS 3 and MIS 2 in the Southern Hemisphere: The Lynda Petherick Memorial Session	J. Shulmeister, K. Fitzsimmons, J. Knight, L. MacKenzie, C. Sloss
31	Processes and feedbacks during glacial terminations	L. Menviel, R. Ivanovic, L. Lisiecki, H. Stoll, E. Capron, J. Gottschalk
32	Paleo perspectives on a warmer and wetter future Arctic	W.G.M. van der Bilt, A. Schomaker, E.K. Thomas, Y. Axford, S.E. Kjellmann
62	Paleoclimate, paleoweathering, paleoprovenance and machine learning on sediments during Late Quaternary Period	U.S. Banerji, K.B. Joshi, C.P. Dubey, L. Pandey
84	Extending the limits of ice core science beyond new analytical, conceptual and inter-disciplinary frontiers	B. Stenni, A. Landais, C. Barbante, E. Capron, P. Bohleber
65	Paleodust a key component of past Earth System	DD. Rousseau, F. Lagroix, Hatté C., Antoine P
86	Implications of records and datasets emerging from South Asia for global Quaternary events	A. Srinivas, A. Srivastava
89	Cenozoic sea-level indicators and ice sheet constraints to global sea-level change	A. Rovere, A.S. Rogers Dalton, D.D. Ryan, R. Creel, G. Rush, N. Barlow
103	Terrestrial hydroclimates: towards quantification and climate model comparisons	K. Fitzsimmons, M. Markowska
118	Cave deposits for in deep understanding Quaternary climate and environment	A. Columbu, V. Novello, B. Wortham, Y. Ait Brahim, M. Campbell
120	Volcanic impacts on climate and society	K. Anchukaitis, M. Sigl, F. Ludlow, C. Vidal, A. LeGrande, M. Toohey
126	Sub-annual to decadal records of environmental change	A. Prendergast
140	Quantifying climate change in Australasia: challenges and opportunities	T. Barrows, H. Bostock, J. Tibby, H. Cadd, P. Hesse
144	Past variability in the Southern Hemisphere westerly winds (SWW): insights from proxy climate data and models	T. Shanahan, P. Augustinus
168	Monsoons in warm climates: new insights from paleoclimate reconstructions and simulations	R. D'Agostino, E. Berntell, D. Zanchettin, A. Winter
173	Palaeoclimate records from the Southern Hemisphere	J. Massferro, C. Mayr, N. Waldmann
177	Factors influencing the diversity of loess sedimentary environments and the resulting variability of palaeoclimatic and palaeoenvironmental signals	Z. Jary, P. Antoine, K. Fenn, S. Yang
188	Hydroclimate and atmospheric circulation over North Africa during the Quaternary	C. Skonieczny, M. Revel, C. Blanchet
76	Climate of last two millennia in the Balkan Peninsula	B. Narancic, S. Gnjata, D. Antoniadis, R. Pienitz
85	Loess and dust deposits: beyond local studies	C. Zeeden, S. Yang, J. Nett, C. Schmidt, D. Veres
208	Achievements and new perspectives in Quaternary sciences from scientific drilling	H. Detlef, A. Voelker, F. Anselmetti
5A- Climate proxies		
13	Records of LGM climate and ecosystems dynamics	R. Pini, B. Delmonte, G. Újvári
35	Dust dynamics through the Quaternary: terrestrial records of climatic and environmental impacts	S. Pratte, F. De Vleeschouwer, N.J. Cosentino, S. Gili
77	Quantitative proxies for paleoenvironmental reconstructions from loess and terrestrial archives	C. Prud'homme, T. Stevens, G. Újvári, H. Lu
81	Tipping Points in the Earth System: Mechanisms and Impacts from different perspectives	H.A. Kjær, N. Boers, D. Didier-Rousseau, L. Sime
98	Past vegetation dynamics and their role in climate change	M. Chevalier, A. Dallmeyer, S.Y. Mæzumi, A. Poska
101	Integration of palaeoecological proxy data for the reconstruction of climate and environment dynamics	A. Masi, K. Panagiotopoulos, K. Kouli, V. Foerster, M., Triantaphyllou
161	Arid Soils: Genesis, Geomorphology, and Quaternary perspectives	O. Crouvi, R. Amit, Y. Enzel
195	Mosaicking multiproxy archives of lake and wetland records	L. Löwemark, S. Kaboth-Bahr, A. Bahr

