



**Government of India
Geological Survey of India**

Dated: 21.02.2019
International Affairs & IGC
Policy Support System
Central Headquarters
Kolkata -700 016

19/
No. IA&IGC/FTC_IGC/GSI/CHQ/2019

CIRCULAR

36th IGC society has integrated 61 field trips (pre and post Congress) into the Congress Programme of 36 International Geological Congress 2020, which is scheduled from 2nd to 8th March 2020 (ref. 2nd Circular of 36th IGC). These field trips are being developed by GSI and various other geoscientific organizations across the country.

As part of preparation, 36th IGC society has decided to take up dry run in 61 field traverses (pre and post congress) in phases tentatively from **27th February 2019 to 15th March 2019**, for assessing the feasibility and to fine tune the arrangements for these field trips at international standard.

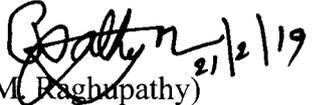
The dry runs are to be conducted by the respective designated teams, for the **50 field trips** (Ref: original proposal submitted to 36th IGC) along with the observers. The approved list of observers for each field trip, the tentative schedule of dry runs, the terms of reference (ToR), format for report and certificate from observer is annexed herewith (**Annexure-I**).

TA/DA towards the participation of in service GSI officers as observer will be borne from GSI. Field expenses are to be borne by the respective team for the dry run (viz. vehicle hiring, contingent labourer, etc).

The observers (from GSI) shall submit the report **within 15 days** on completion of field trip to 36th IGC society (igc.delhi2020@ nic.in) under intimation to IA&IGC GSI, CHQ (ddgiaigc@gsi.gov.in / ddgiaigc@gmail.com).

All concerned HoDs are requested to direct the officers under their authority to do the needful for the completion of dry run.

This is issued with the approval of Director General, GSI.


(M. Raghupathy)
DDG, IA&IGC

No: IA&IGC/FTC_IGC/GSI/CHQ/2019

Dated: 21.02.2019

Copy for information to

1. The DDG (IT), GSI, CHQ, Kolkata, 27 J.L. Nehru Road, Kolkata – 700016, with the request to upload the above in GSI portal.

(M. Raghupathy)
DDG, IA&IGC

Annexure-1

TOR for the Observers for Field trips (Dry Run)

1. The observers for the field trips would be required to evaluate the field trips from the perspective of a congress delegate during the dry run. He/ she should consult the original proposal submitted by the group to 36th IGC for the particular field trip. 36th IGC/ coordinator of the respective field trip shall handover the original proposal submitted by the group to the observer(s).
2. The observer is to note the technical and logistic details showcased/provided during the dry run and whether these are offered as content quality and as per schedule. He/ She should also record his observations towards the betterment of the technical details as well as the logistic facilities provided during the field trip.
3. He/ she would be required to submit a comprehensive report (+ checklist) on the above aspects within 15 days of completion of the field trip.
4. The observers should certify at the end of the report, that the statements made in the report are true, unbiased and meant towards uplifting the quality of the fieldtrip to offer it to Global Geoscientific Community.
5. The observer may document this field traverse through high resolution photography/ videography for value addition towards input in field guide books, upcoming 36IGC circulars, etc.

Comprehensive Report

The report is to furnish the technical and logistics details showcased during the dry run. The following points may be covered in the report and shall also indicate the quality of the services/ details provided.

1. Introduction:
2. Logistics details
 - 2.1. Delegate pick up and drop
 - 2.2. Local transport
 - 2.3. Accommodation (free Wi-fi, complimentary breakfast, geyser, AC, TV and Parking)- Halt wise details are to be provided.
 - 2.4. Food (during stay, during journey)
 - 2.5. Medical facilities/ Plan for medical supervision and availability of terrain specific medical kit.
 - 2.6. Weather condition
 - 2.7. Facilities offered during travel by vehicle/ bus/water route:
 - 2.8. First Aid Kit.
 - 2.9. Tie up with local authorities for safety and security of the delegates.
 - 2.10. Briefing (goals and objective of the field trip) to the delegates
 - 2.11. Conduct guidelines (in case delegates are to interact with the local community)
 - 2.12. Foreign Exchange facility
 - 2.13. Special logistic requirements (eg. for high altitude, sea sickness, etc.)
 - 2.14. Travel and medical insurance
 - 2.15. Cultural/ social program
 - 2.16. Geo-tourism spots
 - 2.17. Emergency numbers and contact information
 - 2.18. Disclaimer Form
 - 2.19. Field Equipment and stationary
 - 2.20. Time management day wise:
 - i. Duration of onsite activity (spot 1, spot 2,...)
 - ii. Travel time between different spots (spot 1 to spot2, spot 2 to spot,...)
 - iii. Feasibility of the plan schedule of the field trip and suggested modifications, if any

3. Technical details:
 - 3.1. Technical briefing
 - 3.2. Type of terrain
 - 3.3. Accessibility (spot wise), distance travelled on foot may also be indicated.
 - 3.4. Data control
 - 3.5. Visual and technical appeal of data presented (maps, imagery etc.)
 - 3.6. Onsite explanations
 - 3.7. Quality of exposure (spot wise)
4. Overall impression of the trip
 - 4.1. Logistics
 - 4.2. Technical content
 - 4.3. The technical thoroughness and preparedness of the coordinator for leading the field excursion
5. Other details
6. Additional observations for improving the quality of the field trip, if any for attaining the quality desired for prestigious events as IGC.

Certificate

This is to certify that, Ihave participated in the Field Trip
 Item Code of 36th IGC between
 &, as an observer and evaluated the field trips for its
 feasibility of taking this up during 36th IGC, 2020 during pre/ post congress period. The
 observations made during the visit and submitted in the report are true, unbiased and
 meant towards uplifting the quality of the fieldtrip to offer it to Global Geoscientific
 Community.

