IGC 2024
The 37th International Geological Congress 2024

IUGS
International Union of Geological Sciences

IGC 2024

The 37th International Geological Congress 2024

Busan, Korea
25-31 August 2024

THIRD CIRCULAR | November 2023

The Great Travelers :
Voyages to the Unifying Earth

Haedong Yonggungsa (Busan)

Unlike other temples mostly located in the mountains in Korea, Yonggungsa is located on the coast of the East Sea (Japan Sea), which attracts many foreign and domestic tourists. At Yonggungsa Geosite, igneous rocks of the Yucheon Group and Bulguksa Granites are distributed. In particular, there are outstanding outcrops of mafic microgranular enclaves and xenoliths in fine granite.

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The Fourth on-line Circular is scheduled on Janurary 2024

MESSAGE FROM THE CHAIRMAN

Dear Geoscientists and Colleagues in Related Fields Worldwide,

It has been seven years since Busan, Republic of Korea was selected to host the 37th International Geological Congress (IGC). Busan was chosen as the host city for IGC 2024 at the 35th IGC in Cape Town, South Africa, in 2016. Unfortunately, the 36th IGC, which was scheduled for March 2020 in India, was held as a virtual event in 2022 due to COVID-19 pandemic.

The IGC 2024 Organizing Committee was established in November 2020 with the support from the Geological Society of Korea, Korea Institute of Geoscience and Mineral Resources (KIGAM), and Busan Metropolitan City. The Organizing Committee has steadily been preparing to make IGC 2024 Busan as one of the best congresses ever.

As we prepare for the face-to-face congress in eight years, we feel great responsibility to make it an academic festival for all participating geologists worldwide. The Committee has three main goals in mind.

First, we will provide various programs for the participating geologists to share their research accomplishments and promote joint studies. We also aim to thoroughly prepare the Congress to allow each geologist and society to enjoy academic activities and share information with one another.

Second, we will share the academic values and vision with people worldwide. During the Congress, we will hold simultaneous events and operate hands-on educational and cultural programs to communicate not only with the public but also with those interested in geosciences.

Third, reflecting the consequences of the IGC 2024 Busan, we will keep building the legacy of the Congress to popularize geoscience, strengthen the global network among the participating researchers, and implement domestic and international programs for the next generations.

We therefore sincerely ask for your interest and support for the so-called, the Olympic Games in the field of geoscience, and your participation in the IGC 2024 Busan.

Sincerely yours,

Daekyo CHEONG Daekyo Cheong

Chairman, the 37th IGC Organizing Committee

The 37th International Geological Congress

PARTNERSHIP

KINS

KSPSG

Petrological Society of Korea

PUKYONG NATIONAL UNIVERSITY

KORAD
KOREA RADIOACTIVE WASTE AGENCY

NATIONAL GEOPARKS OF KOREA

KOQUA
Founded 1985

KSRM
1981

KOSSGE
Korean Society of Soil and Groundwater Environment

KOMIR

KSEG

PUSAN NATIONAL UNIVERSITY

KSEG
대한지질공학회 SINCE 1990

THE MINERALOGICAL SOCIETY OF KOREA

1939

THE KOREAN SOCIETY OF MINERAL AND ENERGY RESOURCES ENGINEERS

KIOST
KOREA INSTITUTE OF OCEAN SCIENCE & TECHNOLOGY

THE PALEONTOLOGICAL SOCIETY OF KOREA

KOPRI
Korea Polar Research Institute

1964

kr Clean & Green

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* Joint Position

IMPORTANT DATES

Content	Dates	
	Open	Close
Call for Workshop, Short course and Business meeting proposal	25 Aug 2022	16 Feb 2024
Abstract submission	**04 Sep 2023**	**16 Feb 2024**
Application for the GeoHost Support Program	04 Sep 2023	01 Mar 2024
Early bird registration	**04 Sep 2023**	**26 Apr 2024**
GeoExpo application	**04 Sep 2023**	**31 May 2024**
Accommodation booking	**29 Dec 2023**	**21 Jun 2024**
The opening date of Accommodation Booking has been changed to 29 Dec 2023.		
3rd Circular release	22 Dec 2023	
Field Trip registration	**08 Jan 2024**	**26 Apr 2024**
Notification of acceptance to applicants (Abstract, Short course, Seminar, Workshop and Business meeting, etc.)	05 Apr 2024	
Regular registration	**27 Apr 2024**	**26 Jul 2024**
4th Circular release – Preliminary program	28 Jun 2024	
Pre-congress Field Trips	**19 Aug 2024**	**24 Aug 2024**
On-site registration	24 Aug 2024	

*** The dates above are in Korea Standard Time (KST, UTC/GMT +9).**
*** In case that the schedules above are to be changed under some unavoidable circumstances, it will be announced in advance through the official website of IGC 2024 (www.igc2024korea.org).**

PROGRAM TIMETABLE

	25(SUN)	26(MON)	27(TUE)			28(WED)			29(THUR)	30(FRI)	
Theme	Friendship Day	Earth Environment Day	Nuclear Safety & Future Energy Day			Space & Planetary Science Day			Korean Geology Day	GeoBusiness & Young Scientists Day	
08:00-08:30											
08:30-09:00											
09:00-09:30		Workshops & Seminar	Plenary Speech		IUGS Council Meeting	Plenary Speech	GGN 20th Anniversary Event	IUGS Council Meeting	Plenary Speech	Plenary Speech	
09:30-10:00											
10:00-10:30	Registration		Sessions			Sessions			Sessions	Sessions	
10:30-11:00											
11:00-11:30											
11:30-12:00											
12:00-12:30			Lunch			Lunch			Lunch	Lunch	
12:30-13:00											
13:00-13:30			Plenary Speech			Plenary Speech			Plenary Speech	Plenary Speech	Turnover ECmeeting and the IGCC meeting
13:30-14:00											
14:00-14:30		Opening Ceremony	Sessions	Announce-ment and Presentation of "Second 100" IUGS Geological Heritage Sites and release of "Second100" book		Sessions			Sessions	Sessions	
14:30-15:00		Exhibition Opening, EFC Announcement									
15:00-15:30											
15:30-16:00											
16:00-16:30											
16:30-17:00											
17:00-17:30										Closing Ceremony	
17:30-18:00											
18:00-19:00	Ice-Breaker Party								Conference Dinner "Korean Night"	Post-Congress Party	
19:00-20:00		IUGS Reception (Invitation Only)	GeoFilm Festival								
20:00-21:00											
All Day											

REGISTRATION

The online registration is open until 26(Fri.) Jul 2024 at 24:00 p.m. (KST, UTC/GMT+09).
Join to the Voyages to the Unifying Earth with other The Great Travelers!

Important Dates

Registration opens early September 2023
Early bird registration deadline 26(Fri.) Apr 2024
Regular registration 27(Sat.) Apr 2024 ~ 26(Fri.) Jul 2024
On-site registration 24(Sat.) Aug 2024 ~ 31(Fri.) Aug 2024

	Delegate	Student	Retired (+65)	Companion	One-Day Pass	Exhibitor	Conference Dinner
Early Bird 4 Sep 23 ~ 26 Apr 24	$700	$330	$450	$200	N/A	$200	$50
Regular 27 Apr 24 ~26 Jul 24	$900	$370	$600	$200	$450	$200	$50
On-site 24 Aug 24~	$1000	$400	$700	$200	$500	$200	$50
Reduced (for Geologists from low income countries)	$350	$250	$300	$200	$250	$200	$50

* Student Fee is applied to undergraduate and postgraduate students, who is not full-time employed. The student ID is required to be sent on the registration desk (registration@igc2024korea.org).
* The conference dinner ticket is priced at $50 per person. For those who want to attend the conference dinner purchase it please.
* The tickets are non-cancelable and non-refundable, but transferable to others.
* Low income countries are

Low Income Courtries
AFGHANISTAN, BURKINA FASO, BURUNDI, CENTRAL AFRICAN REPUBLIC, CHAD, CONGO, DEM. REP., ERITREA, ETHIOPIA, GAMBIA, THE, GUINEA-BISSAU, KOREA, DEM. PEOPLE'S REP., LIBERIA, MADAGASCAR, MALAWI, MALI, MOZAMBIQUE, NIGER, RWANDA, SIERRA LEONE, SOMALIA, SOUTH SUDAN, SUDAN, SYRIAN ARAB REPUBLIC, TOGO, UGANDA, YEMEN, REP.

Jinan-Muju National Geopark (Maisan)

SCIENTIFIC PROGRAM

The Scientific Program of the 37th IGC comprises over 300 Sessions under 41 Themes, presented on the 37th IGC website (www.igc2024korea.org), where each session description is provided via hyperlinked text. Abstracts for each session are called for based on this program, and session schedule will be finalized after submission deadline.

The entire Scientific Program will be open to all delegates (and registered students) with full IGC registration.

All Sessions in the Scientific Program are expected to include both oral and poster presentations. Presenting author will be permitted to deliver upto two oral presentations and one poster presentation in this conference, while they may have co-authorships for multiple abstracts.

The Scientific Program Committee will finally decide which session type your abstract may be assigned to.

The official language of the Congress is English; translation service is not provided. Any questions or requests for further information should be addressed to the Communicating Theme Coordinators or Session Conveners.

All participants are expected to follow faithfully the Meeting Code of Conduct (will be posted) to secure safe and comfortable environment of the congress.

Danyang National Geopark (Dodamsambong)

Theme	Session
T1	**Sedimentary Geology**
1	Continental Margin Sedimentology and Environment Change
2	Black Shale Science and Economy
3	Asian Continental Margin Sedimentation: Processes and Records
4	Impact of volcanism on sedimentary systems
5	Diagenesis and sedimentary environment
6	General Topics in Sedimentary Geology
7	Paleoenvironments of the early Paleozoic world
T2	**Quaternary Geology**
1	Mapping the Quaternary geology: from detailed regional mapping campaigns to small-scale compilations
2	Present Earth Surface Processes and Long-term Environmental Changes in East Eurasia
3	Current and future directions in Quaternary chronostratigraphy
4	A global perspective on the Neogene–Quaternary (Pliocene–Pleistocene) boundary
5	Geological Sea-level Proxies of Marine Isotopic Stage (MIS) 5 in the Asian Shorelines
6	Youngest Quaternary (Meghalayan Stage) Speleothems and global Paleoclimate events
T3	**Earth History and Stratigraphy**
1	Evolution of habitability of the early Earth
2	The Neoproterozoic-Lower Paleozoic stratigraphy, sedimentation, paleoclimate, chemostratigraphy and correlation of the Southwest and East Gondwana
3	Evolution of Earth surface system from the Carboniferous to the Triassic
4	The end-Permian mass extinction - state of knowledge and future advances
5	Stromatolites their depositional environment,biomineralization and Astrobiological implication
T4	**Tectonophysics**
1	Eastern Asia tectonic evolution under the multi-plate convergent geodymamics during late Mesozoic
2	Intraplate tectonics and seismicity
3	Deformation processes and texture analysis
4	Earthquakes in Plate Interiors: From Driving Processes to Recurrence
5	Structure, magmatism and evolution process of oceanic and marginal seas' lithosphere
6	Active Tectonics and Earthquake Geology
7	Tectonic evolution of modern and ancient orogens in 4D
8	Subduction-related sedimentary basin evolution and lithospheric dynamics
9	Deciphering complex plate tectonics from the ocean floor
10	Towards better understanding the origin of intraplate earthquakes in East Asia
11	Geology and Tectonics of the Western Pacific Marginal Seas
12	Deep Earth Exploration and Earth CT
T5	**Planetary Sciences**
1	Moon Resources: Exploration, Utilization, and Sustainability
2	Geological Exploration of Lunar and Martian Terrains
3	The interiors of the Earth, solar system planets, and exoplanets
4	Venus, Io, the Moon: Understanding Our Dynamic Solar System
5	Meteorites: Probing the Origins and Evolution of our Solar System
6	From Atomic Structure to the Solar System: Present and Future of Planetary Science

7	Planetary Habitability: From Extremophiles to Potential Life
8	Interdisciplinary Integration of Planetary Science and Geology
9	Comparative Planetary Geology Studies
10	Geologic Mapping of Planetary Surfaces
11	Geology Education and Outreach in Planetary Science
12	Lunar Science and Exploration

T6	**Metamorphism**
1	Application of thermodynamic modelling in understanding the process of metamorphism
2	Subduction zone fluids: mineralogical and geochemical effects and geodynamic consequences

T7	**Volcanology**
1	Large Igneous Provinces in Space and Time
2	Cretaceous Volcanism: Global Distribution Bearing on Tectonics of Continents and Oceanic Regions, K-T Boundary and Major Extinction
3	Volcano Geology: role of field work on modern Volcanology
4	Volcanism on the Korean Peninsula

T8	**Petrology**
1	Architecture and Thermal Structure of Translithospheric Magmatic Systems
2	Granitoids and their enclaves
3	Crust-Mantle interactions through time and the role of fluids
4	Oceanic lithosphere evolution: crust-mantle geodynamics to melt processes and reservoirs.
5	Ophiolite: A window to the oceanic mantle across the geological time
6	The petrological and related tectonic interpretations of Northeast Asia.

T9	**Structural Geology**
1	3D geological mapping: international status, barriers, and perspectives of geomodelling
2	Shear Zone Tectonics
3	Modern techniques for understanding faults and their effects on fault activity and fluid flow
4	Fault damage zones in active and fossil faults
5	Active faulting behavior, earthquake hazards zonation and urban prevention strategies: Field observation, data process and scene simulation
6	The tectonic transition of the Late-Mesozoic Yellow Sea and adjacent region
7	Himalaya, Karakoram and Tibet: the geology and tectonics of a giant orogen
8	From microscale to macroscale: multidimensional exploration in structural geology and tectonics
9	Fault zones and fluid interactions, key structures for energy transition
10	Geological architecture and active tectonics of Central and Eastern Himalayas

T10	**Geomorphology**
1	Understanding Cover and its links with basement geology through Earth's history
2	'Landslides and climate changes' (IAG Co-Sponsored Session)
3	Impact of climate change on the world deltas
4	Exploring high-resolution spatial and temporal data to resolve geologic and geomorphic processes
5	The role of climate, tectonics and surface processes in landscape evolution of the Himalayan-Tibetan orogen

T11	**Paleontology and Paleoanthropology**
1	Cambrian Explosion and Co-evolution of environment
2	The Evolution of Land Plants and Plant–Environment Interactions during Geological Time
3	Ostracoda in Geology, the 5th Asian Ostracod Meeting (AOM)
4	Paleocene-Eocene larger benthic Foraminifera, paleobiogeography and collision of Indian and Asian Plates
5	Functional morphology and biomechanics in invertebrates: new ecological and evolutionary perspectives
6	Early Palaeozoic faunas and palaeobiogeography of NE peri-Gondwana
7	Recent advances in palaeontology from Asia (APA open session)
8	The floral diversity variation and palaeoenvironmental background across the terrestrial Triassic and Jurassic transition
9	Memorial Session of Professor Martin Lockley
10	General contributios to Paleontology and Paleoanthropology

T12	**Resource Geology and Economic Geology**
1	Resource Prospecting of Critical Metals and Economic Processing
2	Exploration Targeting of Critical Metals
3	Granitic Pegmatite-Hosted Critical Mineral Deposits
4	Co-Ni mineralization mechanism related to sedimentary, metamorphic, magmatic and weathering processes
5	Mining for a Better Energy Future: Sustaining the Supply of Critical Raw Materials
6	Airborne Geophysics in Mineral Exploration
7	Petroleum Enrichment and the Tethys Geodynamic System
8	Metamorphic fluid mineralization and Ore Remobilization
9	Promoting best practice in utilization of Geo resources (including Mineral, Water and Energy)
10	Geo-Resources in Sustainable (Economic) Development
11	Marine Mineral deposits, science, resources, technology, and environmental challenges, a look to the future
12	Novel approaches to modelling a sustainable and integrated minerals value chain
13	Geometallurgy
14	Ore-forming Magmatic Hydrothermal Systems: analysis of source to sink in deposit genesis
15	Lithocaps and high sulfidation epithermal deposits
16	Earth Materials and Environmental Application
17	Rare criticals metal geochemistry and mineral deposits
18	Hydrodynamic studies of mineralization
19	Mineralogy and Ore deposits in Alp-Himalaya belt
20	Metallogeny and Geodynamics of East and SE Asia
21	Uranium, thorium and related atomic energy minerals resources
22	Iron Mineral System
23	Navigating the Path to the Green Transition: Balancing Resource Extraction and Environmental Stewardship
24	HTHP geofluid-rock interactions, mass circulation and deep hydrocarbons in sedimentary basins

T13	**Mineralogy**
1	ON THE ORIGIN OF ZONING OF MINERALS IN METAMORPHIC ROCKS (BY THE EXAMPLE OF STAVROLITE).
2	Gemstone and Geological Formation
3	Geochemistry, Isotopic Characteristics, and Geochronology of Gem deposits
4	Environmental Mineralogy: From Understanding To Application
5	Socio-economic development based on mineral based industries
6	Silicate melts, magmas, and non-crystalline earth materials in Earth and Planetary Surfaces and Interior
7	Gem materials

T14	Low Temperature Geochemistry
1	Challenges and Opportunities of Global-Scale Geochemical Mapping (4th Arthur Darnley Symposium)
2	Application of metal isotope fractionation in low temperature geochemistry
3	Geochemical Signatures of Earth Surface Processes
4	New geochemical application of Rare Earth Elements and their Isotopes in low temperature geochemical environment

T15	Paleoclimate and Paleoceanography
1	Paleoclimate and paleoceanography in the Ross Sea, Antarctica
2	Global carbon cycle: impact of tectonic uplift and surficial processes
3	Recent developments in paleoclimatology

T16	Coastal, Marine and Lacustrine Geosciences
1	Understanding mechanism, triggering, and evolution of submarine landslides and their effects
2	Ground subsidence studies of coastal cities of the world
3	Coastal Environment Risk and its Influence on the Economic Development of a Country
4	Beach sedimentary processes and mechanism
5	Records of Climate and environmental change from lacustrine sediment
6	Sedimentation, sediment transport, and morphodynamics on the coastal system
7	EMODNET-Geology's new standards revealing Earth's seabed geology

T17	Geoscience in Alpine and Polar Regions
1	Status of Himalayan Glaciers under the current climate change scenario
2	Arctic evolution and climate changes during the Cenozoic
3	Ice core science for alpine and polar ice cores

T18	Groundwater and Hydrogeology
1	Microplastics and nanoplastics in soil and groundwater
2	Groundwater Development for achieving food security and improving rural health in low-income countries
3	Integrated use of groundwater and surface water resources keeping up with extreme droughts periods
4	Eco-hydrological Process and its Effects in Karst Environment
5	KRC Special session: Drought vulnerability of groundwater aquifer under climate crisis environment in S. Korea
6	Groundwater and surface water interactions

T19	Geobiology
1	Microbial carbonates through space and time
2	Assessing the interplay of environmental and evolutionary controls in animal-substrate interactions through time
3	Mid-Phanerozoic mass extinctions, recovery, extreme environmental events and integrated stratigraphic correlations

T20	Biogeochemical cycles
1	Advances in isotope geochemistry for characterizing the environmental evolution of the Phanerozoic
2	Microbe-Mineral Interaction in the polar regions, and its impacts on the elemental cycling of Fe, but not limited to
3	Local scale fluxes of carbon dioxide in urban environment: Sectorial emission and sequestration challenges

T21	Environmental Geosciences
1	Geoscience knowledge in Environment and Environmental Ecosystem
2	Interfacial environments: from micro- to macro-scales
3	Anthropogenic contaminants in the environment
4	Emerging environmental pollutants, hazards, and energy resources and their associated human-natural system risks: Oral and postal presentation

T22	GIS and Remote Sensing
1	Remote Sensing of Global Resources with the New and Forthcoming Generation of Satellite Sensors
2	Geoscience information, geological mapping and modelling
3	Earth Science Education - transferring knowledge of the Earth to meet the needs of society in the 21st century and beyond
4	OneGeology: Digital Geosciences for a Better Future
5	Advances in GIS and remote sensing approach for geological hazards management
6	AI Application for processing and analyzing of remote sensing imagery
7	Mapping the Way Forward: Advances in Applied Geoinformatics for Mineral Exploration
8	Advances in AI and remote sensing approach for tidal flat monitoring
9	Artificial Intelligence Methods Applied to Geological hazard using Remote Sensing and GIS
10	Geoscience Information in the 2020s

T23	Seismology
1	Strong earthquakes in continental areas
2	Statistical Seismology and Episodic Events
3	East Asia Earthquakes, Seismic Structure and Tectonics
4	Historical Seismology
5	The 2023 M7.8 and M7.5 Kahramanmaraş, Turkey, Earthquake Sequence
6	Investigating subsurface structures with dense seismic array: Theories and applications
7	Site survey and seismic safety for nuclear installations (Sponsor Special Session)

T24	Geophysics
1	Fault detection and paleoseismology with near-surface geophysics
2	Coupling of deep Earth and surface processes
3	New Insights into the evolution of Deccan Volcanic Province and its seismic scenario
4	Timor Leste Case Study: The Application of Integrated Airborne Geophysical Surveys in mapping out a complex geological structures and petroleum sedimentary basins over an accretionary wedges
5	Geophysical Characterizations of Complex Geology of Timor Orogen and Implications to Petroleum and Metallic Minerals: A Case Study from the Central Part of Onshore Timor-Leste
6	Trending Machine Learning Applications in Oil and Gas Industry

T25	Geotechnology and Geophysical Exploration
1	Advances in Geophysical Exploration Techniques for Resource Characterization
2	Geotechnology and its Applications in Geological Hazard Assessment and Monitoring

T26	Geoscience Education
1	Geology Degrees Across the World – How are the Next Generation of Geologists Being Education for the Geosciences of Tomorrow
2	Exploring Geoscience Across the Globe: Special Session in Memory of Chris King
3	Teaching Paleosciences: Special Session in Memory of Ian McKay
4	International perspectives for natural disaster education
5	Geoscience Education and Outreach for All: Techniques and Trends for Engaging Non-Specialist Learners
6	Geoscience Education and Awareness
7	Mitigating multi-hazard risks: perception, awareness and educational perspectives to cultivate a risk culture and strengthen disaster resilience in vulnerable communities
8	International Perspectives on Earth Science Education

T27	Geoheritage, Geopark, and Geotourism
1	Heritage Stone: safeguarding the cultural and social legacy of rocks
2	Stone Heritage from the emerging world: A step forward for IUGS Heritage Stone designation
3	Geosites and Georoutes in the History of Geological Sciences
4	Geoconservation and Geoheritage: geodiversity underpinning natural systems
5	Volcanic geoheritage from volcanic geology perspective: advances and challenges to characterize geodiversity of volcanic regions
6	Geoscience in Geoheritage, Geoparks and Geotourism
7	The uniqueness of the Donetsk basin as an ecological and natural geological body
8	The Second 100 IUGS Geological Heritage Sites

T28	Forensic Geology and Medical Geology
1	Forensic Geology: Illegal Mining and Associated Crimes in the Global Minerals and Metals Supply Chain.

