



**XVII ICC**  
**ISTANBUL 2022**  
 25 -29 JULY



Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
23-Jul-22	24-Jul-22	25-Jul-22	26-Jul-22	27-Jul-22	28-Jul-22	29-Jul-22	30-Jul-22
Registration							
		Opening Ceremony	Announcements	Excursions	Announcements	Announcements	Field trip Site
Workshop CMS		Plenary lecture 1	Plenary lecture 3		Plenary lecture 5	Plenary lecture 7	
CMS Council	AIPEA Council	Thematic Sessions	Thematic Sessions		Thematic Sessions	Thematic Sessions	
	Welcome Reception	Plenary lecture 2	Plenary lecture 4		Plenary lecture 6	Plenary lecture 8	
Posters Session 1				Posters Session 2			
		ECGA Council meeting	AIPEA Officers-NCG Meeting		AIPEA General Assembly		
		Student Reception	Early Career		CMS Business meeting	Closing Ceremony	
		CMS Presidents and sustainers	CM Editors		Gala Dinner		



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## 23 July 2022, Saturday

9:00-17:00 CMS Workshop ITU Geological Engineering Department

CMS Council - Hilton Maslak Hotel- Quartz Hall

## 24 July 2022, Sunday

18:00-19:15 AIPEA Council Meeting Hilton Maslak Hotel - Quartz Hall

19:30-20:30 Welcome Reception - Hilton Maslak Hotel



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## 25 July 2022, Monday

Local Time	Ballroom I	Peridot Hall	Ballroom I
8:30	Opening		
9:00	David Bish		
9:15	Plenary 1		
9:30	CMS 21 Bailey		
9:45	Break	Break	Break
		<b>TS31 Clays and the molecules of life</b>	<b>TS02 Nanoporous fibrous clays</b>
10:00		PHY-1168-The role of iron-rich minerals in the emergence of proto-biomolecules and preservation of biomarkers	PHY-1310-Morphological features of halloysite nanotubes (HNT's) as revealed by various microscopies
10:15		PHY-1286-Connecting organics to minerals and vice-versa: a key step on the route of the Origins of Life	PHY -1206-Two-dimensional water in halloysite nanotubes: structure and dynamics from neutron experiments
10:30		PHY-1333-DNA intercalation in smectites at neutral pH	VRT-1272-The prediction and modification of the surface area and pore volume of natural halloysite nanotubes
10:45			PHY-1116-Vibrational study of the halloysite-(10Å) to -(7Å) transition
11:00	Break	Break	Break



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## 25 July 2022, Monday

Local Time	Ballroom I	Peridot Hall	Ballroom I
		<b>TS10 Clays and health</b>	<b>TS02 Nanoporous fibrous clays</b>
11:15		PHY-1115-Deciphering the Role of Surface Interactions in the Antibacterial Activity of Layered Double Hydroxides by Atomic Force Microscopy	PHY-1039-Chemical modification of clay minerals as a versatile tool to improve their properties
11:30		PHY-1194-Absorption of Pyocyanin by Montmorillonite, Sepiolite and Palygorskite	VRT-1079-Photochromism of spiropyran/merocyanine in halloysite
11:45		PHY-1374-Molecular Dynamics Simulation of Pyocyanin Adsorption on Montmorillonite	PHY-1123-Effect of alkaline pretreatment on the functionalization of Halloysite Nanotubes: an experimental and computational study
12:00		VRT-1024-Thermodynamic and electrokinetic behaviors of montmorillonite colloid and implications in biotechnology	VRT-1279-Partial rehydration of tubular halloysite (7 Å) immersed in La(NO <sub>3</sub> ) <sub>3</sub> solution for 3 years
12:15		PHY-1188-Modify smectites and layered double hydroxides for zearalenone detoxification	Break
12:30	Break	Break	Break
12:45			



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## 25 July 2022, Monday

Local Time	Ballroom I	Peridot Hall	Ballroom I
		<b>TS05 Pedogenic clays</b>	<b>TS02 Nanoporous fibrous clays</b>
13:15		PHY-1114-Formation of iron oxyhydroxides as a result of glauconite weathering in soils of temperate climate	VRT-1282-Functionalized halloysite nanotubes-supported bimetallic Pt-Au alloy nanoparticles for highly efficient and selective oxidation of 5- hydroxymethylfurfural to 2, 5-furandicarboxylic acid
13:30		VRT-1295-New insight into biotite weathering in the subtropic Tongcheng granite regolith, Hubei province, south China	VRT -1262-Adsorption of iodine anions by halloysite and halloysite/Ag2O nanocomposites
13:45		VRT-1300-Hydrologic regulation on clay mineral transformation in a redoximorphic soil in subtropical monsoonal China	VRT-1064-Preparation of wax microparticles stabilized by halloysite nanotubes: a versatile material for restoration of cultural heritage
14:00		VRT-1306-Decoding pedogenesis process at flow contacts of Deccan Volcanic Provinces, by clay mineral characterization	PHY-1061-Reinforcement and protective coating of natural fibers by biopolymer/halloysite nanotubes mixtures
14:15			VRT-1293-Effects of precalcination and phosphoric acid concentration on the microstructure and mechanical properties of acid-activated halloysite-based geopolymer
14:30		<b>BREAK</b>	PHY-1124-New hybrid clay-based geopolymers with beeswax and halloysite stabilized microparticles
14:45	Plenary 2		
15:00	Yeal Mishael		
15:15	Brown 2022		



