XIIth International ProGEO Symposium

Celebrating Geological Heritage and Geoparks

30th September - 2nd October 2025,
Tulcea, Romania

3rd Circular

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XIIth International ProGEO Symposium

Welcome

The International Association for the Conservation of Geological Heritage (ProGEO), the National Institute of Marine Geology and Geoecology (GeoEcoMar), the University of Bucharest, Gavrilă Simion Eco-Museum Research Institute (ICEM) and the Cimmerian Dobrogea Geopark are pleased to invite you to participate in the XIIth International ProGEO Symposium that will be held in Tulcea and Cimmerian Dobrogea Geopark, from 30th of September to 2nd of October 2025.

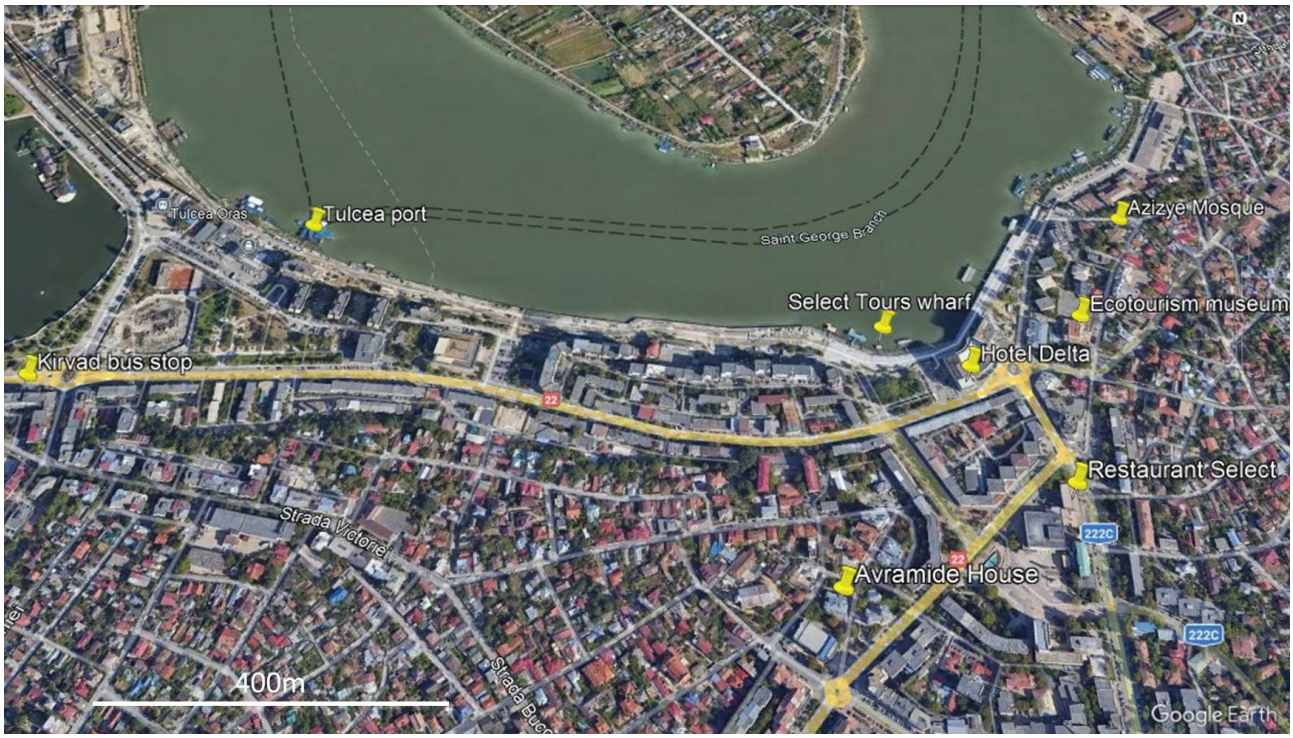
The Cimmerian Dobrogea Geopark has a unique geological and natural heritage and cultural values that make it exceptional at international level.