T29	Engineering Geology and Geomechanics
1	Advances in natrural and engeering barriers for underground repositories

T30	Urban Geology
1	Earthquake Risk and Urban Infrastructure

T31	Geohazards
1	Surface faulting and near-fault earthquake hazard
2	Outreach tools as a way to increase preparedness for geological hazards
3	Geohazards: A global phenomenon and their Reduction Strategies
4	ADVANCES IN LANDSLIDE MONITORING WITH GEOLOGICAL, GEOPHYSICAL, GEODETIC AND REMOTE SENSING METHODS
5	Our Tasks on Global Submarine Geohazard issues to our future earth
6	Advances in Modeling and Simulation of Geological Disaster Problems

T32	Mitigation and Adaptation in Climate Crisis
1	Geoscience Contributions to Climate Change Mitigation Strategies
2	Geoscience for Climate Change Adaptation and Resilience

T33	Big Data and Artificial Intelligence (AI) in Geoscience
1	Application of AI algorithms in natural hazards modelling
2	Advances in Machine Learning for Groundwater Science: Observation, Modeling, and Applications
3	Productivity Prediction of shale basins in the USA using machine learning and data integration
4	Data-driven or AI-driven Discovery in Geosciences
5	Global Optimization, Machine Learning and Statistical Simulation of Nonlinear Geophysical Data Processes
6	Big Data and Artificial Intelligence (AI) in Geomodeling

T34	Energy and Carbon Neutrality
1	Geothermal energy, geoenergy, geopower, geoheat, earth energy
2	Offshore renewable energy systems and submarine geohazards
3	Assessment of innovation necessary for sustainable use of geothermal resources
4	Critical Minerals Governance for Carbon Neutrality
5	Unconventional Oil and Gas Resources & CO2 Geological Sequestration
6	Adaptations of the oil and gas sector in the energy transition era: Is it possible to survive in an increasingly decarbonized world?

T35	Geoscience and Policy
1	Geosciences and Society
2	Geological Survey Organizations and Land Use Planning: From Geoscience Data to National Policy
3	Responsible Mining of Critical Minerals and the Importance of Environmental Justice
4	Bridging Geoscience and Policy to boost the Green Transition
5	Empowering women in geoscience for gender equality
6	Applied Geosciences in Energy Planning Studies

T36	Management of Radioactive Resources and Waste
1	Advances in natural and engineering barriers for underground nuclear waste repositories
2	Investigation and evaluation techniques related with nuclear power plants and waste disposal sites
3	Transport of radionuclides in deep geological repositories and nuclear-related facilities
4	Techniques for assessment and control of nuclide behavior in the HLW geological repository

T37	Deep-Time Digital Earth: IUGS DDE Sessions
1	Evolution of life and biodiversity changes through deep time
2	Quantifying plate tectonics and deformation in four dimensions
3	Deep probing of 3D-4D lithospheric architecture and metallogenic processes
4	Marginal Seas - Past and Future
5	Knowledge & Data Co-boosted Discovery in the Co-Evolution of Minerals, Microbes and Environments
6	Time Machine: Earth's deep-time geography -- data, reconstructions, challenges
7	Geothermal Energy: Theory, Practice, and Global Opportunities
8	-time Digital Earth (DDE) – Progress, Challenges and Plans for 2024-2030
9	Progress and Opportunities in Deep-time Paleomagnetism
10	Geoscience Data Standards and Knowledge Graph
11	Deep-time climate change – novel insights from paleoclimate modelling and the geologic record
12	Dinosaur macroevolution and building an integrated database for both academia and the public

T38	Anthropocene
1	History of Geosciences / Earth History and Stratigraphy
2	UNESCO IGCP 732 and the Stratigraphy of the Anthropocene
3	From the Holocene to Anthropocene - reading the geological and archaeological records of interplay between the nature and human

T39	Geoethics and Societal Relevance of Geosciences
1	GEOETHICS AT THE HEART OF ALL GEOSCIENCE: SERVING THE PUBLIC GOOD

T40	History of Geological Sciences
1	History of women in the Geological Sciences: trailblazers, leaders and those in the shadows
2	History of Geoscientific Travels in Asia and Beyond
3	General Contributions to the History of Geological Sciences

T41	Mathematical and Computational Methods for the Geosciences
1	AI-driven mineral prospectivity mapping
2	Fractals and Singularity in Geosciences
3	Compositional data in geosciences: Methods and applications
4	Geostatistical prediction and simulation for complex geological settings

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T1 Sedimentary Geology

Sedimentary Geology is a branch of geology that focuses on the study of sedimentary rocks and the processes by which they are formed. It studies the deposition, transport, and lithification of sediments, providing valuable insights into the Earth's past environments and geologic history. Sedimentary geologists analyze the characteristics of sedimentary rocks, such as grain size, texture, and composition, to interpret the depositional environments and to reconstruct the Earth's past climate, tectonic activity, and evolutionary changes. This field plays a crucial role in advancing our understanding of Earth's surface processes, facilitating resource exploration, and aiding in environmental management.

T2 Quaternary Geology

Quaternary Geology is a field of study that focuses on the geological period known as the Quaternary, which spans the last 2.6 million years of Earth's history. It investigates various geological processes and events that have shaped the Earth's surface during this time. These processes include climate change, glaciation, sea-level fluctuations, and the formation of landforms such as dunes, rivers, and lakes. Quaternary geologists employ a range of techniques, including stratigraphy, paleoclimatology, and geochronology, to reconstruct past environments, understand climate dynamics, and unravel the intricate interactions between climate, life, and landscapes. By studying the Quaternary period, this field provides essential insights into past global changes and assists in predicting future climate trends.

T3 Earth History and Stratigraphy

Earth History and Stratigraphy is a branch of geology that focuses on understanding the history of the Earth and the arrangement of rock layers, known as stratigraphy. It involves the study of rock formations, their composition, age, and spatial distribution, to reconstruct the geological history of our planet. Stratigraphers study the layers of sedimentary, igneous, and metamorphic rocks to interpret past geological events, such as volcanic eruptions, tectonic movements, and the evolution of life. By analyzing the fossils, minerals, and sedimentary structures within these rock layers, scientists can reconstruct past environments, climate changes, and evolutionary processes that have shaped Earth over millions of years. Earth History and Stratigraphy provide valuable insights into the dynamic nature of our planet, contributing to our understanding of its past and helping us to predict its future.

T4 Tectonophysics

Tectonophysics is a branch of geophysics that focuses on the study of the physical processes and properties of the Earth's lithosphere and the deformation of the Earth's crust and upper mantle. It explores the dynamics and mechanics of plate tectonics, including the formation of mountain ranges, the occurrence of earthquakes, and the development of geologic structures such as faults and folds. Tectonophysicists employ a combination of geophysical techniques, such as seismology, gravity and magnetic surveys, and geodetic measurements, to investigate the forces and movements that shape the Earth's crust. This field plays a crucial role in understanding the driving forces behind tectonic processes, the distribution of geologic hazards, and the formation of natural resources, thereby aiding in the assessment and management of geologic risks.

T5 Planetary Sciences

Planetary Sciences is a multidisciplinary field of study that seeks to understand the planets, moons, asteroids, comets, and other celestial bodies in our solar system and beyond. It combines elements of astronomy, geology, physics, chemistry, and biology to study the formation, evolution, and dynamics of these planetary objects. Planetary scientists study various aspects such as planetary atmospheres, surfaces, interiors, and the potential for life beyond Earth. They use remote sensing techniques, spacecraft missions, laboratory analyses, and computer simulations to gather data and unravel the mysteries of our solar system and the universe. The knowledge gained from Planetary Sciences enhances our understanding of Earth's place in the cosmos and provides insights into the origin and potential habitability of other worlds.

T6 Metamorphism

Metamorphism is a geological process that involves the transformation of pre-existing rocks into new types of rocks due to changes in temperature, pressure, and chemical environment. It occurs deep within the Earth's crust or upper mantle, typically in regions of high tectonic activity. During metamorphism, rocks undergo recrystallization, mineral reorganization, and chemical reactions, resulting in the formation of new minerals and textures. Metamorphic rocks can exhibit a wide range of characteristics, including foliation, banding, and distinctive mineral assemblages. Metamorphism provides important insights into the geologic history of a region, as well as the tectonic forces and thermal gradients that have influenced the rock transformations. It also plays an important role in the formation of valuable mineral deposits and contributes to the Earth's dynamic processes over time.

T7 Volcanology

Volcanology is the scientific study of volcanoes and volcanic processes. It includes the study of volcanic activity, eruption mechanisms, volcanic landforms, and the behavior of magma beneath the Earth's surface. Volcanologists analyze various aspects of volcanoes, including their formation, types, and eruptive styles, to better understand the processes that drive volcanic activity. They study volcanic rocks, gases, and volcanic landforms to reconstruct past eruptions and assess volcanic hazards. Volcanology combines field observations, laboratory analyses, remote sensing, and geophysical techniques to monitor volcanic activity and provide early warning systems. This field of study is critical for assessing volcanic hazards, mitigating risks to human populations, and gaining insights into the Earth's dynamic processes, including the movement of tectonic plates and the release of gases into the atmosphere.

T8 Petrology

Petrology is the branch of geology that focuses on the study of rocks and their formation processes. It involves the study of the origin, composition, texture, and classification of rocks to understand the Earth's lithosphere. Petrologists study different types of rocks, including igneous, sedimentary, and metamorphic rocks, to decipher their conditions of formation, geologic history, and the processes that have affected their evolution. By analyzing the minerals, textures, and structures present in rocks, petrologists gain insights into the rock-forming processes such as magma generation, crystallization, weathering, sedimentation, and metamorphism. Petrology plays a crucial role in understanding the Earth's geologic history and the formation of mineral resources, constructing geologic maps, and interpreting past environments.

T9 Structural Geology

Structural Geology is a branch of geology that studies the deformation and arrangement of rocks in the Earth's crust. It focuses on the study of geological structures such as faults, folds, joints, and fractures, as well as their spatial distribution and relationship to tectonic forces. Structural geologists analyze the orientation, geometry, and displacement of rock layers and use various techniques, including field observations, mapping, and laboratory analysis, to unravel the deformation history of a region. This field helps to understand the processes that shape the Earth's crust, such as mountain building, plate tectonics, and the formation of geologic features. It is crucial for assessing geologic hazards, locating mineral resources, and determining subsurface conditions for engineering and construction projects. Structural Geology provides valuable insights into the dynamic nature of the Earth's crust and contributes to our understanding of its geological evolution.

T10 Geomorphology

Geomorphology is the scientific study of the Earth's landforms and the processes that shape them. It investigates the formation, evolution, and dynamics of various landforms, including mountains, valleys, rivers, glaciers, deserts, and coastal features. Geomorphologists analyze the interplay between geologic processes, such as erosion, weathering, deposition, and tectonic activity, and external forces, including climate, water, wind, and ice. They study the characteristics of landforms, including their shape, size, distribution, and spatial patterns, to understand the underlying processes and their interactions. Geomorphology plays a critical role in understanding Earth's surface processes, landform evolution, and landscape change over time. It is important for land management, environmental planning, hazard assessment, and natural resource conservation.

T11 Paleontology and Paleoanthropology

Paleontology and Paleoanthropology study ancient life forms and human evolution. They analyze fossils and artifacts to understand Earth's history, biodiversity, and the evolution of the human species. These fields provide insights into past environments and the evolution of life on Earth. They contribute to our understanding of the origin and diversification of species. Paleontology and Paleoanthropology play a vital role in unraveling the mysteries of our past and shedding light on the story of life on our planet.

T12 Resource Geology and Economic Geology

Resource Geology and Economic Geology focus on the exploration and utilization of the Earth's natural resources. They study the origin, distribution, and economic viability of minerals, energy sources, and water resources. These fields contribute to resource management, sustainable development, and responsible mining practices. They play a crucial role in understanding the availability and potential of the Earth's resources for various industries. Resource Geology and Economic Geology help inform decision-making processes related to resource exploration, exploitation, and environmental considerations.

T13 Mineralogy

Mineralogy is the study of minerals and their properties. It focuses on the composition, structure, and formation of minerals. Mineralogists analyze the physical and chemical characteristics of minerals to identify and classify different species. This field helps to understand the processes of mineral formation and their significance in the geologic history of the Earth. Mineralogy is essential to various applications, including resource exploration, environmental studies, and material science. It provides insights into the diversity and behavior of minerals, contributing to our understanding of the Earth's composition and processes.

T14 Low Temperature Geochemistry

Low-Temperature Geochemistry is the study of chemical processes and reactions that occur at or near the Earth's surface at relatively low temperatures. It investigates the interactions between rocks, minerals, water, and the atmosphere. The field focuses on understanding the chemical composition of natural systems, including groundwater, surface water, soils, and sediments. It studies processes like weathering, dissolution, precipitation, and biogeochemical cycling. Low-Temperature Geochemistry provides insights into the formation of mineral deposits, nutrient cycling, and the impact of human activities on the environment.

T15 Paleoclimate and Paleoceanography

Paleoclimate and Paleoceanography study past climatic and oceanic conditions to understand Earth's climate history and its driving mechanisms. These fields examine geological archives such as sediment cores and ice cores to reconstruct past climate patterns, temperature variations, and oceanic changes. They analyze proxies such as isotopes, fossils, and geochemical signatures to infer past environmental conditions and long-term climate trends. Paleoclimate and Paleoceanography help unravel the factors that influence climate change, such as greenhouse gases, ocean circulation, and orbital variations. They provide valuable insights into the Earth's climate system, its sensitivity to external forcing, and its implications for future climate projections.

T16 Coastal, Marine and Lacustrine Geosciences

Coastal, Marine, and Lacustrine Geosciences focus on the study of the Earth's coastal and aquatic environments. These fields study the geologic processes, landforms, and ecosystems associated with coastlines, oceans, and lakes. They investigate the interactions between water, sediment, and geological structures, including the effects of waves, currents, and tides. They explore coastal erosion, sediment transport, sea-level changes, and the impact of human activities on these environments. Coastal, Marine, and Lacustrine Geosciences provide insights into coastal hazards, marine resources, and the conservation of aquatic ecosystems. They contribute to the understanding of the dynamic nature of the Earth's water bodies and their role in shaping our planet.

T17 Geoscience in Alpine and Polar Regions

Geoscience in Alpine and Polar Regions focuses on the study of geological processes, landforms, and environments in high-altitude alpine areas and polar regions. These fields examine the unique geological features and dynamics of these extreme environments, including glaciers, permafrost, and high mountain ranges. They investigate the effects of climate change, tectonic activity, and glacial processes on landforms and landscapes. Geoscience in Alpine and Polar Regions provides insights into past and present climate variations, ice sheet dynamics, and environmental changes in these sensitive regions. It plays a crucial role in understanding the response of these regions to global warming and the impacts on ecosystems and water resources.

T18 Groundwater and Hydrogeology

Groundwater and Hydrogeology focus on the study of underground water systems and their interactions with the surrounding environment. These fields investigate the movement, distribution, and quality of groundwater resources. They analyze the properties of aquifers, the recharge and discharge processes, and the behavior of contaminants in groundwater. Groundwater and Hydrogeology play a vital role in water resource management, understanding the availability and sustainability of water supplies, and addressing issues such as groundwater contamination and land subsidence. They contribute to the assessment and protection of groundwater resources, supporting various sectors including agriculture, industry, and public water supply.

T19 Geobiology

Geobiology explores the interactions between organisms and the Earth's systems, focusing on the influence of biology on geological processes and vice versa. It examines how organisms shape their environment and how geological factors influence the evolution and distribution of life. Geobiology studies the fossil record, microbial ecology, biomineralization, and the role of organisms in nutrient cycling and carbon sequestration. This field helps to understand the co-evolution of life and the Earth's environment throughout history and provides insights into the origin and diversification of life on our planet. Geobiology bridges the disciplines of biology and geology to unravel the interconnectedness of Earth's biosphere and geosphere.

T20 Biogeochemical cycles

Biogeochemical cycles refer to the pathways through which elements and compounds essential to life are exchanged between living organisms and the atmosphere, hydrosphere, and lithosphere. These cycles involve processes such as photosynthesis, respiration, decomposition, and weathering. They include cycles such as the carbon cycle, nitrogen cycle, phosphorus cycle, and others. Biogeochemical cycles play a crucial role in regulating Earth's climate, nutrient availability, and ecosystem functioning. They help maintain the balance of elements necessary for life and provide insights into the interconnectedness of biological and geological processes on our planet.

T21 Environmental Geosciences

Environmental Geosciences focuses on the study of the Earth's systems and their interactions with human activities. It examines the impacts of human actions on natural resources, ecosystems, and the environment. This field investigates environmental processes such as pollution, land degradation, natural hazards, and climate change. Environmental Geosciences aim to understand and mitigate environmental risks, promote sustainable resource management, and inform environmental policy-making. It combines principles from geology, hydrology, atmospheric sciences, and other disciplines to address environmental challenges and contribute to the preservation and restoration of Earth's ecosystems and habitats.