5- CLIMATE RECORD, PROCESSES AND MODELS

5B- Palaeogeographic, palaeoclimatic, palaeoceanographic and palaeoecological changes in marine and terrestrial systems		
14	Climate and environmental changes during the Holocene and past interglacials based on biological and geochemical proxies	G. Jiménez-Moreno, A. Bertini, O. Heiri
69	Quaternary palaeolandscape, palaeoclimatic and palaeoenvironmental change in the North Sea	R. Plets, V. Cartelle, S. Fitch, M. Hijma, A. McGuire, S. van Heteren
113	Mediterranean caves as archives for paleoenvironmental change across time scales	E. Regattieri, G. Zanchetta, I. Isola, M. Finné
133	Unravelling Mediterranean sensitivity to past rapid climate variability	I. Cacho, F. Lirer, N. Combourieu-Nebout, G. Siani
150	Groundwater renewability and sustainability management in a changing climate	J. Chen, J-D. Taupin, S. Arslan, Z. Dhaoui
151	The role of westerlies on Euro-Mediterranean Quaternary palaeoclimate on decadal-to-orbital timescales	H-M. Hu, G. Marino, A. Columbu, Q. Yin, G. Zanchetta
153	Beyond the microscope: molecular, chemical, imaging techniques at the frontier of Quaternary palaeoecology and environmental reconstructions	K. Holt, A. Seddon
157	Peatlands through time: developmental dynamics and palaeo-environmental reconstruction	P.J. Morris, M. Kylander, A. Gallego-Sala, J. Sjöström, G. Swindles
172	Quantitative reconstructions of terrestrial paleoclimate over glacial-interglacial cycles	Y. Kiro, Y. Goldsmith, H. Affek
194	Voices of the past, present and future: Insights from early career researchers into linking Arctic and sub-Arctic paleo-proxies and human ecodynamics	N.K. Sanderson, N. Roy, M-M. Ouellet-Bernier, M.A. Aquino López
41	Late Quaternary desertification, landscape changes, paleoclimate, and human adaptation	H. Achyuthan, X. Fu, E. Brisset, A.T. Gourlan, R. Shah
83	Quaternary glacier-climate dynamics in the mid & high latitudes of the Southern Hemisphere	S. Bertrand, W. van der Bilt, B. Davies, J. Bakke, D. Hodgson
5C- Past global climate records in polar and mountain ice		
22	Mountain glaciations and their diversity: Perspectives in geomorphology, geochronology, palaeoglaciology, and palaeoclimatology	S.Winkler, G. Monegato, R. Oien, D. Pearce, J.M. Reitner
59	Past, present and future ice-ocean-atmosphere interactions between the Southern Ocean and the Antarctic Ice Sheet	M.E. Weber, F. Lamy, M. Patterson, A.U. Venugopal
136	Understanding volcanic impacts through physical and chemical signatures in ice cores: advances, challenges and opportunities	G. Plunkett, S. Davies, A. Burke, M. Sigl, J. McConnell
148	Climate-glaciers interactions in mid-latitude mountains	V. Maggi, M. Chiarle, C. Baroni, A. Bondesan
167	A recap of INQUA-MARE: Pole to Pole teleconnections as registered in Antarctic and Arctic Holocene archives	N. Douss, V.M. Gamboa-Sojo, K. Gariboldi, C. Morigi, R.G. Lucchi
5D- Reconstruct past abrupt and extreme climate changes		
175	Uncertain Geochronologies: methods and applications to quantify climate change synchronicity and abrupt events while reconciling age uncertainty	N. Scropton, R. Weji, M. Mudelsee
5E- Climate changes on sub-millennial to Milankovitch time scale		
162	Astronomical forcing and nonlinear climate feedbacks during the Pleistocene Epoch	X. Zhang, H. Bostock, S. Barker, G. Knorr
193	Indo-Asian Monsoon on decadal to centennial-millennial scale and their link to the Indo-Pacific past climate variability	H. Rashid, H. Cheng
5F- Climate modelling and data assimilation: simulate past changes and future scenarios		
66	Data modelling and Inference	A. Vulpiani, A. Provenzale
5G- Global, regional and local sea-level changes and drivers		
147	Sea-Level, Ice-Sheet, and Earth system evolution: understanding the past to constrain the future	N. Khan, R. Creel, M. Vacchi, N. Gomez



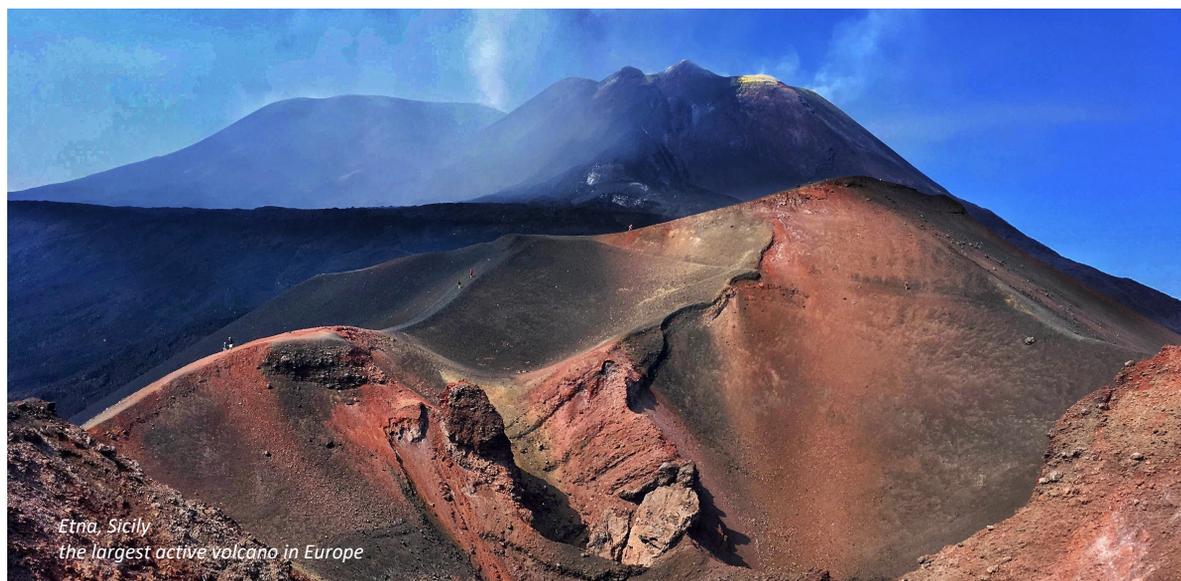
Global Climate Strike, Rome
29 September 2019