Signature

Name

Designation

1	Trip Description	Tentative dates for dry run	Observer
1	<p>NER001: Geodynamic evolution of Northeastern Himalayas: Traverse along Tezpur-Bomdila-Tawang section Assam and Arunachal Pradesh</p> <p>This post-IGC trip starts and ends at New Delhi;</p> <p>Participants: 30 max; Duration: 4 days;</p> <p>Trip coordinator/s: Bashab N. Mahanta and Tapos Kr. Goswami;</p> <p>Trip overview: The Bhalukpong-Tawang section in western Arunachal Pradesh showcases the complete Himalayan thrust system resulting from India-Eurasia collision. Disposition of different lithologic sequence (separated by major dislocation planes) starting from Brahmaputra alluvium, the Sub Himalayan Siwalik belt, Gondwana sediments and the Lesser Himalayan low grade metamorphic sequence can be examined during the field excursion. The Gondwana rocks represent the northeastern-most rift system in India and bears signatures of marine transgressions in Sakmarian times.</p> <p>Geo-tourism spots: Tawang Monastery (second largest in world), tea gardens of Assam, Tipi Orchidarium etc.</p>	9-12 March, 2019	C Yanthan, Suptd Geol. SU: T&M, R-IGC, NER, GSI
2	<p>NER002: Nagaland Ophiolite Complex: Type locality for Intra-Oceanic Subduction within the Neo-Tethys.</p> <p>This post-IGC trip starts and ends at Dimapur, Nagaland;</p> <p>Participants: 20 max ; Duration: 6 Days;</p> <p>Trip coordinator/s: Santanu Kumar Bhowmik and Aliba Ao</p> <p>Trip overview: The Nagaland Ophiolite Complex (NOC) is one of the rare ophiolite belts in the world where high-pressure metamorphic rocks along clockwise and counter-clockwise metamorphic P-T paths occur in close spatial associations but in two different metamorphic sequences. This is the only metamorphic belt in the Indus-Yarlung-Tsangpo-Suture Zone where the history of the full cycle of Neo-Tethys evolution from subduction to end of the subduction cycle, as manifested by collisional tectonics and ophiolite emplacement is preserved in the rock archive.</p> <p>Geo-tourism spots: Naga heritage village, Kohima etc.</p>	9-14 March, 2019	A.K. Jain, Member FTC
3	<p>NER003: A Glimpse of the Enigmatic Himalayan Inverted Metamorphic Sequence: A Classic Section across the Darjeeling-Sikkim Himalayas</p> <p>This post-IGC trip starts and ends at New Delhi;</p> <p>Participants: 25 max; Duration: 7 days;</p> <p>Trip coordinator/s: Sudipto Neogi, Ravikant Vadlamani and Kathakali Bhattacharyya</p> <p>Trip overview: Himalayan tectonics and metamorphism has been largely considered within the framework of the collision and subduction of the Greater Indian plate with the Eurasian plate during the Eocene (~ 50 Ma), resulting in intense crustal shortening and deformation, accommodated by intracontinental thrusts and internal deformation of Greater Indian plate. Causes for the metamorphism in abnormally thickened crust has been addressed involving thermal modelling, field studies, quantitative P-T estimation, geochronological and isotopic studies. An enigmatic feature of Himalayan metamorphism is the presence of a sequence of progressively higher grade rocks occurring at shallower structural levels, reported from the Darjeeling- Sikkim region, and later described with remarkable similarity from all along the nearly 2000 km length of the Himalaya referred to as "inverted" metamorphism.</p> <p>Geo-tourism spots: Lachung, Yumthang valley, Lachen etc.</p>	9-15 March, 2019	P.K.Srivastava, Director, SU: Sikkim, GSI

4	<p>NER004: Tectonic Evolution of NE Indian Craton, Meghalaya Plateau: Journey from Pre-Grenvillian - Grenvillian Orogeny to Pan-African Orogeny and Gondwana break-up</p> <p>This post-IGC trip starts and ends at New Delhi;</p> <p>Participants : 20 max; Duration: 5 days;</p> <p>Trip coordinator/s: Tapan Pal</p> <p>Trip overview: Meghalaya Plateau is a part of the Eastern Indian shield since the Mesoproterozoic time. It preserves signatures of major global events ranging from Rodinia assembly to Gondwana assembly, Gondwana break-up, K-T boundary. Tertiary limestone of Meghalaya Plateau also records Paleocene-Eocene Thermal Maxima (PTM) event. Relatively less known North East Indian craton is an area to explore Pan Gondwana reconstruction.</p> <p>Geo-tourism spots: Meghalaya- "The Abode of Clouds", Mawsynram (heaviest rainfall receiving area), caves and magnificent waterfalls, Mumluh cave, Cherrapunjee- GSSP for Meghalayan age etc.</p>	9-13 March, 2019	<p>1. Shri.N.B.Singha, Supdg.Geologist, SU: Assam, GSI 2.Ankur Srivastava, 36th IGC Secretariat</p>
5	<p>NER005: Unfolding of Quaternary History and Associated Geoarchaeological Remains of Tripura, Northeastern India</p> <p>This post- IGC trip starts and ends at the Agartala;</p> <p>Participants: 20 max; Duration: 5 days;</p> <p>Trip coordinator/s: N.R. Ramesh, Manjil Hazarika and B.C. Poddar</p> <p>Trip overview: Intermontane Khowai and Haora valleys in Tripura have extensive outcrops of older Quaternary fluvial deposits, developed as terraces. They contain buried, multi-layered, prolific Stone Age sites with abundant exquisite artefacts of fossil wood, discovered in a unique stratigraphic framework. Pleistocene valley sediments laid over deformed Neogene sedimentary sequences are also deeply incised. Integrated study on environmental setting of cluster/pattern of sites and their radiometric dating have led to prove habitation of late Pleistocene early man in a region stretching from Bengal basin to Irrawaddy valley. Evolution of human culture in sync with evolution of river valleys is well demonstrated here. The traverse aims at examining the geo-archaeological context of the sites based on morpho-stratigraphy, litho-stratigraphy and chrono-cultural stratigraphy and unique nature of prehistoric tool assemblages.</p> <p>Geo-tourism spots: Geo-archaeological sites in Khowai Valley, Unakoti rock-cut sculptures etc.</p>	9-13 March, 2019	<p>Shanki Yadav, Geologist, 36th IGC Secretariat</p>
6	<p>ER002: Proterozoic Gold Mineralizing System in North Singhbhum Mobile Belt.</p> <p>This post- IGC trip starts and ends at Ranchi, Jharkhand;</p> <p>Participants : 25 max.; Duration: 4 days;</p> <p>Trip coordinator/s: Pankaj Kumar and Sahendra Singh</p> <p>Trip overview: The Paleo- to Mesoproterozoic North Singhbhum Mobile Belt (NSMB) in eastern India has a long and significant history of gold exploration activities with recent finding of many small gold deposits. The NSMB has two prominent crustal scale shear zones in its northern and southern parts. The region is well known for the numerous ancient gold working and abandoned gold mines apart from a long history of the gold panning activities in the Subarnarekha River and its tributaries.</p> <p>Geo-tourism spots: Jonha, Hundru, Dasam fall, Dalma Wildlife Sanctuary etc.</p>	9-12 March, 2019	<p>1. Shri.A.K.Huin, Director, ER, GSI 2.A.A.Raza, Sr. Geologist, R- IGC, ER, GSI</p>
	<p>ER004: Rajgir-Bodh Gaya-Barabar Geotourism: A Unique Geological and Historical Heritage of Bihar</p> <p>This pre-IGC trip starts and ends at Patna;</p> <p>Participants: 30 max.; Duration: 4 days;</p> <p>Trip coordinator/s: A. Bishwapriya, S.K. Dutta and M. Ahmad</p>		