T22 GIS and Remote Sensing

GIS (Geographic Information Systems) and Remote Sensing involve the use of technology to collect, analyze, and interpret spatial data. GIS focuses on the management, analysis, and visualization of geospatial information, while Remote Sensing uses satellite or airborne sensors to acquire data about the Earth's surface from a distance. These fields help map and monitor land cover, land use, natural resources, and environmental changes. They support decision-making processes in various sectors, such as urban planning, agriculture, disaster management, and conservation. GIS and Remote Sensing play a vital role in understanding spatial patterns, analyzing trends, and providing valuable insights for effective resource management and sustainable development.

T23 Seismology

Seismology is the study of earthquakes and the propagation of seismic waves through and around the Earth. It investigates the causes and effects of earthquakes, including their magnitude, intensity, and distribution. Seismologists use instruments called seismographs to record and analyze seismic waves, providing insights into the Earth's internal structure and tectonic processes. The field helps assess seismic hazards, design earthquake-resistant structures, and monitor volcanic activity. Seismology plays a crucial role in understanding plate tectonics, seismicity patterns, and the dynamics of the Earth's crust. It contributes to mitigating earthquake risks and enhancing our knowledge of the Earth's geophysical processes.

T24 Geophysics

Geophysics is the field of study that focuses on the physics of the Earth and its geologic processes. It uses various physical principles and techniques to investigate the Earth's interior, its magnetic and gravitational fields, and the properties of rocks and fluids. Geophysicists employ methods such as seismic imaging, gravity and magnetic surveys, and electrical resistivity measurements to map subsurface structures and understand geologic phenomena. This field helps explore for natural resources, assess geologic hazards, and study the Earth's dynamic processes such as plate tectonics and climate change. Geophysics plays a crucial role in understanding the Earth's composition, evolution, and the forces that shape our planet.

T25 Geotechnology and Geophysical Exploration

Geotechnology and Geophysical Exploration involve the use of geophysical methods and technologies to investigate subsurface structures and properties. These fields utilize techniques such as seismic surveys, electromagnetic methods, and ground-penetrating radar to map geological features and identify potential resources. Geotechnology and Geophysical Exploration play a crucial role in mineral exploration, hydrocarbon exploration, and geotechnical engineering projects. They help locate underground deposits, assess soil and rock properties, and evaluate the feasibility of construction projects. These fields contribute to resource exploration, infrastructure development, and the understanding of subsurface conditions for various applications.

T26 Geoscience Education

Geoscience Education focuses on teaching and learning about the Earth's processes, structures, and history. It aims to enhance students' understanding and appreciation of the geosciences. Geoscience educators employ a variety of instructional methods, including hands-on activities, fieldwork, and the use of geospatial technologies. They emphasize the development of scientific inquiry skills, critical thinking, and problem-solving abilities. Geoscience Education plays a vital role in promoting Earth literacy, environmental awareness, and sustainable practices. It contributes to the development of a scientifically literate society with a focus on Earth stewardship and nurtures the next generation of geoscientists.

T27 Geoheritage, Geopark, and Geotourism

Geoheritage, Geopark, and Geotourism are interconnected concepts that focus on the conservation, promotion, and sustainable use of geological and geomorphological features of significant scientific, educational, and aesthetic value. Geoheritage refers to outstanding geological sites and landscapes with cultural, scientific, and tourism value. Geoparks are designated areas that protect and manage important geological heritage sites while promoting sustainable development and geotourism. Geotourism involves responsible travel to experience and appreciate geological and natural wonders, while promoting environmental conservation and local community involvement. These concepts aim to raise awareness of the Earth's geological heritage, support local economies, and foster a deeper understanding of our planet's geological history and processes.

T28 Forensic Geology and Medical Geology

Forensic Geology and Medical Geology are specialized branches of geology with different applications. Forensic Geology involves the analysis of geological materials, such as soils, minerals, and rocks, in criminal investigations. It helps identify the origin and transfer of geologic evidence, and assists in crime scene reconstruction and forensic analysis. Medical Geology, on the other hand, focuses on the relationship between geologic materials and human health. It examines the impact of geologic factors, such as exposure to toxic elements in soil or water, on human well-being and the incidence of disease. Both fields combine geological expertise with other scientific disciplines to provide valuable insights into legal investigations and public health concerns related to the Earth's materials.

T29 Engineering Geology and Geomechanics

Engineering Geology and Geomechanics involve the application of geologic principles to engineering projects and the study of rock and soil behavior. Engineering Geology evaluates the geological conditions of construction sites, including slope stability, rock quality, and groundwater conditions. It helps in the design and implementation of infrastructure projects, such as buildings, roads, and tunnels. Geomechanics focuses on the mechanical behavior of rocks and soils under various loading conditions. It helps engineers understand the stability and deformation of geologic materials and supports the design of safe foundations and structures. These fields ensure the integration of geological considerations into engineering practice, promoting the safety and efficiency of construction projects.

T30 Urban Geology

Urban Geology focuses on the study of geologic processes, hazards, and resources in urban environments. It examines the interaction between geology and human activities in cities, including the impact of urbanization on the natural landscape. Urban Geology assesses geologic hazards such as subsidence, landslides, and earthquakes in urban areas to inform urban planning and infrastructure development. It also examines the availability and sustainable use of geological resources in urban areas. By integrating geological knowledge into urban planning and management, Urban Geology contributes to the foundation of resilient and sustainable cities that are aware of their geological context.

T31 Geohazards

Geohazards are natural events or processes that pose a threat to human life, infrastructure, and the environment. These hazards include earthquakes, volcanic eruptions, landslides, tsunamis, and floods. Geohazards arise from the dynamic nature of the Earth's geologic processes and can have devastating consequences. The study of geohazards involves understanding the causes, mechanisms, and effects of these events. It contributes to hazard assessment, early warning systems, and the development of mitigation and disaster management strategies. By studying geohazards, scientists and policymakers work to minimize the risks associated with these natural phenomena and promote safer communities.

T32 Mitigation and Adaptation in Climate Crisis

Mitigation and Adaptation in the Climate Crisis refer to strategies and actions to address the challenges posed by climate change. Mitigation involves efforts to reduce greenhouse gas emissions and minimize human activities that contribute to global warming. It includes transitioning to renewable energy, improving energy efficiency, and implementing sustainable practices. Adaptation focuses on adjusting to the impacts of climate change by building resilience and preparing for changes in temperature, precipitation patterns, sea-level rise, and extreme weather events. This includes initiatives such as improving the resilience of infrastructure, developing climate-smart agriculture, and implementing disaster risk reduction measures. Combining mitigation and adaptation measures is critical to tackling the climate crisis and building a sustainable future for generations to come.

T33 Big Data and Artificial Intelligence (AI) in Geoscience

Big Data and Artificial Intelligence (AI) are revolutionizing the field of Geoscience. The abundance of data generated from various sources, such as satellites, sensors, and geological surveys, combined with AI algorithms, enables advanced analysis and modeling of geospatial information. Big Data analytics and AI techniques enable the identification of patterns, correlations, and anomalies in large datasets, providing valuable insights for geoscientific research and applications. They help predict natural disasters, map geological features, and optimize resource exploration and management. The integration of Big Data and AI in Geoscience improves decision-making processes, promotes efficiency, and contributes to a better understanding of the Earth's systems.

T34 Energy and Carbon Neutrality

Energy and Carbon Neutrality refers to the goal of achieving a balance between energy consumption and carbon emissions, ultimately resulting in zero net carbon emissions. It involves a transition from fossil fuels to renewable energy sources such as solar, wind, and hydroelectric power. This transition is essential to combat climate change by reducing greenhouse gas emissions. Achieving energy and carbon neutrality requires implementing energy-efficient technologies, promoting sustainable practices, and investing in renewable energy infrastructure. It also means adopting cleaner transportation systems and promoting carbon capture and storage technologies. Energy and Carbon Neutrality are essential to creating a sustainable and low-carbon future, mitigating climate change, and preserving the environment for future generations.

T35 Geoscience and Policy

Geoscience and Policy refers to the intersection of geoscientific knowledge and its application in policy-making processes. It involves the translation of scientific findings and evidence into actionable policies that address societal and environmental challenges. Geoscientists contribute expertise on issues such as climate change, natural resource management, and disaster risk reduction, providing valuable insights to policymakers. Geoscience and Policy facilitates informed decision-making by integrating scientific research, data, and models into policy development and implementation. It promotes evidence-based approaches to address complex geoscientific issues, ensuring sustainable and resilient outcomes. Collaboration between geoscientists, policymakers, and stakeholders is essential for effective geoscience-informed policies that benefit society and the environment.

T36 Management of Radioactive Resources and Waste

Management of Radioactive Resources and Waste focuses on the safe handling, storage, and disposal of radioactive materials generated by various sources, including nuclear power plants, medical facilities, and research institutions. It involves strict regulatory frameworks and protocols to ensure radiation protection and prevent environmental contamination. Management of radioactive resources involves their efficient and responsible use, including fuel cycle management, decommissioning of nuclear facilities, and transport of radioactive material. Additionally, the proper management of radioactive waste includes containment, treatment, and long-term storage solutions, such as geological repositories. This field aims to minimize the risks associated with radioactive materials, safeguard human health and the environment, and ensure the secure handling of radioactive resources and waste throughout their life cycle.

T37 Deep-Time Digital Earth: IUGS DDE Sessions

Deep-Time Digital Earth: IUGS DDE Sessions is a dedicated track within the International Geological Congress that focuses on the use of digital technologies and data-driven approaches to study Earth's long history. It explores the integration of geological data, models, and simulations to reconstruct past environments, climates, and geological processes. The sessions will cover topics such as paleoclimate modeling, geologic mapping, and data visualization techniques. Deep-Time Digital Earth aims to advance our understanding of Earth's evolution over millions of years and to promote the use of digital tools for geoscientific research and education. It provides a platform for sharing advances and fostering collaboration among researchers and practitioners in the field.

T38 Anthropocene

Anthropocene refers to the proposed geological epoch characterized by the significant impact of human activities on Earth's ecosystems. It recognizes that human activities, such as industrialization, urbanization, and the burning of fossil fuels, have fundamentally altered the planet's systems and geology. The Anthropocene concept highlights the unprecedented influence of human actions on Earth's climate, biodiversity, and geological processes. It raises awareness of the need for sustainable practices, conservation efforts, and mitigation strategies to address the challenges posed by human-induced environmental changes. The Anthropocene concept fosters interdisciplinary research, policy discussions, and public engagement to better understand and manage the complex relationship between human society and the Earth system.

T39 Geoethics and Societal Relevance of Geosciences

Geoethics and Societal Relevance of Geosciences focuses on the ethical considerations and societal implications of geoscientific research and practices. It explores the responsibility of geoscientists to contribute to sustainable development, environmental protection, and social well-being. Geoethics promotes integrity, transparency, and accountability in geoscientific research and decision-making processes. It encourages geoscientists to engage with local communities, stakeholders, and policymakers to ensure that geoscientific knowledge is accessible, relevant, and beneficial to society. The field emphasizes the ethical dimensions of geoscience education, professional conduct, and the ethical implications of resource extraction, land use planning, and natural hazard mitigation. By integrating geoethics, geoscientists can promote a more inclusive, responsible, and ethical approach to addressing global challenges.

T40 History of Geological Sciences

History of Geological Sciences explores the evolution of geological knowledge, theories, and discoveries over time. It examines the contributions of early geologists, their methods, and the development of geological concepts and frameworks. This field explores the historical context in which geological ideas emerged and the impact of influential figures and scientific breakthroughs. Studying the history of the geological sciences provides insights into the gradual understanding of Earth's processes, the formation of rocks and minerals, and the interpretation of fossils. It highlights the iterative nature of scientific progress and the influence of societal, cultural, and technological factors on the advancement of geological knowledge.

T41 Mathematical and Computational Methods for the Geosciences

Mathematical and Computational Methods for the Geosciences focuses on the application of mathematical and computational techniques to analyze and model geoscientific data and phenomena. This field utilizes mathematical tools such as statistics, calculus, and linear algebra to process and interpret geological and geophysical data. It also employs computational methods, including numerical simulations and machine learning algorithms, to simulate complex geological processes and make predictions. By combining mathematical rigor with computational power, geoscientists can gain insights into the Earth's systems, understand patterns and relationships, and improve predictions of natural hazards. This interdisciplinary field plays a crucial role in advancing geoscientific research, data analysis, and decision-making in areas as diverse as climate modeling, groundwater modeling, and geophysical imaging.

SCIENTIFIC PROGRAM

Theme	Title	Convener	Contact
Others		Seong-Pil KIM	spkim@kigam.re.kr
Meeting	CGI Council Meeting	Zhang MINGHUA	zminghua@mail.cgs.gov.cn
	Standardization of University Activities on Geosciences Domain	Jonathan G. PRICE John LUDDEN Qiuming CHENG Vicki S. McCONNELL Mark Gabriel LITTLE Christy VISAGGI Nir ORION Shankar RAIASEKHARIAH	agi@americangeosciences.org
	Business meeting of the ICS Subcommission on Quaternary Stratigraphy	Martin J. HEAD	mjhead@brocku.ca
	Coastal Erosion Along Shorelines of Gulf of Mexico Due to Lack of Sediment Deposits & Topography Structure	Ashvik NANDIGAM	ashviknandigam@gmail.com
	International Association for Mathematical Geosciences (IAMG) General Assembly	Juliana LEUNG	juliana.leungiamg@gmail.com
	INHIGEO Business Meeting	Ezio VACCARI	ezio.vaccari@uninsubria.it
	2nd General Assembly of the IAPG-International Association for Promoting Geoethics	Silvia Peppoloni	silvia.peppoloni@ingv.it
	IAMG Award Presentations	Juliana Leung (Secretary for IAMG)	juliana.leungiamg@gmail.com
	International Subcommission of Stratigraphic Classification of ICS	(1) Werner E. Piller (2) Jochen Erbacher	(1) Werner.piller@uni-graz.at
	A general assembly of WCOGS member leaders	WCOGS activities Members	yjl@ccop.or.th, Julie.hollis@eurogeosurveys.org, daniel.lebel.geo@gmail.com
Seminar	EMODNET-Geology's new standards revealing Earth's seabed geology	Anu KASKELA	anu.kaskela@gtk.fi
	Seminar on Karst Geology and Sustainable Development	Zhang CHENG	zwzy19@163.com zhangcheng@mail.cgs.gov.cn
	Geothermal energy as energy resource	Wisdom Kambale KAVYAVU	wisdomkambale@gmail.com
	The role of internationally designated areas in activating sustainable geotourism in rural communities	Darren SOUTHCOTT	ds639@leicester.ac.uk
	Tracking and Citing Samples With Persistent Identifiers	Jens KLUMP	jens.klump@csiro.au
	Mineralogical investigation of amphibole peridotites in ultramafics of Mashhad, Northeast Iran	Kourosh MOHAMMADIHA	Mohammadiha@gsi.ir
	Climate Change Causes and Mitigation Reforms and the Way Forward	Wainkwa Chia ROGERS	wainkwa2020@kangwon.ac.kr
Seminar/ Special Session	Groundwater and surface water interactions	Steven J. BERG	sberg@aquanty.com
	Rwanda Mining Session	Digne Edmond R. RWATANGABO	d.rwabuhungu@ur.ac.rw; drwabuhu@gmail.com
Short course	Geoscience for Sustainable Development	Joel GILL	joel@gfgd.org
	Deep-time.org: the one-stop online research platform for geoscientists	Zhenhong DU	duzhenhong@zju.edu.c n
	Advanced Excel for Geologists	Marius SWART	marius@earthlabtech.com
	Recent advances in fluid detection using seismic	Mohammed FARFOUR	mfarfour@squ.edu.om
	HydroGeoSphere Short Course: Introduction to Fully-Integrated Hydrologic Modelling	Hyoun-Tae HWANG	hthwang@aquanty.com
	Incorporating Role-Playing Games into the GeoClassroom	Lev HORODYSKYJ	levh@sciencevoices.org
	Building Successful Community Projects	Lev HORODYSKYJ	levh@sciencevoices.org
	Digital Elevation Models (DEM), An Important Source of Data for Earth and Planetary Geoscientists: Mathematical Morphological Treatment of DEMs	B. S. DAYASAGAR	bsdsagar@yahoo.co.uk
	Training the SediLizer (Sediment Analyzer) Software	Mohammad Zare MANIZANI	mohammad.zarea@gmail.com
	Brazilian offshore volcanism - igneous petrology	Anderson Costa DOS SANTOS	andersonsantos@dmpi.com.br
Symposium	Geoethics	Silvia PEPPOLONI	silvia.peppoloni@ingv.it
Workshop	Scientist-School Collaboration to Promote Geosciences: Strategies for Building a Successful Partnership	Nir ORION	nir.orion@weizmann.ac.il
	Workshop on Pre-vegetation fluvial system	Partha Pratim CHAKRABORTY	parthageology@gmail.com
	International Union of Geological Sciences Manual of Standard Methods for Establishing the Global Geochemical Reference Network	Alecos DEMETRIADES	alecos.demetriades@gmail.com
	INHIGEO Workshop on "Hidden Histories of Geology"	Victor MONNIN	victor.monnin@gmail.com
	Social Responsibility in Geoscience Education Workshop	Mike KATZ	mikekatz320@gmail.com
Others	European Research Council Funding Opportunities in Earth Sciences	David GALLEGO-TORRES	david.gallego-torres@ec.europa.eu

*** We are still receiving applications for the Scientific Program and could be modified.**

CALL FOR ABSTRACTS

The window for abstract submission will be opened from 4th September 2023 on IGC 2024 website (www.igc2024korea.org). Abstracts can be submitted with a non-refundable abstract submission fee of USD 20 (discounted). Presenting author will be permitted to deliver only two oral presentations and one poster presentation at maximum in this Conference, while they may have co-authorships for multiple abstracts. All abstracts must be prepared and submitted in the required format as per the instructions on the 37th IGC website. Abstracts must be limited to 200-500 words. Three to five keywords should be provided in your submission. Tables, figures, references and other graphics will not be accepted in abstracts. Abstracts must be submitted by the presenting author (oral and poster) only. All abstracts will be reviewed by the Scientific Program Committee. Authors are required to sign in consent to the collection and the use of personal information and copyright transfer agreement in abstract submission.

- **Submit your abstracts at www.igc2024korea.org**
- **Fill in the title, author(s), affiliation(s), and main text in English.**
- **Abstract text should be clear and concise with 200–500 words.**
- **Authors should provide three to five keywords.**
- **Figures/graphs/tables are not accepted.**


Gangwon Paleozoic National Geopark (Donggang)

CODE OF CONDUCT

About the Code of Conduct

International Geological Congress (IGC) 2024 welcomes all who are interested in the field of geoscience. IGC 2024 offers a variety of meetings and events that are welcoming, respectful, inclusive, and collaborative. IGC 2024 is committed to fostering an ethically correct, equitable, safe, open, and respectful environment for scientific activities.

Expected Behavior

The IGC 2024 supports and encourages a professional and inclusive environment that appreciates a variety of perspectives and viewpoints. It is expected that all meetings and sponsored activities will be conducted in a professional atmosphere, ensuring that all participants are treated with courtesy, respect, and consideration. The IGC 2024 strives to foster a respectful atmosphere where participants engage in open communication with civility, collegiality, and collaboration, while maintaining a harassment-free and appropriate environment for everyone involved. This code of conduct applies to scientists, students, guests, exhibitors, staff, vendors, and other suppliers, promoting a harmonious and respectful interaction among all.

- **Show respect and consideration** for all people, and do not dominate discussions.
- **Listen to others.** Make room for a diversity of voices in group discussions, on panels, and the like without pressuring those who choose not to speak.
- **Be collegial and collaborative.** Be mindful of your tone and the potential impact your position, experience, and/or privilege may have on others.
- **Show that you value differing perspectives.** Communicate openly and civilly – critique ideas, not people.
- **Be inclusive** and intentional about welcoming a diversity of individuals and their identities when networking, organizing panels, leading sessions, or inviting others to share ideas.
- **Honor presenters' requests NOT to take pictures or recordings.** It is up to presenters to let Participants know if they do not allow pictures or recordings.
- **Act professionally and responsibly** if you choose to drink when alcohol is available at IGC 2024 events, or you use other legal intoxicants.
- **Report concerns immediately** so that IGC 2024 can act quickly to address and resolve issues.
- **Respect confidentiality** of the identities of any individuals involved in a conduct concern while it is being reviewed and addressed.
- **Comply with requests to stop behavior.** If any IGC 2024 Leaders, IGC 2024 staff, session or field trip leader, or other person in a facilitation or leadership role asks you to stop a behavior deemed unacceptable; immediately and respectfully comply.
- **Obey the rules and policies of the meeting venue,** hotels, IGC 2024-contracted facility, or any other venue where your meeting badge and IGC 2024 affiliation is likely to be displayed.

