INTERNATIONAL CLAY CONFERENCES

aipea

XVIII ICC

Dublin, Ireland

13–18 July 2025

PROGRAMME

Mineralogical Society of the UK and Ireland

Est. 1947

Trinity College Dublin

The University of Dublin

COMMITTEES

Local organising committee

Steve Hillier (Clay Minerals Group)
David Chew (Trinity College Dublin)
Emma Tomlinson (Trinity College Dublin)
Kevin Murphy (Mineralogical Society of the UK and Ireland)
Russell Rajendra (Mineralogical Society of the UK and Ireland)

Scientific steering committee

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Anke Neumann
Sabine Petit
Yuji Arai
Peng Yuan
Ian Bourg
Pete Ryan
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Kevin Murphy
Steve Hillier (Chair)

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Student Judging Committee

Sabine Petit
Helen Pendlowski
Peter Ryan

ICC Logo, credit: Digilabs - Italy

WELCOME

We are delighted to welcome all delegates, in-person and remote, to Dublin for this the eighteenth edition of the International Clay Conference (ICC). Thanks to your enthusiasm and willingness to participate, we have a jam-packed programme for you to enjoy. We have sessions numbering up to 47 and we have five plenary lectures, four pre-conference workshops and two mid-week field trips.

The theme of the conference is 'Sustaining Clays' to emphasise the myriad roles played by clays, clay minerals, and the closely allied layered double hydroxides and natural zeolites in sustainable development, the use and management of very many resources, and their bright future in tomorrow's world.

Our key aim with this conference is to integrate our diverse industrial, technological, and academic worlds of clays and clay minerals with a blend of sessions, workshops and field trips assembled under three sub themes where clay research and applications flourish namely "Materials and technologies", "Food, Water and Environment", and "Terra and extra-Terra".

You should have received a copy of the 'Joining Instructions'. If not, the document is available from the Conference Staff at registration/help desk. This should answer most if not all of the questions you may have. If it does not, please let conference staff/convenors know.

Our international team of volunteers will be identifiable by their T-shirts. They will be mostly responsible for running the hybrid aspect of our meeting ensuring that our remote participants have a rewarding conference experience.

The Chair of the Clay Minerals Group (Helen Pendlowski) and the President of the Mineralogical Society of the UK and Ireland (Sam Saw) will be present at the conference. Say hi!

We encourage all delegates to visit the booths of our sponsors/exhibitors and engage with their representatives. Our conference could not run without their support and attendance.

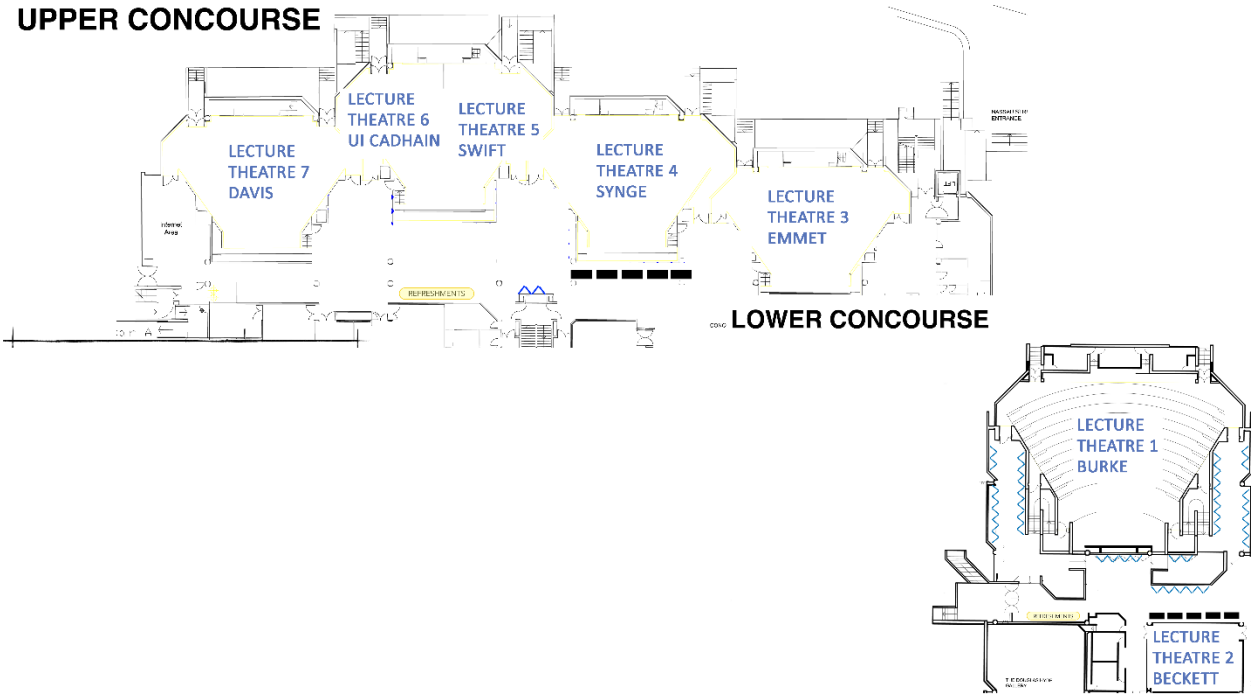
Below is a QR code and a url. Both of these will take you to our online form for assessing student presentations at the conference. Please do review student work; your assessments will be a big help to the 120+ students that are presenting their research as talks and posters. We have prizes coordinated across the various awarding societies for ten students.