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## 25 July 2022, Monday

15.45-17.00	Ballroom III - Posters Session / TS01 - TS06
VRT-1369	Modification and change in the distribution of Si-Al network toward Pb-rich mining waste incorporation into metakaolin-based geomaterial by XAS investigations
VRT-1224	Essential oil release delivery fabricated from modified palygorskite particles stabilizing Pickering emulsions
VRT-1242	Novel porous materials fabricated from Pickering foam stabilized by natural plant and attapulgite for removal of cationic dyes in water
VRT-1281	Injectable halloysite nanotube reinforced nanocomposite hydrogels for tissue engineering applications
PHY-1042	Significance of a fibrous clay event in the Lutetian-Bartonian deposits (Eocene) of the Paris Basin
NA-1245	Experimental study on the transformation of nontronite to kaolinite: implications for the formation of clay minerals on Mars
VRT-1161	Mineralogical Controls on Carbon Preservation in Carbon Limited Mars Analog Vitrisol Soils of Iceland
PHY-1397	Preliminary findings on the field occurrences of calcretes in a palaeosol section of the Karacadağ volcanics (Diyarbakır, SE Turkey)
VRT-1396	Mineralogy and Geochemistry of the Paleosol Sequences in Milas-Özlüce (SW Turkey)
PHY-1096	Clay mineralogy of the soils formed on Miocene marls and Plio-Quaternary sediments in a temperate climate
PHY-1384	Fired shards from selected ancient Anatolian ceramics: a brief review of their mineralogical nature and pedological -microstructural evolution
VRT-1260	Characterization of clay minerals in the soil around Fukushima contaminated area, Japan
PHY-1068	Clay mineralogy and geochemistry of upper Jurassic bauxites and their immediate cover, Istria, Croatia
PHY-1097	Autothermal reforming of biogas using an extruded honeycomb monolith: A new catalyst based on nickel incorporated illite clay promoted MgO
VRT-1400	TUFFAD: Modified Philippine natural zeolites (PNZ) adsorbents in modular filter tube device for groundwater filtration
VRT-1401	Recrystallized Philippine natural zeolites (PNZ) adsorbents via hydrothermal synthesis and ion exchange modification techniques for applications in compact air purification
PHY-1324	Theoretical study of interactions in the clay-polymer advanced hybrid nanomaterials
PHY-1412	Characterization of Granular Weathering (Grus) Products in the Southern Part of the Çine Submassif: Preliminary Results



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## 25 July 2022, Monday

17:15	ECGA Council meeting	
17:30	Location	
17:45	Ballroom I	
18:00	CMS Presidents Sustaining Members Dinner Location Quartz Hall	Student Reception Location Peridot Hall
<b>Local Time</b>	<b>Ballroom II</b>	<b>Ballroom III</b>
	<b>TS04 Clays in the solar system</b>	<b>TS06 Clays and contaminant control</b>
10:00	PHY-1025-Investigating the biopreservation potential of Martian smectites	PHY-1038-Mesoporous architecture magnetite nanoparticles loaded halloysite nanotubes biopolymer hydrogel beads for efficient removal of streptomycin
10:15	PHY-1088-Magmatic production of clay minerals on Mars	PHY-1044-Surfactant intercalated smectite group minerals: the effect of host mineral and surfactant type on the styrene adsorption/desorption
10:30	PHY-1122-Reappraisal of the clay mineralogy of the Orgueil meteorite by using X-Ray diffraction profile modelling.	PHY-1095-Clay mineral-based composites for aqueous organic compounds removal
10:45	VRT-1180-Clay - sulfate transitions at Mawrth Valles, Mars point to habitable conditions and energetically favorable environments	PHY-1177-Steps towards sustainable treatment of micropollutants in water using microbially-mediated redox processes in clay minerals
11:00	Break	Break



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## 25 July 2022, Monday

Local Time	Ballroom II	Ballroom III
	<b>TS04 Clays in the solar system</b>	<b>TS06 Clays and contaminant control</b>
11:15	VRT -1067-Formation of Fe(III) (hydr)oxides from Fe(II) sulfides: Implications for akaganeite detection on Mars	PHY-1227-Cr(VI) reduction by low molecular weight organic acids enhanced by Mn (hydr)oxides
11:30	VRT-1212-Indigenous Organic Matter Associated with Unusual Low Temperature Aqueous Secondary Phases in the Mars Meteorite Nakhla	PHY-1251-The influence of pyrophosphate on As(III) oxidation by birnessite in the absence/presence of ferrous ion: (de)passivation effect and reaction mechanisms
11:45	VRT-1226-Allophanes with varied Si/Al molar ratios - structure characteristics and feasibility of differentiation by visible and near-infrared spectroscopy	PHY-1331-The role of sulfide-reduced clay minerals and magnetite in the degradation of PCE and TCE
12:00	VRT -1276-NH <sub>4</sub> -smectites - a potential source of N compounds in Sample Analysis on Mars instrument onboard the Curiosity rover?	PHY-1372-Effects of stacking disordering in sodalite and cancrinite formed in carbonate-rich alkaline solutions on sodium-potassium exchange reaction
12:15		
12:30	Break	Break
12:45		
13:00		





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## 25 July 2022, Monday

Local Time	Ballroom II	Ballroom III
	<b>TS09 Clays and cultural heritage</b>	<b>TS06 Clays and contaminant control</b>
13:15	PHY-1348-The compositional 'fingerprint' of a clay deposit: Ceramic Provenance Studies in the Eastern Mediterranean region	VRT-1036-Designer Ag@clay nanocomposites for ultrasensitive surface-enhanced Raman scattering detection
13:30	PHY -1376-Clays in archaeology and archaeometry	PHY -1037-Preparation and characterisation of Iron-based Bentonite-Chitosan composites for Arsenic (III) adsorption
13:45	PHY -1385-Characterization of Byzantine Bricks from Western Anatolia	PHY -1048-Superparamagnetic stevensite for easy removal of tetracycline in open aqueous media
14:00		VRT -1337-Clay minerals for the remediation of per- and polyfluoroalkyl substances in the environment
14:15	Break	Break