Venue

The Symposium will be held in the City of Tulcea, the administrative center of Tulcea County and port on the Lower Danube. It is the main gateway to the Danube Delta and one of the gates to the Cimmerian Dobrogea Geopark. Tulcea is built on seven hills on the right bank of the Danube. It was founded in the 4th century BC under the name of Aegyssus, a name of Celtic origin derived from its legendary founder, Caspios Aegyssos. The city represented a strategic location especially during the

Roman times, and at the beginning of the 2nd century AD, it was included in the Moesian defensive frontier system (Danubian Limes) as a military fort and port. Tulcea was first documented under its modern name in 1506 in Ottoman customs records, as an important center for the transit trade. In 1878, after the end of the Russo-Turkish war, Tulcea became part of Romania along with the rest of Dobrogea.

The official opening of the symposium and the scientific sessions will take place at Hotel Delta, situated on the Danube embankment, in the city center.



For more information regarding accommodation, restaurants, coffee shops and pubs, a touristic map and more can be found at the address https://www.tusitulcea.ro/en or in the Tu si Tulcea application that can be installed both on Android and IOS devices, from Play Store and App Store.

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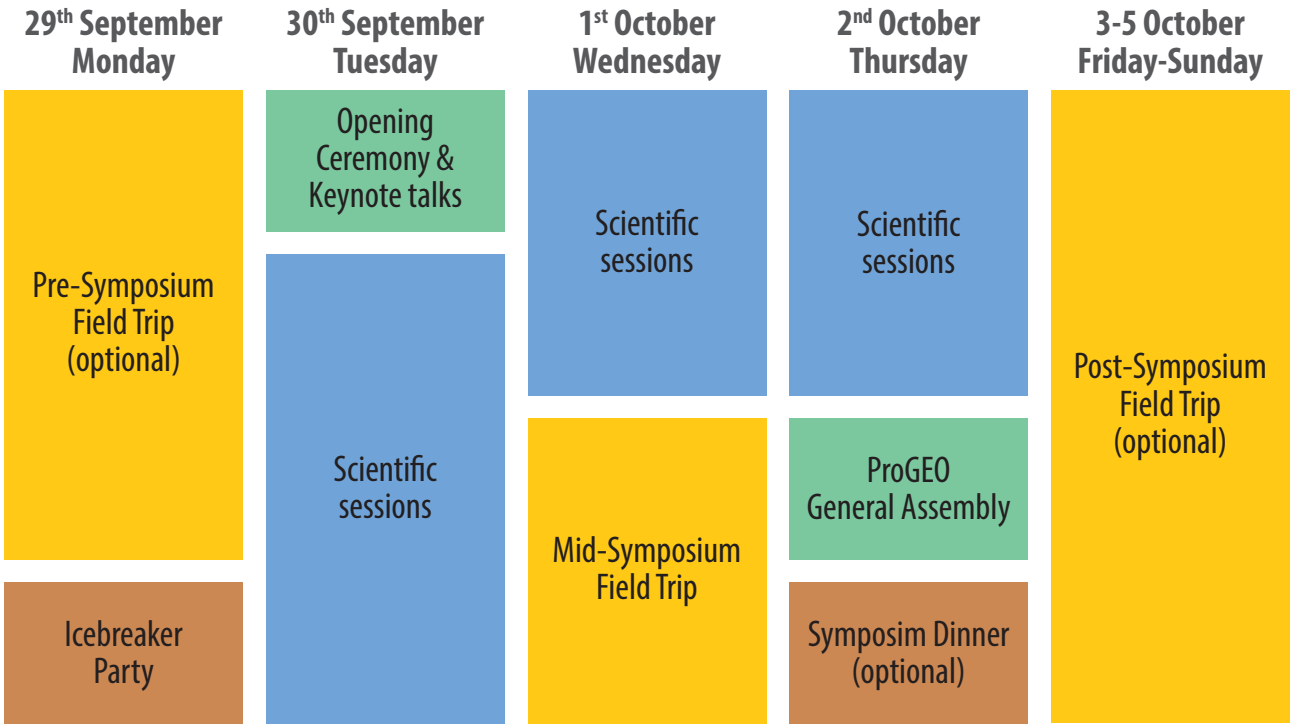
Meeting Outline

The meeting will include three days of Symposium, social events and Field trips:



The meeting will include invited keynote talks, regular session talks and posters. Poster presenters will have 3 minutes to explain their work during the poster sessions.