Lastly, but perhaps most importantly, we hope you enjoy this conference, first and foremost, for the opportunities it presents to network and discuss clays and their related phases, with old colleagues you have met before but especially with new colleagues you have yet to meet and forge new friendships.

Steve Hillier
The James Hutton Institute, Aberdeen
David Chew, Emma Tomlinson
Trinity College, Dublin
Russell Rajendra, Kevin Murphy
Mineralogical Society

Scan this QR code or follow the link to the online form to assess student presentations

PROGRAMME



AT A GLANCE 1 – PLENARY LECTURES

All lectures below will take place in the Burke Lecture theatre. In case of lack of seating, the lecture will also be broadcast in the Emmet Lecture theatre.

Monday 08:40 — *Plenary - George Brown Lecture, Clay Minerals Group*
About comparison of claystones as potential host rocks for radioactive waste
Kaufhold, S.

Monday 17:05 — *Plenary - Marion L. and Chrystie M. Jackson Mid-career Clay Scientist Award Lecture, Clay Minerals Society*
Small Minerals, Big Impacts: A Geochemist's Approach for Resource Recovery
Tang, Yuanzhi

Tuesday 08:30 — *Plenary - Marilyn and Sturges W. Bailey Distinguished Member Award Lecture, Clay Minerals Society*
Clay mineral-microbe interactions and applications
Dong, H., Zeng, Q., Sheng Y. and X. Liu

Thursday 08:30 — *Plenary - Pioneer Lecture – Clay Minerals Society*
Understanding the structure and dynamics of clay and other layered minerals and their interfaces using molecular modelling – a perspective
H. Chris Greenwell

Friday, 08:30 — *Plenary - Bradley Award Lecture, AIPEA*
Clay minerals formation in MgO-SiO_2-H_2O low temperature system by hydrothermal synthesis: A study in function of Mg/Si molar ratio and pH
Jourdain, A., Dutournié, P., Michelin, L., Le Meins, J.-M., Brendlé, J., Michau, N., Martin, C., and Dzene, L.

AT A GLANCE 2

	Lecture theatre 1-Burke	Lecture theatre 2-Beckett	Lecture theatre 3-Emmettt	Lecture theatre 4-Synge	Lecture theatre 5-Swift	Lecture theatre 6-UI-Cadhain	Lecture theatre 7-Davis
Monday	Nuclear #20		Calcined #31	Ceramic #13	Zeolites #10	Synthesis #34	Tube #25
			Di-Tri-Smec #4	Photon #28	Catalysts #23	Teaching #5	Jackson #7
Tuesday	Nuclear #20 cont.	Iron-rich #47	Mod-Rem #44	Health #35	Origin #6	Universal #1a	1D-nano #26
	Layered #12	Universal #1b			Mining #40	Mars #2+11	
Thursday	Smart #29	Carbon-Soil #39+42	Mech-Activ #33	Geotech #30	38+43-Chem-Rem	Layer-charge #19	Compute #27
		Industrial #17			Diagenetic #18	Rad-Temp #21	Layer-Life #3+16
Friday	Eco Clay #32		Panel led discussion	Ordered #14	Critical #8+9		Health tech #36
				Green #24			