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## 26 July 2022, Tuesday

Local Time	Ballroom I	Peridot Hall	Ballroom I
8:30	Announcements		
8:45	Hongping He		
9:00	Plenary 3		
9:15	Jackson 2021		
9:30	Break		
		<b>TS05 + TS24 Pedogenic clays</b>	<b>TS02 Nanoporous fiborous clays</b>
9:45		PHY-1106-Oxygen isotope composition of soil clay minerals and rainwater in the Tatra Mountains, Poland	VRT-1278-Halloysite nanotubes for long-term biological concrete self-healing
10:00		PHY-1382-Formation of Palygorskite in the soil - calcrete profiles of the contemporary and past Mediterranean region controlled by the Quaternary	PHY-1098-Tubular clay materials: design and orientation distribution function study
10:15		PHY-1332-Investigating the effects of electron shuttle induced redox cycling on Fe-bearing clay mineral reactivity and structure	VRT-1201-Sonic and electric responsiveness of imogolite nanotubes
10:30		PHY -1162-Silicate rock weathering and transformation to clayey soil material in cold regions	PHY-1062-Synthesis and Characterization of Ti Containing Aluminogermanate Imogolite Nanotubes for Photocatalytic Hydrogen Production from Water
10.45	Break		



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## 26 July 2022, Tuesday

Local Time	Ballroom I	Peridot Hall	Ballroom I
		<b>TS10 Clays and health + TS-33 Clays and viruses</b>	<b>Kaolin: Genesis, Surface Chemistry, Adsorption, and Rare Earth Elements</b>
11:00		PHY -1256-Assessment of Some Clayey Products Available on Market Designed for Topical Use	PHY-1414 Structure and Surface Chemistry of Kaolinite and Halloysite
11:15		PHY -1301-Through the History, Traditional Use of Clays in Anatolia for Medicinal Purposes	VRT-1415 Kaolin Genesis and Alteration Mineralogy
11:30		PHY-1391-Hydrotalcite-Niclosamide Nanohybrid as an Anti-Sars-Cov-2 Strategy	PHY-1416 Adsorption, retention, and removal of metals and organics by kaolin minerals
11:45		PHY-1403-Chemical Evaluation of Peloid Formation with Clay and Thermomineral Water	VRT-1417 The occurrences of the rare-earth elements in the coarse fractions of mined Georgia kaolins
12:00		PHY-1041-Exploring the Modification of Halloysite Nanotubes to Develop Multifunctional Systems for Therapeutic Applications	* Each presentation will be 20 min. long. ** These papers were originally scheduled to be presented in the AIPEA School for Young Scientists (ASYS) Workshop on Kaolin (now cancelled).
12:15		PHY-1149 - Sorption Characteristics of Newcastle Disease Virus with Kaolin	
	Break		Break
12:30 12:45		Break	



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## 26 July 2022, Tuesday

Local Time	Ballroom I	Peridot Hall	Ballroom I
		<b>TS11 History of clay science</b>	<b>TS02 Nanoporous fiborous clays</b>
13:00		PHY-1131-A history of The Clay Minerals Society	VRT-1250-Influence of indigo-hydroxyl interactions on the properties of sepiolite-based Maya blue pigment
13:15		PHY-1207-From the Groupe Français des Argiles to the AIPEA: A subjective journey into the French Clay Group history	VRT-1225-Spectroscopic behavior of an anionic dye in aqueous colloidal dispersions of smectites and sepiolite
13:30		PHY -1130-The counter intuitive behavior of potassium bearing clay minerals regarding the exchange process: Focus on the pioneer experiments performed.	VRT-1043-Sepiolite- rosemary oil combination as an environmentally oriented insecticide
13:45		PHY-1132-History of clay science in Turkey	PHY-1047-Nanostructured materials based on fibrous clays as fillers of improved proton-conducting membranes for fuel-cell applications
14:00		VRT-1261-Activity of The Clay Science Society of Japan (CSSJ)	VRT-1328-Insight into the defective sites of TiO <sub>2</sub> /sepiolite composite on formaldehyde removal and H <sub>2</sub> evolution
14:15	Break	Break	Break



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Local Time	Ballroom I	Peridot Hall	Ballroom I
		<b>TS12 Soil mineral quantification</b>	<b>TS02 Nanoporous fiborous clays</b>
14:30		PHY-1350-Development and evaluation of a disorder structure model of hydroxy-interlayered smectite (HIS) for Rietveld refinement	VRT-1230-Modification strategy of structure and properties of allophane
14:45		PHY -1146-Improving Accuracy of Quantitative X-ray Diffraction Analysis through Machine Learning	PHY-1317-(Mg,Co)3Si2O5(OH)4 phyllosilicate nanoscrolls: Towards single-walled chrysotile analog
15:00		PHY -1184-Augmenting the full-pattern summation method for analysis of X-ray powder diffraction patters with Rietveld calculations	VRT-1069-Acceleration of the one-pot dehydrogenation of D-glucose to 2-keto-D-gluconate in aqueous amino acid via hydrated stacked clay nanosheets
15:15		PHY-1341-Bentonite XRD powder quantitative analysis using Rietveld refinement: revisiting and updating bulk semiquantitative mineralogical compositions	
15:30	Break	Break	Break
15:45	Plenary 4		
16:00	Brindley 2022		
16:15	Lynda Williams		