Unacceptable Behavior

The IGC 2024 always expects respectful and professional conduct from participants. The IGC 2024 opposes and prohibits any form of harassment, violence, bullying, discrimination, criminal acts, and violations of the meeting protocol by any participant. In addition, all participants must observe scientific integrity and ethics. The IGC 2024 welcomes the use of social media and photography at IGC 2024, but copyright, privacy, and any other related ethics must be respected. Examples of unacceptable behavior include, but are not limited to, the following:

- Initiating or participating in physical or verbal (including sexual) harassment, abuse, bullying, violence or discrimination of any participants on-site and/or online.
- Threatening or stalking in-person or online.
- Criminal offenses or any other illegal actions.
- Disruption of official events including oral and poster presentations.
- Failure to follow meeting protocol.
- Copying any presentation materials without permission.

Reporting Unacceptable Behavior

- **Reporting an Incident of unacceptable behavior:** Any attendee who is aware of any unacceptable behavior is encouraged to contact the IGC 2024 Organizing Committee in person or by email (info@igc2024korea.org or scicommittee@igc2024korea.org).

- **Reporting a threat to public safety:** If you experience or witness behavior that constitutes an immediate or serious threat to public safety at an on-site meeting, contact 119, security or IGC 2024 staff.

Procedures for addressing misconduct

- Anyone who is requested to stop unacceptable behavior must immediately cease.
- IGC 2024 staff, meeting organizers, security, or law enforcement personnel have the authority to take necessary action(s) to the reported misconduct or unacceptable behaviors.
- Actions taken to address misconduct range from a verbal warning to immediately removing the individual from the meeting or activity without refund of conference fees.
- General procedures for addressing misconduct:
  1) Report any unacceptable behavior to the designated contact of the IGC 2024 Organizing Committee.
  2) If the violation necessitates immediate action, resolve it promptly on the spot without delay. If immediate resolution is not feasible or suitable, then refer the case to the Ethics Committee for further investigation and decision-making.
  3) The Ethics Committee investigates the case and determines whether it constitutes a violation.
  4) If the Ethics Committee determines that there is a violation, they will then propose or suggest appropriate sanctions to the IGC 2024 Organizing Committee.
  5) If the IGC 2024 Organizing Committee approves the proposed sanction, the reporter/violator is notified of the decision, and appropriate sanction is taken based on the committee's decision.

CALL FOR SPONSORSHIPS

The 37th IGC will also offer innovative and rewarding sponsorship opportunities. Six major categories of sponsorship have been devised to suit the needs and objectives of the sponsors.

The cost of sponsorship packages with complete details is being brought out in the Sponsorship Brochure which will be published on the Congress website.

Tier			DIAMOND	SAPPHIRE	EMERALD	CRYSTAL	TOPAZ	RUBY
Cost (US dollar)			$115,000	$77,000	$55,000	$38,000	$23,000	$16,000
Benefit	Free Participant passes		**10**	8	6	4	**2**	1
	Advertisement	Program book	2-pages (color)	1-page (color)	half-page (color)	half-page (color)	half-page (color)	
		Website	○	○	○	○	○	○
		Mobile App.	○	○	○	○	○	○
		SNS	○	○	○	○	○	○
	Exhibition booth		36 m² (4 booths)	18 m² (2 booths)	9 m² (1 booth)	9 m² (1 booth)		
	Conference Dinner		6	5	4	3	2	1

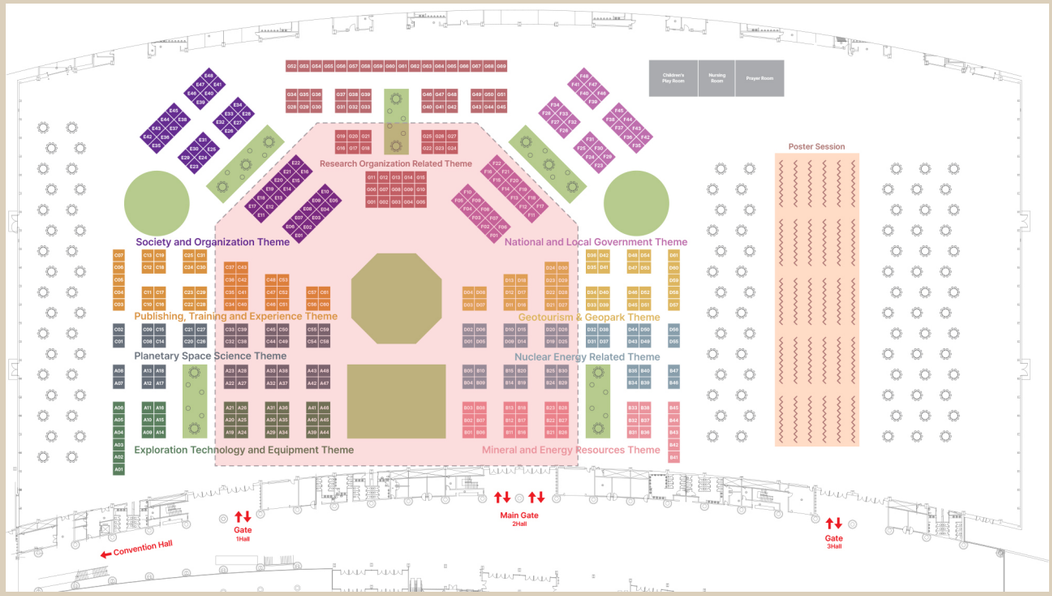
CALL FOR GEOEXPO

GeoExpo, which consists of thematic pavilions, has been planned at the venue of the 37th IGC - Bexco, Busan. It has been designed to offer a wide range of opportunities catering for the needs and budgets of the exhibitors. It will provide pre-fabricated booths of size 9 m² and its multiples. It will also offer open spaces for creating customized booths.

There will be a wide range of exhibitor kit items, including panels, furniture and lighting. The Exhibition Application is downloaded on the official website and mail to GeoExpo committee. (geoexpo@igc2024korea.org)

Type	Zone	Size	Cost (US dollar)	Remarks
Raw space	Premium	3m*3m	$3,800	- Excluding set-up costs - 4 booths available for connection
	Normal	3m*3m	$3,000	
Shell scheme	Premium	3m*3m	$4,200	- Including set-up costs - 3m(W)*3m(L)*2.4m(H)
	Normal (corridor)	3m*3m	$3,400	- Including set-up costs - 3m(W)*3m(L)*2.4m(H)
Others	- Costs for designed booth can be adjusted or negotiated as desired booth size			

* Shell Scheme Packages include Booth, Carpet(Pytex), Fascia board, Power Supply(220V), Lighting*3, Information desk*1, Chair*1



FIELD TRIPS

Why not become truly great travelers by participating in Field Trips? About 40 courses are being planned throughout all over the Republic of Korea and neighboring countries. Here in the , 33 domestic courses and 2 oversea courses are briefly introduced. More overseas courses are under preparation and will be updated soon after.

The Korean Peninsular, despite being a small land mass, preserves a variety of geological treasures that have formed over a long geologic time since the Late Archean. The domestic Field Trip courses are arranged into three topics: Geology of Korea, Geoparks, and Geohazards. Any registered and accompanying persons are able to participate in Field Trips before and after the congress over a few days. Mid-congress Field Trip programs are also available to Busan and surrounding attractions for a day or half. Please see the list and map below for the planned courses.

Registration for the Field Trips is planned to be opened on 8 Jan 2024 and close on 26 April 2024. In this stage, the registration will be accepted on a first-come, first-served basis, and if the maximum number of participants is reached, the registration will be closed. If the minimum number of participants is not met, the course may be combined with other courses or canceled. In this case, the participation fee will be refunded. Detailed information for each Field Trip course, such as participant fee, maximum, and minimum numbers of the participants will be updated as soon as possible. The official website of IGC 2024 (www.igc2024korea.org).

Pre-congress (Tuesday, 20 Aug 2024 ~ Saturday, 24 Aug 2024)

Pr-K-01A

Neoarchean–Cretaceous rocks in northwestern coastal area of the Gyeonggi Massif, Korea
Participants Min. 18 / Max. 24
Dates: 21 Aug 2024 ~ 24 Aug 2024

Introduction

The Gyeonggi Massif is one of the major tectonic units of the Korean Peninsula which is composed of orthogneiss, granite and paragneiss of the late Neoarchean to Paleoproterozoic Era, intrusive rocks of the Mesoproterozoic Era, schist of the Neoproterozoic Era, intrusive and extrusive rocks of the Triassic, Jurassic and Cretaceous periods, and Quaternary unconsolidated sediments. The field-trip course will guide you the Late Neoarchean hornblende granodiorite gneiss which is one of the oldest rocks in the southern part of the Korean Peninsula and typical Proterozoic rocks of the Gyeonggi Massif. The Proterozoic rocks comprise; (1) biotite gneiss of Orosirian Period which is the oldest paragneiss in the massif, (2) Orosirian orthogneisses such as tonalite gneiss, biotite granite gneiss, hornblende gabbro gneiss and garnet-bearing granite gneiss emplaced at 1935±10~1846±16 Ma, (3) metasedimentary sequences and alkali granite (ca. 1.68 Ga) of Statherian Period, (4) Ectasian intrusive rocks including amphibolite, mafic-intermediate intrusive rocks and alkali granites emplaced at 1258±15~1189±14 Ma, (5) Neoproterozoic metasedimentary sequences (Tonian-Cryogenian periods) intercalated with amphibolite and garnet-amphibolite. The field-trip course also includes Triassic, Jurassic and Cretaceous intrusive rocks. Triassic intrusive rocks are gabbro, monzonite, syenite, hornblende granite, porphyry biotite granite, biotite granite and syn-plutonic diorite dike and aplite emplaced at 240.0±1.7~ 223.3±2.7 Ma. Jurassic intrusive rocks consist of the foliated porphyritic biotite granite (174.8±1.1 Ma) and the massive equigranular biotite granite (169.9±1.6 ~166.2±2.1 Ma). Cretaceous intrusive rocks include the hornblende granodiorite and biotite granite. The hornblende granodiorite contains a large amount of mafic microgranular enclaves. Emplacement age is 111.0±1.0 Ma for the hornblende granodiorite, 112.5±1.3 Ma for the mafic microgranular enclave and 109.4±1.4 Ma for the biotite granite, respectively.

Pr-K-02

Tectono-metamorphism and geochronology of the northern Gyeonggi Marginal Belt (Imjingang Belt), Korea
Participants Min. 10 / Max. 20
Dates: 22 Aug 2024 ~ 24 Aug 2024

Introduction

This is a field excursion to the Imjingang belt at the central west of the Korean Peninsula. Outcrops in the region are complex, ranging from Neoproterozoic plutonic rocks, Devonian sedimentary rocks & granitoids, Cretaceous pyroclastic rocks, and Quaternary basalts. The main focus of this excursion lies on the Devonian sedimentary sequences metamorphosed during the Permo-Triassic that sutured two Precambrian massifs of the Korean Peninsula. Although the low-grade part of metamorphic rocks in the belt unfortunately crops out in North Korean territory, the greenschist- to amphibolite-facies metamorphic rocks such as garnet schists, kyanite-staurolite schists, garnet amphibolites, and calc-silicate rocks as well as the development of mid-crustal scale ductile shear zone along the belt give us opportunities to examine orogenic processes at the crustal level. Moreover, the Imjingang belt has been considered possibly to be extended from the Dabie-Sulu belt in eastern China, and is a key to understand the post-Gondwana amalgamation of East Asia.

Pr-K-04

Late Paleozoic metamorphism and deformation in the Okcheon Belt
Participants Min. 10 / Max. 20
Dates: 22 Aug 2024 ~ 24 Aug 2024

Introduction

The NE-SW trending Okcheon Belt, bound by the Precambrian Gyeonggi and Yeongnam massifs, is a prominent fold-thrust belt which provides key evidences to interpret the orogenesis of the Korean Peninsula. The Okcheon Zone, the southwestern part of the Okcheon Belt, consists of the siliciclastic and carbonate rocks that preserves important clues to understand the spatiotemporal evolution of the Okcheon Belt. The sedimentary wedge shows lateral-facies change from conglomerate to sandstone and shale, and the clastic deposits are intercalated with shallow marine carbonate deposition through the Paleozoic Era. The outcrop studies, 3-D structural geometric and kinematic analyses of the deformation features in the study area indicate the presence of the regional-scale fold-dominated orogeny that deformed the clastic wedge. The field trip will be focused on the folds and faults preserved in the outcrops of the post-Devonian siliciclastic rocks of the Okcheon Zone. The key features will include (1) regional folding of post-Devonian sequences that later intruded by Triassic intrusion, (2) the late Paleozoic sedimentary formation of the clastic wedge three-dimensionally covered by the older early Paleozoic limestone along the folded thrust defining a tectonic window. The results from geochronological analyses of the sedimentary and igneous rocks in the study area gives ca. 370 Ma and ca. 232 Ma, respectively. indicating the presence of the Permo-Triassic orogeny preserved in the clastic wedge of the Okcheon Zone, Okcheon Belt. Pyeongan Supergroup (PS) in the Taebaeksan basin preserves key geological evidences to understand the tectonometamorphic evolution of the Songrim orogeny that affected the formation of the Korean Peninsula during the late Paleozoic to early Mesozoic. The field trip will be focused on the characteristics of the late Paloezoic Songrim orogeny based on metamorphism and deformations of the PS. The PS was affected by lower temperature–medium pressure (M1) and medium temperature and pressure (M2) regional metamorphism during the Songrim orogeny. During M1, slate and phyllite containing chloritoid, andalusite, kyanite porphyroblasts intensively deformed by E–W bulk crustal shortening combined with folding and shearing. Garnet and staurolite porphyroblasts were formed during the N–S bulk crustal shortening accompained by M2. Such regional metamorphism of the PS is interpreted to occur in an area where high strain zone is localized during ca. 220–270 Ma. Therefore, the field trip mainly consists of key outcrops showing products resulted from the Alpine-type metamorphism and deformation.

Pr-K-06

Evolution of the Cretaceous basins in Korea
Participants Min. 20 / Max. 30
Dates: 21 Aug 2024 ~ 24 Aug 2024

Introduction

During the Mesozoic, the East Asian continental margin was an active continental margin due to the subduction of the Paleo-Pacific plate beneath the Eurasian continent. The subduction caused movements of strike-slip faults in the Korean Peninsula, resulting in the formation of the Gyeongsang Basin and several nonmarine strike-slip basins along the boundaries of the Okcheon Fold Belt. The basinfill of these basins was deposited in alluvial fan, fluvial, and lacustrine environments in a semi-arid climate. The evolution of the Cretaceous basins in Korea was mainly related to the tectonics and volcanism associated with oceanic plate subduction. The Gyeongsang Basin sediment comprises three groups, the Sindong, Hayang, and Yucheon groups, in ascending order defined by the intensity of synsedimentary volcanism. The Sindong Group deposition began in an elongated basin along the western margin of the basin with little volcanism. Then, the basin experienced extension (Hayang Group) and vigorous arc volcanism (Yucheon Group). The strike-slip basins were formed by sinistral movements of the pre-existing faults and deposited in alluvial to lacustrine environments with volcanism. The deposition of these basins was ended by basin inversion due to the changes in the subduction direction of the oceanic plate in the Late Cretaceous. This field trip course visits representative field sites of the Gyeokpo and Gyeongsang basins for four days to understand the evolution of the Cretaceous nonmarine basins in the East Asian continental margin. These sites show us the development of the sedimentary environments in the active continental margin of East Asia during the Cretaceous.

Pr-K-09

Tracking magmatic response recorded in Korean Cordillera
Participants Min. 16 / Max. 20
Dates: 20 Aug 2024 ~ 24 Aug 2024

Introduction

Phanerozoic granitoids are exposed around one-third of the surface area of the Korean Peninsula. These granitoids preserve signatures of Triassic, Jurassic, and Cretaceous magmatic flare-up events with magmatic lulls between the flare-ups. After the Permian–Triassic (Songrim) tectonothermal events, arc magmatism culminated in the Jurassic (Daebo) and Cretaceous–Paleogene (Bulguksa). Triassic plutons occur sporadically as large to small stock, whereas the Jurassic flare-up left voluminous north-northwestward-trending granitoid stocks and batholiths. The Cretaceous plutons occur mainly as scattered small to large stocks, and are dominantly exposed in the southeastern part of the Korean Peninsula. The stops on this field trip are chosen to build understanding of the cyclicity of magmatic, isotopic, and tectonic features and role of arc migration. The trip includes the Geumjeongsan geosite, one of the Busan National Geopark of Korea, with geoheritages such as gnamma, Inselberg, and tor.

Pr-K-10

Phreatomagmatic volcanism and volcaniclastic sedimentation in basaltic volcanic field (Jeju Island, Korea)
Participants Min. 10 / Max. 30
Dates: 22 Aug 2024 ~ 24 Aug 2024

Introduction

Jeju Island (Jeju Special Self-Governing Province, former Jeju-do) is very famous for the stunning natural scenery and superior tourist amenities. Scenic beaches, waterfalls, cliffs, and caves lie in harmony, and the mild weather makes the island an even more ideal tourist destination. Jeju as a mild oceanic climate throughout the year with the smallest annual temperature range in the country. The temperature for the hottest summer averages no more than 34.3°C and no less than -3.2°C for the winter. The island is 73 km wide and 41 km long with a total area of 1,848 km2, and the largest island in Korea. Jeju Island is a Quaternary volcanic island that was constructed above the ca. 100 m-deep continental shelf off the Korean Peninsula. The island is composed of plateau- and shield forming, basaltic to trachytic lavas and numerous monogenetic volcanic cones that are made up of oceanic island basalt produced by plume related magmatism. K-Ar ages of the volcanic rocks range generally between 0.9 and 0.03 Ma. About 360 monogenetic volcanic cones called 'Oreum' cover the surface of Jeju island, most of which are scoria cones except for about a dozen hydromagmatic volcanoes. A variety of volcanic landforms, excellent geologic exposures, favorable climate, ready accessibility, and beautiful sceneries made the island an exceptional place for tourism and geological field excursion. Several geologic features of the island, including the Mt. Hallasan, the Seongsan Ilchulbong tuff cone, and several lava tubes, were hence inscribed as a UNESCO's World Natural Heritage in 2007. The field excursion is intended to bring together in the field a group of researchers who are interested in the eruption processes of phreatomagmatic volcanoes, the transport and depositional mechanisms of phreatomagmatically generated gravity currents, and the stratigraphic and paleoenvironmental changes recorded in the primary and reworked hydrovolcanic deposits. The field workshop program includes a visit to several tuff rings and tuff cones, a lava tube, a magnificent lava dome, a waterfall, and a museum (the Jeju Stone Park).