7	<p>Trip overview: Roughly falling between Jehanabad, Gaya, Bodh Gaya Rajgir and Nalanda, the region offers an excellent geotourism opportunity wherein geology and archaeology are juxtaposed and complement each other. The area gains its importance worldwide due to historical and cultural aspects related to Buddhism & Jainism, all set within the Gaya-Rajgir volcano-sedimentary belt and associated magmatic complex situated on the northern fringe of Chotanagpur Gneissic Complex (CGC) in eastern India.</p> <p>Geo-tourism spots: Venuvan, Japanese Temple, Bodhi Temple, Monasteries of various countries etc.</p>	27 Feb – 2 March, 2019	Ravi Shankar Choubey, Geologist, R-IGC, ER, GSI
8	<p>ER005: The Teesta Chronicle: Tectonics – Climate and Human-Landscape Dynamics</p> <p>This pre-IGC trip starts and ends at Bagdogra/Siliguri;</p> <p>Participants: 20 max.; Duration: 5 Days;</p> <p>Trip coordinator/s: Mriganka Ghatak, Sanjeeb Bhattacharya and Sreemati Gupta</p> <p>Trip overview: The foothills of Sikkim Himalayas are known for active tectonism. The proposed traverses in the Teesta magfan, at the Eastern Himalayan foothills provides an insight into the tectonism, sedimentation processes and influence of engineering interventions on the fluvial regime of Teesta and its environs. The excursion plans visit to observe sedimentation processes and signatures of neotectonic activity along the transverse and regional faults. The effect of engineering interventions on Teesta River and its environs shall also be showcased.</p> <p>Geo-tourism spots: Tea estates of Dooars, wild life sanctuary/ reserve forest and Darjeeling Himalayan Railway (DHR) ride etc.</p>	27 Feb – 2 March, 2019	B N Mahanta, Suptdg. Geologist, SU: Meghalaya, R-IGC, NER, GSI
9	<p>ER007: Geological Field Excursion to the Jharia Coal field: A Tribute to Sir Cyril Sidney Fox (A legacy of 125 years of Indian Mining and Mineral Industry)</p> <p>This pre-IGC trip starts and ends at Dhanbad;</p> <p>Participants: 25 max.; Duration: 5 days;</p> <p>Trip coordinator/s: Sahendra Singh and P. R. Sahoo</p> <p>Trip overview: The Jharia Coal Field was mapped by Sir Cyril Sidney Fox, fellow of Indian National Science Academy. The coal field contain one of the best exposed sections of the lower Gondwana Formation i.e. Talchir & Barakar within a distance of 0.5 km. Boulder bed overlying the basement, dolerite dykes and lamprophyres are the other interesting features to examine.</p> <p>Geo-tourism spots: Maithon Dam, Hydrel Tunnel on Barakar River, Parasnath Hill/Jain Temple, Longwall Mining at Munidih etc.</p>	27 Feb – 3 March, 2019	Dr.Manas Roychowduri, Director, ER, GSI
10	<p>ER008: Landslide failure mechanisms, hazard and risk scenarios in Darjeeling Himalayas</p> <p>This post-IGC trip starts and ends at Bagdogra;</p> <p>Participants: 30 max.; Duration: 5 Days;</p> <p>Trip coordinator/s: Saibal Ghosh and Timir Baran Ghoshal</p> <p>Trip overview: The proposed fieldtrip area is part of the active Himalayan Fold-Thrust-Belt (FTB) where interplay of varied geological factors vis-a- vis rapid urbanization and growth are responsible for initiating different types of landslides for over a century. The varied landslide failure mechanisms and their intimate relationships with a series of varied Himalayan lithology and regional tectonic structures and the interactions of landslide hazards with thick settlement and built-up areas in the Darjeeling Himalayas would be showcased with added measures for evaluating risk.</p> <p>Geo-tourism spots: UNESCO World Heritage Site- Darjeeling-Himalayan Railway; Tea Gardens etc.</p>	20-25 Feb 2019	Shri Niroj Sarkar, Director, CHQ , GSI

11	<p>ER009: Glacial to post-glacial fluvio-marine sedimentation system: Evidences from West Bokaro Coal Field</p> <p>This post-IGC trip starts and ends at Hazaribagh, Jharkhand;</p> <p>Participants: 25 max.; Duration: 4 days;</p> <p>Trip coordinator/s: Hareshwar N Sinha</p> <p>Trip overview: The Lower Gondwana sequence of West Bokaro Coal basin is attributed to the transitional nature of the glacial-fluvial-marine interactive systems in the frame of post-glacial transgressive-regressive (T-R) setup. Such T-R cycles during the Late Paleozoic- Lower Gondwana sedimentation reveals prograding and retrograding successions, sediment-organism interaction pattern, sea level fluctuations, sediment supply and basinal tectonism. The Dudhi River section exposes one of the most well preserved Gondwana successions.</p> <p>Places of Geotouristic interest: Surya Kunda, Bodh Gaya, Jhumri-Telaiya Dam etc.</p>	9-12 March, 2019	Dr.Sudip Bhattacharya, Director, ER, GSI
12	<p>ER010: Andaman Islands: An anatomy of the Accretionary Prism in an Active Burma-Andaman – Java subduction zone</p> <p>This pre-IGC trip starts and ends at New Delhi;</p> <p>Participants: 20 max.; Duration: 6 Days;</p> <p>Trip coordinator/s: Tapan Pal</p> <p>Trip overview: The Andaman ophiolite belonging to the western belt of Indo Burma Ridge (IBR) preserves a complete ophiolite sequence (mantle–cumulates–lavas) in the outer arc of the active Burma- Andaman–Java subduction zone. Its unique polygenetic setting, MORB mantle and supra-subduction zone mantle reveal the intricacies of physicochemical processes of the subduction system.</p> <p>Geo-tourism spots: Cellular Jail (Light & Sound), Corbyn’s Cove beach, Chidiatapu / Mundapahar beach, Ross Island, Wandoor Beach, Mud Vocano and limestone Cave in Baratang, Natural bridge at Neil Island etc.</p>	27 Feb – 4 March, 2019	Shri.Sujit Tripathy, Director, RTI, ER, GSI
13	<p>ER012: Eastern Ghats Belt, India: A type locality of ultrahigh Temperature Proterozoic Orogenic System</p> <p>This pre- IGC trip starts and ends at Bhubaneswar and Vishakhapatnam respectively;</p> <p>Participants 15 max.; Duration: 5 days;</p> <p>Trip coordinator/s: Sankar Bose and Jayanta Kumar Nanda</p> <p>Trip overview: This transect to showcase the making and breaking of a supercontinent, runs parallel to the Eastern Khondalite- the complexly evolved Eastern Ghat Belt (EGB) where two geologically distinct crustal domains, namely the Chilka Lake and the Visakhapatnam domains will be visited. Key rock occurrences including the different varieties of granulites and anorthosite will be shown. While the UHT metamorphosed and isobarically cooled lower crustal rocks of the Visakhapatnam domain preserved history of the Rodinia assembly, the enigmatic isothermally decompressed UHT metamorphosed rocks of the Chilka Lake domain preserved the history of Rodinia breakup.</p> <p>Geo-tourism spots: Chilka lake, Borra Caves etc.</p>	27 Feb – 3 March, 2019	Somnath Dasgupta, Co-Chair, FTC
	<p>SR003: The Deep Crust of the Archaean Dharwar Craton</p> <p>This post- IGC trip starts at Bangalore and ends at Coimbatore;</p> <p>Participants: 18 max.; Duration: 6 days;</p>		