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## 26 July 2022, Tuesday

16.30-17.45	Ballroom III - Posters Session / TS08 - TS17
PHY-1014	Adsorption of bioactive compounds on clays
PHY-1023	Characterization of K-bentonite from Dolná Ves deposit (Kremnické vrchy Mts., Western Carpathians, Slovakia) – a source of illite-smectite (ISCz-1)
NA-1105	Perlite and kaolinite-rich zones in the marginal part of the Lutilla I bentonite deposit, the Western Carpathians, Slovakia
PHY-1308	Mineralogy and crystal chemistry of Mg-smectites from Turkey
PHY-1311	Clay mineral assemblages in the Cretaceous Justina bentonite deposit (Neuquén Basin, Argentina): sedimentological and genetic considerations
PHY-1358	Influence of the smectites in the resistivity of the Miraflores Basalt (Panama)
PHY-1045	Antitumor effects of nanomaterials based on clay minerals able to delivery chemotherapeutic drugs into different cancer cell lines
PHY-1120	Intercalation of a neuroprotective drug in Laponite and development of cellulose-based materials for its oral administration
VRT-1155	Hydrogel based in nanoclay as pharmaceutical carriers of tuberculostatic drug
PHY-1051	Preliminary study of thixotropic hydrogels based on laponite and cucurbituril for topical delivery of lipophilic drug molecules
PHY-1040	Prodrug system based on hectorite: a multidisciplinary study
VRT-1158	Assessment of clay/spring water formulation as thermal mud
VRT-1016	Prediction of adsorption amount of aromatic compounds in organoclay by machine learning.
VRT-1017	Interlayer structure of organoclay saturated with water by molecular dynamics simulation.
VRT-1296	Effect of Representative Clay Minerals on Methane Hydrate Nucleation: Insights from Molecular Dynamics Simulation Study
PHY-1313	Adsorption and aggregation behavior of tetracationic porphyrins on clay and titania nanosheets
PHY-1314	“On surface synthesis” on saponite surface : A novel organic reaction pathway of azonia[5]helicene by interaction with saponite surface
VRT-1352	Quantitative assessments of organic matter uncoupling from clay surfaces in presence of salinity
VRT-1233	The composition and growth mechanism of coexisting complex polytypes of 2:1 type clay minerals into biotite in Rhyolite



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## 26 July 2022, Tuesday

17:15 Clay Minerals Editorial Board Meeting

17:30 Location

AIPEA Officers NCG

17:45 Ballroom II

Ballroom I

18:00

18:15

Early career Meeting

18:30

Peridot Hall

20.00

C&CM Editorial Board Meeting / Quartz Hall



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## 26 July 2022, Tuesday

Local Time	Ballroom II	Ballroom III
	<b>TS03 + TS14 Paleoenvironments, diagenesis, provenance of sedimentary deposits</b>	<b>TS08 + TS20 Sepiolite, palygorskite and bentonite</b>
9:45	PHY-1019-Geochemistry, mineralogy, and genesis of kaolin deposits of Kachchh, Western India and its diverse industrial application.	VRT-1035-Natural mixtures of palygorskite and smectite clay deposits of Grevena-Kozani, west Macedonia, Greece: A comparison study with similar Spanish and Turkish clay deposits
10:00	PHY-1033-Impacts of Chemical Pre-treatments on the Hydrogen Isotope Composition of Clay Minerals	PHY-1202-Control mechanisms of special bentonites as highly effective buffer material for nutrients and salts in peat-reduced and peat-free growing media
10:15	PHY-1091-Hafnium-Neodymium isotopes coupled to clay mineralogy as proxies of provenance and weathering during the late Cretaceous	PHY-1252-Crystallochemical characterization of bentonites used on treated wines
10:30	PHY -1022-Oxygen and hydrogen analysis in clay minerals from Lower Cretaceous palaeosols by NanoSIMS: palaeoclimatic deductions	
10:45	PHY -1058-Crystallochemical control on the hydrogen isotope exchange in smectites	
11:00	Break	Break





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## 26 July 2022, Tuesday

Local Time	Ballroom II	Ballroom III
	<b>TS03 + TS14 Paleoenvironments, diagenesis, proveance of sedimentary deposits</b>	<b>TS06 Clays and contaminant control</b>
11:15	PHY -1072-Modelling trace-element mobility during tephra alteration in a lacustrine setting using glass phase and clay separate LA-ICP-MS geochemistry	NA-1371-Sorption of sulfamethoxazole and diclofenac from aqueous solution on an organobentonite modified with hexadecyltrimethylammonium bromide
11:30	PHY -1075-Provenance control on mineralogy and geochemistry of marine sediments of South Aegean Sea	VRT-1399-Enhanced copper sorption property of gamma irradiated pristine and chemically modified Philippine natural zeolite
11:45	PHY -1101-Geochemical characterization of raw and glazed ceramics from historical buildings of Marrakech area in Morocco as a provenance tracer	VRT-1255-Influence of minerals on the fate of halogenated contaminants – investigation of hydrophobic organic chemical (HOC)-clay mineral interactions
12:00	PHY -1187-Kinetics of Post-Depositional Isotopic Exchange in Clay-Water Systems	VRT-1280-Understanding Zn( <sup>65</sup> Zn) Sorption on Palygorskite at the molecular scale: A coupling XAFS and Zn stable isotope approach
12:15		
12:30	Break	Break
12:45		



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## 26 July 2022, Tuesday

Local Time	Ballroom II	Ballroom III
	<b>TS21 Clays in petroleum, oil, and gas</b>	<b>TS23 Rare-Earth elements and clays</b>
13:00	PHY-1235-Origin of authigenic chlorite in deep marine siliciclastic turbidites and their implication on reservoir quality	PHY-1020 Rare Earth element trends in regolith on historically managed sites in the southeastern United States Piedmont
13:15	VRT -1189-The Importance of Authigenic Clays in Petroleum Exploration	PHY-1074-Yttrium and rare earth modes of occurrence in manganese crusts from bentonite deposits of the Texas coastal plains
13:30	PHY-1394-Importance of Chamosite Clay Rich Facies in Spiro Sandstone Reservoirs: Arkoma Foreland Basin, Oklahoma, and Arkansas	PHY -1136-Uniquely high rare earth element enrichment in regolith from Mount Weld REE deposit, Western Australia
13:45	PHY -1018-Effect of different types of smectites on nonaqueous bitumen	VRT-1010-Rare-earth heavy-minerals in kaolin ore, mine tailings, and associated heavy-mineral sands of the central Georgia Coastal Plain
14:00	PHY-1404-Adsorption properties of natural gas molecules on the surface of calcium carbonate under different conditions: a first-principles study	VRT-1222-Effective Visible/Near Infrared Reflectance Spectroscopic Proxies for Exploration of Regolith-hosted Rare Earth Element Resources
14:15	Break	VRT-1228-Geochemical and mineralogical evolution of cerium during the chemical weathering for ion-adsorption type rare-earth element deposits in Southern China