Pr-K-11

DMZ, The Space of the Collision and Peace in the Korean Peninsular
Participants Min. 15 / Max. 30
Dates: 23 Aug 2024 ~ 24 Aug 2024

Introduction

This area is located between two tectonic segments - Imjingang Belt and Gyeonggi Massif - in which various tectonic structures can be observed. It contains the records of the major tectonic and volcanic activities in East Asia since the Precambrian. So, this area shows high geodiversity and consists of Precambrian(2,000~700 Ma) and Paleozoic (ca. 300 Ma) metamorphic rocks, Jurassic (ca. 200 Ma), Cretaceous (ca. 110 Ma) granites, Cretaceous to Early Tertiary (80~50 Ma) volcanic and sedimentary rocks, and Quaternary (0.09~0.85 Ma) basalt (Fig. B-1), forming the Hantangang River Volcanic Field(HRVF). Espeacially, Quaternary volcanic activity in an intraplate tectonic setting resulted in the alkaline volcanic rocks of the HRVF. Quaternary volcanic rocks in the HRVF have been variously named in the past but have now been renamed the Hantangang Basalt. The Hantangang River is one of major tributaries of the Imjingang River which flows from North Korea to the Yellow Sea via South Korea. The lavas flowed southwestward mainly along the paleochannel and subordinately along the Imjingang River in South Korea. The basalt in South Korea alone shows clearly that the lavas are thinning southwestward from the North Korean sources from 71 m in Cheorwon-gun to 2~3 m in Yulgok-ri. The Hantangang River is a part of river system which has formed linearly following the Chugaryeong Fault System. The valley region displays various landforms such as tectonic, volcanic and fluvial landforms. In the Geopark, spectacular volcanic landforms are exposed due to stream erosion, implying previous volcanic and fluvial activities which created a large lava plateau, frequent and lengthy distribution of columnar joints, various types of water falls, subaerially exposed pillow lava, and fluvial sediments overlain by lava flows. A large lava plateau formed where lava flowed into the vast Cheorwon Plain producing this special feature. A large volume of lava spread out the plain and filled up adjacent valleys. It also overflowed the palaeo-channel and a special volcanic landform of filled-up valleys developed over a long distance. When the lava ceased to flow rapid cooling of the lava formed various types of joints (columnar, sheeting or curved joints), depending upon the valley bottom topography and cooling rate. After the lava was completely lithified, the basalt started to be eroded by rejuvenated streams, exposing various volcanic landforms. Internal structures of the basalt are well displayed by downcutting along the Hantangang River valley. You can see diverse landforms and landform-forming ongoing processes which are associated with complicated geological structure, volcanic landform. and fluvial system through this field trip. This area is adjacent to the Seoul metropolitan area with well-structured highways and local roads. From Seoul and the metropolitan area, this area can be reached within two hours by car. However, this area is very close to the DMZ(Demilitarized Zone), a by-product of the Korean War. Because this area was the place where the fiercest battle took place during the Korean War, and the reason can be considered in terms of geology and geomorphology, so it is a good topic to discuss with participants.

Pr-K-14

A living underground river : the Baeng-nyong Cave, Pyeongchang, South Korea
Participants Min. 10 / Max. 20
Dates: 22 Aug 2024 ~ 24 Aug 2024

Introduction

The sedimentary rocks along the Dong River are composed of Lower Paleozoic Joseon Supergroup, Upper Paleozoic Pyeongan Supergroup and Mesozoic Bansong Group. The carbonate rocks surrounding the cave are composed of Maggol Formation which belongs to Joseon Supergroup. The formation is composed of limestone and dolomitic limestone which was deposited in the tidal flat depositional environments during the Ordovician period. The Baeng-nyong Cave mostly shows horizontal passages, which have developed along the east-west direction. This cave contains one main passage and three branching passages. The total length of the cave is about 1,875 m. Except for the few passages which are directly influenced by input of Dong river water, most passages show more or less constant temperature range (11.0~13.5°C) and humidity ranges from 70 to 100 % throughout the year. Most of the passages show irregular to triangular shapes in cross section indicating the typical origin of vadose processes, even though other shapes are also observed. This cave has been mostly developed along joint planes, whereas some parts of the passages were influenced by strike directions of bedding planes (Pyengchanggun, 2006, "Scientific investigation of the Baengnyong Cave"). Baeng-nyong Cave is a tourist cave which was opened to the public since August 2010. However, this cave still maintains nearly natural states because operations for the tourism are strictly limited to a cave conservation regulation. During the field excursion, participants are going to wear cave suits, boots, helmets and head lanterns provided by the visitor center of the cave. Various types of speleothems such as soda straws, stalactites, stalagmites, columns, flowstones, rimstones, anthodites, cave pearls, curtains and etc. have been actively forming in the Baeng-nyong Cave. The cave clearly shows formation processes of new cave passages in the level lower than the current main passage. The developing directions of the cave are controlled by flowing directions of the underground channel system and active incisions (can be seen in Chiljokryong overlook) in the meandering river outside the cave. In overall, the Baeng-nyong Cave can be considered as a very early stages in the formation process of a natural bridge.

Pr-K-20

Mudeungsan UNESCO Global Geopark
Participants Min. 20 / Max. 30
Dates: 22 Aug 2024 ~ 24 Aug 2024

Introduction

In the Late Cretaceous Period, extrusive volcanic spread out the pyroclastics by water, wind, and gravity. With time, the volcanic ashes accumulated and hardened to create welded tuff that was cooled and contracted repeatedly to develop pentagonal or hexagonal columnar joints. Living things of the mountain had been fossilized with sedimentation, and columnar joints created the beautiful and mysterious sceneries of Mudeungsan Mountain. The Mudeungsan area, known for its picturesque sights and history of Mother Nature's long period, was certificated as a National Geopark in 2014 and UNESCO Global Geopark in April 2018. Loved by people worldwide, the mountain continues to add a new page to its history. This geopark has many scenic features based on the geology and topography of the volcanic mountain. It protects several endangered and vulnerable plant and animal species. Mudeungsan UNESCO Global Geopark has academically valuable geological heritages, such as columnar joints, Seoyuri Dinosaur Fossil Site, Hwasun Dolmen Welded Tuff, Unjusa Stratified Tuff, and Damyang Chuwolsan Mountain Orbicular Rock. Seoyuri Dinosaur Fossil Site is a geologically significant place. About 1,500 dinosaur footprints composing 73 trackways have been found on five sedimentary layers. New research results have been reported based on these footprints, including unusual trackways and the acceleration phases of dinosaur movement. Hwasun Dolmen Site is an area where numerous southern-style dolmens have been found with many ancient relics, a typical tomb style of the Bronze Age. The rocks of 600 dolmens are from the Cretaceous welded tuff. The stones around the Unjusa Temple are all made of the well-stratified Cretaceous tuff formed by depositing pyroclastic materials. Unlike others made of granite, the Buddha stone statues and stone pagodas in Unjusa Temple generally have a relatively flat and blurred form because the statues and pagodas were made of a well-stratified tuff layer, which easily to take around the Unjusa Temple. In addition, many temples, cultural assets, and art galleries reside in harmony with the magnificent scenery of Mudeungsan, which boasts picturesque views of many topographical features, including various volcanic colonnades, cliffs, block streams, natural caves, and waterfalls.

Pr-K-21

Geomorphic development of coastal features with sea level changes since the last interglacial: Coastal dunes, shore platforms, and tidal flats in the macrotidal shore
Participants Min. 15 / Max. 25
Dates: 21 Aug 2024 ~ 24 Aug 2024

Introduction

Coastal dunes, tidal flats, and shore platforms along the central western coast are useful markers indicating the sea level changes during the late Quaternary. In addition, they also remind us of the need for careful coastal management, including the adverse effects of coastal forestation. They are very susceptible to human exploitation, and are affected directly from the rising sea level caused by global warming and unforeseen natural disasters. On the central western coast of the Korean Peninsula which is mainly dominated by tidal processes, studies has been carried out, using OSL chronology of dune sands as well as cosmogenic nuclides on the shore platforms. The coastline of this area forms part of the eastern boundary of the Yellow Sea and is characterized by sandy beaches with coastal dunes, rocky headlands composed of shore platforms and cliffs, and tidal flats. These features are considered as geomorphic markers of sea level fluctuations in the Holocene or earlier stages, for they develop in conjunction with the sea level changes and climate changes. The landscape of coastal dunes in the study area are diverse including incipient, established and relict structures as well as other dunes formed by deposits accumulating from the deflation of blowouts. They are common along the northwest coast and are 5 to 25 m in height, and usually develop with small pocket beaches. The OSL ages from Shinduri, Kotji, and Dasari dunes demonstrate that most coastal dunes along the wetern shore are Holocene features. Some data from reddish sand indicate a Mid-Holocene sea-level highstand. Shore platforms also indicate the past sea level fluctuation of shoreline change, because they are created by the erosion and subsequent retreat of the cliffs. The occurrence of wide shore platform in resistant rock such as along the west coast of Korea is often regarded as evidence for inheritance from the last interglacial or earlier. But their development remains poorly understood due to a lack of appropriate methodologies. The Dunduri shore platform is relatively gentle (<2°), and 150 m of the shore platform may be exposed at low tide. Using cosmogenic Be-10 dating, the platform seems to be originated during the Pleistocene, when sea levels were comparable to those of the present day, and the present-day shore platform is being cut into the interglacial surface. Along the southwestern coast of Korean peninsula, extensive tidal flats have been developed, these having been formed during the mid-Holocene, ca. 8-6 thousands year ago. However, the tidal flats have different aspects from place to place in response to dominant physical forcing. The field excursion aims at observing sedimentary facies characteristics and stratigraphic evolution during the late Quaternary coupled with sea-level fluctuations. This field trip consists of various types of tidal flats including typical estuarine to wave-dominated open coast associated with coastal dunes.

Pr-K-23

Geologic records of paleoearthquake and tectonic uplift in SE Korea
Participants Min. 15 / Max. 30
Dates: 21 Aug 2024 ~ 24 Aug 2024

Introduction

After the 2016 ML=5.8 Gyeongju earthquake around the Yangsan Fault, the biggest instrumental seismicity ever recorded in Korea, earthquake hazard is becoming an important issue in Korea. Since 2017, paleoseismologists have been working on innovative research projects for active fault mapping and earthquake geology along the Yangsan and Ulsan Faults. The multidisciplinary study is designed to develop advanced techniques for tracking slow-moving, blind, and hidden active faults in Intraplate regions. Marine terrace has been used to indicate the representative tectonic movement by the correlation of their altitudes, ages, and sea-level change. Marine terraces are ubiquitously distributed in the southeastern part of the Korean Peninsula, showing stepwise morphological patterns along the shores and composed of gravels and sands formed under the wave-dominant shoreface and berm. Longitudinal and traversing terrace profiles indicate systematic uplifting since the upper middle Pleistocene, which can be either supported by OSL dating of the fine sediments overlying terrace gravels or the tephra fragments (At, Ata, Aso-4) identified in the sandy silts (paleosoil) on the gravelly terrace deposits. The general uplift rates range from 0.14 to 2.8 m/ka, relatively smaller than the Island arc. This field course introduces the results of recent active faults mapping and paleoseismological investigations. The major results could be summarized as follows: 1) Using geomorphic features expressed by the high-resolution airborne-LiDAR data, we infer the cumulative offsets along the Yangsan Fault and Ulsan Fault. 2) In the trench sections, we could detect multiple surface-faulting events in prehistoric times. Also, in several sites, we found secondary deformation structures probably associated with ground shaking by earthquakes in historical times. 3) Buried traces of active faults could partly be detected by a combination of geophysical surveys (with various methods and resolutions) and borehole drilling (inclined drilling in some cases). 4) Off-fault damages associated with paleo-earthquakes are common in several segments of the Yangsan Fault, and this may indicate that in those regions, paleo-earthquakes were large enough to make rupture complexity. Regarding marine terraces, we primarily focus on the 2nd terrace (10–24 m a.s.l.) formed during the MIS 5a, which is most dominant along the coastal line. We will visit the 2nd terrace of several different sites and can observe the difference in local Uplift rates on the southeast coast of the Korean Peninsula through their altitude and age.

Pr-K-24

Journey through the life cycle of South Korea's nuclear power: from operating plants to decommissioning sites and radioactive waste disposal facilities
Participants Min. 20 / Max. 25
Dates: 22 Aug 2024 ~ 24 Aug 2024

Introduction

The Kori Nuclear Power Plant is a South Korean nuclear power plant located in Kori, a suburban village in Busan. It is the world's largest fully operational nuclear generating station by total reactor count and the number of currently operational reactors since 2016. Construction of the Gori Nuclear Power Plant began in 1972, and the first reactor began commercial operation in 1978. Since then, it has been providing electricity to millions of households in South Korea. All reactors on site are pressurized water reactors (PWR). An expansion of the plant begun in 2006 added four new Korean-sourced reactors, the so-called Shin Kori reactors (shin meaning 'new'). The first pair of Shin Kori reactors are of the OPR-1000 design. Shin Kori 1 and 2 achieved commercial operations in 2011 and 2012 respectively. As of 2023, two of the four reactors at the Gori Nuclear Power Plant are still in operation, while the other two have been permanently shut down. Kori Unit 1 is a pressurized heavy water reactor with a capacity of 587 MW. The reactor was officially shut down in June 2021, after more than 40 years of operation. Currently, Korea Hydro & Nuclear Power (KHNP) is preparing to dismantle Kori Unit 1, which involves the removal and safe storage of the nuclear fuel and the dismantling of the reactor and other facilities. The process is expected to take around 15 years and cost billions of dollars, but it is necessary to ensure the safety and security of the surrounding environment. The decommissioning of Gori Unit 1 is a significant undertaking, and it underscores the challenges of nuclear power generation, including the safe disposal of radioactive waste and the high cost and complexity of decommissioning. However, it also presents an opportunity for South Korea to develop and implement new, safer, and more sustainable energy solutions that will benefit the country and the world. Wolseong low and intermediate level radioactive waste disposal center (WLDC) has been under construction with a total capacity of 800,000 drums. The 1st phase of the disposal facility, which is underground silo disposal with 100,000 drum capacity, is located about 80 meters below the ground surface, in a body of granite. The 2nd phase for surface disposal with 125,000 drum capacity will be completed by 2022. The 1st phase of LILW disposal facility is underground silo type. The capacity of this facility is 100,000 drums constructed below the 100m depth from the ground surface. The facility was approved for use in December 2014. The 2nd phase of LILW disposal facility is surface disposal type. The facility has a capacity of 125,000 drums and is currently under construction. This WLDC is designed by complex disposal facility, and it is planned to construct various types of disposal facilities that can dispose of radioactive wastes below the intermediate level. Additionally, local attractions were prepared for feeling the history of southeastern region of Korea. Bulguksa is a head temple of Korean Buddhism and encompasses six National treasures of South Korea, including the Dabotap and Seokgatap stone pagodas, Cheongun-gyo (Blue Cloud Bridge), and two gilt-bronze statues of Buddha. The temple is classified as Historic and Scenic Site No. 1 by the South Korean government. In 1995, Bulguksa was added to the UNESCO World Heritage List together with the Seokguram Grotto, which lies four kilometers to the east.

Mid-congress (Tuesday, 27 Aug 2024 ~ thursday, 29 Aug 2024)

Mi-K-18

History and culture of Gyeongju, a thousand-year-old ancient capital of the Silla dynasty
Participants Min. 10 / Max. 20
Date: 27, 29 Aug 2024 (Each day)

Introduction

TBA

Mid-congress (Tuesday, 27 Aug 2024 ~ thursday, 29 Aug 2024)

Mi-K-15A

Late Cretaceous Vertebrate Tracks of South Korea I
Participants Min. 20 / Max. 30
Date: 28 Aug 2024

Introduction

The Cretaceous strata from the southeastern part of the Korean Peninsula called the Gyeongsang Supergroup is divided into the Sindong, Hayang, and Yucheon groups by lithostratigraphic units in ascending order. In the southeastern part of the Gyeongsang Supergroup, this excursion area, the late Cretaceous strata which are the Upper Hayang (Jindong Formation) and Lower Yucheon groups are distributed. The track-rich Cretaceous Jindong Formation (Stop 4), the uppermost unit of the Hayang Group, is famous for abundant tetrapod track assemblages, which occur at multiple, closely-spaced stratigraphic levels in the Gyeongsang Basin lake deposits of South Korea and has become one of the best-known sources of Cretaceous vertebrate track assemblages in all of Asia and ranks high on global listings. The Yucheon Group, the uppermost part of the Gyeongsang Supergroup, is divided into Jusasan, Unmunsa, Yokji, and Saryang subgroups (ca. 94.4 – 60.1 Ma; Turonian - Selandian) and consists mainly of alternating lava flows, pyroclastic layers of air fall and ash flow, and volcaniclastic sedimentary rocks, and locally includes alluvial, fluvial, and lacustrine deposits such as the Goseong, Hansando, Jangpyeongri, Obido, Seongpori, and Jangmokri formations that are intruded or overlain by acidic to intermediate volcanic rocks. In contrast to the track-rich Jindong Formation, the late Cretaceous vertebrate tracks from the sedimentary deposits of the Yucheon Group are not well-known. However, the vertebrate tracks including dinosaurs, pterosaurs, and birds tracks, and dinosaur eggs have been reported from the three formations (Goseong, Seongpori, and Jangmokri) of the Yucheon Group in the excursion area. The Goseong Formation, the lowermost formation of the Yucheon Group, disconformably overlies the Jindong Formation (Hayang Group) and is overlain and intruded by the andesitic rocks of the Yucheon Group and the Bulguksa Granites. The formation represents to over-filled lake basin associated with a fluvial environment and has produced two types, a large elongated and a spherical shape, of dinosaur eggs from Tongyeong City (Stop 3). These dinosaur eggs have been described as Macroelongatoolithus goseongensis and Dictyoolithus neixiangensis. The dinosaur, pterosaur, and bird (avian theropod) tracks were discovered from the Seongpori Formation distributed in Jeoje Island (Jeoje City). The late Cretaceous track assemblages are composed of sauropod, ornithopod, pterosaur, and three types of bird tracks such as Koreanaornis, Ignotornis, and Jindongornipes.

Mi-K-19A

The Cretaceous Dadaepo Basin in the Songdo Peninsula Geosite of the Busan Global Geopark (half-day)
Participants Min. 10 / Max. 20
Date: 27 - 29 Aug 2024 (Each day)

Introduction

The Dadaepo Basin is a small Late Cretaceous sedimentary basin in SE Korea, located on the eastern margin of Asia. The basin is an isolated extensional basin situated between the NNE-striking Yangsan and Dongnae faults. The overall configuration of the basin-fill, named the Dadaepo Formation indicates syndepositional tilting of the basin floor to the north-northeast. A number of outcrop-scale faults are observed in the basin-fill sediments, of which the majority are NW-striking normal faults, including syndepositional growth faults. The orientations of mafic (magmatic) and clastic dikes, interpreted as being approximately contemporaneous with the deposition of the Dadaepo Formation, are also nearly parallel to the strikes of outcropscale normal faults. All these extensional structures consistently indicate NE–SW extension of the basin and obliquely intersect the basin-bounding Yangsan and Dongnae faults at angles of 40°–60°. Cho et al. (2016) concluded that the Dadaepo Formation was deposited in a pull-apart basin that subsided as a result of NNE-striking sinistral strike–slip faulting in the southeastern part of the Korean Peninsula during the Campanian (Late Cretaceous). Also, this strike–slip faulting was related to north-northwestward oblique subduction of the proto-Pacific (Izanagi/Kula) or Pacific plate under the eastern margin of the Eurasian plate. The Dadaepo Formation is subdivided into the lower and the upper Dadaepo formations on the basis of the presence of red beds and the abundance of volcanic material (Chang et al., 1983). The lower Dadaepo Formation consists mainly of purple mudstones, and gray to olive gray conglomerate and coarse-grained sandstones without volcanic material. At least three conglomerate beds occur in the lower Dadaepo Formation, and they contain moderately sorted gravel clasts of chert, quartzite, and volcanic and sedimentary rocks. The purple mudstones and siltstones contain abundant calcrete nodules or calcic paleosol layers, reduction spots, and the remains of dinosaur egg nests and bones. A massive silicic ignimbrite layer is intercalated between the lower and the upper Dadaepo formations. The upper formation overlying the ignimbrite consists mainly of greenish and olive-gray tuffaceous sandstones. The uppermost part comprises cross-stratified tuffaceous sandstones that are rich in andesitic and basaltic clasts. The Dadaepo Formation is interpreted to have been deposited in alluvial, fluvial, and lacustrine environments. Paik et al. (1997) also reported that the formation is composed of fluvial plain and floodplain-lake deposits. Kim (2009) suggested that the lower Dadaepo Formation at the Morundae was deposited in an alluvial fan environment, and on the Dusong and Songdo peninsulas was deposited in a fluvial environment. Chough and Sohn (2010) suggested further that there was an abrupt basin subsidence, as indicated by the abrupt facies change from the alluvial-fan to the deep lacustrine environment of the lower and the upper formations, respectively, and that the stratigraphic development of the formation was influenced by syndepositional tectonism and associated volcanism, based on the felsic ignimbrite layer between the lower and upper parts, and the presence of volcanic material in the upper formation.