14	<p>Trip coordinator/s: C. Srikantappa, K.G. Ashamanjari and K.N. Prakash Narasimha</p> <p>Trip overview: Granite-greenstone belts and granulite-gneiss terrain are well exposed in the Archaean Dharwar Craton (3.5- 2.5 Ga, DC). The rocks show regional metamorphism with pressures of 6 to 11 k bars and temperatures of 650 to 820°C. The Dharwar Craton (DC) is bounded to the South by the E-W trending Moyar-Bhavani shear zone, where the lower continental crust is extensively reactivated during the Pan-African event (~ 0.5 Ga). Archean metasedimentary units, chromitite bearing layered igneous complexes, two different types of granulites, incipient charnockite formation, it's structures, and geochemical signatures shall be examined.</p> <p>Geo-tourism spots: Waterfalls, Mysore Maharaja Palace, Ancient Hindu temple architecture, Tiger reserve forest, Nilgiri mountains etc.</p>	9-14 March, 2019	P.Rajesh Durai, Superintending Geologist, R-IGC, SR, GSI
15	<p>SR005: Neoproterozoic -Early Cambrian Crustal Evolution in south India: Implications of east Gondwana Assembly</p> <p>This post-IGC trip starts at Coimbatore and ends at Trivandrum;</p> <p>Participants: 20 max. ; Duration: 6 days;</p> <p>Trip coordinator/s: S. Raju, N. P. Nathan and T.R.K. Chetty.</p> <p>Trip overview: The Granulite Terrain of Southern India is selected to showcase the Neoproterozoic-Early Cambrian crustal evolution events encompassing the accretionary tectonics, metamorphic, magmatic episodes (Ophiolites) and the kinematics of the major shear zones for understanding the East Gondwana assembly. Palghat-Cauvery Shear Zone (PCSZ) and Neoproterozoic mobile belt extending up to the southern tip of Indian Peninsula will be covered during this excursion.</p> <p>Geo-tourism spots: Meenakshi Temple, Kodaikanal hill station, Rock memorial at Kanyakumari, Kovalam beach etc.</p>	9-14 March, 2019	Shri.K.Raju, Director, SU:K&G,SR, GSI
16	<p>SR006: Diamond Fields of South India – Wajarakarur Kimberlite Field, Eastern Dharwar Craton, Southern India</p> <p>This pre-IGC trip starts at Bengaluru and ends at New Delhi;</p> <p>Participants 30 max.; Duration 5 days;</p> <p>Trip coordinator/s: S.Ravi and E.V.S.S.K.Babu</p> <p>Trip overview: Southern India, the land of first diamond finds in the world, consists of both primary and secondary deposits for diamond in Archaean granite-greenstone terrains of Dharwar Craton. It is known to have produced the most celebrated diamonds viz. Koh-i-Noor, Great Mogul, Orloff, etc. The mining activity dates back to 13-18 centuries AD. The trip envisages visiting the some of the kimberlites in the Wajrakarur and Raichur-Tungabhadra Kimberlite Fields, as well as Cuddapah Basin lamproites. Visit to Kimberlite Park and Museum, Geological Survey of India at Wajrakarur (to showcase drill cores and large size samples of kimberlites, mantle xenoliths) and visit to historic diamond mines in the paleo-placers of the Neoproterozoic sediments and the alluvial placers are included in the trip.</p> <p>Geo-tourism spots: Vijayanagara temple (14th-16th Century AD), Belum Caves etc.</p>	27 Feb – 3 March, 2019	1. Shri.Srinivasa Choudhary, Director, SR, GSI 2. Navneet D Rout, Sr. Geologist, R-IGC, SR, GSI
	<p>SR007: A journey from Paleo to Neoproterozoic; Sedimentation, Magmatism and Mineralization in the Cuddapah Basin, India</p> <p>This post- IGC trip starts and ends at Tirupati;</p> <p>Participants 20 max.; Duration 5 days;</p> <p>Trip coordinator/s: V.V. Sessa Sai and Santanu Bhattacharjee</p>		

17	<p>Trip overview: The Proterozoic Cuddapah basin in the eastern Dharwar Craton is a prominent Precambrian sedimentary basin in India that has well-preserved clastic and non-clastic sedimentary sequences. It witnessed significant magmatic activity during sedimentation. Evidences for the Palaeoproterozoic life in the form of stromatolites; organo-sedimentary structures are well preserved in the Vempalle Formation of the Cuddapah Supergroup. The Neoproterozoic Kurnool basin consists of a sequence of rudaceous-arenaceous-argillaceous-carbonate rocks. The well-known Banaganapalle conglomerate horizon; the lower Formation in the Kurnool Group is known for ancient diamond activity in India. The proposed field traverses include best exposed type sections in the basin.</p>	9-14 March, 2019	S. Ravi, Director, Member FTC
<p>Geo-tourism spots: Natural Arch of Tirumala, Belum caves etc.</p>			
18	<p>SR009: Jurassic Park in P-G Valley This pre-IGC trip starts and ends at Hyderabad; Number of Participants 20 max.; Duration 5 days; Trip coordinator/s: K. Ayyasami and B. Gowtham</p> <p>Trip overview: The Pranhita-Godavari Basin, India, is a pericratonic basin that came into existence following rifting along eastern Indian Craton in early Mesozoic. The basal Proterozoic rocks of about 6 km thickness are termed as the Godavari Supergroup. Their distribution is widespread on both sides of the Gondwanas with small inliers. The coal-bearing Gondwana sediments includes Talchir, Barakar, Barren Measures, Kamthi (Lower Gondwana Group), Maleri, Kota, Gangapur and Chikiala formations (Upper Gondwana Group). The Maleri and Kota Formations provide the bulk of fossil remains. The Gangapur Formation is a storehouse of plant fossils. The succession terminates with the eruption of volcanic rocks noted in the neighbourhood of Rajahmundry. The infra- and inter-trappean beds offer some of best molluscan remains in this part of the region.</p>	27 Feb – 3 March, 2019	Shri.Sabysachi Shome, DDG,NER, GSI
<p>Geo-tourism spots: Kakatiya architecture in Warangal and Bhadrachalam temple etc.</p>			
19	<p>SR010: Cretaceous Stage Boundaries This post- IGC trip starts and ends at Chennai; Participants: 20 max.; Duration: 5 days; Trip coordinator/s: B Gowtham and K Ayyasami</p> <p>Trip overview: The Talchir Formation of Lower Gondwana comprising boulder bed, conglomerates, splintery shale is limited to outcrops in Guduvanchery near Chennai. It exposes a near complete sequence of the Cretaceous from the Aptian through Maastrichtian. The oldest sedimentary unit is the fluvialite, plant fossil bearing Upper Gondwana clay of Aptian age. The overlying marine rocks begin with basal coral-algal reefoidal limestone. The overlying gypsiferous clay and sandstone yield many fossils. A younger shell bank facies is exposed in 3 sub-basins, viz. Ariyalur, Vriddachalam and Puducherry. The overlying coarse sandstone contains dinosaur fossils. Rocks of Danian age top the succession. An integrated bio-stratigraphic study on invertebrates reveal the remarkable coincidence of biozonal boundaries with many lithostratigraphic levels.</p>	9-13 March, 2019	S R Basir, Director, R-IGC, SR, GSI
<p>Geo-tourism spots: Mahabalipuram- ancient rock cut temples etc.</p>			
	<p>SR015: Coral Reef ecosystem around Lakshadweep, Arabian Sea, Western India This post-IGC trip starts and ends at New Delhi and Cochin respectively; Participants 20 max.; Duration 5 days; Trip coordinator/s: Dhirendra Kumar Pandey</p>		