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## 26 July 2022, Tuesday

Local Time	Ballroom II	Ballroom III
	<b>TS03 + TS14 Paleoenvironments, diagenesis, provenance of sedimentary deposits</b>	<b>TS19 + TS29 High temperature bentonite barriers</b>
14:30	PHY -1405-Statistical Interpretation of the Relation Between Geochemical and Mineralogical Data Obtained from Lake and Floodplain Sediments (Amuq Valley / Turkey)	PHY-1034-Adsorption of hydrogen gas on clay minerals under conditions relevant for underground nuclear waste repositories
14:45	VRT-1303-Terrestrial paleoclimate changes recorded by Pleistocene red earth deposits at the Gaolingpo paleolithic site, Bose Basin, South China	PHY-1147-Impact of temperature on mechanical and geochemical behaviour of swelling clay minerals
15:00	VRT-1312-Clay mineralogy in Permian-Triassic boundary K-bentonites at Dongpan (Guangxi, South China) and their paleoenvironmental significance	PHY-1110-Natural evidence for the cementation in bentonite buffer based on transmission electron microscopy observation of bentonite ores
15:15	PHY-1191 History of Siliceous clays: More detail provenance perspective	PHY-1411-Microwave Leaching of Aluminum from Kaolin by HCL
15:30		PHY-1413-A combined SEM and pH study of the corrosion of metal iron in contact with bentonite

## 27 July 2022, Wednesday

9:00-17:00 Cultural Excursion to Istanbul Old City - RATE : 80 Euro ( per person)  
*Departs from Hilton Maslak Istanbul*



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## 28 July 2022, Thursday

Local Time	Ballroom I	Peridot Hall	Ballroom II
8:30	Announcements		
8:45	Young-Shin Jun		
9:00	Plenary 5		
9:15	Jackson 2022		
9:30	Break		
	<b>TS08 + TS20 Sepiolite, palygorskite and bentonite</b>		<b>TS13 Clay geochronology</b>
9:45		PHY-1173-Application of full pattern summation method in quantification of bentonites and smectites	PHY-1107-Extracting radiometric $^{40}\text{Ar}$ - $^{39}\text{Ar}$ ages in a three-component system: an example from the Tatra Mountains, Poland
10:00		PHY-1265-Experimental study of dissolution reaction of palygorskite. Effect of solution pH	PHY-1294-Paleozoic ferruginous duricrust formation in Malawi: new insights from the (U-Th)/He geochronological, geochemical and mineralogical investigations
10:15		PHY-1285-Mineralogy, geochemistry, and genesis of lithium-bearing argillaceous sediments associated with the Neogene Bigadiç borate deposits, western Anatolia, Turkey	PHY -1214-Crystallinity, K-Ar dating and stable isotopic analyses of clay alteration in the Patterson Lake Corridor, Athabasca Basin, Saskatchewan, Canada
10:30		VRT -1290-Influences of Micropores and Water Molecules in the Palygorskite Structure on the Color and Stability of Maya Blue Pigment	VRT-1185-Validation of a procedure for high-precision determination of $^{40}\text{Ar}^*/\text{K}$ in clay
10:45			VRT-1195-Dating fault activity in the Eastern part of the Pyrenees: a combined approach low temperature thermochronology and $^{40}\text{Ar}/^{39}\text{Ar}$
11:00	Break		



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## 28 July 2022, Thursday

Local Time	Ballroom I	Peridot Hall	Ballroom II
		<b>TS27 Clays - burial diagenesis - low temp metamorphism</b>	<b>TS28 Computational modeling of clays and fluid interfaces</b>
11:15		PHY-1108-Origin of trioctahedral clay minerals in the Padul-Nigüelas fault rocks (Betic Cordillera, Spain)	PHY-1208-Determination of layer charge density by alkylammonium ions: A combined experimental and theoretical assessment of the method
11:30		PHY-1267-Illitization of smectite in ammonium solutions under hydrothermal conditions	PHY-1289-Classical atomistic simulations of the 10Å phase at high temperatures and pressures
11:45		PHY-1013-Chlorite REE geochemistry to unveil hydrothermal processes at the incipient stage of oceanization of Mid-Triassic Dinaridic Tethys	PHY-1346-Interactions between hydrophobic organic compounds and clay minerals - effect of clay surface charge
12:00		PHY -1134-Clay Mineralogy of the Tomanova Formation - inland fresh water sediments of upper Triassic age	VRT-1054-From coupling second-order stresses to understanding and predicting the structural response of a dioctahedral smectite
12:15	Break	Break	Break
12:30			
12:45			
13:00			



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## 28 July 2022, Thursday

Local Time	Ballroom I	Peridot Hall	Ballroom II
	<b>TS08 + TS20 Sepiolite, palygorskite and bentonite</b>		<b>TS17 Advanced microscopy in clays</b>
13:00		PHY-1398-Tunisian Smectitic Clays	PHY-1081-Atom probe tomography: A unique technique for the investigation of clay minerals at the nanoscale
13:15		VRT-1196-Bentonites and K-bentonites: Issues in identifying and interpreting ancient tephra	VRT-1150-A multi-technique approach to probe cations in birnessite and their hydration state
13:30		VRT-1379-Periodic DFT study of the crystal structure and physical properties of the monoclinic polymorph of palygorskite mineral determined by Periodic DFT	VRT -1351-Application of advanced electron/ion microscopy in nano clay research
13:45			VRT-1277-Interlayer structure of dehydroxylated chlorite examined by HR-TEM
14:00			VRT-1343-Input of Transmission Electron Microscopy and electron diffraction to investigate the smectite crystal structure
14:15	Break	Break	Break