Post-congress (Sunday, 1 ~ 6 friday, September 2024)

Po-K-01B

A journey to multiple geological events from the Paleoproterozoic to Neoproterozoic: Understanding of the old geological history of South Korea
Participants Min. 15 / Max. 20
Date: 31 Aug 2024 ~ 3 Sep 2024

Introduction

The Precambrian rocks make up the basement of South Korea at least one-third and these rocks are considered as a witness relating complicated geological history that occurred in the far eastern Eurasia plate from Archean to Neoproterozoic. During this field trip, we will have a look at the two different types (intermediate-P/T and low-P/T) of the Paleoproterozoic metamorphism accompanying extensive magmatism related to the formation and breakup of the Columbia Supercontinent. In addition, we also have a chance to visit the newly identified Neoproterozoic igneous and supracrustal rocks that formed in rifting-related tectonic settings in South Korea. At the beginning, we will go to central part of South Korea (Chungju area) to visit the newly identified Neoproterozoic supracrustal rocks that formed in the rift basin. These Neoproterozoic supracrustal rocks are considered to be correlated to the Neoproterozoic supracrustal succession in North Korea (Sangwon System) and North China Craton relating break up of Rodinia Supercontinent. We will move to further to north to visit the multiple Paleoproterozoic to Neoproterozoic geological events occurred in the northern part of South Korea. In the Hongcheon area, the Paleoproterozoic pelitic gneiss recording the intermediate- and low-P/T types of metamorphism are distributed and these rocks are considered to be formed by formation of the Paleoproterozoic orogenic belt between the Korean Peninsula and eastern part of the North China Craton. In the Chuncheon area, the Paleoproterozoic meta-granitoids distributed with the Neoproterozoic metabasite and supracrustal rocks. These Paleoproterozoic and Neoproterozoic events recorded the Paleoproterozoic post-orogenic and the Neoprterozoic rifting-related events, respectively.

Po-K-03

The multiple collision events in the Honseong-Taean area, Middle western South Korea, from Neoproterozoic to Triassic
Participants Min. 10 / Max. 30
Date: 1 Sep 2024 ~ 3 Sep 2024

Introduction

The East Asia including the Korean Peninsula had undergone a complicate tectonic evolution. Recently it was suggested that the Korean Peninsula had formed through several stages of continental collision occurred during Paleoproterozoic, Neoproterozoic, Paleozoic and Permo-Triassic time. In this excursion we will visit the following outcrops; 1) Neoproterozoic igneous rocks formed before or after the amalgamation of the Rodinia Supercontinent, 2) Paleozoic igneous and metamorphic rocks formed due to Paleozoic subduction and collision during the closure of the Paleotethys Ocean and 3) Permo-Triassic rocks including eclogite and post-collision igneous rocks which formed due to the collision between the North and South China Cratons within the Korean Peninsula during the last stage of amalgamation of Pangea Supercontinent.

Po-K-05

The new perspective of Cambro-Ordovician of the Taebaeksan Basin, Korea
Participants Min. 10 / Max. 25
Date: 1 Sep 2024 ~ 4 Sep 2024

Introduction

This trip will visit classic Cambro-Ordovician sites of the Taebaeksan Basin around Mungyeong, Yeongwol and Taebaek areas well known for their spectacular geologic features. Rocks, fossils, and landforms of varying ages from Precambrian to Permian are present in this trip from the basement Precambrian rocks overlain by Cambro-Ordovician formations, and the "great hiatus" at the base of Carboniferous-Permian deposits. We start the trip with a peek at the oldest trilobite of Korea at Mungyeong, then we will compare contrasting Cambrian trilobites between Yeongwol and Taebaek areas. There are numerous Early Paleozoic reefs including Middle Cambrian microbial-dominated reefs, Early Ordovician microbial-sponge reefs, Middle Ordovician stromatolite, and metazoan (stromatoporoid) reefs. Sedimentologic features will focus on the Middle Ordovician carbonate sediments deposited from the peritidal to subtidal conditions and outer platform fine-grained clastic depositional environment. A field guide will be supplied as well as numerous articles and resources related to each visited site. Several Korean geologists will be teaming to discuss the viewed geologic features. The uniqueness of these sites for their geologic- and paleontologic aspects, and their proximity to beautiful scenery and cultural heritage of the region make them ideal for remarkable trip.

Po-K-07

Miocene crustal deformation and basin evolution in SE Korea
Participants Min. 20 / Max. 35
Date: 1 Sep 2024 ~ 3 Sep 2024

Introduction

Geology of SE Korea offers an exceptional opportunity to study the western Pacific tectonic events after the late Oligocene including the opening and closure of East Sea (Japan Sea) and the subsequent Neotectonics events. The excursion will cover the Ulsan-Gyeongju-Pohang area exhibiting reasonable geological and structural elements for interpreting the Cenozoic crustal deformation and basin evolution history of SE Korea, in response to the opening and closure of East Sea (Japan Sea). During the Late Oligocene to the Middle Miocene period, the northeastern margin of the Eurasian Plate underwent a north-south back-arc extension due to the subducting Pacific Plate along N–S to NE–SW striking subduction. The East Sea (Japan Sea), located between the Asian continent and the northeastern and southwestern Japanese Arc, is a semi-enclosed marginal sea or back-arc basin that formed along the tectonically active northwestern Pacific region. The southeastern part of the Korean Peninsula was subjected to a regional dextral shear stress due to the N–S- to NNW–SSE directed opening of the East Sea (Japan Sea). A number of the onshore Miocene sedimentary basins were formed by pull-apart opening by a series of NNW-trending dextral strike-slip faultings and NE-trending normal faultings. During the Early Miocene crustal deformation, parallelogram-shaped pull-apart basins formed between NNW-trending principal displacement zones, associated with clockwise horizontal block rotation, northwestward block tilting, and southwestward propagating rifting. At about 17 Ma, the realm of crustal deformation in SE Korea expanded suddenly toward the west and the north because of the activation of the Yeonil Tectonic Line, resulting in dramatic change of depositional environment and the extension of the wedge-shaped pull-apart basins such as the Pohang and Ulsan basins. The Yeonil Tectonic Line and the western border fault of the Pohang Basin, which link obliquely about 50°, are the westernmost limit of the Miocene crustal deformation in SE Korea. Kinematic models for the East Sea (Japan Sea) opening include bar-door and pull-apart models. All the features of the Miocene crustal deformation in SE Korea reasonably support the latter. They also indicate that the NNW-trending faults like the Yeonil Tectonic Line acted as the principal displacement zones rather than the NNE-trending Yangsan Fault under a consistent dextral simple shear. At about 16 Ma, the collision of Philippine Sea Plate and the southwesternmost part of Japanese Islands caused a tectonic inversion from tensional to compressional stress regime in East Asia. This inversion resulted in the compositional change of basaltic magma at about 15 Ma, from subalkaline to alkaline, and the crustal uplift in SE Korea which subsequently caused the cessation of sedimentation in the basins at about 10 Ma. Low-angle subduction of the Pacific Plate and eastward movement of the Amurian Plate caused an E-W to ENE-WSW compression in East Asia since 5-3.2 Ma, and the stress regime reactivated the inherited fault zones with reverse and/or transpressional movements in South Korea.

Po-K-08

Quaternary geology(tidal flats) and geoarchaeology of the southwest coast of the Korean Peninsula
Participants Min. 10 / Max. 20
Date: 1 Sep 2024 ~ 3 Sep 2024

Introduction

The southwestern part of the Korean Peninsula is one of the predominant tidal flat areas in the world. The evolution of the tidal field has been a response to the sea-level changes since the Last Glacial Maximum (LGM). Coastal sediments, especially tidal sediments, are a marker for defining paleo shorelines. Gomso Bay and Muan mudflat are large areas of muddy tidal flats along the southwestern coast of the Korean Peninsula, although many of these tidal flats have been reclaimed as farmland. Suncheon Bay is located in the mid-western part of the southern coast of Korea, the large bay surrounded by the extended Goheung Peninsula and Yeosu Peninsula is also called Suncheon Bay. The intertidal tidal flats widely deposited in the brackish region are called Suncheon Bay. Suncheon Bay has a history of 8,000 years. According to the research of geologists, after the last ice age the sea level rose about 160m, the Yellow Sea of the Korean Peninsula changed from land to sea, and the shape of the Korean Peninsula changed to its present form. At this time, Suncheon Bay, which was changed to a brackish area, has been deposited for a long time due to the tidal action of the seawater with soil and organic matter flowing along the river. Also, there are several attractive geoarchaeological sites in this area. First, the Byeokgolje Reservoir in Gimje is the oldest irrigation facility in Korea. According to the Samguk Sagi (history of the three kingdoms), Byeokgolje was first built in the 21st year of the reign of King Heulhae (AD 330) of the Silla Kingdom. However, this region belonged to the Baekje kingdom at that time, so some counter that the embankment was actually built in the 27th year of King Biryou (AD 330) of the Baekje kingdom. On the other hand, the prehistoric cemeteries at Gochang contain hundreds of examples of dolmens - tombs from the 1st millennium BC constructed of large stone slabs. They form part of the Megalithic culture, found in many parts of the world, but nowhere in such a concentrated form. The Gochang Dolmen Site (8.38 ha) features the largest and most diversified group and is centered in the village of Maesan, along the southern foot of a group of hills running east/west. Over 440 dolmens of various types have been recorded in this location.

Po-K-12

UNESCO Hantangang Global Geopark Field Trip
Participants Min. 15 / Max. 25
Date: 1 Sep 2024 ~ 3 Sep 2024

Introduction

The location of the Hantangang River Geopark is indicated in Korea. It extends from 37° 53′ 50″ to 38° 19′ 45″ north latitude and from 126° 55′ 30 to 127° 26′ 37″ east longitude. The Geopark is only about 50 km north of Seoul, the capital of the Republic of Korea. The Hantangang River Geopark is located along the Chugaryeong Fault Zone which extends for about 160 km from Seoul in South Korea to Wonsan-si in North Korea. The NNE-SSW trending fault zone plays a significant role in the geological and geomorphological evolution of landforms on the Korean Peninsula as well as in the Hantangang River Geopark. The lava erupted from 680 m Peak and Orisan Mountain in North Korea and followed the narrow paleo-channel of the Hantangang River in the Chugaryeong Fault Zone and into the large Cheorwon Plain forming the vast Cheorwon Lava Plateau area. The Hantangang River Geopark is located between two tectonic segments - Imjingang Belt and Gyeonggi Massif - in which various tectonic structures can be observed. It contains the records of the major tectonic and volcanic activities in East Asia since the Precambrian. This region includes one of the major tectonic provinces of the Korean Peninsula, named the Imjingang Belt, which is interpreted to have resulted from the collision of the Sino-Korean and Yangtze cratons in the Paleozoic. This tectonic belt is regarded as the lateral extension of the Qinling-Dabie-Sulu Belt in eastern China, which is one of the major tectonic features in the East Asia. The Geopark shows high geodiversity and consists of Precambrian (2,000~700 Ma) and Paleozoic (ca. 300 Ma) metamorphic rocks, Jurassic (ca. 200 Ma), Cretaceous (ca. 110 Ma) granites, Cretaceous to Early Tertiary (80~50 Ma) volcanic and sedimentary rocks, and Quaternary (0.09~0.85 Ma) basalt , forming the Hantangang River Volcanic Field.

Po-K-13

Quaternary geomorphological evolution, mountains and coasts
Participants Min. 15 / Max. 25
Date: 1 Sep 2024 ~ 4 Sep 2024

Introduction

Mt. Seoraksan National Park (Daecheongbong Peak, 1708 m), provides amazing view all year round. With various flowers in spring, clear and fresh stream water in summer, fall foliage in fall, and snow covered mountain in winter, Seoraksan Mountain is the most beautiful mountain in Korea. There are various valleys and waterfalls not to be missed as well as several hiking courses that represent the mountain. Songji lagoon, one of the major lagoons located along the East coast, is considered to be worth preserving because of its famous clean water and beautiful scenery.

Po-K15B

Early – Late Cretaceous Vertebrate Tracks of South Korea II
Participants Min. 20 / Max. 30
Date: 1 Sep 2024 ~ 4 Sep 2024

Introduction

Since the first described bird tracks from the Haman Formation, Koreanaornis hamanensis, the abundance and diversity of the Cretaceous vertebrate track assemblages have been well-known from more than 100 papers in South Korea. The largest and most productive region is the Gyeongsang Basin dominated geologically by the Gyeongsang Supergroup, which is divided into the Sindong, Hayang, and Yucheon groups in ascending order. The most important of these formations, in ascending stratigraphic order, are the Jinju Formation of the uppermost unit of the Sindong Group, and the Haman Formation and overlying Jindong Formation, the two uppermost formations of the Hayang Group. All three formations typically reveal multiple track-bearing layers in predominantly fine-grained lacustrine basin sequences. The age of all three formations is reported as Aptian to Albian. The vertebrate ichnological assemblages of the Jinju Formation, including diverse components of an exceptional Konservat-Lagerstätten ichnofauna, have increased rapidly in association with excavation and investigations carried out in accordance with Environmental Impact Assessment ACT and ACT of Protection and Inspection of Buried Cultural Heritage. The unique assemblages of the Jinju Formation include the small hopping mammal trackway (Koreasaltipes), the first theropod morphotype tracks from Korea (Corpulentapus), diminutive dromaeosaur tracks (Dromaeosauriformipes), medium-sized dromaeosaur tracks (Dromaeosauripus), crocodylian tracks (Crocodylopodus and Batrachopus), diminutive theropod tracks with skin impressions (Minisauripus), small-sized pterosaur tracks (Pteraichnus), two types bird tracks (Ignotornis and Jindongornipes), turtle tracks, and the largest lizard tracks reported from the Cretaceous Period (Neosauroides). Also, the Haman and Jindong formations are the source of the various vertebrate tracks. The formations have produced six bird track holotypes (Koreanaornis, Ignotornis, Jindongornipes, Goseongornipes, and Gyeongsangornipes), non-avian dinosaur tracks (Brontopodus, Caririchnium, Minisauripus, Dromaeosauripus, Grallator), pterosaur tracks (Pteraichnus), the first lizard tracks (Neosauroides), crocodylian tracks (Batrachopus), and fish swimming traces (Undichna).

Po-K-15C

Vertebrate Fossils from Korean Cretaceous Dinosaur Coast (KCDC)
Participants Min. 15 / Max. 30
Date: Date 1 Sep 2024 ~ 3 Sep 2023

Introduction

Various fossils have been found in the Cretaceous sedimentary deposits of the Korean Peninsula. Among them, dinosaur footprints, dinosaur bones, pterosaur footprints, crocodile skulls, fish, and turtles were found throughout the coastal area of Korea, and they are in the tentative list of UNESCO World Heritage sites. These heritages are characterized by the widespread distribution of fossilized dinosaur eggs in perfectly well-preserved conditions. Korean dinosaur trackways provide information on Asian dinosaurs that explain various movements and behaviors. This means that the coast of Korea is the most significant ground for various fossilized eggs and footprints of the Cretaceous dinosaurs of the world. The fossil site in Haenam is the first site where pterosaurs, dinosaurs, and webbed feet footprints have been found in a single area. In addition, the largest pterosaur footprints were discovered and reported here. The dinosaur egg site in Boseong is where numerous dinosaur egg fossils appear in the form of nests in the Cretaceous sedimentary layer and are located about 3km away from the Cretaceous Bibong Sunso Beach. It is famous for perfectly preserved dinosaur eggs and is evidence of a dinosaur's habitat and essential data for revealing which dinosaurs lived. In Dinosaur Tracksite in Nangdo Yeosu, 4,000 dinosaur footprints were reported in the Cretaceous sedimentary layers of five islands, including Sado, Chudo, Nangdo, Jeokgeumdo, and Mokgeumdo. In particular, Chudo Island has world-famous footprints of over 84 meters, the longest dinosaur footprint in the world. In addition, various fossils such as wood, mollusk, and ostracods have been reported. As such, the Cretaceous Dinosaur Coast of Korea provides paleontological data from the Cretaceous period through various analyses and field studies.

Po-K16

Jeju Island UNESCO Global Geopark
Participants Min. 10 / Max. 20
Date: 31 Aug 2024 ~ 3 Sep 2024

Introduction

Jeju Island was designated as UNESCO Geopark in 2010 and also became a National Geopark in 2012. Jeju's distinctive geological features and volcanic formations contributed to the entire island certified as a Global Geopark. Jeju's 13 geosites include: Hallasan Mountian, the symbol of Jeju, located at the center of the island; Suwolbong Tuff Ring, a global research site for hydromagmatic volcanoes; Sanbangsan Mountain, Jeju's representative lava dome; Yongmeori Haean Coast, a result of Jeju's early hydrovolcanic activity; Jungmun Daepo Coast Jusangjeolli Cliff, a major place for stuyding Columnar-jointed lava; Seogwipo Formation, the first formation during the creation of Jeju, which shows the marine environment from one million years ago; Cheonjiyeon Falls, which shows erosion of the sedimentary layer and the process of creation of valleys and the falls; Seongsan Ilchulbong Peak, a peak known as a major geological area of tuff-cone with a view of beautiful sunrises; Manjanggul Cave, the only cave open to visitors among Jeju's Geomunoreum lava tubes; Seonheul Gotjawal, a unique volcanic landform and a treasure trove of flora wildlife; Udo Island and Biyangdo Island, two small islands off the coast of Jeju; and Gyorae Samdasoo Village.

Po-K17

Exploring Gyeongbuk Donghaean Geopark and Cheongsong UNESCO Global Geopark
Participants Min. 20 / Max. 30
Date: 1 Aug 2024 ~ 4 Sep 2024

Introduction

The Donghaean is the east coastal regions of the Gyeongsangbuk-do, Korea, encompassing the four cities (Pohang, Gyeongju, Yeongdeok, and Uljin). There are a variety of ecological, archaeological, and cultural heritages built on the outstanding geological sites. The geotourism in this area contains various contents to attract large number of visitors every year. The Gyeongbuk Donghaean Geopark is characterized by a broad range of rocks in lithologies and ages: There are many types of igneous, metamorphic, and sedimentary rocks ranging from the Precambrian to the Cenozoic. These rocks show diverse characteristics such as columnar joint, mafic magmatic enclaves, limestone cave, fossils, unconformity, and so on. In particular, the Yangnam Columnar Joint is the typical geosite with a distinct radiating joint pattern, which is a motive of the logo for the Korea Geopark Network. There are also ecologically protected river trails, traditional villages, old temples, a royal tomb, and non-geological sites spatially involved in the geosites. In the Late Cretaceous, the Southeastern Korean peninsula was extensional continental volcanic arc setting, where the Paleo-pacific plate was subducting into the NE Eurasian continent margin. A large non-marine back-arc basin, called the Gyeongsang Basin, has been formed above the Precambrian to Jurassic crystalline basements. Gyeongsang Basin can be laterally subdivided into Jinju, Uiseong and Yeongyang Subbasin. The Cheongsong area corresponds to the Yeongyang Subbasin. After the initiation of basin opening, there were low terrains such as plains, rivers, and lakes where various dinosaurs lived. Since then, the area has been covered with volcanic ash due to volcanic activity. Cheongsong UNESCO Global Geopark, which embraces the changing environment of the past in rocks, is a geopark with outstanding geological diversity

Po-K-19B

The Cretaceous Dadaepo Basin in the Songdo Peninsula Geosite of the Busan Global Geopark (3 days)
Participants Min. 15 / Max. 25
Date: 1 Sep 2024 ~ 3 Sep 2024

Introduction

The Dadaepo Basin is a small Late Cretaceous sedimentary basin in SE Korea, located on the eastern margin of Asia. The basin is an isolated extensional basin situated between the NNE-striking Yangsan and Dongnae faults. The overall configuration of the basin-fill, named the Dadaepo Formation indicates syndepositional tilting of the basin floor to the north-northeast. A number of outcrop-scale faults are observed in the basin-fill sediments, of which the majority are NW-striking normal faults, including syndepositional growth faults. The orientations of mafic (magmatic) and clastic dikes, interpreted as being approximately contemporaneous with the deposition of the Dadaepo Formation, are also nearly parallel to the strikes of outcropscale normal faults. All these extensional structures consistently indicate NE–SW extension of the basin and obliquely intersect the basin-bounding Yangsan and Dongnae faults at angles of 40°–60°. Cho et al. (2016) concluded that the Dadaepo Formation was deposited in a pull-apart basin that subsided as a result of NNE-striking sinistral strike–slip faulting in the southeastern part of the Korean Peninsula during the Campanian (Late Cretaceous). Also, this strike–slip faulting was related to north-northwestward oblique subduction of the proto-Pacific (Izanagi/Kula) or Pacific plate under the eastern margin of the Eurasian plate. The Dadaepo Formation is subdivided into the lower and the upper Dadaepo formations on the basis of the presence of red beds and the abundance of volcanic material (Chang et al., 1983). The lower Dadaepo Formation consists mainly of purple mudstones, and gray to olive gray conglomerate and coarse-grained sandstones without volcanic material. At least three conglomerate beds occur in the lower Dadaepo Formation, and they contain moderately sorted gravel clasts of chert, quartzite, and volcanic and sedimentary rocks. The purple mudstones and siltstones contain abundant calcrete nodules or calcic paleosol layers, reduction spots, and the remains of dinosaur egg nests and bones. A massive silicic ignimbrite layer is intercalated between the lower and the upper Dadaepo formations. The upper formation overlying the ignimbrite consists mainly of greenish and olive-gray tuffaceous sandstones. The uppermost part comprises cross-stratified tuffaceous sandstones that are rich in andesitic and basaltic clasts. The Dadaepo Formation is interpreted to have been deposited in alluvial, fluvial, and lacustrine environments. Paik et al. (1997) also reported that the formation is composed of fluvial plain and floodplain-lake deposits. Kim (2009) suggested that the lower Dadaepo Formation at the Morundae was deposited in an alluvial fan environment, and on the Dusong and Songdo peninsulas was deposited in a fluvial environment. Chough and Sohn (2010) suggested further that there was an abrupt basin subsidence, as indicated by the abrupt facies change from the alluvial-fan to the deep lacustrine environment of the lower and the upper formations, respectively, and that the stratigraphic development of the formation was influenced by syndepositional tectonism and associated volcanism, based on the felsic ignimbrite layer between the lower and upper parts, and the presence of volcanic material in the upper formation.