20	<p>Trip overview: Located about 225 to 450 km west of the Kerala coast, the Lakshadweep Archipelago in the Arabian Sea consists of ~ 36 coral islands. The archipelago lies on the submerged Chagos-Lakshadweep ridge. There are about 11 inhabited islands. The rock formations that can be observed include coral facies followed by coral-algal facies, algal rudstone/ coralline limestone and finally coral facies. The oldest sediments are composed of terrigenous clastics, probably of Paleocene age. The biological components are dominated by skeletal fragments of corals, coralline algae, other algae, mollusks, foraminifera, and echinoderms in the order of abundance.</p> <p>Geo-tourism spots: Karavatti natural museum etc.</p>	14-18 March, 2019	Snigdha Ghatak, Director, 36th IGC Secretariat
21	<p>SR016: Gravity gliding of Mesoproterozoic Sedimentary Cover of Kaladgi Basin</p> <p>This pre- IGC trip starts and ends at Bagalkot, Karnataka;</p> <p>Participants 20 max.; Duration 3 days;</p> <p>Trip coordinator/s: Mrinal Kanti Mukherjee, Sohini Das and Sudipto Ghosh</p> <p>Trip overview: The deformation pattern in the Kaladgi basin during Mesoproterozoic, is unique of its kind in an intracratonic setup. The deformation of the Mesoproterozoic sedimentary cover originated by a southerly-directed gravity gliding of the cover over the basement along the basement–cover contact (unconformity) that served as a surface for detachment shall be demonstrated along a N-S transect across the basin. A continuous passage from extensional domain in the north and contractional domain in the south with a contrast in structural geometry between the unaffected basement and deformed cover shall be showcased.</p> <p>Geo-tourism spots: Badami cave temple- renowned UNESCO heritage site etc.</p>	27 Feb – 2 March, 2019	Shri.M.N.Praveen, Director,Su:K&G,SR, GSI
22	<p>SR018: Quaternary Evolution of Western Continental Margin of Karnataka-Goa Coasts with emphasis on resources and environment</p> <p>This pre- IGC trip starts from Mangalore and ends at Panjim, Goa;</p> <p>Participants: 20 max.; Duration: 5 Days;</p> <p>Trip coordinator/s: K. S. Jayappa, N. R. Ramesh and K R Subramanya</p> <p>Trip overview: A variety of spectacular coastal landforms along the dynamic coastal tract, its' natural resources and scenic beauty shall be visited. St. Mary Group of Islands (National Geological Monuments) exposing remarkable columnar joints, picturesque table top lateritic uplands, lateritic profiles juxtaposed over the Precambrians and Neogene rocks, misfit rivers, nick points, sea caves, tombolo, abrasion platforms, spectacular spits, pocket beaches are all to be experienced. Quaternary formations of marine, fluvial and aeolian origin and coastal hazards (efficacy of coastal engineering protection) can be readily examined.</p> <p>Geo-tourism spots: St. Mary's Islands, Yana karst topography and Kudle Beach, Pilikula Nisarga Dhama, wild life & cultural heritage etc.</p>	27 Feb – 3 March, 2019	Debasish Rout, 36th IGC Secretariate 2. Saju Vargehese, Senior Geologist, R-IGC, SR, GSI
	<p>SR 019: Resource Survey for Dimension Stone Granite Deposits in granulitic terrain of Tamil Nadu, Southern India.</p> <p>This pre-IGC trip starts from Chennai and ends at Madurai;</p> <p>Participants: 20 max.; Duration: 4 Days;</p> <p>Trip coordinator/s: K Jayabalan and K. Arvind</p>		

23	<p>Trip overview: The state of Tamil Nadu is known for extensive occurrences of granite, charnockite, and bronzite gabbros that are quarried for dimensional stones. The granulitic terrain of Tamil Nadu is studded with several quarries which produce commercially important dimensional stones like Jet/Kunnam Black (equivalent to Ebony black of Sweden), a unique variety like Paradiso, Thippu/ Melur/Kashmir white, Star Galaxy, Tiger skin, Pink/blue Multi, Blue pearl, Colombo/Tropical Juparana, Lady dream, Viyarah, Rosa Verde, Raw silk etc. During the proposed field transacts, different litho units and their equivalent commercial grade, granite landforms will be visited and various aspects of commercial valuation will be discussed.</p> <p>Geo-tourism spots: Lady of Lourdes Church, Tiruchirappalli; Rock fort and Srirangam Temple (Chola Architect) Meenakshi Amman Temple (Pandiya Architect) etc.</p>	27 Feb-2 March, 2019	E.V.S.K Babu, Member FTC
24	<p>SR021: Gold and copper mineralization in Kolar and Chitradurga Schist Belts, Dharwar Craton</p> <p>This pre- IGC trip starts and ends at Bengaluru;</p> <p>Participants 20 max.; Duration 5 days;</p> <p>Trip coordinator/s: V. N. Vasudev, R. H. Sawkar and N Rajendran</p> <p>Trip overview: Neoarchaean metallogenic provinces of polymetallic and gold mineralization of Chitradurga and Kolar Greenstone belts of west and east Dharwar Cratons will provide an opportunity to study the geological and structural set up of the mineralisation and exploration methodologies.</p> <p>Geo-tourism spots: Geological monument of pillow lava; heritage sites of pre-historic Chandravalli caves near Chitradurga, Chitradurga fort etc.</p>	27 Feb - 3 March, 2020	M. L. Dora, Director, GSI
25	<p>SR022: Gold, Iron and Manganese mineralization in Dharwar-Shimoga, Gadag, Sandur, Hutti-Maski and Jonnagiri Schist Belts, Dharwar Craton</p> <p>This post- IGC trip starts at Hubballi, Karnataka and ends at Gooti, Andhra Pradesh;</p> <p>Participants: 20 max.; Duration: 5 Days;</p> <p>Trip coordinator/s: V. N. Vasudev and R. H. Sawkar</p> <p>Trip overview: The excursion covers Neoarchaean metallogenic provinces of gold mineralisation across the east and west Dharwar Cratons in different geological setups. The trip also covers the iron and manganese mineralisation in Sandur Greenstone Belt</p> <p>Geo-tourism spots: World Heritage site at Hampi, Yerragundi Rock Edicts of Ashoka and Chalukya, architecture at Lakkundi etc.</p>	9-13 March, 2019	Dr.Md.Shareef, Supdg.Geologist, SU: K&G, SR, GSI
26	<p>WR001: Palaeoproterozoic Lead-Zinc-Coper Sulphide Metallogenesis in Aravalli-Delhi Orogenic Belt, South Central Rajasthan</p> <p>This pre-IGC trip starts at Udaipur and ends at Jaipur;</p> <p>Participants 25 max. ; Duration 4 days;</p> <p>Trip coordinator/s: Shubhabrata Mukhopadhyay and Sunil Vashisht</p> <p>Trip overview: This trip will focus on medium to large lead, zinc and silver ore deposits that occur in diverse tectonic settings such as in the Palaeoproterozoic Aravalli Supergroup (Zawar) and intra-cratonic metasedimentary belts at Rajpura-Dariba and Agucha. The three main deposits at Zawar in the south of Udaipur, Rajpura-Dariba-Sindesar in the north of Udaipur and Agucha in Rajasthan, cumulatively constitute over 400 million tonnes of stratiform Pb-Zn ores of economic significance.</p> <p>Geo-tourism spots: Udaipur lake city, 2500 years old ancient zinc smelting sites at Zawar etc.</p>	27 Feb-3 March, 2019	Shri. Khalilur Rab Ansari, Senior Geologist, WR, GSI
	<p>WR002: Copper Mineralisation of Khetri, Rajasthan</p> <p>This post- IGC trip starts at Delhi and ends at Jaipur;</p> <p>Participants: 20 max; Duration: 3 days;</p>		