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## 28 July 2022, Thursday

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		<b>TS27 Clays - burial diagenesis - low temp metamorphism</b>	<b>TS28 Computational modeling of clays and fluid interfaces</b>
14:30		PHY -1200-Diagenesis of Magnesian Clay Minerals in Santos Basin (Aptian)	PHY-1156-Molecular Dynamics Simulations of the Interaction of Model Petroleum Compounds with Clay Mineral Surfaces
14:45			VRT-1213-Pore size effects on noble gas uptake in naturally occurring zeolites
15:00		NA-1364-Clay mineral formation in Permian rocks of a geothermal borehole at Northern Upper Rhine Graben, Germany	VRT-1218-Stabilization and organization of water in clay nanotubes
15:15		PHY-1387-Multi stage illitization of K-bentonites from diagenesis to very low-grade metamorphism: An example from Early Carboniferous of southern Turkey	
15:30	Break	Break	Break
15:45	Jin-Ho Choy		
16:00	Plenary 6		
16:15	Bailey 2022		



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## 28 July 2022, Thursday

16.30-17.45

**Ballroom III - Posters Session / TS18 - TS27**

- PHY-1028 The characteristics of V(V) and P(V) adsorption by LDH derived from magnesite: kinetics, pH influence and competition with common anions
- PHY-1031 Better insights on layered double hydroxide nanoparticles prepared using epoxide method
- PHY-1087 Porous mineral@Layered Double Hydroxide composites as encouraging controlled release fertilizers
- PHY-1119 Impregnation of smectite with layered double hydroxides of different chemistry for simultaneous removal of Cr(III) and acid blue dye
- PHY-1121 Hydrotalcite-zeolite heterocoagulated materials: towards materials with dual adsorption properties
- PHY-1152 From MOFs to LDHs : application to wastewater treatment.
- PHY-1322 Effect of long-term thermal loading on Ca-bentonites (Ünye, northeast Turkey)
- VRT-1157 Smectite alteration in the presence of accessory minerals (+/- K-oxalate): Experimental constraints from 180°C batch reactor experiments
- PHY-1329 Response of Ca-bentonites (Ünye, northeast Turkey) to short-term high-temperature calcinations
- VRT-1363 Dehydroxylation effect of smectite and kaolinite during alkaline attack
- PHY-1355 Sedimentology and origin of Karabük-Safranbolu Paleogene Basin evaporites (West Black Sea Region, Turkey)
- PHY-1057 Clay minerals as indicators of thermal alterations in rocks from the western part of the Papuk Mt. ( NE Croatia)
- PHY-1073 On the occurrence and significance of biopyribole from mafic subvolcanic rocks from the External Dinarides
- VRT-1193 Characterization of hydrothermal circulations in fault zones by phyllosili-cates mineralogical analysis (Argentera-Mercantour massif)
- PHY-1266 TEM study of the illitization of smectite in ammonium solutions under hydrothermal conditions





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## 28 July 2022, Thursday

18:00	CMS	AIPEA General Assembly - Ballroom I
18:15	Business Meeting	
18:30		
		Ballroom II
20:00	Boat Cruise in Bosphorus	
23:00		

Gala Dinner - Depars from Hilton Maslak Istanbul

Local Time	Ballroom III	Ballroom I
	<b>TS18 Layered double hydroxides</b>	<b>TS15 Clays, organics, hybrid materials</b>
9:45	PHY-1030-Preparation of Zn based layered double hydroxide using epoxide method for efficient photodegradation of Bisphenol A	PHY-1100-Adsorption of methane and carbon dioxide by water-saturated clay rocks
10:00	PHY-1084-Preparation of anisotropic crystals of $\gamma$ -Ni(OH) <sub>2</sub> grown along stacking direction using Ni-diamine complexes	VRT-1053-Starting stoichiometry, keys parameters, in the microstructural and functional properties of synthesized hybrid nanocomposites chitosan/montmorillonite/metal oxide type.
10:15	PHY-1102-Insight into the role of physico-chemical conditions on the phosphate-Layered Double Hydroxides controlled release properties	PHY -1126-Enhanced fluorescence of hybrid systems based on layered silicates and cyanine dyes
10:30	PHY-1104-Synthesis and characterization of a new monometallic layered double hydroxide based on Mn	VRT -1247-Effect of humic acid on lysozyme interaction with montmorillonite and kaolinite
10:45	PHY-1117-Divalent Metal Release and Antibacterial Effects of Layered Double Hydroxides	VRT -1273-Occurrence of organic matter in hydroxy-interlayered clay mineral (HIM) of red earth and its mechanism of carbon sequestration
11:00	Break	Break



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## 28 July 2022, Thursday

Local Time	Ballroom III	Ballroom I
	<b>TS18 Layered double hydroxides</b>	<b>TS15 Clays, organics, hybrid materials</b>
11:15	PHY-1153-Fabrication of Au@Zn-Al Layered Double Hydroxide-Based Non-Enzymatic Electrochemical Sensor for Lactate Sensing	PHY-1093-Comparative study of alkylammonium- and alkylphosphonium-based analogues of organo-montmorillonites
11:30	PHY-1160-Layered Double Hydroxides for electroanalysis	PHY-1111-Temperature dependence of intercalation capacity of kaolinite
11:45	PHY -1009-Synthesis of layered double hydroxide/chitosan composites used for a reversible trapping of water pollutants	VRT -1327-Amorphous clay minerals and soil acidity control organic carbon sequestration in humid tropical soils of India
12:00	PHY -1027-LDH-containing materials derived from minerals: from technical aspects of synthesis to the application in As(V) removal	
12:15	VRT-1163-Layered Double Hydroxides for energy applications	Break
12:30	Break	Break
12:45		