Keynote Speakers

Prof. Dr. Habil. Iuliana Lazăr, University of Bucharest, Faculty of Geology and Geophysics, specialized in Invertebrate Paleontology, Paleoecology, Taphonomy, Geobiology, Geomicrobiology and Biosedimentology.

Dr. Alexandru Andrăşanu, University of Bucharest, Faculty of Geology and Geophysics, specialized in Geoconservation and protected areas, UNESCO international expert and coordinator of the Romanian ProGEO Group. He is one of the founders of Haţeg Country Global UNESCO Geopark and its second Director, President of the National Geopark Forum and initiator of the National Geoparks Network in Romania.

On the evening of Thursday 2nd October, we propose a special dinner at the Select Restaurant. Guests will have the opportunity to taste traditional food of different ethnic communities in Dobrogea, try Dobrogea wines and attend a traditional music performance of the Ukrainian community from Tulcea.

During the Symposium, awards will be given to students for the best oral and poster presentations.

The mid-Symposium half-day field trip to the Agighiol geological reserve is included in the Registration for all delegates.

The Cimmerian Dobrogea Geopark

Our Geopark area is an eroded plateau with a protracted geological history that began in the Late Neoproterozoic. The Geopark territory includes two main geotectonic units, the Moesian Platform to the South, and the Cimmerian Orogen of North Dobrogea to the North, separated by a major crustal fault. Both these units are unconformably overlain by Late Cretaceous shallow marine clastics, connected to the formation of the West Black Sea Basin. In the Geopark area, the Ediacaran basement of the Moesian Platform consists largely of turbidites, with well-preserved sedimentary and sometimes biogenic structures. By contrast, the Cimmerian belt shows a very complex geology and structure, with Variscan roots exposed in the cores of Triassic anticlines.

The landscape of Dobrogea is very picturesque, with low altitude hills, isolated or forming elongated ridges. Many of them are covered in steppe vegetation, but there are also large areas topped by forests. The biodiversity is extremely rich, with habitats and species included in a network of 10 Natura 2000 sites, and 29 nature reserves, one of them a national park. The Geopark territory is mainly rural, and despite the increasing number of modern constructions, traditional houses, stone fences and old fountains are still preserved in some villages. Older monasteries are hidden in the woods, and a large number of churches of various religious cults are historical monuments. Archaeological sites are found everywhere,

proof of human habitation in the area since the Paleolithic. The most important of these sites are fortresses and fortifications of the Moesian Limes, the fortified border of the Roman Empire.

Danube Delta

The Danube Delta is the second largest delta in Europe (after the Volga Delta) and represents the natural interface between the vast drainage area of the Danube River and the Black Sea receiving basin, into which it flows through three main branches – Chilia, Sulina and Sf. Gheorghe. One of the largest and most important wetlands of the continent, it is characterized by exceptional biodiversity (more than 1800 species of flora and over 3500 species of fauna, of which the birds – about 320 species – represent one of the main attractions of the Delta). Together with the Razim-Sinoie Lagoon Complex area, located in the south, the Danube Delta was designated a "Biosphere Reserve" (1990), then included in the category of "Wetland of International Importance" (RAMSAR Convention, 1991) and in the List of the "World Natural Heritage" (UNESCO, 1991), subsequently being protected by a special national directive (1993).

The total area of the Biosphere Reserve is approximately 5,800 km^2, while the delta itself – the area between its three arms – represents almost 3,000 km^2. The aquatic system of the Danube Delta includes over 3,500 km of natural and artificial channels, and more than 450 lakes, ponds and swamps, interconnected in a very complex hydrographic network, which constitutes a huge complex of flowing and stagnant aquatic ecosystems, which mutually influence each other and interact closely with terrestrial ecosystems in areas not covered by water.

The delta is made of two major units – the fluvial delta (upper delta plain) and the fluvio-marine delta (lower delta plain), separated by the so-called initial spit, consisting of numerous juxtaposed sandy beach ridges. In the emerged areas, these ridges are highlighted by spectacular sand dune fields upon which a specific vegetation is fixed. This sand dune complexes host the famous Letea and Caraorman Forest.