27	<p>Trip coordinator/s: Shubhabrata Mukhopadhyay, V. N. Mishra and Nagesh Rajpurohit</p> <p>Trip overview: Copper mining in Khetri area of Rajasthan dates back to over 2000 years in the Mauryan period. The Khetri Copper Belt is studded with several copper deposits and prospects, spread over 80 km. Extensive Cu mineralization with subordinate iron sulphide, Au, Ag, REE and uranium is hosted by rocks of the Mesoproterozoic Delhi Supergroup. There is growing evidences and opinions that the mineralization is of IOCG type. Zones of albitisation host low grade uranium deposits</p> <p>Geo-tourism spots: Copper mines at Khetri, forts, palaces, museum and solar observatory of Jaipur etc.</p>	9-11 March, 2019	Shri.Sanjoy Debnath, Sr.Geologist, WR, GSI
28	<p>WR003: Neoproterozoic Magmatism and Tectonics of NW Indian Block: Tracing the Rodinia Break-up</p> <p>This pre-IGC trip starts at Jodhpur and ends at Udaipur;</p> <p>Participants: 25 max; Duration: 5 days;</p> <p>Trip coordinator/s: M. K. Pandit and K. K. Sharma</p> <p>Trip overview: The Neoproterozoic Malani Igneous Province (MIP) and Erinpura Granites in western India constitute a major igneous terrain that occurs to the immediate west of the Aravalli Mountain Range. The MIP is dominated by ~750 Ma old rhyolitic flows and tuffs that occupy about 50,000 sq. km. expanse in the desertic terrain of western India. This magmatic terrain has implications for Rodinia fragmentation, Neoproterozoic geodynamics and paleoposition of NW India.</p> <p>Geo-tourism spots: Mahendragarh Fort and Mount Abu etc.</p>	27 Feb- 3 March, 2019	Shri.A.Anil Kumar, Supdg.Geologist, WR, GSI
29	<p>WR004: Thar Desert: its Evolution and Geoheritage</p> <p>This pre-IGC trip starts and ends at Jodhpur;</p> <p>Participants 30 max.; Duration 5 days;</p> <p>Trip coordinator/s: S. C. Mathur, P. C. Mohrana and S. K. Wadhawan</p> <p>Trip overview: The Thar Desert, located at West Rajasthan Shelf [WRS], occupies a unique tectonic-sedimentary domain in north-western India. The desert represents one of the most thickly populated dry land environments of the world. Thar Desert has several unique features and distinctive Neogene continental geological basin configurations. A large variety of characteristic golden sand dune fields ranging from clustered parabolic to transverse, linear, reticulate, star and barchanoid have been mapped across the vast span of the Thar Desert. The Malani Igneous Province lies mainly within the desert.</p> <p>Geo-tourism spots: Jodhpur-‘Sun City’, Jaisalmer- ‘Golden City’ within Thar Desert etc.</p>	27 Feb-3 March, 2019	Shri.Dinesh Chandra Jangid, Sr.Geologist, WR
30	<p>WR008: Quaternary Miliolitic Limestone of Saurashtra</p> <p>This Pre-IGC trip starts at Porbandar and ends at Diu;</p> <p>Participants 30 max.; Duration 6 days;</p> <p>Trip coordinator/s: Nilesh Bhatt and K. S. Mishra</p> <p>Trip overview: The biogenic carbonate deposits of Late Quaternary age are widespread along the tropical and the sub-tropical coast around the globe, and are used to define the history of Quaternary sea level change in Bahamas and Bermuda. In Indian context these rocks occur along the Gujarat coastline, particularly along Saurashtra. These deposits are well studied for its clues to the sea level changes and local tectonics during 120 to 40 ka.</p> <p>Geo-tourism spots: Mahatma Gandhi’s birthplace Porbandar, Buddhist caves, Portuguese fort, coastal geomorphosites at Diu and Asiatic lion sanctuary etc.</p>	24 Feb-1 March, 2019 Alternative date: 5-11 March 2019	1. Shri.Krishna Kumar, Sr.Geologist, WR , GSI 2. Snigdha Ghatak, Director, 36th IGC
	<p>WR009: A walk on Mars : Jarosite localities of Kachchh, India</p> <p>This pre-IGC trip starts and ends at Ahmedabad ;</p>		

31	<p>Participants 30 max; Duration 5 days;</p> <p>Trip coordinator/s: Saibal Gupta, and Satadru Bhattacharya</p> <p>Trip overview: This trip to Kachchh, western India, showcases the occurrence of the hydrous sulphate mineral, jarosite, widely reported from the surface of Mars but rare in natural terrestrial localities, in various horizons of a Cenozoic succession.</p> <p>Geo-tourism spots: White desert (Rann of Kachch); Dholavira (world's oldest civilisations -Harappan locality) etc.</p>	27 Feb-3 March, 2019	<p>1. Monalisa Chakra, Director, Gandhinagar, GSI, WR</p> <p>2. Palak Kapoor, 36th IGC Secretariat</p>
32	<p>WR010: Stratigraphic Architecture and Palaeo-environments in the Kachchh Rift Basin during the Jurassic</p> <p>This pre-IGC trip starts and ends at Mumbai;</p> <p>Participants: 35 max.; Duration: 7 days ;</p> <p>Tour coordinator: Dharendra Kumar Pandey</p> <p>Trip overview: Kachchh is a pericratonic rift basin at the western margin of the Indian Craton. It was in proximity to the Malagasy Gulf and was a part of the Indo-East African province. The basin preserves a Jurassic stratigraphical heritage revealing environments and the biodiversity of the southern margin of the Tethys sea during the Jurassic Period. The stratigraphic succession and the preserved fossils are fascinating and crucial. Jurassic-Cretaceous boundary and several fossiliferous lithostratigraphic units make this trip interesting.</p> <p>Geo-tourism spots: The Great Rann of Kachchh, India bridge and Pachchhmaipir Temple etc.</p>	23 Feb-1 March, 2019	<p>G.S. Agarwal, Director, Gandhinagar, GSI, WR</p>
33	<p>WR011: Late Quaternary Palaeoenvironments of Thar Desert Margin and Geo-archaeology</p> <p>This post IGC trip starts in New Delhi and ends at Jaipur ;</p> <p>Participants 40 max.; Duration 4 days;</p> <p>Trip coordinator/s: Hema Achyuthan and S. K. Wadhawan</p> <p>Trip overview: The eastern margin of the Thar Desert is rich in Palaeolithic sites and would have been a corridor for human migration 'Out of Africa'. Kuchaman, Didwana and Talchappar salt lakes occur in the desertic set up. Paleolithic sites such as Singi Talav, a Lower Palaeolithic site, Amarpura a Middle Palaeolithic site, the stabilized sand dune (16 R) nearly 350-ka exhibiting cambisols and associated calciorthids with Palaeolithic tools have been dated by several radiometric dating techniques. Most of these sites occur bordering the present day Didwana Lake. Kataoti, a middle Palaeolithic site associated with ostrich egg shells is an undulating gravel ridge. The boulder and gravel bed, lie disconformable over the ferricrete bed at Jayal. Talchappar is a salt lake bordered by an historical mound that dates back to the Mughal period.</p> <p>Geotourism spots: Jaipur, Kuchaman Fort, Kuchaman and Didwana and Talchappar Salt Lake with the Mughal period site and black buck sanctuary etc.</p>	9-12 March, 2019	<p>Shri.Dinesh Chandra Jangid, Sr.Geologist, WR</p>
34	<p>WR012: Late Quaternary Continental Sequences of Gujarat, Western India: an Appraisal of Climatic, Tectonic and Eustatic Processes</p> <p>This pre-IGC trip starts and ends at Vadodara, Gujarat, India;</p> <p>Participants 15 max.; Duration 4 days;</p> <p>Trip coordinator/s: D. M. Maurya, L. S. Chamyal and Alpa Sridhar</p> <p>Trip overview: The field trip covers semi-arid belt of Gujarat state in western India. Near complete continental records dating back to ~125 ka B.P. are exposed in 30-50 m high river cliffs of Mahi, Narmada and Sabarmati rivers. The distinct sedimentary facies, aggradation and incision phases show complex interaction between fluvial, marine, aeolian and tectonic processes.</p>	27 Feb-2 March, 2019	<p>Piyush Kumar, Sr. Geologist, R-IGC, WR, GSI</p>