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## 28 July 2022, Thursday

Local Time	Ballroom III	Ballroom I
	<b>TS18 Layered double hydroxides</b>	<b>TS15 Clays, organics, hybrid materials</b>
13:00	VRT-1049-Layered Double Hydroxide Gels: Contrast Agents for X-Ray Computed Tomography Imaging of Vascular Structures	VRT -1406-Adsorption of Some Anions by Sepiolite Belongs to Eskişehir (Sivrihisar) Region and Its Surface Active Agents-Modified Forms
13:15	VRT-1078-Simple and cost-effective mass production of nitrate type MgAl layered double hydroxide: titration from concentrated solution	VRT-1015-Effective utilization of montmorillonite surface for adsorption of aromatic compounds revealed by molecular dynamics simulation
13:30	PHY -1118-Allantoin-zinc layered simple hydroxide biohybrid as antimicrobial active phase in cellulosic bionanocomposites for wound healing	VRT-1127-Effect of nonionic surfactant for adsorption behavior of benzyl acetate on montmorillonite in water
13:45	VRT -1135-Structure and Ionic Conductivity for Layered Double Hydroxide Gel	VRT-1291-The role of mineral weathering in the priming effect: regulation of soil carbon loss and climate feedbacks
14:00		VRT-1395-Electrochromic nanocomposites of Fe(II)-based metallo-supramolecular polymer and a layered inorganic-organic hybrid
14:15	Break	Break



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## 28 July 2022, Thursday

Local Time	Ballroom III	Ballroom I
	<b>TS18 Layered double hydroxides</b>	<b>TS34 General Session</b>
14:30	PHY -1137-meta-layered hydroxides: a new 2D material with anion exchange and tunable electronic properties	PHY -1029-How selective can be synthesis of iron bearing clay minerals?
14:45	PHY -1141-Introducing Fe-clustering as relevant factor in the design of layered double hydroxides for energy conversion	PHY -1407-Preparation of Antimicrobial Thermoplastic Starch/Clay Films By Using Different Starch Sources
15:00	PHY -1143-An in-situ study of the transformation of hybrid layered hydroxides into metallic nanocomposites with interest in energy storage systems	VRT-1113-Physico-Chemical Classification Of Fine-Grained Soil Using Artificial Neural Network Model
15:15	VRT-1197-Preparation of glass-bead filter disk coated by layered double hydroxide	VRT-1297-Hybridization of organic compound onto optically manipulated clay surface
15:30	PHY-1144 Tuning the electronic properties of $\alpha$ -Co based Layered Hydroxides as a tool for boosting energy application performance	VRT-1298-Fabrication of ordered interstratification phased hybrids consisting of several photo-functional amphiphiles with different length of alkyl chains

### **GALA DINNER**

20.00  
23.00

***Boat Cruise in Bosphorus - Gala Dinner fee is 75 Euro (per person)***

***Depars from Hilton Maslak Istanbul***



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## 29 July 2022, Friday

Local Time	Ballroom I	Peridot Hall	Ballroom II
8:30	Announcements		
8:45	Plenary 7		
9:00	Michael Hochella		
9:15	Pioneer CMS		
9:30	Break	Break	Break
9:45			<b>Keynote Teaching Clay Mineralogy</b>
9:45			Keynote Teaching Clay Mineralogy
10:00			Keynote Teaching Clay Mineralogy
11:00	Break	Break	Break



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## 29 July 2022, Friday

Local Time	Ballroom I	Peridot Hall	Ballroom II
<b>TS26 Clays geotherms fluid migrations in sedimentary basins</b>			
11:15		PHY -1076-Diagenesis of the sedimentary Fe-Ni deposits of Euboea: Evidence based on phyllosilicate mineralogy and geochemistry.	
11:30		PHY -1192-The influence of clay-fluid interactions on sealing properties of cap rocks revealed by high-resolution imaging: an example of chalky marls	
11:45		PHY -1320-K-white mica b cell dimension: a complementary clay minerals tool to decipher polyphasic basin evolution	
12:00			
12:15			
12:30	Break	Break	Break
12:45			
13:00			



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## 29 July 2022, Friday

Local Time	Ballroom I	Peridot Hall	Ballroom II
		<b>TS19 + TS29 High temperature bentonite barriers</b>	<b>TS32 Clay geotechnical applications</b>
13:00		PHY -1021-Stability of smectite at 200°C: How KCl, K-acetate and K-oxalate influences the formation of 10 Å-layers	PHY-1012-Swelling behavior of clays for tunneling relevant boundary conditions
13:15		PHY -1092-Increased temperature effects on Na Wyoming bentonite: Significance for deep geological radioactive waste disposal	PHY -1094-characterization and beneficiation of local bentonite clay for use as drilling fluids
13:30		PHY -1190-Mineralogy and geochemistry of a heated bentonite pellets column	VRT -1342-Study of the flocculation phenomenon over different bentonite-type materials within vertical fractures
13:45		PHY -1232-Cation exchange processes in bentonite buffer material test (ABM-5), after heating to 250 °C	NA-1370-Libertad Clay: Expansion pressure reduced by lime adding
14:00		VRT -1367-Characterization of Bentonites from the in situ ABM5 Heater Experiment at Äspö Hard Rock Laboratory, Sweden	
14:15	Break	Break	Break



