



# 16<sup>th</sup> InterRad

Ljubljana 2021



**16<sup>th</sup> International Conference on Fossil and Living Radiolaria  
September 12<sup>th</sup>–16<sup>th</sup> 2021, Ljubljana, Slovenia**

## **FIRST CIRCULAR**

Organized by ZRC SAZU

Research Centre of the Slovenian Academy of Sciences and Arts  
Novi trg 2, SI-1000 Ljubljana, Slovenia



Supported by SAZU

Slovenian Academy of Sciences and Arts  
Novi trg 3, SI-1000 Ljubljana, Slovenia



Dear Colleagues,

We are pleased to invite you to the **16<sup>th</sup> meeting of InterRad**, the International Association of Radiolarists, which will be held in **September 2021** at ZRC SAZU, Ljubljana, Slovenia.

InterRad promotes all aspects of radiolarian research including taxonomy, ecology, biogeography, biochronology and evolution along with applications in stratigraphy and tectonics. The meetings are held regularly every three years and are aimed to gather radiolarian specialists of different research fields who present current research and exchange new ideas to advance the understanding of fossil and living radiolarians. The community is not restricted to geologists and biologists but is open to other scientists who integrate radiolarians in a wide range of disciplines, such as mathematics, physics and space engineering. Artists inspired by the fascinating complexity of radiolarian skeletons are also most welcome.

In addition to scientific sessions, several excursions will be organized. The pre- and post-conference excursions will focus on the stratigraphy and geodynamic evolution of the Northern Calcareous Alps in Austria and the Dinarides in Montenegro, respectively. The mid-conference excursions will visit Kras (the classical karst area) and the Julian Alps in Slovenia.

We are looking forward to seeing you in Ljubljana

On behalf of the Organizing Committee  
Špela Goričan, president of InterRad

## Organizing Committee

*Chairperson:* Špela GORIČAN

*Secretaries:* Aleksander HORVAT (main secretary); Tim CIFER (sub-secretary)

*Treasurer:* Helena GAJSKI

*Webmaster:* Uroš PARAZAJDA

*Excursion coordinators:*

Martin ĐAKOVIĆ, Geological Survey of Montenegro

Franci GABROVŠEK, ZRC SAZU, Ljubljana

Hans-Jürgen GAWLICK, Montanuniversität Leoben

Špela GORIČAN, ZRC SAZU, Ljubljana

*Coordinators/Guest editors of publications:*

Špela GORIČAN, Luis O'DOGHERTY and Taniel DANELIAN (Revue de Micropaléontologie)

Marco CHIARI and Atsushi MATSUOKA (Ofioliti)

Aleksander HORVAT, Tim CIFER and Špela GORIČAN (Folia Biologica et Geologica)

*Advisory board:*

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Elizabeth S. CARTER, Portland State University

Marco CHIARI, CNR, Florence

Taniel DANELIAN, Université de Lille

Patrick DE WEVER, Muséum National d'Histoire Naturelle, Paris

Nevenka DJERIĆ, University of Belgrade

Duje KUKOČ, Croatian Geological Survey

David LAZARUS, Museum für Naturkunde, Berlin

Atsushi MATSUOKA, Niigata University

Paula NOBLE, University of Nevada

Luis O'DOGHERTY, Universidad de Cádiz

Takashi YOSHINO, Toyo University

## Scientific Committee

Jonathan C. AITCHISON, Australia

Angela BERTINELLI, Italy

Nikita BRAGIN, Russia

Jean-Pierre CAULET, France

Paulian DUMITRICA, Switzerland

Qinglai FENG, China

Jean GUEX, Switzerland

Rie S. HORI, Japan

Tsuyoshi ITO, Japan

Naoko KISHIMOTO, Japan

Hui LUO, China

Fabrice NOT, France

Olga OBUT, Russia

Johan RENAUDIE, Germany

John ROGERS, Australia

Noritoshi SUZUKI, Japan

Atsushi TAKEMURA, Japan

Ugur Kagan TEKIN, Turkey

Qun YANG, China

Sergey ZYABREV, Russia

## Scientific Program

### Venue

The conference will take place in the halls of ZRC SAZU (<https://www.zrc-sazu.si/en/node>) and SAZU (<http://www.sazu.si/en/about-sasa>) in the center of Ljubljana. Oral presentations will be held in the main hall of SAZU, Novi trg 3. All talks will be plenary; no parallel sessions will be organized. Posters will be displayed in the Atrium of ZRC SAZU, Novi trg 2. All posters will be left on display for the four days of the conference.