6- THE QUATERNARY TIME MACHINE

29	Escaping the trap: frontiers of trapped charge dating	S. Riedesel, J. Durcan, G. King, S. Kreutzer, C. Schmidt
58	The new challenges for luminescence dating	S. Andreucci, D. Sechi, M. Bateman, V. Pascucci
116	Event stratigraphy of Late Pleistocene-Holocene marine sequences	P. Petrosino, D. Insinga, C. Gorini
200	New developments in Quaternary Stratigraphy, Chronology and Palaeogeography of Ponto-Caspian and Aral seas	R. Kurbanov, V. Yanko-Hombach
6A- Marine and terrestrial stratigraphy. Advances in correlation		
52	Eurasia, one continent one common past: cross-continental stratigraphical correlations	P. Pieruccini
124	Marine and terrestrial records: new perspectives for Quaternary climatic changes	S. Todaro, D. Spatola, M. Gugliotta
164	Understanding MIS 5d-a: sediments, paleoclimate, chronology and long-distance correlation	J. Schokker, I.M. Waajen, F.P. Wesselingh, P.L. Gibbard, M.F. Sanchez Goñi
53	Early Middle Pleistocene environments and stratigraphy	P. Gibbard, T. van Kolfschoten, C. Turner, P. Pieruccini
6B- GSSPs and stratotypes		
8	A second stage for the Middle Pleistocene Subseries?	M.J. Head, J. Zalasiewicz, A. Bertini, L. Zhou
17	Fine-scale subdivision of the Quaternary: a land-sea perspective	J. Zalasiewicz, A. Bertini, M.J. Head, L. Zhou
19	Global characterization of the Neogene–Quaternary (Pliocene–Pleistocene) transition	M.J. Head, A. Caruso, A. Bertini, P. Maiorano, M. Marino
40	The Anthropocene as a tool for characterizing recent planetary change and predicting future environmental challenges	C.N. Waters, S. Turner, J. Zalasiewicz, M.J. Head
6C- Geochronology. Progress in dating technique		
57	Advances in methods to define landforms age and timing of impactful or extreme geomorphic and geologic events	P.M. Figueiredo, G.I. Marliyani, N. Brown, P. Val
134	How Absolute and How Relative: Challenges and Resolutions Associated with Applying Dating Techniques in the Quaternary period	N. Tiwari, G. Khansili, E. Singh, D. Behera, P. Singh
80	Magnetostratigraphy and Environmental Magnetism contribution to understand paleoclimatic and paleoenvironmental changes	F. Florindo, W. Krijgsman
6D- Quaternary Mapping and modelling		
105	Quaternary mapping across the world and the IQAME European experience	K. Asch, M. Pantaloni, P. Pieruccini, L. Guerrieri
196	Quaternary sedimentary-basins evolution: controlling factors and implications for future scenarios or past reconstructions	M. Tropeano, L. Bruno, C. Di Celma, V. Festa, L. Sabato

7 – TIME FOR CHANGE IN QUATERNARY SCIENCES

187	Equity, Diversity and Inclusion Initiatives in the Quaternary Sciences	N. Holmes, D. Schillereff, K. Adamson, J. Hart
108	Equitable and ethical knowledge production in Quaternary Science	B. Briant, J. Arroyo-Cabrales, F. Mugenyi, T. Roland, A. Serkhane, A.K. Singhvi
10	Visualizing Science – The art of communicating science	J. Pelto, L. Parducci, S.T. Jackson



Etna, Sicily
the largest active volcano in Europe

WORKSHOPS AND SHORT COURSES

Four short courses and two workshops are proposed. They will be activated ONLY if the minimum number of participants is reached. If short courses or workshops will be cancelled by the organisation or because the minimum number of participants is not reached, the fee (if any) will be fully reimbursed.

The deadline to register for workshops and short courses is 20 February 2023. We will accept registrants above the maximum number of participants and create a waiting list.

More information on our website

<https://inquaroma2023.org/>

For specific information about each workshop and short course please refer to the relative convener.

SHORT COURSE 1

INTRODUCTION TO OSTRACODA WITH A FOCUS ON QUATERNARY

Ostracoda is one of the main groups of biological proxies in Quaternary geosciences. The offered course is designed to provide an overview of the taxonomy, (palaeo)ecology, biodiversity, geological history, and applied biostratigraphy of ostracods. It is intended for young scientists and industrial staff interested in micropalaeontology, palaeoceanography, palaeoclimatology, biology, and environmental applications. We will present and train methods and concepts of ostracodology including systematics, biostratigraphic applications, ecology and life history spanning their fossil record from the Paleozoic to the Holocene with a focus on Quaternary faunas and applications and covering the recent fauna as well. Case studies from marine and continental systems as well as practical training for identification, preparation, documentation, and analysis will be an important part of the course. The course is primarily intended for young researchers at the PhD or MSc stages of their careers and industrial staff who intends to work with ostracods or just started to do so. People holding a postdoctoral position are also welcome.

This is a training course that takes place every year since 2015, as European School on Ostracoda. The 2023 edition, ESO8, will be specifically focussed on Quaternary. The lectures are given by several experts (see [here](#) as an example).

TOPIC	Palaeoecological, paleoclimate and palaeoenvironmental reconstructions, Conservation Paleobiology, Stratigraphy, Taxonomy	
CONVENER	Peter Frenzel, Friedrich Schiller University of Jena; peter.frenzel@uni-jena.de	
PARTICIPANTS	Maximum 22, minimum 10.	
FEES	Participants from companies	1,500 €
	Universities/Government	300 €
	Students	150 €
DURATION	5 days	
TENTATIVE DATES	10-14 July	

SHORT COURSE 2

AN INTRODUCTION TO CRESTR, AN R PACKAGE TO PERFORM PROBABILISTIC CLIMATE RECONSTRUCTIONS FROM PALAEOECOLOGICAL DATASETS

In this course an R package developed to perform probabilistic climate reconstructions using palaeoecological datasets (pollen, forams, etc) will be introduced.

The course will be split in 3 phases:

1. The mathematical bases of the method and discussion about the different assumptions necessary to model the datasets. This will be followed by a short Q&A session.
2. Application of the package using an example dataset. This part will be interactive and will allow linking the different functionalities of the package with the theoretical elements presented during Phase 1.
3. Finally, the participants will be given the opportunity to start using the package with their own data.

This package is designed to enable the broader community to perform reliable climate quantifications and improve the global coverage of existing datasets at various spatial and temporal timescales.

Colleagues who produce and/or use palaeoecological datasets to understand past climate change are welcome to join the short-course.

Useful documentation [here](#)

Required skills: understanding the nature and limitations of palaeoecological datasets, such as pollen data. Beginner notions of R programming.