	Geo-tourism spots: Pavagarh, Champaner (UNESCO heritage site), Lothal, Rani ki Vaav- step well etc.		
35	<p>WR013: Field Excursion to Dinosaur Fossil Park, Rahioli, Balanisor, Gujarat</p> <p>This post-IGC trip starts and ends at Delhi;</p> <p>Participants 20 max.; Duration 2 days;</p> <p>Trip coordinator/s: Harish Mistry and D.S. Chudasama</p> <p>Trip overview: This site of global significance hosts both the hatcheries and graveyards of titanosaurid sauropods and abilisaurid theropods. Reported species include Rajasaurus narmadensis, Rahiolisaurus gujaratensis and titanosaurus. The dinosaur eggs are taxonomically assigned as Megaloolithus rahioliensis (Sauropod eggs). The Late cretaceous fossil sites are well preserved by the state of Gujarat. This site provides evidence to show that dinosaur buried their eggs in the soft sand of paleo-rivers. Rahioli locality shows nesting sites with sauropod eggs- Megaloolithus rahioliensis (Megaloolithidae) and theropod eggs- Ellipsisoolithus khedaensis (Elongatoolithidae). Both the nest-sites in the calcretised sandstone occur at same stratigraphic level but geographically separated over a distance of less than 400m. It is a unique site in the world, as it hosts prolific and associated skeletal remains of both titanosaurs and abelisaurids.</p> <p>Geo-tourism spots: Sabarmati Ashram, Mahatma Gandhi Museum and Sabarmati River Front, laser Show at Akshardham Temple etc.</p>	9-10 March, 2019	R Sarswat, Geologist, R-IGC, WR, GSI Sr. GSI
36	<p>NR001: Dhala Structure, India- a Palaeoproterozoic Complex Impact Crater</p> <p>This pre-IGC trip starts and ends at New Delhi;</p> <p>Participants 25 max; Duration 3 days;</p> <p>Trip coordinator/s: Jayanta Kumar Pati and Kuldeep Prakash</p> <p>Trip overview: The Dhala impact structure covers nearly 64 sq. km in parts of Shivpuri district, Madhya Pradesh in north-central India. It is the seventh oldest impact structure with possibly the oldest known suevite deposit in the world. Despite the deep level of erosion and post-impact tectono-thermal events, the impactites are exceedingly well preserved, with nearly all shock metamorphic features. The impact melt breccia is exposed on surface over a strike length of about 6 km but suevite has only been identified in drill core. Granitoids with high- and low strain zones of Archean age (2,500-3,600 Ma) are the prevalent country rocks.</p> <p>Geo-tourism spots: Khajuraho Temple-a UNESCO World heritage site etc.</p>	27 Feb-1 March, 2019	Shri.Arindam Dutta, Sr.Geologist, CHQ, GSI
37	<p>NR003: Archives of Late Quaternary Climate Fluctuations in Satluj valley, Himachal Pradesh.</p> <p>This pre-IGC trip starts and ends at New Delhi;</p> <p>Participants 20 max.; Duration 5 days ;</p> <p>Trip coordinator/s: Md. Atif Raza and Sharat Dutta</p> <p>Trip overview: Satluj River valley lies in the northwestern limits of Indian Summer Monsoon (ISM) tract and is in climatically sensitive zone with humid (along Himalayan front), sub-humid (middle reaches of the valley), to high altitude arid conditions (upper reaches) depending on structurally controlled topographic fronts posing orographic barriers to moisture laden monsoon winds. The Satluj valley is important to address and study Late Quaternary climatic fluctuations. The higher reaches of Himalayas with special reference to late Quaternary climatic archives in selected segments of Satluj and Baspa valleys shall be showcased.</p>	27 Feb-3 March, 2019	Hema Achyuthan, Member FTC

41	<p>Trip overview: The Proterozoic Lesser Himalaya sedimentary successions represent a unique record of sedimentation and volcanism during Columbian assembly through Meso-Neoproterozoic passing into Gondwana. The proposed sectors in the excursion represent a unique stratigraphy with sedimentary record of over a period of nearly 1000 Ma. The Lesser Himalaya represent a sedimentation and magmatic history comparable with that of Peninsular basins and a time period wherein no sedimentation occurred in this part of Himalaya after Cambrian except for some patches of Permian sedimentation representing the Gondwana connect. The record of the sedimentary rocks which are interstratified with volcanic rocks with 1800±13 Ma ages suggests the connection of the Indian plate with the Columbia Supercontinent.</p> <p>Geo-tourism spots: Rudraprayag, Rishikesh and Haridwar and Valley of Flowers- a world heritage site etc.</p>	9-15 March, 2019	Shri. G.C.Kandpal, DDG,SU:H,P&HP,NR
42	<p>NR009: Trans-Himalayan Ladakh Batholith: A key to Magma Chamber Processes and Dynamics</p> <p>This post- IGC trip starts and ends at Delhi;</p> <p>Participants 50 max.; Duration 5 Days;</p> <p>Trip coordinator/s: Santosh Kumar and Rajneesh Bhutani</p> <p>Trip overview: The Ladakh Batholith represents an integral part of calc-alkaline, Trans-Himalaya magmatic belt extending from east of Nanga Parbat to Lhasa, and is bounded by the Shyok Suture Zone (SSZ) in the north and Indus Suture Zone (ISZ) in the south. The batholith is partly covered by north dipping fore-arc and molasse sedimentary rocks. The beginning of northern subduction of Neo-Tethys at ca 110 Ma below the Asian plate produced vast amount of Andean-type calc-alkaline magmatism forming the Ladakh Batholith and Dras arc. The spectacular field features of Ladakh Batholith demonstrate tectono-magmatic processes as modern analogue of the older Neoproterozoic and Proterozoic orogens</p> <p>Geo-tourism spots: The captivating landscape of Trans-Himalayas and monasteries etc.</p>	9-13 March, 2019	Shri.Mohd.Khanday, Sr.Geologist,SU:J&K, NR, GSI
43	<p>NR010: Ladakh- an archive for Quaternary landscape, climate and neotectonics</p> <p>This post- IGC trip starts and ends at New Delhi;</p> <p>Participants 25 max; Duration 7 days;</p> <p>Trip coordinator/s: Binita Phartiyal and Pradeep Srivastava</p> <p>Trip overview: This excursion is designed to showcase the landscape of Trans Himalayas (Ladakh) that formed in response of the suture zone tectonics and cold and arid Tran Himalayan climate. Ladakh, offers a rich platform for Quaternary palaeoclimatic studies and is a tectonically active zone between the Indus Suture Zone and the Karakoram Thrust having voluminous Quaternary deposits of glacial, lacustrine, fluvial and aeolian origin. The excursion will present a platform to discuss arid zone geomorphology, processes, riverine landscape, archive of paleoclimate in form of modern and paleolakes, sand ramps and glacial moraines that have been attempted for various dating techniques.</p> <p>Geo-tourism spots: Entire stretch offers geotourism with its lunar/martian topography, barren mountains, highest passes, highest motorable roads, suture zone, batholiths exposures, lakes and palaeolakes and rock art. Several monasteries and gompas are a major attraction and treat to the eyes etc</p>	9-15 March, 2019	H.S. Mandal, Scientist-E, 36th IGC
	<p>NR011: Siwalik vertebrates and Siwalik Fossil Park, Saketi (Himachal Pradesh)</p> <p>This pre IGC trip starts and end at New Delhi;</p> <p>Participants 20 max.; Duration 2 days;</p> <p>Trip coordinator/s: V. P. Mishra and R. S. Chandel</p>		