Session	Session Title	Day	Room
#1a	Universal Session	Tue	6-Ui Cadhain
#1b	Universal Session	Tue	2-Beckett
#3+16	Sorption and intercalation in layered materials: from origins of life to material science	Thu	7-Davis
#4	From Dioctahedral to Trioctahedral Smectites: Where Volcanism meets Weathering, Sedimentation and Diagenesis	Mon	3-Emmet
#5	Teaching, History, and Future of Clay Mineralogy (in honor of Dewey Moore and Bruce Velde)	Mon	6-Ui Cadhain
#6	Origin and Age of Clay Minerals in Soil and Sediment	Tue	5-Swift
#7	Soil and Clay Chemical Analysis – Symposium Honoring M.L. Jackson (Short title: Jackson Symposium)	Mon	7-Davis
#8+9	Critical Minerals in Clay-rich Deposits: Processes, Occurrences, and Resource Potential	Fri	5-Swift
#10	Natural Zeolites: From Geology and Fundamental Science to Applications and Market Challenges	Mon	5-Swift
#2+11	Identification and Characterization of Phyllosilicates on Mars and Other Planetary Bodies through Remote Sensing, Rover Instruments, and Analog Studies	Tue	6-Ui Cadhain
#12	Advances in structural characterization of layered compounds	Tue	1-Burke
#13	Clay Applications in Ceramics	Mon	4-Synge
#14	Materials via Ordered Interstratifications	Fri	4-Synge
#17	Industrial Applications of Clays	Thu	2-Beckett
#18	Clay Minerals in Diagenetic and Low-Grade Studies: Implications for Resource Exploration and Sustainable Energy Development	Thu	5-Swift
#19	Smectite Layer Charge and Interlayer Environment: Structure, Alteration, and Environmental and Technological Significance	Thu	6-Ui Cadhain
#20	Science and Engineering of Clays for Nuclear Waste Disposal	Mon Tue	1-Burke
#21	Impact of temperature on bentonite barrier systems based on findings from in situ experiments in the context of radioactive waste disposal	Thu	6-Ui Cadhain
#23	Clay Mineral-Based Catalysts for Environmental Engineering and Chemical Processes	Mon	5-Swift
#24	Greenhouse Gas Remediation	Fri	4-Synge

#25	Fundamentals of Tubular Nanoclays	Mon	7-Davis
#26	1D Nanoporous Clay Materials and Their Industrial Applications	Tue	7-Davis
#27	Multiscale Computational Modeling of Clay-related Materials and their Fluid Interfaces	Thu	7-Davis
#28	Nanoelectronic and Nanophotonic Applications	Mon	4-Synge
#29	Properties and Applications of Novel Smart Clay, LDH and Clay-related Nanomaterials	Thu	1-Burke
#30	Clays in Geotechnics – Problems and Applications	Thu	4-Synge
#31	Advances in Calcined Clays as Supplementary Cementitious Materials in Blended Cements	Mon	3-Emmet
#32	Sustainable and eco-friendly clay-based materials	Fri	1-Burke
#33	Mechanical and Mechano-chemical Activation of Clays	Thu	3-Emmet
#34	Synthesis of geo-inspired clay minerals and associated hybrids	Mon	6-Ui Cadhain
#35	The Role of Clays in Human Health and Biomedical Sciences	Tue	4-Synge
#36	Clay Materials in Healthcare Technologies	Fri	7-Davis
#38+43	Chemical reactions with clay minerals: implication for environmental challenges and remediation strategies	Thu	5-Swift
#39+42	Role of Minerals and Mineral weathering in Carbon Sequestration and Other Ecosystem Services of Soils	Thu	2-Beckett
#40	Clays in Mining	Tue	5-Swift
#44	Synthesis and Applications of Modified Clays in Environmental Remediation	Tue	3-Emmet
#47	Interactions of Iron-rich Clays and Iron Oxides with Organics and Heavy Metals: Implications for Iron/Carbon/Metal Cycling	Tue	2-Beckett
	Panel-led discussion: Questions concerning clay minerals in radioactive waste disposal	Fri	3-Emmet

AT A GLANCE 3

MONDAY, 14TH JULY 2025

Session Number	Session Title	Room
#20a	Science and Engineering of Clays for Nuclear Waste Disposal	1-Burke
#31	Advances in Calcined Clays as Supplementary Cementitious Materials in Blended Cements	3-Emmet
#4	From Dioctahedral to Trioctahedral Smectites: Where Volcanism meets Weathering, Sedimentation and Diagenesis	3-Emmet
#13	Clay Applications in Ceramics	4-Synge
#28	Nanoelectronic and Nanophotonic Applications	4-Synge
#10	Natural Zeolites: From Geology and Fundamental Science to Applications and Market Challenges	5-Swift
#23	Clay Mineral-Based Catalysts for Environmental Engineering and Chemical Processes	5-Swift
#34	Synthesis of geo-inspired clay minerals and associated hybrids	6-Ui Cadhain
#5	Teaching, History, and Future of Clay Mineralogy (in honor of D. Moore and B. Velde)	6-Ui Cadhain
#25	Fundamentals of Tubular Nanoclays	7-Davis
#7	Soil and Clay Chemical Analysis – Symposium Honoring M.L. Jackson	7-Davis