Social Events

On Monday 29th September, all the delegates are invited to the Icebreaker Party that will be held at the Avramide House – the House of Collections of the "Gavrilă Simion" Eco-Museum Research Institute Tulcea. The evening includes tasting local drinks and traditional snacks.

Pre-symposium Field Trip

The Danube Delta from West to East
Monday, 29 September, 2025

Convener: Silviu Rădan, senior researcher National Institute of Marine Geology and Geoecology – GeoEcoMar Bucharest, specialist in sedimentology, marine and environmental ecology, with decades of experience in the study of the Danube Delta.

Departure at 9AM from the SELECT wharf, on the Ivan Patzaikin embankment close to Hotel Delta.
Our guide, dr. Silviu Radan, will meet you in front of Hotel Delta 3* at 8:45. Return to Tulcea at 19:00.

Programme
Our excursion is made aboard a tourist ship that will cross the delta from west to east, starting from Tulcea (city located near the apex of the delta), to Sulina, in the area where the Danube meets the Black Sea. Participants will board several boats from the „Select Tours" wharf, on the "Ivan Patzaichin" promenade near the Delta Hotel.

After traveling about 5.6 km downstream, the ship enters the Mila 36 canal (an artificial channel that connects with the Chilia Arm). After a few km, in the Sireasa area, we enter Gârla Șontea, a natural and fairly long channel, along which we can observe the rich vegetation and fauna specific to the delta (especially birds). We change direction slightly to the south and cross the Lake Fortuna, one of the most beautiful and exotic lakes of the delta, then a new change of direction, north, towards the lakes Văcaru and Lighianca. Once crossing these lakes, we

reach Mila 23 – a charming fishing village located on the right bank of one of the old meanders of the Sulina Branch. *Mila* 23 is the birthplace of our famous kayak champion Ivan Patzaichin. In May 2024, the Museum Ivan Patzaichin – Community Innovation Center was opened here. After a short stop at *Mila* 23, we head northward, through the Eracle Canal and then along Gârla Lopatna, a natural, meandering and particularly picturesque channel, from which we enter Lake Matița and then northeastward into Lake Merhei. Given that in the vicinity, to the north, the strictly protected area of Roșca – Buhaiova is located, which shelters one of the largest pelican reserves, it is very likely that we will encounter large groups of pelicans in the Lopatna-Matița-Merhei area as well. Once we leave Lake Merhei to the east, the crossing of the upper delta plain (fluvial delta) is completed.

The route continues along the artificial Sidor canal, which crosses the dunes formed on the sandy beach ridges of the Letea marine levee, part of the initial spit, to the village of Letea. Here we will take a trip to the famous Letea forest and sand dunes, a strictly protected area, which includes numerous special floristic and faunal elements (Balkan, Mediterranean, subtropical, steppe), with a special landscape value. Letea Forest is one of the oldest natural reserves in Romania (1938). In the surroundings, there are chances to meet the famous wild horses of Letea. The visit to the forest is done together with the locals, by car or, traditionally, by horse-drawn cart. After this "safari" we'll have a hearty traditional meal. From Letea we continue towards Sulina on the canals, with a detour to Musura Bay (on the border with Ukraine), where we can see the cargo ship *TURGUT S,* shipwrecked in 2009, then, weather permitting, we continue into the Black Sea. From the sea we enter the Danube on the Sulina Branch, we pass by the new lighthouse and arrive at Sulina town, the easternmost city of Romania. For an hour we can visit the city, or relax on a terrace with a refreshing drink. In Sulina, there are several historical sites, such as the Old Lighthouse, built in 1802 by the Ottoman authorities and turned into a museum in 2003, as well as the former palace of the European Danube Commission (CED), built in 1866. The Commission operated between 1856 and 1938 and, among other achievements, initiated and coordinated the works to improve and systematize navigation on the Sulina Branch. Thus, between 1862 and 1902, 10 cuts were made on the Sulina Branch, which allowed the route between Tulcea and the Black Sea to be shortened by 249 km and a minimum

depth of 5.48 m to be ensured. The works were coordinated by Sir Charles Hartley, who was the chief engineer of the CED between 1856 and 1871. After this year and until his death in 1905, he was a consultant on river and maritime navigation issues. In 2016, a bust of Charles Hartley was installed in front of the former headquarters of the CED.