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## 29 July 2022, Friday

14.45-16.00	Ballroom III - Posters Session / TS28 - TS35
PHY-1050	Simple lattice model of alkali cation adsorption from an aqueous solution on the basal surface of muscovite
NA-1172	Molecular dynamics simulations of hydrogen gas adsorption and transport in hydrated montmorillonite
PHY-1176	ClayCode: A tool for automating the setup of atomistic clay models for molecular dynamics simulations with GROMACS
PHY-1268	Protolysis reaction on surfaces of phyllosilicates: a density functional theory study
VRT-1339	Molecular view at organo-clay interfaces of soil microaggregates
PHY-1345	Molecular modelling of interactions of beryllium hydroxide species with calcium-silicate-hydrate phases
PHY-1321	Ceramic properties of the argillaceous sediments in the Miocene volcano-sedimentary units of the Cappadocia region, central Anatolia, Turkey
PHY-1360	Producing glazed porcelain tiles with local clay
PHY-1269	Experimental crystallization of trioctahedral smectites under hydrothermal conditions. Implication for alkaline hydrothermal vents
PHY-1258	Valorization of furfural in one-pot reaction using Al- and Zr-PILCs as catalysts
PHY-1032	Electrocatalytic behavior of pillared montmorillonite-supported cobalt oxide doped with Cu, Zn, Fe, and Ni for glucose sensing
PHY-1362	Paleoclimatic records from the Fuente Nueva 1 section (Orce, Guadix-Baza Basin, NE Granada, Spain): preliminary mineralogical data
PHY-1063	Electrocatalytic activity of different cobalt oxides supported on mineral oxides toward glucose oxidation
VRT-1309	Whole Rock and Clay Mineralogy of Oligocene Sedimentary Rocks Outcropped in Muş Basin (Eastern Anatolia)
PHY-1145	Synthesis of zeolites by alkali-thermal treatment of illite clay





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## 29 July 2022, Friday

Local Time	Ballroom I	Peridot Hall	Ballroom III
16:15	Plenary 8		
16:30	Denys Grekov		
16:45	AIPEA Bradley Award		
17:00	Closing Ceremony		
17:15	AIPEA Awards		
17:30	Student Awards		



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## 29 July 2022, Friday

Local Time	Ballroom III	Ballroom I
	<b>TS30 Clays for ceramics</b>	<b>TS34 General Session</b>
9:45	VRT-1082-Utilisation of industrial/constructional waste materials for fired clay brick production: A step towards sustainable economy	PHY-1066-Synthesis of polymer-talc like composite in-situ
10:00	PHY-1216-Firing behaviour of Westerwald ball clay mixed with $\text{Al}_2\text{O}_3$ ; alumina filler and $\text{K}_2\text{CO}_3$ flux	PHY-1128-Mechanism of diagenetic reorganization of weathering hematite crystals
10:15	VRT -1011-Deposits of kaolinic clays in Europe and the Mediterranean: situation and outlook	PHY-1174-Quantification of smectites in an altered basalt by VNIR-SWIR spectroradiometry
10:30	PHY -1220-Correlation between kaolinite crystallinity and surface properties of grains in aqueous suspensions : acoustophoresis and High resolution solid state NMR approach	PHY-1178-Thermal analysis of kaolinite group minerals
10:45	PHY -1253-Composition and ceramic properties of Santa Maria clays (Azores, Portugal)	PHY-1246-3D printability of three-component photoinitiating systems in a diacrylate resin containing Laponite® as filler
11:00	PHY -1380-Mineralogical and technological properties of the Eskişehir dolomite-bearing sepiolite (Turkey), and its usage possibilities ceramic tile manufacturing	<b>Break</b>
		<b>TS34 General Session</b>
11:15	PHY-1388 Effect of Şile region clay addition on sintering and mechanical behaviour of traditional ceramic bodies	PHY-1287-Fluorescent dyes encapsulated in organic-inorganic hybrids having a talc-like structure as fillers for photopolymers:preparation, surface characterizations and photophysical properties
11:30		PHY-1325-Genesis of smectites associated with coal seams succession in the Neogene Orhaneli and Keles coal deposits (Bursa), NW Turkey
11:45		PHY -1052-Colloidal Amorphous silica nanosheets and Their Two-dimensional Assembly



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## 29 July 2022, Friday

Local Time	Ballroom III	Ballroom I
12:00		VRT -1055-Geochemical alteration occurring during multiple cation exchange process provoked in-situ in the case of Na-rich montmorillonite
12:15		PHY-1410-The effect of pyrolysis temperature on the physicochemical properties of smectite mineral from Çanakkale-Turkey
12:30	Break	Break
12:45		
13:00		
	<b>TS35 Hydrothermal Clays</b>	<b>TS34 General Session</b>
13:15	PHY-1099-Geochemical signatures and intensity of hydrothermal alteration in the interpretation of the origin of Ahırözü (Mihalıççık-Eskişehir) kaolin deposits	PHY-1065-Layered silicate-polymer nanocomposite hydrogels – an investigation into polymer chemistry and layered silicate types
13:30	PHY-1248-Mineralogy and geochemistry of hydrothermal alteration associated with the Triassic volcanogenic massive sulfide deposit in the Küre, Kastamonu, NE Turkey	VRT -1164-Presenting a global quantification of clay minerals on Earth
13:45	PHY-1249-Geology, mineralogy and genesis of alteration in Tekneli (Niğde) and Delikkaya (Kayseri) carbonate-hosted Pb-Zn deposits	VRT-1165-Nano-remediation: starch functionalized magnetite for As sequestration
14:00	PHY-1326-Occurrence and genesis of the hydrothermal Oysu kaolinite deposit in Miocene Karacahisar volcanics, Kütahya, western Anatolia, Turkey	VRT-1199-Clay minerals of western Baltica Proterozoic as climatic indicators
14:15	PHY -1319-Geochemistry and mineralogy of clay-rich volcanic rocks related with Pb-Zn mineralization (Kirazlıyayla-Bursa, NW Turkey)	PHY -1238-Fluorescence enhancement of molecules on the clay surface and its environmental responses
14:30	PHY -1335-Alteration Mineralogy and Stable Isotope Characteristics of Carbonate Hosted Pb-Zn Ore Deposits in Central and Eastern Taurides (S-SE Turkey)	PHY-1408-The Effect of Different Clay Types on The Barrier Properties of PLA/PBAT Biocomposite Packaging Films
14:45	PHY -1349-Supergene and Hypogene Characterization of Clays within Hydrothermal Kaolin Deposits of Etili (Çanakkale-Turkey)	PHY-1217-Restoration of Moroccan historical heritage with a geopolymer binder



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**30 July 2022, Saturday**

09.00

**FIELD TRIP ŞİLE**

*Depart from Hilton Maslak Istanbul*