Po-K-25A

Hapcheon Impact Crater
Participants Min. 15 / Max. 30
Date: Date 31 Sep 2024 ~ 1 Sep 2023

Introduction

The 7 km-diameter Jeokjung–Chogye Basin in Hapcheon, southeastern Korean Peninsula, is well-known for its bowl-shaped geomorphology. This distinctive and beautiful geomorphological setting has raised a question about a meteorite collision event a long time ago, but no direct evidence has been found until recent. When a meteorite collides into the surface of the Earth, a strong shock wave is generated, forming a huge pool underground. The shock-metamorphic effects remain in the existing rocks and minerals due to the impact of the generated tremendous shock wave. Thus the core key to determine whether a meteorite impact event occurred in the past is to detect its shock-metamorphic deformation in both rocks and minerals in the shocked basin structures.In 2020, an impact crater research team in Korea Institute of Geoscience and Mineral Resources (KIGAM) acquired the evidence of microscopic mineral deformation and macroscopic rock deformation produced by such super impact cratering in the Jeokjung–Chogye Basin. The research team selected a drilling point to obtain a borehole, named core CR05 (35°32′57.02" N, 128°16′7.59″E), downing to 142 m deep within the crater, and collected lithological information showing impact cratering in the basin. As a microscopic evidence, planar deformation features (PDFs) in quartz minerals were found from the impact breccia. As a marcoscopic evidence on a hand specimen scale, shatter cones were collected in the 6-cm-long shale clast found at 130 m depth of the drilled core (Lim et al., 2021*). Currently, about 200 meteorite impact craters are officially recognized in the world. Most of which have been found in North America, Europe, Africa, and Australia, but only a few in East Asia. The Hapcheon Impact Crater with beautiful and dynamic landscape that was discovered newly in Korea is waiting for your exploration.

Po-K-26

Magmatic-hydrothermal processes and W-Mo-Fe-Zn-Pb mineralization of Taebaeksan metallogenic region in NE Korea
Participants Min. 10 / Max. 20
Date: 1 Sep 2024 ~ 3 Sep 2024

Introduction

Paleozoic Taekbaeksan basin consist of Cambrian-Ordovician carbonate-rich sedimentary formations (Joseon supergroup) and Carboniferous-Permian clastic-rich sedimentary formations (Pyeongan supergroup). The Joseon supergroup underlies the Pyeongan supergroup, and both of them folded by late Permian Songrim orogeny creating a hingeline of Hambaek syncline in the middle of the Taekbaeksan basin. Arc magmatism from upper Cretaceous to early Paleogene (Bulguksa Orogeny) create numerous igneous intrusions in the basin, forming an active magmatic-hydrothermal fluid process in the sedimentary basin especially in the carbonate-rich Joseon Supergroup. The magmatic-hydrothermal fluids create both (1) a high temperature metasomatism (skarn) associating W-Mo-Fe mineralizations and (2) a relatively lower temperature carbonate-replacement of Zn-Pb mineralization. The hydrothermal fluid activities cause recrystallization of calcite creating (3) an economic high-Ca marble as well. The economic metallic or non-metallic ore deposits formed in the Taebaeksan basin are called Taebaeksan metallogenic region. Sangdong W-Mo (-Bi) deposit is the biggest deposit in the region consisting of early low W grade of anhydrous skarn minerals and later high W-Mo grade of quartz vein series. Sinyemi Fe (-Zn-Pb) deposit is formed by skarn and carbonate replacement mineralizations of magnetite, hosted in dolomitic limestone intruded by porphyrytic felsic dikes or stocks. Numerous high-Ca marble deposits are associated with the magmatic-hydrothermal deposits, many of marble formation associate Pb-Zn rich carbonate-replacement orebodies.

Po-K-27

All about the managing groundwater resources in the volcanic Jeju Island
Participants Min. 10 / Max. 25
Date: 1 Sep 2024 ~ 3 Sep 2024

Introduction

Jeju is a volcanic island of about 2.0 M years old and mostly consists of volcanic rocks such as basalt, trachyte, trachytic-basalt, tuff, and etc and some sedimentary rocks like seogwipo-formation which is known to be a reworked sediment of old tuff cones. The permeable structures in the volcanic rocks such as clinker, lava tube, and scoria cone are favorable for the infiltration of rain water and transport, underground storage, and development of groundwater. The impermeable structures such as fine sediment and massive rock bodies are imbedded repeatedly between the permeable structures. Because the lava sequence made of overlaying each other permeable and impermeable structures plays an important role by acting as a natural filtration system, the groundwater is filtered to be pure and clean during infiltration and migration through thick unsaturated zone into deep groundwater bodies. The tuff and Seogwipo-formation sited deep above the basement rock and u-formation (unconsolidated formation) acts as lower impermeable boundary keeping the groundwater above those. Before 1961 when groundwater from a deep-drilled well was first developed, Jeju citizens used spring water, rainwater, or shallow groundwater from a well Increasing needs at hotels, golf clubs, public baths, apartments, office buildings, restaurants, and farms and improvement of drilling technology promoted the number of deep-drilled wells up to 3500 by 1990's.and about 5,000 by 2021. Now the groundwater from deep-drilled wells and spring water become major sources for the water supply up to 98% of the total. In order to control the development of groundwater wells, the Jeju government adopted a Groundwater Use Permit System (the first in Korea) in 1991. Groundwater generally occurs at shallow depth in the coastal area except southern area where there exists the low permeable Seogwipo formation higher than other area. However, owing to high infiltration rate of surface and subsurface materials and high lateral transmissivity of subsurface permeable structures, the unsaturated zone is getting much thicker toward the central mountain, 'Halla-san', resulting in deep groundwater table at higher elevation area. At high elevation area, there is also a perched aquifer appearing as a spring at high elevation area or as falling-water within the well after drilling. The main aquifer in Jeju Island consists of multiple variably-confined small aquifers, each of which is isolated by low permeable layers, resulting in strong vertical movement within the well, static water level change during drilling, and discontinuity of groundwater-saline water interface at some coastal area. The participant will see the historical facility to use groundwater and spring water as well as recent climate adapting methods such as managed aquifer recharge of rainwater harvesting and stormwater recharge through reservoir and unsaturated aquifer injection wells. The participant will visit beautiful geological touristic site such as Cheonjeyeon waterfall, Sungsan-ilchulbong (sunrise peak) and Manjanggul cave to closely experience the hydrogeological features of the volcanic aquifer, occurrence of perched aquifer, high and low permeable structures to control the groundwater flow. The participant will visit the biggest bottling water factory and lava saline groundwater industrial complex.

Po-K-30

Field evidences for hidden magmatic activity in continental margin settings (One-day Trip)
Participants Min. 10 / Max. 30
Date: Date 31 Sep 2024

Introduction

During the Mesozoic era, the Korean Peninsula underwent three distinct magmatic events: Songnim during the Triassic, Daebo during the Jurassic, and Bulguksa in the Late Cretaceous (Kobayashi, 1953; Reedman and Um, 1975). Late Cretaceous granitoids predominantly intruded the Gyeongsang Basin, capturing diverse magmatic processes such as fractionation, mixing, and mingling. Remarkably, many of the granitoids within the Gyeongsang Basin encompass magmatic enclaves (MEs) and dikes sharing similar ages to their host granitoids (Hwang, 2012). MEs within granitic formations are frequently considered robust evidence of magma interaction. Moreover, dikes, particularly composite dikes characterized by mafic edges and a felsic core, offer precise insights into magma chemistry (Wiebe and Ulrich, 1997). This field course offers an immersive exploration of zoned MEs, composite dikes, and orbicular structures within gabbroic rocks as tools to unravel magmatic activities, specifically magma mixing, and mingling, during the Late Cretaceous in the southeastern Korean Peninsula, centered around the Busan area. The Late Cretaceous Taejongdae granite, prominent in the southeastern Korean peninsula, exhibits a unique arrangement of magmatic enclaves known as zoned magmatic enclaves (zoned MEs), composed of distinct rock zones. These zoned MEs within the Taejongdae granitoid serve as indicators of magmatic processes pre-dating the granitic pluton intrusion. Their formation occurred in two stages, involving interactions between the host granite and low-K magma. The host granite signifies the Late Cretaceous Bulguksa magma, while the low-K magma represents arc magma akin to the host granite, yet crystallized via amphibole-dominated fractional crystallization. Adjacent to the Taejongdae granite lies an exemplary composite dike, situated in volcano-sedimentary rocks, comprising a felsic granitic core and mafic margins. Petrography and field relationships confirm the intrusion of the felsic dike into the solidified mafic dike. Geochemical analysis reveals uniform andesite to dacite compositions in the mafic margins, contrasting with the rhyolitic composition of the felsic core. U-Pb zircon dating aligns the composite dike's Late Cretaceous age with that of Taejongdae granite and its zoned MEs. Additionally, the Mt. Hwangryeong district in Busan features distinct orbicular gabbroic rock with concentric shells. These orbicules manifest periodic growth of ferromagnesian minerals like olivine and pyroxene around a core, accompanied by plagioclase accumulation. Orbicules in Mt. Hwangryeong result from externally influenced cyclic changes in factors such as temperature, pressure, and material supply (Kim, et al., 1979). Our one-day field trip navigates through zoned MEs, composite dikes, and orbicular gabbro outcrops, elucidating how these phenomena serve as field evidence for latent magmatic activities in continental margin settings.

Po-K-31

Fault system and damage zones around active and fossil faults
Participants Min. 10 / Max. 30
Date: Date 31 Sep 2024 ~ 3 Sep 2023

Introduction

Active faults and fossil faults hold invaluable keys to understand the tectonic processes of a region. These are interconnected and provide critical insights into the evolution of fault system in the past to the present. Active faults, characterized by ongoing movement and seismic activity, offer a real-time window into the current state of tectonic forces. On the other hand, fossil faults are a record of past tectonic activity frozen in time, and thus provide glimpses into the geological history of the region. The interplay between active faults and fossil faults enhances our understanding of the larger tectonic puzzle. By comparing and contrasting the behavior of these two types of faults, one can deduce how tectonic processes have changed over time in a local scale as well as regional scale. Furthermore, the study of both active and fossil faults aids in the development of models that describe the mechanics of faulting, deformation, and stress distribution within the region. These models contribute to our ability to predict and understand seismic events, guide resource exploration, and inform land-use planning. With this aim, the field tour proposes several visiting sites to understand the past and present day tectonic processes, evolution of faults and damage zones along the SE Korean peninsula. The Sangcheon, Tongdosa, Cheongun-dong, Hwalseong-ri visiting sites will help us to understanding the long-term evolution of intraplate strike-slip and thrust faults and their significance in understand the overall tectonic process of SE Korean peninsula from Cretaceous to Holocene. Sangcheon and Tongdosa sites are ideal sites to understand the relationship between major fault and damage zones. Bomun sub-basin will guide us to understand the process of basin inversion from Miocene to Quaternary period with the evidences of Soft Sedimentary Deformation Structures (SSDs) and fault propagation folds. Cheongun-dong and Hwalseong-ri are Quaternary faults showing evidences of several large magnitude earthquakes during late Pleistocene. In general, all the above sites will provide clues that how the complex fault zone developed under the difference tectonic phases over time along the SE Korean peninsula. Geoje Island is composed of Cretaceous sedimentary rocks and intrusive Cretaceous to Tertiary igneous rocks. Magmatic activity during the Late Cretaceous-Tertiary caused fluid intrusions, including magma and hydrothermal fluids. Geoje Island is a good example of how these fluid intrusions are controlled by fault zones and fractures. In this field site, we can observe rock veins and dykes controlled by fault geometry, such as various types of dykes and veins associated with damage zone patterns and fault motion. These field observations can provide insight into the role of faults and fractures on fluid flow and mineralization.

Po-M-01

Khanbogd alkaline granite massif
Participants Min. TBA / Max. 30
Date: TBA

Introduction

The Adaatsag ophiolite in eastern Mongolia is situated in the Mongol–Okhotsk suture zone, which extends from central Mongolia through Transbaikalia to the Sea of Okhotsk and separates the Siberian and Amurian (Mongolian) plates. • Oyu Tolgoi is a copper-gold mine in the Umnugovi aimag of Mongolia, approximately 550 kilometers south of the capital Ulaanbaatar. It holds one of the largest high-grade copper deposits in the world. • Khanbogd alkaline granite massif is one of the world's largest known intrusive peralkaline granites. Extends over 1500km^2. The pegmatites of the alkaline granite complex of Khan Bogd, Mongolia occur as zoned lenses or layered rocks in alternation with ekerite-aplite in the cupola of the huge western body of the Khan Bogd alkaline granite. • Demchog monastery: ("Demchog" is translated as "supreme tranquility") There are 33 kinds of different sizes of Gobi desert in Mongolia. One of the biggest and most famous is the Galba Gobi desert where three monasteries standing 5 - 6 km far from each other and surrounded by the Galba Mountain Range were built between 1830 and 1836 by Danzanravjaa (Saint Lord of Gobi). • The scarp of Tsagaan Suvarga is located in Olziit soum of Dundgovi province. Once a floor of the ocean, this scarp looks like a white stupa, hence the name Tsagaan Suvarga (White stupa). This scarp is 400 meters long and 60 meters tall with a 90-degree brink.

Po-M-02

Unique settings of Shar tsav dinosaur footprints area massif and Tsagaansuvarga
Participants Min. TBA / Max. 30
Date: TBA

Introduction

The Adaatsag ophiolite in eastern Mongolia is situated in the Mongol–Okhotsk suture zone, which extends from central Mongolia through Transbaikalia to the Sea of Okhotsk and separates the Siberian and Amurian (Mongolian) plates. • Shar tsav is situated 80km away northeast of Khanbogd soum and 108km from Manlai soum in the south. The site was discovered on July 31, 1995, by Mongolian Japanese researchers and a joint expedition conducted active field research in 1996, revealing over 2800 prints of dinosaurs. Later detailed research in 2001 and 2010 detected over 18000 footprints and tracks of 4-5 types of herbivore and carnivore dinosaurs. Therefore, it is a unique paleontological heritage site proving that dinosaurs lived in groups. Mongolia and Japan joint archeologists found abundant dinosaur footprints from Shar Tsav, Umnugobi province in 1995. The co-existence of footprints and many skeletal remains in the same and/or nearby beds is a remarkable feature of these Mongolian sites. Analyses of dinosaur footprints and associated body fossil remains for each locality reveal that even in the same beds, the ichnofauna differ from the fauna reconstructed on the basis of body fossils of dinosaurs. • The scarp of Tsagaan Suvarga is located in Olziit soum of Dundgovi province. Once a floor of the ocean, this scarp looks like a white stupa, hence the name Tsagaan Suvarga (White stupa). This scarp is 400 meters long and 60 meters tall with a 90-degree brink.


Jinan-Muju National Geopark (Cheonbansan)

FIELD TRIPS

Contact: fieldtrip@igc2024korea.org / www.igc2024korea.org

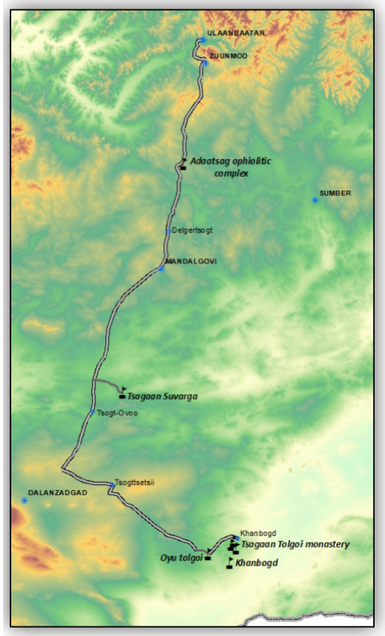
Neighboring Countries Field Trips - Mongolia 1

(Khanbogd alkaline granite massif)

Post congress Field trip
Trip code: PoM01
Contact: info@ngs.gov.mn

This course will be run after the congress for 5 days. The course will include more excursion sites associated with dinosaur footprints area and alkaline granite massif.

- Geological age: Early Paleozoic to Upper Cretaceous
- Area: Southeastern part of Mongolia
- Duration: 5 days (Sep. 2nd to 6th, 2024)
- Number of participants: up to 30
- Venue: Dundgobi and Umnugobi province, Mongolia

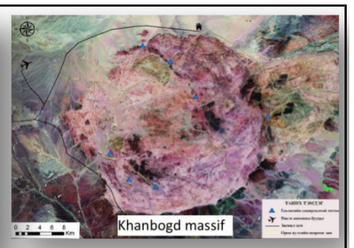


Introduction

- **The Adaatsag ophiolite** in eastern Mongolia is situated in the Mongol–Okhotsk suture zone, which extends from central Mongolia through Transbaikalia to the Sea of Okhotsk and separates the Siberian and Amurian (Mongolian) plates.
- **Oyu Tolgoi** is a copper-gold mine in the Umnugovi aimag of Mongolia, approximately 550 kilometers south of the capital Ulaanbaatar. It holds one of the largest high-grade copper deposits in the world.
- **Khanbogd alkaline granite massif** is one of the world's largest known intrusive peralkaline granites. Extends over 1500km². The pegmatites of the alkaline granite complex of Khan Bogd, Mongolia occur as zoned lenses or layered rocks in alternation with ekerite-aplite in the cupola of the huge western body of the Khan Bogd alkaline granite.
- **Demchog monastery:** ("Demchog" is translated as "supreme tranquility") There are 33 kinds of different sizes of Gobi desert in Mongolia. One of the biggest and most famous is the Galba Gobi desert where three monasteries standing 5 - 6 km far from each other and surrounded by the Galba Mountain Range were built between 1830 and 1836 by Danzanravjaa (Saint Lord of Gobi).
- **The scarp of Tsagaan Suvarga** is located in Olziit soum of Dundgovi province. Once a floor of the ocean, this scarp looks like a white stupa, hence the name Tsagaan Suvarga (White stupa). This scarp is 400 meters long and 60 meters tall with a 90-degree brink.