Our boats return to Tulcea on the Sulina arm, passing by the fishing villages of Crişan, Gorgova, Maliuc, Vulturu and Partizani.

Mid-symposium Field Trip

Wednesday, 1 October, 2025

Conveners: Iuliana Lazăr, professor of Palaeontology and Palaeozoology, Faculty of Geology and Geophysics, University of Bucharest; Antoneta Seghedi, senior researcher National Institute of Marine Geology and Geoecology – GeoEcoMar, Bucharest, Cimmerian Dobrogea Geopark initiative group; Aurel Daniel Stănică, senior researcher, preventive archaeology/medieval archaeology, „Gavrilă Simion" Eco-Museum Research Institute, Tulcea.

Included in the Registration fee

The mid-symposium trip includes a visit to the Agighiol geological reserve with Triassic ammonoids. This is followed by a visit to the ruins of Aegyssus fortress and the Museum of History and Archaeology, both located on the Monument Hill in Tulcea, on Induan fanglomerates. The museum hosts treasures and artefacts found in the Tulcea County.
At the top of the hill, the Monument of Independence, built after the Russo-Turkish War (1877-1878), is one of the major attractions in Tulcea. This place offers panoramic views of the city, of the western part of the Delta and the north-eastern part of North Dobrogea.

Post-symposium Field Trip

Geosites, nature reserves and archaeological sites of the Cimmerian Dobrogea Geopark
Friday 3rd – Sunday 5th October, 2025

Conveners: Antoneta Seghedi, senior researcher National Institute of Marine Geology and Geoecology – GeoEcoMar, Bucharest, Cimmerian Dobrogea Geopark initiative group; Iuliana Lazăr, professor of Palaeontology and Palaeozoology, Faculty of Geology and Geophysics, University of Bucharest; Silviu Rădan, senior researcher GeoEcoMar Bucharest, specialized in sedimentology, marine and environmental ecology; Aurel Daniel Stănică, senior researcher, preventive archaeology/medieval archaeology, „Gavrilă Simion" Eco-Museum Research Institute, Tulcea; Mihaela Iacob, archaeologist, protection of cultural heritage, lecturer „Lower Danube" University, Galați, Cimmerian Dobrogea Geopark initiative group.

The territory of the Cimmerian Dobrogea Geopark includes two main geotectonic units, the Cimmerian Orogen of North Dobrogea (in the North), separated by Peceneaga-Camena Fault from the Moesian Platform (to the South). Late Cretaceous shallow marine successions ("Babadag Basin") unconformably overlay both these major units. North of the Cimmerian Orogen lies the concealed Scythian Platform, which is the basement of the Danube Delta. The Cimmerian belt shows a complex geology and structure, with folds and thrust-folds exposing Variscan roots in cores of Triassic anticlines. The Măcin Unit, in the west (consisting of amphibolite to greenschist facies metamorphic rocks, very-low grade Silurian to Permo-Carboniferous deposits and granitoid intrusions) is thrusted over the eastern units with Triassic deposits along the Luncavița-Consul Fault. Deep marine Silurian – Devonian formations are discontinuously exposed in the core of the E-W trending Tulcea-Mahmudia anticline along the Danube. The Triassic-Jurassic successions crop out mainly east and north-east of the Luncavița-Consul Fault.

In the Geopark area, the Ediacaran basement of the Moesian Platform consists largely of turbidites, with well-preserved sedimentary and sometimes biogenic structures.

In the first day we will visit geosites in the Măcin Unit, the second day is dedicated to the Triassic-Jurassic formations, and the third day we will travel to the Ediacaran basement. As archaeological sites and historical monuments are found everywhere, some of them are included in the field trip route.

Departure from Tulcea each morning and return in the evening.

The field trip starts in the morning of October 3rd and ends Sunday, October 5th, at approx. 18:30. Transfer to Bucharest during the night or in the morning of 6th October.