TOPIC	Introduction to a modelling tool to perform climate quantifications
CONVENER	Manuel Chevalier, University of Bonn, Meteorology Department, Bonn, Germany chevalier.manuel@gmail.com
PARTICIPANTS	Maximum 25
FEES	Free of charge
DURATION	4 Hours
TENTATIVE DATE	16 July



SHORT COURSE 3

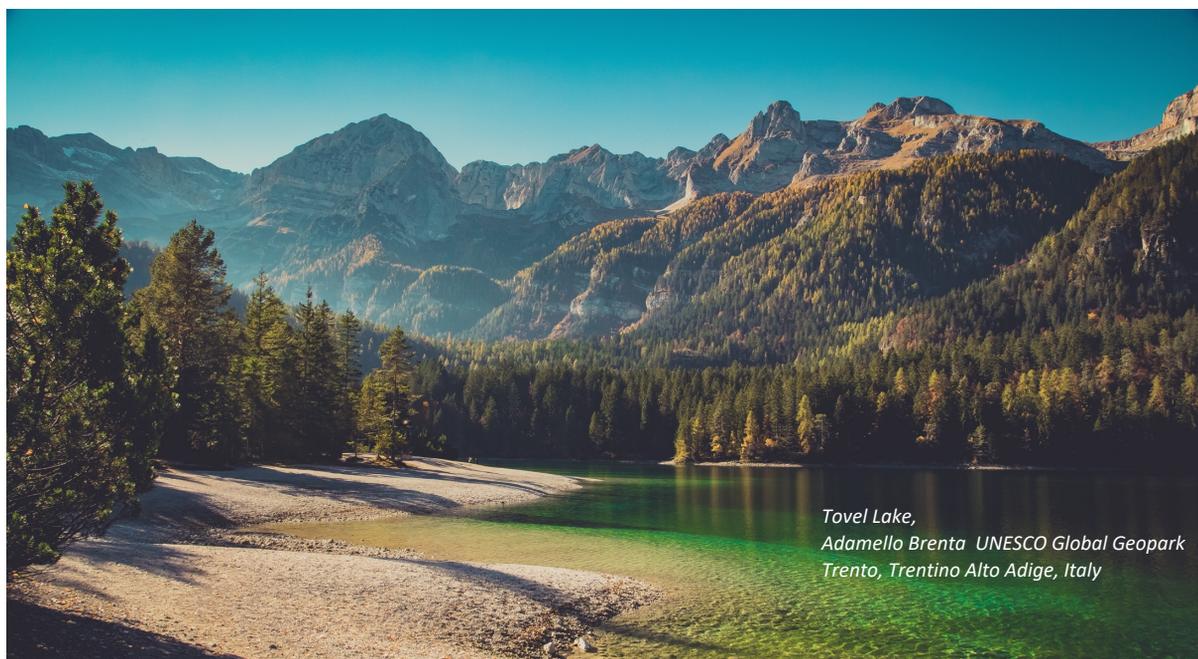
RECONSTRUCTING PAST CLIMATES FROM BIOTIC ASSEMBLAGES

Past climate states allow tests of the models that are used to project climate responses to changes in atmospheric composition and land use. Direct measurements of climate only extend back to the seventeenth century and in many regions are not available before the twentieth century. Reconstructions for earlier, and more different, palaeoclimate states have to be inferred from indicators that respond to climate. Most reconstructions of terrestrial palaeoclimates are based on biotic assemblages, including pollen, chironomids and diatoms preserved in sedimentary archives. The prevalence of pollen across environmental settings has made palynology one of the most ubiquitous and valuable tools for studying past environmental and climatic change globally for decades.

The course focuses on four different statistical techniques (MAT, WA, WA-PLS and fxTWA-PLS) used to derive quantitative estimates of climatic conditions, in particular of the Holocene and Pleistocene, from pollen assemblages. A short introduction of each statistical technique will be followed by a practical session in R environment.

Each participant should bring his/her own computer with R software and the packages rioja and fxTWAPLS installed.

TOPIC	Quantitative reconstructions
CONVENERS	Giulia Furlanetto, University of Milano-Bicocca, Dept. of Environmental and Earth Sciences and CNR-IGAG, Laboratory of Palynology and Palaeoecology, Milano, Italy; giulia.furlanetto@unimib.it Liu Mengmeng, Department of Life Sciences, Imperial College London, Silwood Park Campus, Ascot, UK; m.liu18@imperial.ac.uk
PARTICIPANTS	Maximum 30, minimum 10
FEES	Free of charge
DURATION	4 Hours
TENTATIVE DATE	16 July



*Tovel Lake,
Adamello Brenta UNESCO Global Geopark
Trento, Trentino Alto Adige, Italy*

SHORT COURSE 4

RECENT DEVELOPMENTS IN LANDSLIDE SCIENCE: IMPLICATIONS FOR GEOMORPHIC MODELLING, HAZARD ASSESSMENT, AND PALEOCLIMATE PROXIES

The proposed short course would be aimed at showing INQUA members the latest techniques in landslide mapping, landslide inventories, landslide dating, and hazard assessment. Much good work has been accomplished in Italy, starting with the Italian nationwide landslide inventory (<https://www.progettoiffi.isprambiente.it/>) and extending into 2020-2021 papers on dating landslides in northern Italy. Required skills: understanding the nature and limitations of palaeoecological datasets, such as pollen data. Beginner notions of R programming.

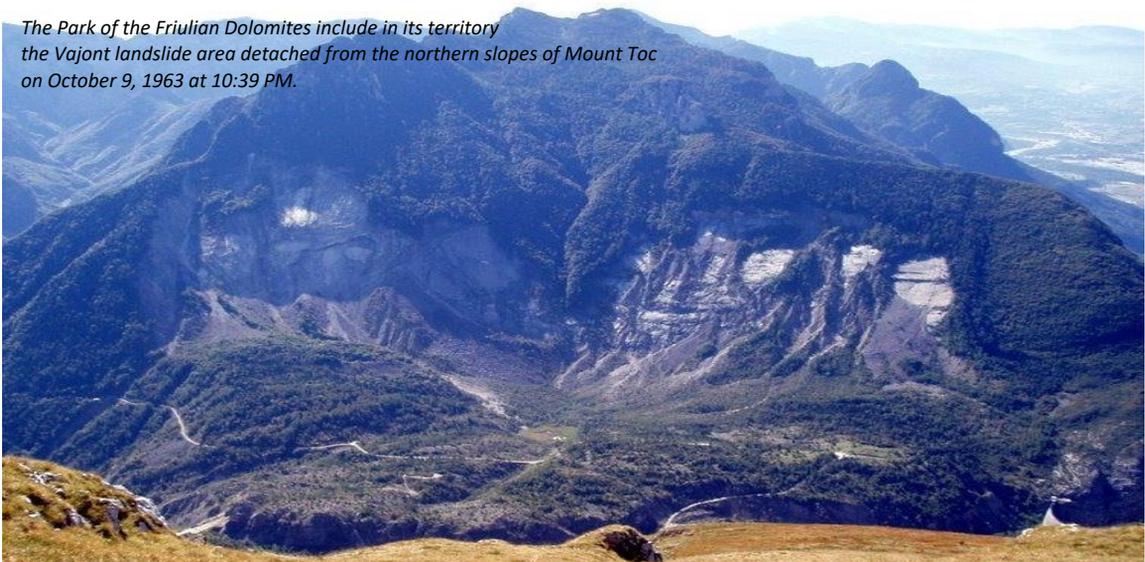
Landscape shaping was accomplished roughly equally by fluvial erosion/deposition, hillslope processes (including mass movements such as landslides), and tectonics uplift/subsidence. In the Congress there will be many papers presented on the latest advances in tectonic geomorphology and earthquakes, much of it based on lidar DEMs. But the geologic record of landslides is equally important and has also experienced many recent technological advances using lidar and GIS.