### Presentations and abstracts

Each attendee can be the presenter on up to two posters and one talk (either as first author or as a presenting coauthor). Abstracts will be limited to two pages including references, tables and figures; a template with detailed instructions will be posted on the InterRad 16 website. Acceptance of communications as talk or poster, as well as the duration of talks will depend on the number of contributions and will be determined when the abstract submission is completed.

### Language

English will be the official language of the conference.

### Program Outline

Date	Time	Events
September 9–12, (Thursday to Sunday)	4 days (3 overnights)	Pre-conference <b>excursion A</b> to the Northern Calcareous Alps, Austria
September 12, Sunday	Evening	Arrival; Registration and Ice Breaker Party
September 13, Monday	Morning and afternoon	Opening ceremony, oral presentations, poster session and Paleozoic Working Group session
September 14, Tuesday	Morning and afternoon; evening	Oral presentations, poster session, Mesozoic and Cenozoic Working Group sessions Welcome Party
September 15, Wednesday	Whole day	Mid-conference <b>excursions B1 and B2</b>
September 16, Thursday	Morning and afternoon; evening	Oral presentations, poster session, business meeting, closing ceremony; Farewell Party
September 17–21, Friday to Tuesday	5 days (4 overnights)	Post-conference <b>excursion C</b> to the southern Dinarides, Montenegro

### Sessions

Code	Session	Conveners
S1	Taxonomy, biostratigraphy and paleoecology of Paleozoic radiolarians. Special session in memory of Martial CARIDROIT (1957–2019)	Taniel DANELIAN, Patrick DE WEVER and Paula NOBLE

S2	Taxonomy, biostratigraphy and paleoecology of Mesozoic radiolarians. Special session in memory of Elspeth URQUHART (1949–2019)	Liubov G. BRAGINA and Nikita Yu. BRAGIN
S3	Taxonomy, biostratigraphy and paleoecology of Cenozoic radiolarians.	David LAZARUS
S4	Radiolarians from mountain belts and past oceans.	Peter O. BAUMGARTNER and Nevenka DJERIĆ
S5	Radiolarian systematics, biochronology and evolution. Special session in memory of William R. RIEDEL (1927–2020)	Paulian DUMITRICA
S6	Radiolarians in contemporary ecosystems	Tristan BIARD and Fabrice NOT
S7	Geometry of radiolarian skeletons	Atsushi MATSUOKA
S8	History of radiolarian research	Patrick DE WEVER

## Registration

Registration and abstract submission will be online only. Payment will be possible through PayPal or bank transfer. Link to the registration form and detailed instructions on abstract submission and payment will be available on the InterRad 16 website <https://interrad2020.zrc-sazu.si> by April 15<sup>th</sup> 2021.

## Registration Fees

<b>Deadline for registration and payment: June 15<sup>th</sup> 2021</b>	
Regular fee	250 EUR
Students, artists and retired persons	150 EUR
Accompanying persons	120 EUR
Pre-conference <b>excursion A</b> Northern Calcareous Alps	450 EUR
Mid-conference <b>excursion B1</b> Kras (SW Slovenia)	80 EUR
Mid-conference <b>excursion B2</b> Julian Alps (NW Slovenia)	80 EUR
Post-conference <b>excursion C</b> Dinarides in Montenegro	550 EUR

Registration fee includes icebreaker, welcome and farewell parties as well as conference materials and refreshments during scheduled breaks.

## Cancellation

In case you wish to withdraw your registration, please note that refunds of 50% are possible for registration fees only. No refunds are possible for the excursions.

## Important dates

April 15<sup>th</sup> 2021: Registration and abstract submission start

**June 15<sup>th</sup> 2021:** Registration and abstract submission deadline; deadline for payment of pre- and post-symposium excursions

July 31<sup>st</sup> 2021: Notification of abstracts acceptance

August 31<sup>st</sup> 2021: Program announcement

## Proceedings

The following journals have offered to publish a special issue with contributions presented at InterRad 16:

1) *Revue de Micropaléontologie*, <https://www.journals.elsevier.com/revue-de-micropaleontologie>, Guest Editors: Špela Goričan, Luis O'Dogherty and Taniel Danelian

2) *Ofioliti*, <https://www.ofioliti.it/index.php/ofioliti>, Guest Editors: Marco Chiari and Atsushi Matsuoka

3) *Folia biologica et geologica*, [https://ojs.zrc-sazu.si/fovia\\_bio\\_geo/index](https://ojs.zrc-sazu.si/fovia_bio_geo/index), Guest Editors: Aleksander Horvat, Tim Cifer and Špela Goričan

The deadline for the submission of manuscripts will be after September 2021 and will be decided at the business meeting of InterRad 16 in Ljubljana.