Localities include:

Hora Tepe (Monument Hill), Tulcea, Lowermost Triassic (Induan, earlier Werfenian) fanglomerates overlying Devonian siliceous shales along a faulted contact. The Devonian deposits show a penetrative slaty cleavage and are intruded by a dyke of trachytes (ascribed to the Late Permian).

Noviodunum, a Roman-byzantine fortress of the Danube limes (fortified border) superimposed by an Ottoman fortification (tabia).
Revărsarea quarry, pillow basalts with rare interbeds of Lower-Middle Triassic limestones.

Consul Hill section, showing the structure of the Consul unit, with three successive thrust folds involving Olenekian (Spathian) limestone turbidites and ignimbritic rhyolites, overthrusting the Alba sandstones (Late Carnian-Norian terrigenous turbidites). Roman fortifications are also visible along the northeastern side of the hill.

Nalbant village, outcrops along a small creek, the type locality of Nalbant Formation (Lower Jurassic turbidites).

Cataloi, the type locality of Cataloi marls with Halobia, Upper Anisian (lower Illyrian) – Rhaetian.

Poşta sandstones, South of Posta village, Lower Jurassic sandstones rich in the trace fossil *Zoophycos*. Their Hettangian-Lower Pliensbachian age is established based on ammonite zones Jamesoni and Ibex.

Crapcea and Amzalar Hills, volcano-sedimentary and alluvial plain successions in the continental Carapelit formation (Lower Carboniferous-Early Permian).

Mircea Vodă, remnants of a palaeoweathering crust on top of metamorphic rocks below Cenomanian detrital limestones.

Priopcea section, tectonic contact of Megina amphibolites and Priopcea quartzites with the Silurian deposits.

Troesmis, an important archaeological site situated on the steep right bank of the Danube, built in a strategic key position on the Roman Danube limes. The Roman-Byzantine settlement includes visible ruins of two fortifications (the eastern fortification, dating from the Late Roman period, and the western fortification, dated to the middle Byzantine period).

Cape Iglița, a geosite showing upright Variscan folds in a multilayered succession of Lower Devonian calcarenites and shales.

Suluk, a geosite showing typical onion skin weathering in the Pricopan granite, a Variscan intrusion in the Upper Paleozoic Carapelit Formation.

Bal Bair, a hill west of Caugagia, is the type locality of Caugagia member (Lower Coniacian) of the Lower Coniacian Caugagia member of Dolojman Formation, rich in inocerams, ammonites and echinoids.

Slava Rusă village, with (L)Ibida Roman Bizantine city, built from Upper Cretaceous calcarenites.

Casimcea nature reserve, *Aspidella* and trace fossils in Ediacaran turbidites.

Tariverde valley, spectacular ripple marks on large slabs of Ediacaran turbidites; also wrinkle type structures.

Piatra village, beautifully preserved sedimentary structures on bedding surfaces, *Beltanelliformis* and enigmatic traces in Ediacaran turbidites.

Enisala medieval fortress (built by the Genovese as Heracleea), view over the North Dobrogea orogen.

Getting Here

The best way to travel to Tulcea from Bucharest Henri Coanda International Airport (Otopeni) is by taking a Kirvad Bus. We recommend to book your bus once you have the airplane tickets, and please leave at least 1 hour between airplane landing and the bus scheduled departure time. For detailed bus schedule and on-line booking please consult https://kirvad.ro/tulcea-otopeni/

If there are people who need assistance in buying the bus tickets, please let us know.

In order to take the bus in the airport, passengers have to take the elevator from the Arrivals building to level 0, then exit the building and cross the road to the buses. Please follow instructions in the video:
https://www.instagram.com/reel/DLSjtnmKSgJ/?igsh=MTlmbXNhODQ2MjEaA

NON-STOP contact: +40 768 582 208

The Kirvad bus stop in Tulcea is in front of Bloc 126 Pelican, Strada Isaccei 57 bis, 1 km west from Hotel Delta.

Currency and Exchange

The national currency in Romania is Leu (RON). 1 EUR is approx. 5 RON. We don't recommend to exchange money at the airport due to very inconvenient exchange rates. There are many banks and currency exchange offices in Romania. All major credit cards are accepted and can be used to pay for virtually anything. ATM/Bank machines are found in all banks and many other locations throughout the country.

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(in alphabetical order)

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