We believe many INQUA members would be interested in a Workshop that displayed how these new technologies are used in practice to reconstruct landslide movement histories, and how they have affected our interpretive paradigms for mass movement (e.g. von Wartburg et al., 2020; Aksay et al, 2021). Traditional methods of landslide dating were aimed at establishing the initial age of failure. But almost every landslide mass also contains a history of partial-area reactivations. If landslide chronologies can be precisely dated (e.g., Panek, 2014), reactivations could constitute a paleoclimate proxy, one not currently used by paleoclimate specialists.

Requirements: Basic understanding of landslide identification and mapping; helpful to be familiar with digital elevation models and geographic information systems (McCalpin examples will be shown in Global Mapper GIS, but any GIS experience will be OK).

TOPICS	Geomorphology, modeling, geohazards, paleoclimate
CONVENERS	James P. McCalpin, GEO-HAZ Consulting, mccalpin@geohaz.com Anika Braun, Tech. University of Berlin, anika.braun@tu-berlin.de Paola Reichenbach, Consiglio Nazionale della Ricerche, paola.reichenbach@irpi.cnr.it Fausto Guzzetti, fausto.guzzetti@cnr.it , f.guzzetti@irpi.cnr.it
PARTICIPANTS	Maximum 40, minimum 10
FEES	€10. Participant Fee covers cost of hard copy handouts and USB drives.
DURATION	8 Hours
TENTATIVE DATE	13 July

The Park of the Friulian Dolomites include in its territory the Vajont landslide area detached from the northern slopes of Mount Toc on October 9, 1963 at 10:39 PM.



WORKSHOP 1

RECONSTRUCTING THE QUATERNARY EXPLOSIVE VOLCANIC HISTORY OF THE ANATOLIAN PENINSULA: IMPLICATIONS FOR VOLCANIC HAZARD ASSESSMENTS IN TURKEY

The aim of this workshop is to discuss about the Quaternary explosive volcanism in the Anatolian peninsula, with special interest at the most recent studies on the larger and active volcanic structures located in Central and Eastern volcanic provinces. This will include the results of the P SK R M project, funded by the EU HORIZON 2020 Research and Innovation Programme (Marie Skłodowska-Curie Actions), which is studying the proximal pyroclastic deposits within the Central Anatolian Volcanic Province (CAVP) and their related distal tephra layers in order to reconstruct the explosive volcanic history of the region (including eruption magnitudes and frequency).

The workshop will be dedicated to examining different strategies aiming at improving volcanic hazard assessment in Turkey. Anatolian volcanic eruptions can be highly destructive and dispersed ash over hundreds of kilometres away, threatening lives and damaging important cities, such as Aksaray - located only 20 km NW of Hasan Dag volcano within the CAVP, which has seen a recent increase in volcanoseismic and fumarolic activity; and also Kayseri city with 1 million of inhabitants and located on the northern flank of Erciyes volcano, which has generated voluminous Holocene eruptions. In the Eastern Anatolian Volcanic Province (EAVP) there are also several active volcanoes, being the most dangerous the Nemrut caldera that collapsed <30 ka ago and is still producing post-caldera explosive eruptions, being the last on April the 13th of 1692.

This workshop will be supported by the IAVCEI Commission on Tephrochronology (CoT), the old INQUA International Focus Group on Tephrochronology (INTAV).

TOPICS	Active volcanoes tephrostratigraphic correlation and geochronological technics
CONVENERS	Ivan Suny Puchol, Sapienza, University of Rome ivan.sunyepuchol@uniroma1.it Rebecca Kearney, GFZ – Potsdam, rebecca.kearney@gfz-potsdam.de Victoria Smith, University of Oxford, victoria.smith@arch.ox.ac.uk Erkan Aydar, Hacettepe University - Ankara, eaydar@hacettepe.edu.tr Silvio Mollo, Sapienza, University of Rome, silvio.mollo@uniroma1.it
PARTICIPANTS	Maximum 25
FEES	the workshop will be free of charge for all the participants
DURATION	6-hours (10-13h and 15-18h)
TENTATIVE DATE	12 July



*Nemi Lake, 20 km south of Rome.
A volcanic maar formed 100-2000.000 years BP by freatomagmatic activity*

WORKSHOP 2

INTEGRATIVE PALEO-APPROACHES FOR GLOBAL CONSERVATION CHALLENGES

With the growing need in the Quaternary Science community to make paleo-data more relevant for addressing future global challenges, the PAGES DiverseK WG is promoting cross-disciplinary research at the interface between Palaeoecology, Dendroecology, Conservation Biogeography, Fire ecology and related disciplines.

The aims of this workshop are to:

1. discuss the role of paleo-data for supporting conservation and sustainable management of forest and climate mitigation goals, as recently highlighted by the UN Climate Change Conference (COP26);
2. Identify key areas where emerging conflicts between conservation targets, socio-ecological and environmental needs can be tackled by an integrative paleo-perspective;
3. Discuss future DiverseK activities, including workshops and group publications.

We welcome ECR's and more experienced researchers across a wide range of disciplines, particularly Paleoecology, Dendroecology, Archaeology and related disciplines. Participants are welcome to bring their own dataset for discussion. This workshop is supported by the PAGES DiverseK WG, the Leverhulme Wildfires Centre and the PAGES IPN.