## Excursions

### **Excursion A – Mesozoic tectonostratigraphy of the Eastern Alps (Northern Calcareous Alps, Austria): a radiolarian perspective**

Prepared by: Hans-Jürgen Gawlick (Leoben), Hisashi Suzuki (Kyoto), Špela Goričan (Ljubljana), Luis O'Dogherty (Cadiz).

Duration: 4 days (9–12 September)

Cost: 450 EUR (double room)

Includes: field-trip guide book, transportation, accommodation with breakfast, lunch and dinner.

Participants: Minimum 12, Maximum 40

The topic of the field trip will be the Mesozoic geodynamic evolution of the Western Tethys with two oceanic domains. The Neo-Tethys realm (1) to the south was characterized by Middle Triassic continental break-up, Middle Triassic to Middle Jurassic passive margin evolution, Middle–Late Jurassic thrusting/accretion and Latest Jurassic/Early Cretaceous mountain uplift. The Alpine Atlantic realm (2) to the north recorded an Early/Middle Jurassic continental break-up and Middle Jurassic to Late Cretaceous passive margin evolution. The field trip will focus on deep-water, radiolarian-bearing sedimentary rocks during this geodynamic history in different basins: rift-basins, shelf areas, oceanic domains, trench-like basins, foreland basins. The geodynamically triggered interplay between carbonate production, siliciclastic/volcanic input and deposition of siliceous rocks/radiolarites in combination with the asynchrony of basin formation allows in specific times the calibration of radiolarians with e.g., ammonoids, conodonts and calpionellids beside other organisms.

The field trip will be held in one of the most classical areas of the world, the central Northern Calcareous Alps with its world-wide known touristic highlights (e.g., Salzburg, Hallstatt).

### **Excursion B1 – Kras – the classical karst area in SW Slovenia**

Prepared by: Karst Research Institute ZRC SAZU

Duration: 1 day (mid-conference excursion on Wednesday, 15 September)

Cost: 80 EUR

Includes: field-trip guide book, transportation, entrance to the Škocjan Caves, lunch.

Participants: Maximum 50

This excursion will be devoted to the area of Classical Karst, where karst phenomena have been first scientifically described. We will visit the Škocjan Caves, a UNESCO world heritage site famous for its spectacular underground canyon and inspiring history of exploration. Second part of the excursion will focus to the karst hydrology and geomorphology of the Ljubljana Catchment Area. This will include intermittent lake of Cerknjsko Polje, karst valley Rakov Škocjan, spring cave Planinska Jama and Planinsko Polje.

### **Excursion B2 – Geology of the Bohinj area, Julian Alps, NW Slovenia**

Prepared by the Ivan Rakovec Institute of Paleontology ZRC SAZU

Duration: 1 day (mid-conference excursion on Wednesday, 15 September)

Cost: 80 EUR.

Includes: field-trip guide book, transportation, cable car to Vogel, lunch.

Participants: Maximum 50

The field-trip area lies in a beautiful landscape of the Triglav National Park. In the morning we will take the cable car to Vogel to observe the overall nappe structure of the Julian Alps. In the afternoon we will visit Upper Jurassic to Lower Cretaceous deposits (Biancone limestone and flysch) of the Pokljuka Nappe. On the way back we will stop at Bled, one of the most popular tourist destinations in Slovenia.

### **Excursion C – Mesozoic basins of the southern Dinarides, Montenegro**

Prepared by: Špela Goričan (Ljubljana), Martin Đaković (Podgorica), Peter Baumgartner (Lausanne), Duje Kukoč (Zagreb), Nevenka Djerić (Belgrade), Tim Cifer (Ljubljana), Aleksander Horvat (Ljubljana), Hans-Jürgen Gawlick (Leoben).

Duration: 5 days (17–21 September)

Cost: 550 EUR (double room)

Includes: field-trip guide book, transportation (plane ticket Ljubljana–Podgorica–Ljubljana, bus in Montenegro), accommodation with breakfast, lunch and dinner.