Major attraction


Adaatsag ophiolite


Khanbogd massif


Oyu Tolgoi mine


Demchog monastery


Khanbogd massif


Tsagaansuvarga

The excursion will include (Geological attractions):

- ❖ Early Paleozoic ophiolite complex
- ❖ Permian alkaline granite massif
- ❖ Oyu Tolgoi mine

The excursion also provides (Sightseeing attractions):

- ❖ Unique structure
  - Khanbogd granite massif
- ❖ Demchog monastery
  - Mongolian ancient monastery

Field excursion (Day 1-5)

Day 1
Departure at NGS, Ulaanbaatar
Excursion 1: Adaatsag ophiolite complex
Excursion 2: Tsogttsetsii soum
Day 2
Excursion 3: Oyu Tolgoi mine
Exciting 4: Demchog monastery
Day 3
Excursion 5: Khanbogd granite massif
Exciting 6: Tsagaan Tolgoi monastery
Day 4
Exciting 7: Tsagaansuvarga scarp
Day 5
Excursion 8: Travelling to Ulaanbaatar

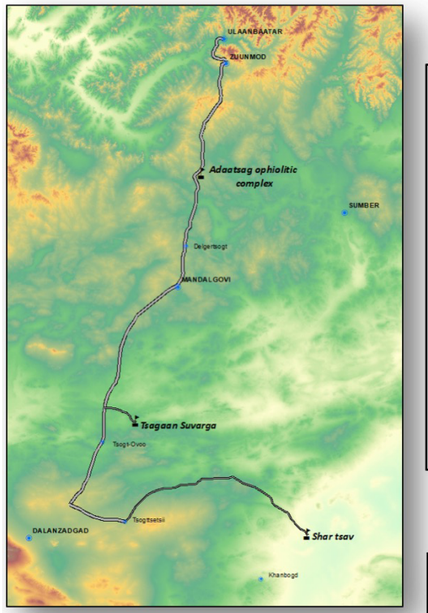
Neighboring Countries Field Trips - Mongolia 2

(Unique settings of Khanbogd alkaline granite massif and Tsagaansuvarga)

Post congress Field trip
Trip code: PoM02
Contact: info@ngs.gov.mn

This course will be run after the congress for 5 days. The course will include more excursion sites associated with dinosaur footprints area and alkaline granite massif.

- Geological age: Early Paleozoic to Upper Cretaceous
- Area: Southeastern part of Mongolia
- Duration: 5 days (Sep. 2nd to 6th, 2024)
- Number of participants: up to 30
- Venue: Dundgobi and Umnugobi province, Mongolia



Introduction

- **The Adaatsag ophiolite** in eastern Mongolia is situated in the Mongol–Okhotsk suture zone, which extends from central Mongolia through Transbaikalia to the Sea of Okhotsk and separates the Siberian and Amurian (Mongolian) plates.
- **Shar tsav** is situated 80km away northeast of Khanbogd soum and 108km from Manlai soum in the south. The site was discovered on July 31, 1995, by Mongolian Japanese researchers and a joint expedition conducted active field research in 1996, revealing over 2800 prints of dinosaurs. Later detailed research in 2001 and 2010 detected over 18000 footprints and tracks of 4-5 types of herbivore and carnivore dinosaurs. Therefore, it is a unique paleontological heritage site proving that dinosaurs lived in groups. Mongolia and Japan joint archeologists found abundant dinosaur footprints from Shar Tsav, Umnugobi province in 1995. The co-existence of footprints and many skeletal remains in the same and/or nearby beds is a remarkable feature of these Mongolian sites. Analyses of dinosaur footprints and associated body fossil remains for each locality reveal that even in the same beds, the ichnofauna differ from the fauna reconstructed on the basis of body fossils of dinosaurs.
- **The scarp of Tsagaan Suvarga** is located in Olziit soum of Dundgovi province. Once a floor of the ocean, this scarp looks like a white stupa, hence the name Tsagaan Suvarga (White stupa). This scarp is 400 meters long and 60 meters tall with a 90-degree brink.

Major attraction


Adaatsag ophiolite


Shar tsav


Shar tsav


Shar tsav


Tsagaansuvarga

The excursion will include (Geological attractions):

- ❖ Early Paleozoic ophiolite complex
- ❖ Dinosaur footprints area
- ❖ Upper Cretaceous scarp

The excursion also provides (Sightseeing attractions):

- ❖ Unique structure
  - Dinosaur footprints area
- ❖ Shar tsav
  - Paleontological museum

Field excursion (Day 1-5)

Day 1
Departure at NGS, Ulaanbaatar
Excursion 1: Adaatsag ophiolite complex
Excursion 2: Tsogttsetsii soum
Day 2
Excursion 3: Shar tsav dinosaur footprints area
Exciting 4: Shar tsav dinosaur museum
Day 3
Excursion 5: Shar tsav dinosaur footprints area
Exciting 6: Shar tsav dinosaur museum
Day 4
Exciting 7: Tsagaansuvarga scarp
Day 5
Excursion 8: Travelling to Ulaanbaatar

* Field Trips with Neighboring Countries will be announced on the 3rd Circular and IGC 2024 official website.

ACCOMMODATION

Many of these accommodation options, including international chain hotels, are located very close to the venue for IGC 2024. Busan's strongest point as a convention destination is that the city offers various hotels ranging from youth hostels to super deluxe hotels within 10 minutes distance from BEXCO.

Haeundae Centum Hotel ★★★★

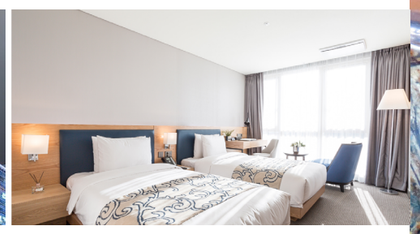
RoomRate(per night) KRW 140,000
Distance to venue 1 minute (on foot)
Phone +82 51-720-9907

https://www.ecentumhotel.com/

Centum Premier Hotel ★★★★

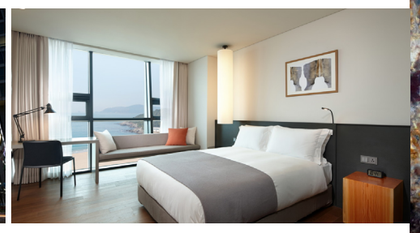
RoomRate(per night) KRW 120,000~200,000
Distance to venue 4 minutes (on foot)
Phone +82 51-755-9000

https://www.premierhotel.co.kr/eng/



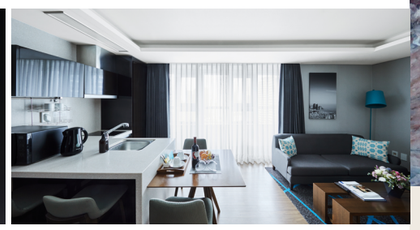
Shilla Stay Haeundae ★★★★

RoomRate(per night) KRW 140,000
Distance to venue 10 minutes (by car),
14 minutes (by subway)
Phone +82 51-911-93900
https://m.shillastay.com/haeundae



Felix Hotel by STX ★★★★

RoomRate(per night) KRW 100,000~160,000
Distance to venue 13 minutes (by car),
7 minutes (by subway)
Phone +82 51-969-5006
https://www.felixbystx.com/en/



GEOHOST SUPPORT

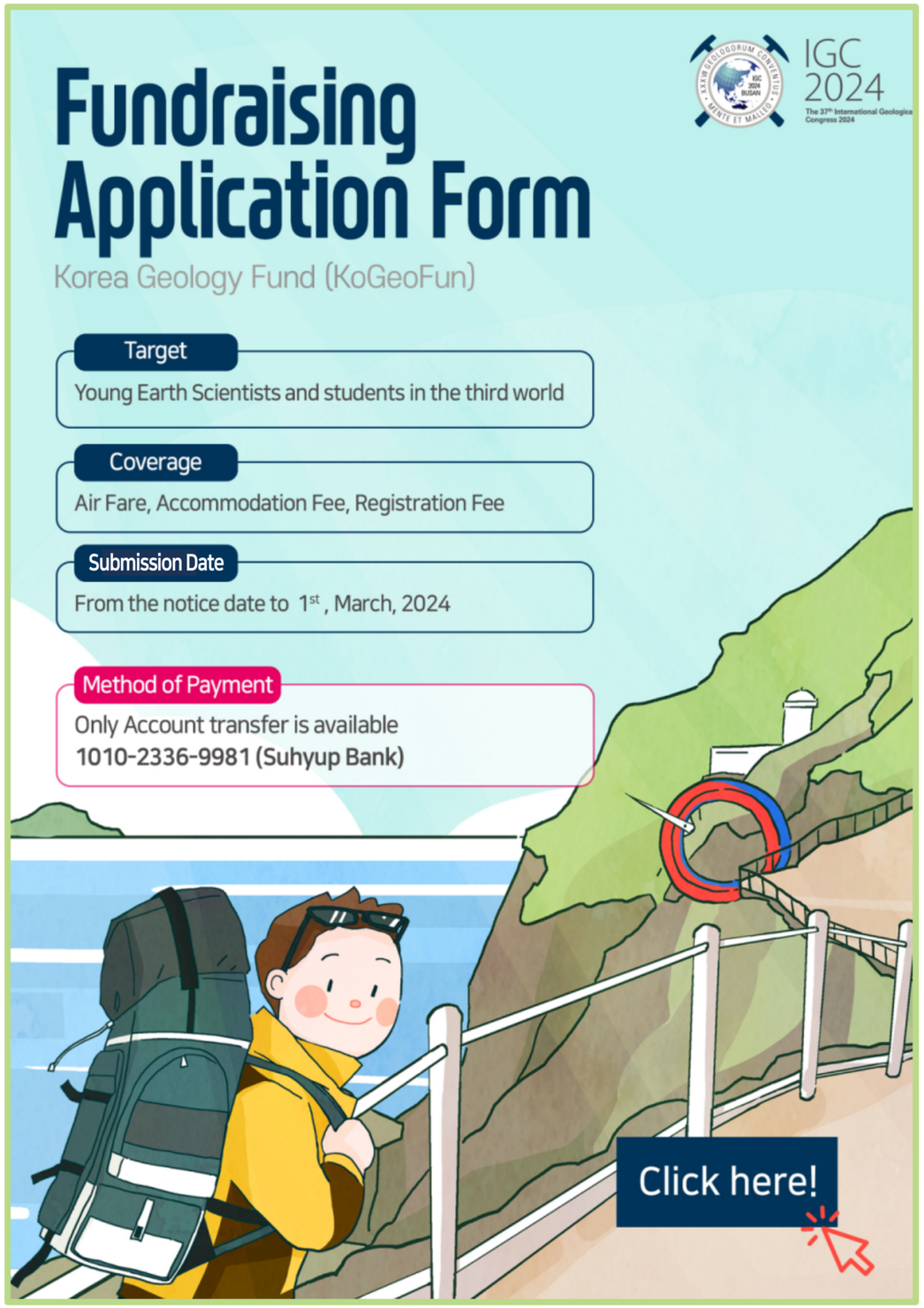
The GeoHost Support Program is designed to enable deserving geoscientists and geoscience students to participate in the International Geological Congress (IGC). Under this program that has helped thousands of scientists to attend IGC's over the years, we would be providing support to meritorious young/financially disadvantaged geoscientists and students to participate and present their researches at the 37th IGC in Busan.

The GeoHost Support Program of the 37th IGC will strive to help active geoscientists whose abstracts have been accepted for presentation. Financial support will be provided based exclusively on scientific merit.

With industry support anticipated, we should be able to offer GeoHost support to more number of aspiring geoscientists. We encourage potential applicants to seek financial support from other sources before applying for GeoHost support for example GSA grants.

On the other hand, we are look forward to your donations to give more young geologists grants so that they can have more chance to participate in IGC 2024 congress. If you are interested in this program,

please contact us <info@igc2024korea.org>.



SOCIAL MEDIA

A volume of conversation and interaction, especially through social media platforms, is already taking place between the members of the Organizing Committee and the thousands of prospective delegates. An increase in interaction is expected as IGC 2024 approaches, then delegates and the Committee members would already be old friends!

The 37th IGC makes use of three main social media platforms: **Facebook and Youtube** as well as a blog on the **Website** to keep delegates abreast of preparations for this **'Olympics of Geology'.**

Youtube
Click Here

igc2024korea.org
Click Here

Facebook
Click Here

ENVIRONMENT-FRIENDLY CONFERENCE

Embracing Sustainability: Join us for an Environment-Friendly Conference Experience

We are excited to announce that IGC 2024 will be an event dedicated to sustainability and environmental responsibility. We aim to create a conference that embraces environmental friendliness and serves as a model for future IGC conferences. To achieve this, the organizers are planning several key steps.

Firstly, we will encourage attendees to embrace paperless communication by providing digital conference materials and utilizing electronic platforms for registration and feedback.

Secondly, we will partner with local vendors who prioritize eco-friendly practices, ensuring sustainable food options and minimizing single-use plastics.

Additionally, recycling stations will be strategically placed throughout the venue to promote conscious waste management.

Lastly, we are exploring carbon offset initiatives to mitigate the environmental impact associated with conference-related travel.

Through these proactive measures, we aim to cultivate an atmosphere of environmental consciousness and inspire positive change within the IGC community.

HOST CITY, BUSAN

Busan, a bustling city of approximately 3.5 million residents, is located on the southeastern tip of the Korean peninsula. The size of Busan is 769.89 km^2 which is only 0.8% of the whole landmass of the Korean Peninsula. The natural environment of Busan is a harmonious relationship of mountains, rivers and sea. Its geography includes a coastline featuring superb beaches, scenic cliffs, and mountains that provide excellent hiking and extraordinary views with hot springs scattered throughout the city. Busan enjoys four distinct seasons and a temperate climate that never gets too hot or too cold.

CONVENTION CITY, BUSAN

CRUISE TOUR PROGRAM

A clear, blue sky combined with the vast ocean of Busan. While there are many ways to enjoy Busan, the places you will experience on the cruise ferry will leave you with precious, unforgettable memories.

The Bay 101

The Bay 101 Yacht Tour provides private tours or public tours for approximately 1 hour. Along with the finest yacht imported from each country, you can feel Busan's beauty that you cannot feel it on the ground.

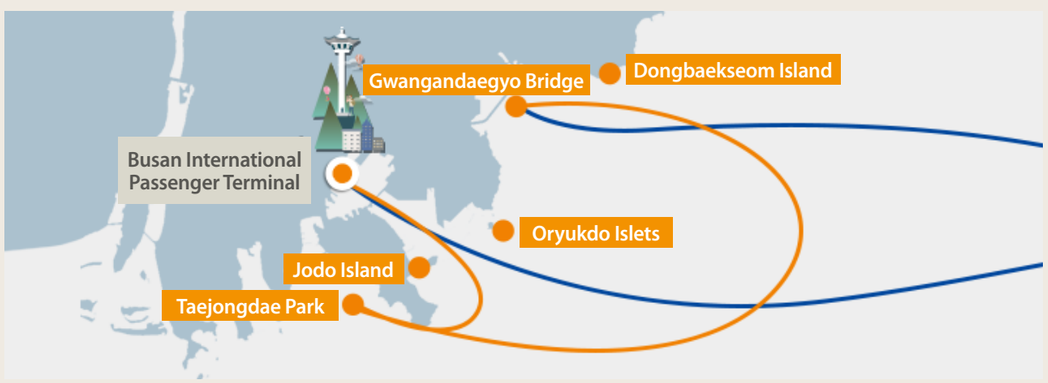
Courses

①Dongbaekseom(APEC NURIMARU),
②Haundae Beach,
③Gwangandaegyo Bridge
④Marine City

Fare (In KOREAN WON) **25,000~50,000 WON**

http://eng.thebay101.com/

Panstar Cruise



PanStar One Night Cruise, with an overnight stay at the PanStar Dream, is available at the Busan International Passenger Terminal. In PanStar Cruise, you are provided with everything for a day. The bedrooms facing each other on a long hallway similar to a hotel, a café on the deck, small performance halls, a convenience store, a sauna, cultural performances, laser shows, and fireworks make the cruise ship itself into a large attraction.

Courses ①the Jodo Island and Taejongdae Park of Yeongdo,
②pass through Oryukdo Islets and Dongbaekseom Island
③Gwangandaegyo Bridge

Enjoy the night sea of Busan overnight, and spend a romantic time on deck.

Fare (In KOREAN WON) **130,000~350,000 WON**

https://www.panstarcruise.com/

*Source: Busan Tourism Organization

TRANSPORTATION (How to get to Busan)

Airport Networks

Route to Korea (Direct Flights)

A total of 94 international airlines in operation 4,300 round trips a week on 221 routes

Flight Information Click Here

A list of flight information by airlines can be found in the following

KAC KOREA AIRPORTS CORPORATION Click Here

Direct flight information to Busan's Gimhae International Airport(PUS) can be found by clicking here

Nationwide

You can choose how to get to Busan from Seoul; via air, train, or bus.

Incheon Airport (ICN), 60 minutes (5 times/ day)
Gimpo Airport (GMP), 60 minutes (31 times/ day)

KTX — Seoul Station, 2 hours and 50 minutes (69 times/ day)

SRT — Suseo Station, 2 hours and 30 minutes (35 times/ day)

Travel from Busan Station to BEXCO/Hotels

Route 1 Travel between Busan Station ⇔ BEXCO / Hotels

BEXCO and Hotels are easily accessible from Busan Station by three modes of inexpensive transportation.

Express Bus	Busan Station --> BEXCO / Hotels Takes approx. 40 min. / KRW 2,100 (USD 1.61) Departure interval : 15-20 min.
Subway	Busan Station --> BEXCO/Hotels Takes approx. 50 min. / KRW 1,650 (USD 1.26)
Taxi	Busan Station --> BEXCO/Hotels Takes approx. 30-50 min. / ~~ (USD 11.48~15.31)

Route 2 Travel between Busan's Gimhae International Airport & BEXCO / Hotels

BEXCO and Hotels are easily accessible from Busan Airport (PUS) via two modes of inexpensive transportation.

Limousine Bus	Busan Airport --> BEXCO / Hotels Takes approx. 60 min. / KRW 10,000 (USD 7.65)
Taxi	Busan Airport --> BEXCO/Hotels Takes approx. 50-60 min. / ~~ (USD 22.96~26.79)

OTHER INFORMATION

VISA

K-ETA for participants from visa waiver and visa-free countries

K-ETA is an Electronic travel authorization. K-ETA eligible nationals, who wish to enter visa-free the South Korea, must obtain K-ETA approval before departure.
K-ETA application is open to nationals from 112 countries.

Visa for participants from visa-required countries

IGC 2024 cannot intervene with Korea Embassies abroad on behalf of any participant. However, if you need a personal letter of invitation to attend the congress, please email to the secretariat of IGC 2024 : (info@igc2024korea.org) after the registration.

Wi-Fi

Public places such as subway stations, restaurants, coffee shop, bank provide Free Wi-Fi Service.

Safety & Security

South Korea is safe to visit.
As long as you don't go to secluded alley, you are even safe on the street at night. Crime rate against foreigners is rare.

Personal Insurance

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


Seed Hotteok


Daeji-gukbap

IGC 2024
The 37th International Geologica Congress 2024

Cheongsong Global Geopark

The process of formation of the Korean Peninsula remains in Cheongsong UNESCO Global Geopark.
Based on metamorphic rocks of the Precambrian period, the crust cracked and sank due to mesozoic tectonic movements and dynamic volcanic activity, creating a large basin called the Gyeongsang Basin.

Organized by

THE GEOLOGICAL SOCIETY OF KOREA

KIGAM Korea Institute of Geoscience and Mineral Resources

BUSAN METROPOLITAN CITY

Hosted by

IUGS International Union of Geological Sciences

Sponsored by

Ministry of Science and ICT

KOREA TOURISM ORGANIZATION

bto BUSAN TOURISM ORGANIZATION

Contact : info@igc2024korea.org