Related links

[PAGES DiverseK WG](#)

[COP26](#)

[Leverhulme Wildfires Centre](#)

TOPICS	Multi-proxy, high-resolution, applied palaeoecology, fire ecology
CONVENER	Dr Daniele Colombaroli (Centre for Quaternary Research, Department of Geography, Royal Holloway University of London) and PAGES DiverseK members; daniele.colombaroli@rhul.ac.uk
PARTICIPANTS	Maximum 25
FEES	the workshop will be free of charge for all the participants
DURATION	4-6-hours (10-13h and 15-18h)
TENTATIVE DATE	16 July

*Punta Piccola (Agrigento, Sicilia).
Trubi Formation (alternating limestone and marl sedimented in some 1.000m water depth)
GSSP of the base of the Piacenzian*



CONGRESS PARTICIPATION

All members of the global Quaternary community are welcome to participate in the INQUA Congress and are cordially invited to attend. The INQUA monthly newsletter, the congress website (<http://www.inquaroma2023.org>) and our social media platforms will keep you informed about the Congress.

All delegates are required to register online and pay the appropriate Congress registration fee, which is compulsory for having their oral or poster presentation included in the final program.

VISA REQUIREMENTS

The entry formalities and vaccination requirements for Italy vary according to the country of origin.

The website of the Italian Ministry of Foreign Affairs contains information about visa requirements and can be accessed [here](#).

It is the delegate's responsibility to investigate the visa requirements for Italy and to apply for a visa, if necessary. The Organizing Committee will inform the Italian embassies that the congress is happening and that researchers may apply for visa to participate in the congress.

Generally, visas should be requested **at least 4 months before departure** as the application process can take several weeks. Please consult the Italian embassies in your home country for further details.

Letter of Invitation

The congress organisers will be pleased to send a formal letter of invitation to delegates requesting an invitation letter for visa or to help potential delegates to raise funds. This letter is not a commitment from the organisers to provide any financial support. Letters of invitation may be requested to the congress secretariat. The letters will be sent via email.

FINANCIAL SUPPORT

INQUA will provide [financial support](#) to Early Career and Developing Country Researchers (<https://inqua.org/funding/definitions>) to participate to the XXI INQUA CONGRESS. Those wishing to be considered for support will have to complete the application form and agree to present a paper or poster during the XXI INQUA.

Funding will cover (fully or partially) registration fee, travel and accommodation costs.

The request for funding will be made through the INQUA website (www.inqua.org) starting from 15 July 2022 and the result of the selection will be communicated by 20 January 2023.

SOCIAL MEDIA

We will be using social media platforms to keep you informed and feeling connected to INQUA both before the Congress, during the meeting, and beyond!

On Twitter, Facebook and Instagram, please use the hashtag **#INQUARoma2023**.

Check for our accounts and follow us online to stay current with all the latest developments, plans and deadlines. We will be posting updates and reminders – and we look forward to connecting with you and meeting you in Rome!

OUTREACH

One of the aims of INQUA Roma 2023 is to increase public awareness of the scientific work of the Quaternary scientific community and to facilitate dissemination of information beyond our community.

The INQUA Roma 2023 webinar series **“All road leads to Rome 2023”** has already started and you can find more information on our social media and website.

FIELD TRIPS

A diverse array of Field Trips is being organised for delegates and accompanying persons. Field Trips will be held in Italy and in some other Mediterranean Countries. Field Trips will run both prior to and after the XXI INQUA Congress. Please consider that we will be in full tourist season especially after the Congress so that the number of pre-Congress fieldtrips is greater than post-Congress. There will also be various one-day mid-congress trips on Sunday 16 July, both in Rome and its surroundings.

The deadline for fieldtrip registration is 20 February 2023.

The cancellation policy due to possible Covid restriction will be the same as that of the Congress registration (full reimbursement if due to travelling limitation).

If you have any queries regarding the Field Trips, please contact: fieldtrips@inquaroma2023.org