44	<p>Trip overview: The Siwalik rocks embody in the form of fossils, the varied flora and fauna that thrived during the middle Miocene to Early Pleistocene. The vertebrate fossil rich Markanda valley can be examined for the whole package of rocks from Lower Siwalik subgroup (Nahan Formation) to Upper Siwalik subgroup (Kalar Formation =Lower Boudar Conglomerate). Siwalik Fossil park at Saketi displays around 300 fossil vertebrate specimens in the museum (a catalogue has been published by Geological Survey of India in 2013).</p> <p>Geo-tourism spots: Siwalik Fossil Park, Saketi, dist. Sirmaur H.P; Dinosaur museum & Rock Garden, Chandigarh; Pinjore Gardens, Pinjor (Haryana) etc.</p>	28 Feb-1 March, 2019	Shri. Rajendra Kumar, Director, SU: H,P&HP,NR, GSI
45	<p>NR012: Field Workshop on Vindhyan Supergroup</p> <p>This pre IGC trip starts at Varanasi and ends at the Khajuraho.;</p> <p>Participants 30 max.; Duration 9 days ;</p> <p>Trip coordinator/s: Mukund Sharma</p> <p>Trip overview: The Vindhyan of the Son Valley are the most interesting geological succession for discussing the global stratigraphic and palaeobiological riddles. The field workshop would cover the entire succession of the Vindhyan Supergroup from the base to the top. In depth studies are published and it is also logistically easily accessible. Important aspects of geological interest include Palaeoproterozoic phosphatic stromatolites of Chitrakoot area, thick porcellanite Formation, spirally coiled algal fossils Grypania, and advanced carbonaceous remains of Bhandar Group.</p> <p>Geo-tourism spots: Chitrakoot, Khajuraho etc.</p>	27 Feb-7 March, 2019	Shri. Ravi Negi, Sr.Geologist, NR
46	<p>NR016: Outer to Central Himachal Himalaya Transact – Sedimentary and Tectonic Story Unfolded.</p> <p>This post- IGC trip starts and ends at Chandigarh;</p> <p>Participants 30 max.; Duration 5 Days;</p> <p>Trip coordinator/s: O.N. Bhargava and S.K. Tangri</p> <p>Trip overview: The Himachal Himalaya is one of the best worked out stretches encompassing sequences ranging in age from Palaeoproterozoic to Quaternary that include (i) Type Sections of several formations exposed in the Outer and Lesser Himalaya, (ii) Full succession of the Himalayan Foreland Basin covering the Thanetian to Pleistocene interval, (iii) excellent exposures of fossiliferous horizons of the Siwalik Supergroup and the Sirmur Group, and (iv) autochthonous, parautochthonous and allochthonous tectonic belts and klippe and windows in the Lesser Himalaya. The proposed transact unfolds comprehensive geodynamic evolution of the Outer and the Lesser Himalaya catering to stratigraphers, sedimentologists, palaeontologists, geomorphologist, structural and metamorphic geologists and also to those interested in Neotectonics.</p> <p>Geo-tourism spots: Scandal Point at Shimla Ridge (a water divide between Ganga and Indus Rivers, Satluj Gorge and Bhimakali heritage Temple etc.</p>	9-13 March, 2019	1. Shri.Prasun Jana, Director, NR, GSI 2.Pawan Kumar, Senior Geologist, R-IGC, NR , GSI
47	<p>CR003: Monogenic Alkaline Lava Flow Fields in Deccan Traps- Kachchh & Saurashtra</p> <p>This pre-IGC trip starts at Bhuj and ends at Ahmadabad Airport ;</p> <p>Participants 25 max.; Duration: 6 days;</p> <p>Trip coordinator/s: Raymond A Duraiswami and Nitin R. Karmalkar</p> <p>Trip overview: The Kachchh-Saurashtra in western India is an important and distinctive sub-province of the Deccan Volcanic Province. It exposes monogenetic volcanic cones that host mantle xenoliths, acidic igneous complexes and tholeiitic dykes, sills and lava flows. The area is of interest to Earth scientists working in diverse fields like mantle petrology, physical volcanology, geochemical evolution of CFBs, K-Pg mass-extinctions, etc.</p>	27 Feb-4 March, 2019	1. Poushali Chatterjee, Sr. Geoloigst, R-IGC, CR,GSI 2. S. N. Bhagat, Treasurer

	Geo-tourism spots: Great Rann of Kutch, Lothal – Indus Valley Civilization port, Aaina Mahal and Bhujia Fort etc.		
48	<p>CR004: Sculptures in Deccan Basalt: Impact Crater to Rock-Cut Caves</p> <p>This post- IGC trip starts and ends at Aurangabad;</p> <p>Participants 30 max.; Duration 6 days;</p> <p>Trip coordinator/s: Bibhas Sen</p> <p>Trip overview: Lonar Crater is the best preserved terrestrial impact crater in basalt. It provides unique opportunities for comparison with craters in lunar maria and Mars. Rock cut caves of Ajanta and Ellora are the world heritage sites carved in the pahoehoe lava flows of the Deccan Volcanic Province.</p> <p>Geotourism Spots: Rock cut caves of Ajanta and Ellora, Daulatabad, Temple Ruins in Lonar and Bibi ka maqbara (tomb) etc.</p>	9-14 March, 2019	R. G. Khangar, Director, R-IGC, CR
49	<p>CR005: Deccan Volcanic Province: Characters and Landscapes</p> <p>This post- IGC trip starts and ends at Pune/ Mumbai;</p> <p>Participants 30 max.; Duration 7 days;</p> <p>Trip coordinator/s: Makarand S. Bodas and R Duraiswami</p> <p>Trip overview: The field traverse is in western part of the Deccan Volcanic Province (DVP). It transects the Main Deccan Plateau, Western Ghat Escarpment zone and the Konkan tract. It provides a chance to observe all the essential components of DVP viz. lava flows, lava channel/ tube, dykes and spectacular landscapes carved out of this stunning lava pile.</p> <p>Geotourism Spots: Hill as well as island forts of Maratha kingdom and an ancient temple etc.</p>	9-15 March, 2019	Lopamudra Bhol, Sr. Geologist, R-IGC, CR
50	<p>CR006: Crustal Evolution and VMS Metallogeny in the Proterozoic Betul Belt, Central India</p> <p>This post- IGC trip starts at Nagpur and ends at Bhopal;</p> <p>Participants 20 max.; Duration 4 days;</p> <p>Trip coordinator/s: M. L. Dora</p> <p>Trip overview: The Betul Belt (BB) is an important component of the Central Indian Tectonic Zone and forms a conspicuous litho-tectonic unit that is interpreted as island arc set up. The maximum and minimum age limits for the Betul supracrustal rocks are 1550±50 and 850±15 Ma (Rb-Sr) respectively. The felsic volcanic rocks within the bimodal volcanic sequence in BB host strata bound Volcanogenic Massive Sulphide deposits (VMS) of Zn-Cu type and Zn-Pb-Cu type.</p> <p>Geo-tourism spots: Bhimbetka Caves and Sanchi Stupa - world heritage sites etc.</p>	9-12 March, 2019	1. Dr. Anjan Rai Chowdhury, Director, CR, GSI 2. Ashish Vadhvani, Geologist, R-IGC, CR, GSI