Participants: Minimum 10, Maximum 30

This excursion will show a cross-section through the Dinarides from the most external zones in coastal Montenegro to the ophiolitic mélanges near the border with Serbia. The Mesozoic successions reflect a complex horst-and-graben topography that was created on the continental margin during Middle Triassic rifting and final opening of the Neo-Tethys. Several basins separated by structural highs (carbonate platforms and submarine plateaus) have been recognized. We will examine the complete Middle Triassic to end Cretaceous succession of the most external Budva Basin and the Triassic to Lower Cretaceous succession of a more internal Lim Basin. On the way we will cross hundreds of meters thick successions of platform limestones locally including a

Middle Triassic radiolarite unit. Allochthonous Middle Triassic cherts associated with volcanics and Middle Jurassic cherts associated with ophiolitic mélange will be also visited.

## Travel information

### Transport

The Ljubljana international airport (<https://www.fraport-slovenija.si/en/Main>) is located about 30 kilometers north of the city. Taxi or shuttle bus service from the airport to the center of Ljubljana takes approximately 30 minutes.

Bus and shuttle transfers also connect Ljubljana with nearby international airports in other countries – Zagreb, Croatia (150 km), Venice, Italy (180 km) and Vienna, Austria (390 km). Shuttle transfers can be arranged through <https://www.goopti.com/en/> or <https://www.markun-shuttle.com/en/index.html>.

### Visas

An invitation letter will be provided for participants who would need a visa to enter Slovenia. Note that the pre- and post-conference excursions are in Austria and Montenegro. Do not forget to check if you need a visa for these countries.

### Personal insurance

The organizers cannot accept responsibility for accidents that might occur in connection with the conference and field-trips. Participants are encouraged to purchase travel insurance.

### Accommodation

Various hotels, B&B's and apartments in Ljubljana offer a wide range of comfort and prices. Below are a few suggestions located in walking distance from the conference venue (Novi trg 2–3). All hotels can be found and booked through [www.booking.com](http://www.booking.com). Hotel Park and City Hotel (see below) will offer a certain number of rooms at reduced price for InterRad participants.

#### **Central Hotel \*\*\*\***

Miklošičeva 9, Ljubljana

Tel: +386 1 3 8 4300

e-mail: [central@union-hotels.eu](mailto:central@union-hotels.eu)

<http://www.unionhotels.eu/en/central-hotel/>

#### **Best Western Premier Hotel Slon \*\*\*\***

Slovenska cesta 34, Ljubljana

Tel: +386 1 470 1100

e-mail: [sales@hotelslon.com](mailto:sales@hotelslon.com)

<http://www.hotelslon.com/>

#### **Antiq Palace\*\*\*\***



Gosposka ulica 10, Ljubljana  
Tel: +386 838 96 700  
e-mail: [reception@antiqpalace.com](mailto:reception@antiqpalace.com)  
<http://www.antiqpalace.com/>

**Hotel Park \*\*\***

Tabor 9, Ljubljana  
Tel: +386 1 300 2508  
e-mail: [info@hotelpark.si](mailto:info@hotelpark.si)  
<http://www.hotelpark.si/>

**City Hotel Ljubljana \*\*\***

Dalmatinova ulica 15, Ljubljana  
Tel: +386 1 239 0000  
e-mail: [info@cityhotel.si](mailto:info@cityhotel.si)  
<https://www.cityhotel.si/>

**Hotel Center \*\*\***

Slovenska cesta 51, Ljubljana  
Tel: +386 1 5200 640  
e-mail: [info@hotelcenter.si](mailto:info@hotelcenter.si)  
[www.hotelcenter.si](http://www.hotelcenter.si)

**Hotel Emonec \*\*\***

Wolfova 12, Ljubljana  
Tel.: (01) 200 15 20  
e-mail: [hotelemonec@siol.net](mailto:hotelemonec@siol.net)  
<https://www.hotel-emonec.com>

**Hostel Tresor**

Čopova ulica, 38, Ljubljana  
Tel: +386 1 200 9060  
e-mail: [info@hostel-tresor.si](mailto:info@hostel-tresor.si)  
<http://www.hosteltresor.si/en/>

**Hostel Celica** Metelkova ulica 8, Ljubljana

Tel: +386 1 230 9700  
e-mail: [info@hostelcelica.com](mailto:info@hostelcelica.com)  
<http://www.hostelcelica.com/en>

**Kva Hostel** Breg 14, Ljubljana

Tel: +386 40 771 288  
e-mail: [info@kvahostel.com](mailto:info@kvahostel.com)  
<http://www.kvahostel.com/>