PRE-CONGRESS FIELDTRIPS



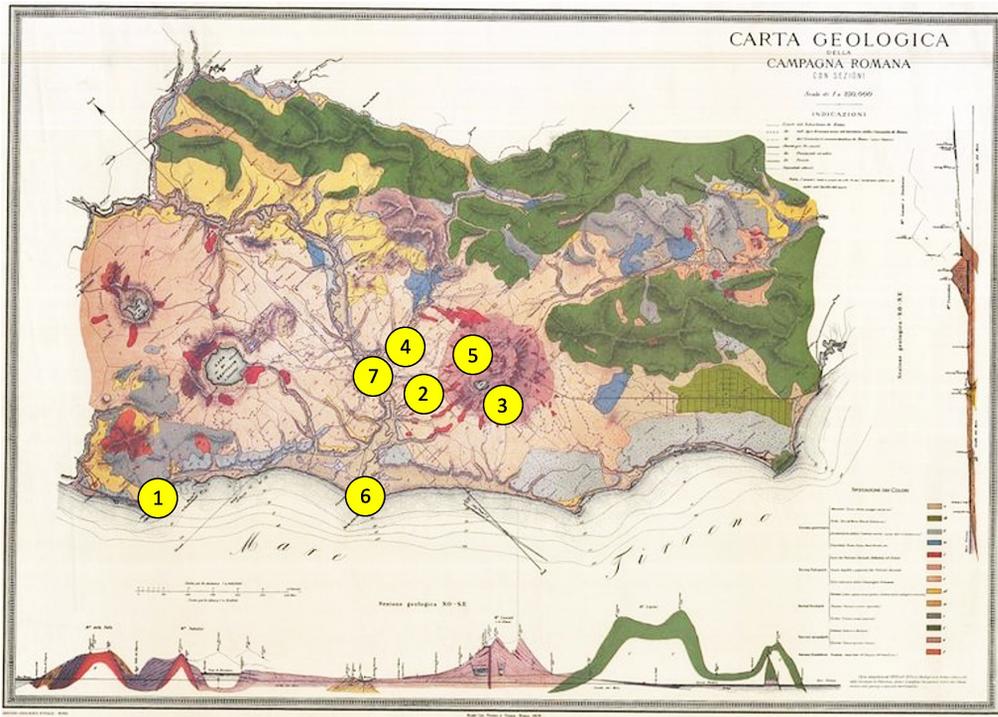
- 1) Late Pleistocene-Holocene uplift and active tectonics at the southern margin of the Central Anatolian Plateau (Southern Turkey). **Cosentino et al.**
- 2) Late Quaternary landscapes and palaeoenvironments through the Mediterranean and the Alps. **Ollivier et al.**
- 3) Pleistocene slope, shallow-marine and continental deposits of eastern central Italy wedge-top basin: a record of sea-level changes and mountain building. **Celma et al.**
- 4) Life with geohazard at the contact of the Alps, the Dinarides and the Pannonian Basin. **Jamšek Rupnik et al.**
- 5) Palaeolithic Cave deposits and Karst evolution in the Venetian Pre-Alps. **Peresani and Sauro**
- 6) Large landslides, climate changes and human impact in the Italian Dolomites since the Lateglacial. **Soldati et al.**
- 7) The Bradanic Trough: stratigraphic response to subsidence, shortening and uplift of the Quaternary south-Appennine's foreland-basin. **Tropeano et al.**
- 8) LGM and Lateglacial at the southern end of the Alps (Maritime Alps). **Ribolini et al.**
- 9) Decoding Upper Pleistocene in Sardinia (Western Mediterranean). **Orru et al.**
- 10) Palaeogeographical evolution of the Egadi Islands (western Sicily, Italy). Implications for Late Pleistocene and Early Holocene sea-crossings by humans and other mammals. **Antonioli et al.**
- 11) Active Tectonics, Earthquake Geology, Palaeoenvironment and Quaternary sequences: A transverse along the Corinth Gulf Rift to Zakynthos Island. **Papanikolaou et al.**
- 12) Santorini island (Greece): four days in a volcano. **Nomikou et al.**
- 13) Quaternary glacialism of the Aosta Valley: a transept from the Ivrea end moraine system to the Monte Bianco Massif. **Gianotti et al.**
- 14) A tour through volcanology and archaeology at the Neapolitan volcanoes. **Petrosino et al.**
- 15) Geology, Geomorphology in active zones, Archaeology in active zones. **Doumaz et al.**
- 16) MIS 5, Relative Sea-level, U/Th dating, Cave stratigraphy, Archaeology. **Isola et al.**
- 17) Palaeosols across the N. Apennines: insights into the Late Quaternary dynamics of an active orogen. **Andretta et al.**
- 18) The Lower Pleistocene of Ionian Calabria (Southern Italy) and the Vrica GSSP. **Capraro and Maiorano**
- 19) The Middle Pleistocene to Early Holocene of southern Apulia (southern Italy). **Sardella et al.**

POST-CONGRESS FILETRIPS

- 1) Active tectonics and major seismicity in Central Italy. **Gori et al.**
- 2) When tectonics and climate take over: Quaternary depositional history of extensional Tuscan basins. **Bertini et al.**
- 3) Glacial history of Croatian Dinarides. **Ljerka Marjanac et al.**
- 4) LGM glacial and glaciofluvial environments in a tectonically active area (southeastern Alps). **Monegato et al.**
- 5) The Quaternary evolution of Sulmona basin, central Italy. **Giaccio et al.**
- 6) Drainage system adjustment in response to the opening of the Rieti intermontane basin. **Fubelli et al.**
- 7) Quaternary archives in the Northeastern Adriatic karst environments. **Furlani et al.**
- 8) Holocene marine and lake landscapes of Dalmati- the National Parks Krka and Kornati. **Slobodan et al.**
- 9) Messinian/Zanclean, Zanclean/Piacenzian and Piacenzian/Gelasian GSSPs in Sicily. **Caruso et al.**



MID-CONGRESS FIELDTRIPS



1875 Geological Map of the Rome region after P. Mantovani. The map is made of mainly Quaternary deposits: Pleistocene volcanoes (pink to reddish), eolianites (gray), coastal marshland (light green), travertine (blue), Holocene Tiber River delta

- 1) Late Holocene sea-level changes and the Roman fish tanks (Civitavecchia). **Enei et al.**
- 2) The INGV National earthquake center. **Stramondo et al.**
- 3) The secrets of the Albano crater lake. **Anzidei et al.**
- 4) Archaeoseismological evidence of past earthquakes in Rome. **Galadini et al.**
- 5) Volcanology of Roma. **Palladino et al.**
- 6) Late Holocene evolution of the Tiber River delta plain. **Mazzini et al.**
- 7) Rome before Rome: a river among two volcanoes. **Pantaloni et al.**

CONGRESS VENUE

Sapienza University of Rome is an ancient (700 years) Institution and the largest in Europe; the main campus (Città Universitaria) is an architectural masterpiece of the rationalist style. It is located in central Rome, a few hundred metres from main railway station where shuttle trains and buses from international airports arrive. Countless hotels and tourist facilities are present nearby, as well as along the subway lines, at walking distance from the campus. Within the wall encircling the main campus we have 25 seminar rooms with 100-400 seats each available for the Congress, plus open spaces to relax and have informal discussions, bars, a post office, a bank, a police station and a kindergarten. Many smaller seminar rooms will be available for group meetings.

Free Wi-Fi access will be available in the University campus.

Website: <https://www.uniroma1.it/en>

Physical Address: Piazzale Aldo Moro 5 00185 - Roma, Italy. GPS Co-ordinates: 41.9038° N, 12.5144° E

SPONSORSHIP AND EXPO

With the expectation to attract more than 3,000 scientific experts in the specializations of geology, palaeoclimatology, natural risks, marine and continental ecosystems, human evolution, environmental changes and other related fields, the INQUA XXI Congress 2023 represents a unique opportunity to expand promotion, attract talented future employees and engage with future collaborators.

Sponsors and exhibitors are invited to participate in the Congress and will receive headline status on all Congress marketing materials, all press releases and media coverage, and promotion at the time of the event. All sponsors and exhibitors will be acknowledged on the Congress website, in promotional materials and onsite at the Congress venue. We will support our sponsors to ensure they receive maximum return on their investment and receive the exposure to which we agree.

INQUA Rome 2023 offers different sponsorship levels. For further information contact fabrizio.lirer@uniroma1.it

REDUCING THE ENVIRONMENTAL IMPACT OF THE XXI INQUA CONGRESS

Recent years have seen a growing focus on sustainability, recycling and ecology.

Sapienza University has joined the Network of Universities for Sustainable Development and is aiming to reduce the use of disposable plastic objects. Plastic bottles and cups have been banned at the speakers' tables during conferences in Sapienza since 2019.

While organising the XXI INQUA Roma 2023, we are also focusing on sustainability. Firstly, because we want to take responsibility for the Society, we are part of, and secondly because we can save resources by thinking in different ways than we are used to. We will keep you informed about all the initiatives and we welcome your input to reduce the environmental impact of INQUA Roma 2023.



Alban Hill Quaternary volcano in the background

ACCESSIBLE INQUA2023

At the Sapienza University Campus, many buildings have undergone renovation to allow greater accessibility, but not all barriers have been eliminated to date because of the sheer size of the university, as well as cultural heritage restrictions that have often made it hard to achieve a correct balance between conservation and accessibility.

Participants with physical disabilities are recommended to contact info@inquaroma2023.org to organize ad hoc support during the entire congress.

INQUA 2023 WELCOMES FAMILIES!

INQUA 2023 is committed to providing a good conference experience for attendees bringing their children to Rome. The following section gives a general overview of facilities for parents at the conference. More details in the third circular.

KIDS' CORNER AND FAMILY ROOM

For parents spending a break together with their children, we will provide a space indoor where all children can play when accompanied by a parent. The space can be used at their own risk.

BREASTFEEDING FACILITIES

The breastfeeding room will be close to the family room. It is equipped with a diaper bucket, chairs, and a microwave.

CHILDCARE

The INQUA 2023 committee is willing to provide professional childcare.

Childcare will be activated depending on the age groups and on the number of children participating.

For this reason, we ask the parents to fill in the registration form with all the requested information.



DESTINATION: ROME, ITALY

Enjoy the opportunity of INQUA 2023 to discover Rome and Italy - our diverse country is overflowing with rich traditions, delicious food, culture and abundant history. Italy is a country of 20 regions, each of them proudly distinct, offering their own unique culinary, architectural, art, history, fashion, sightseeing, and cultural scenes. Please note that summer is Italy's high season. The coastal towns and sandy beaches attract both international tourists and Italians who want to escape the heat. Thus, we suggest you to organise your travel and book your accommodation well in advance.

TRAVELLING TO ROME

By plane

Fiumicino Airport (IATA code FCO) is Rome's main international airport 30 km from the city centre.

Rome is easy to reach from anywhere in Europe with a maximum of one stopover. Direct flights are also available from most of the major European hubs. Once you arrive in Rome, the Conference venue is about 35 min by car from FCO. FCO can be easily reached by taxi or with two different trains. The Leonardo express is the non-stop train service that connects Roma Termini station and Roma Fiumicino airport in just 32 minutes, with programmed departures every 15 minutes (every 30 minutes during certain time periods). The FL1 regional line trains from/to other Rome stations have programmed departures every 15 minutes on working days and every 30 minutes on weekends and holidays.

Ciampino Airport (IATA code CIA) is 15 km far from the city centre.

CIA is mostly served by low-cost airlines. It can be easily reached by taxi. The Conference venue is about 40 min by car from CIA. A bus shuttle service takes passengers to the closest train station, where you can catch a train to Roma Termini Station. More convenient is the direct shuttle bus from the airport to the city centre.

By train

High speed trains connect Rome with every major Italian city and many European hubs. Rome's main railway station, Roma Termini Station, is located 15 minutes walking distance from the Sapienza University. The station handles trains from Italy's neighbouring countries. Purchase your tickets as early as possible to get the best deal and book a high-speed train whenever possible. If you have a ticket for a regional train, make sure you validate it before boarding.

By Car

Rome is accessible by E45 / E80 roads from the north and E45 from the east. You can also arrange to hire a car from Fiumicino or Ciampino International Airports before you arrive.

In Italy, one drives on the right-hand side of the road, and the cars (automatic and manual gearbox) – rental cars included – are left-hand drive vehicles. All distances, speed limits (and speedometers) are in kilometres. The law requires wearing of seat belts and using hand-held phones while driving is against the law.

If you plan to travel to Rome by car, please note that Sapienza University will not provide parking for private vehicles during the event. Parking spaces in the city centre are scarce and can be expensive.

By Coach

Long-distance national and international buses use Autostazione Tiburtina. It is linked with the city centre by metro line B and is 15 minutes walking distance from Sapienza University.



*Fiumicino airport, on Tiber river delta.
In the background the Traiano harbor, built 2,000 years ago;
since then the coastline prograded more than 3 km.*

ACCOMMODATION IN ROME

Rome is a major tourist destination that can offer all kinds of accommodation, from luxury hotels to bed & breakfast and hostels. Being July holiday season, we recommend to book in advance the accommodation of your choice. We suggest choosing a hotel near the University Campus, in the following districts: Colosseo, Esquilino, Rione Monti, San Lorenzo, Nomentano. Another option is an accommodation close to a metro station.

A list of accommodations in the city, including hostels and camping sites, can be found through the following [link](#).

The city of Rome also offers accommodations in several monasteries. These are cheaper than hotels, but we suggest checking the opening hours. Some of monasteries close rather early at night. Monasteries can be booked through the following [link](#)

Please note that accommodation booking and payment will not be arranged by INQUA Roma 2023 organisers.

PERSONAL INSURANCE

Please consider buying a personal insurance covering your flight(s) and booking(s), to guarantee for any unforeseen individual circumstances preventing your participation to the congress.

MOVING IN ROME

The best way to move in Rome, to avoid traffic jams, is the metro.

The Rome Metro is split into three lines: A, B, and C.

The congress venue is located a few minutes' walk from Line B's Policlinico station. Termini station is just 15 minutes from the University Campus.

All information regarding public transportation in Rome, including lines, fares, and route planning facilities, can be found clicking [here](#).

A map of Rome commuter rail system can be found [here](#)

You can also use car-sharing or bike sharing services to move around, use the [romamobilità](#) website for more information.



The Colosseum in Rome rests on Quaternary sediments



XXI INQUA CONGRESS

"TIME FOR CHANGE"