TUESDAY, 15TH JULY 2025

Session Number	Session Title	Room
#20b	Science and Engineering of Clays for Nuclear Waste Disposal	1-Burke
#12	Advances in structural characterization of layered compounds	1-Burke
#47	Interactions of Iron-rich Clays and Iron Oxides with Organics and Heavy Metals: Implications for Iron/Carbon/Metal Cycling	2-Beckett
#1b	Universal Session	2-Beckett
#44	Synthesis and Applications of Modified Clays in Environmental Remediation	3-Emmet
#35	The Role of Clays in Human Health and Biomedical Sciences	4-Synge
#6	Origin and Age of Clay Minerals in Soil and Sediment	5-Swift
#40	Clays in Mining	5-Swift
#1a	Universal Session	6-Ui Cadhain
#2+11	Identification and Characterization of Phyllosilicates on Mars and Other Planetary Bodies through Remote Sensing, Rover Instruments, and Analog Studies	6-Ui Cadhain
#26	1D Nanoporous Clay Materials and Their Industrial Applications	7-Davis

THURSDAY, 17TH JULY

Session Number	Session Title	Room
#29	Smart Properties and Applications of Novel Smart Clay, LDH and Clay-related Nanomaterials	1-Burke
#39+42	Role of Minerals and Mineral weathering in Carbon Sequestration and Other Ecosystem Services of Soils	2-Beckett
#17	Industrial Applications of Clays	2-Beckett
#33	Mechanical and Mechano-chemical Activation of Clays	3-Emmet
#30	Clays in Geotechnics – Problems and Applications	4-Synge
#38+43	Chemical reactions with clay minerals: implication for environmental challenges and remediation strategies	5-Swift
#18	Clay Minerals in Diagenetic and Low-Grade Studies: Implications for Resource Exploration and Sustainable Energy Development	5-Swift
#19	Smectite Layer Charge and Interlayer Environment: Structure, Alteration, and Environmental and Technological Significance	6-Ui Cadhain
#21	Impact of temperature on bentonite barrier systems based on findings from in situ experiments in the context of radioactive waste disposal	6-Ui Cadhain
#27	Multiscale Computational Modeling of Clay-related Materials and their Fluid Interfaces	7-Davis
#3+16	Sorption and intercalation in layered materials: from origins of life to material science	7-Davis

FRIDAY, 18TH JULY

Session Number	Session Title	Room
#32	Sustainable and eco-friendly clay-based materials	1-Burke
	Panel-led discussion: Questions concerning clay minerals in radioactive waste disposal	3-Emmet
#14	Materials via Ordered Interstratifications	4-Synge
#24	Greenhouse Gas Remediation	4-Synge
#8+9	Critical Minerals in Clay-rich Deposits: Processes, Occurrences, and Resource Potential	5-Swift
#36	Clay Materials in Healthcare Technologies	7-Davis

Detailed Programme

MONDAY 14th July

Lecture theatre 1-Burke

08:30 — *Opening Ceremony*
08:40 — *Plenary George Brown Lecture*
About comparison of claystones as potential host rocks for radioactive waste
Kaufhold, S.

09:25 — *Sponsor's Presentation*
09:30 — *Break*

Science and Engineering of Clays for Nuclear Waste Disposal (session #20)

Marcelo Javier Sanchez Castilla, Texas A&M University, USA, msanchez@civil.tamu.edu
Youjun Deng, Texas A&M University, USA, yjd@tamu.edu
Ian C. Bourg, Princeton University, USA, bourg@princeton.edu
Maria Victoria Villar Galicia, Centro de Investigaciones Energéticas, Medioambientales y Tecnológicas, Spain, mv.villar@ciemat.es
David Schofield, Nuclear Waste Services, UK, david.i.schofield@nuclearwasteservices.uk

09:35 — *Keynote*
Clay in the Context of the Swiss Geological Repository
Leupin O.X.

10:05
The Sandwich shaft sealing experiment at Mont Terri Rock Laboratory – Selected aspects of clay science
Emmerich, K., Hinze, M. and Nagel, T.

10:25
Student
Effect of boundary conditions and heterogeneities on the hydromechanical behaviour of two Calcium bentonites
Nitsch, A., Asaad, A., Emmerich, K., Wichtmann, T. and Baille, W.

10:45
The Effect of High Temperatures on the Swelling Pressure of Expansive clays
Sanchez, M., Al-Masri, R., Sanchez, C., Deng, Y., Greathouse, J. and Matteo, E.

11:05 — *BREAK*

11:25
Student Remote
Effect of high temperature and exchange cations on the layer charge and swelling pressure of compacted bentonite
Sanchez-Avellaneda, C., Deng, Y. Greathouse, J. Al-Masri, R. Matteo, E. and Sanchez M.

11:45
Remote
Applications of Thermo-Hydro-Mechanical-Chemical and Gas Transport (THMC-G) Material Models in Engineered Barrier Systems (EBS) Using CODE_BRIGHT
Erdem Toprak and Sebastia Olievlla

12:05
Student
Investigating the effect of NaCl on the volumetric behaviour of bentonite
Parisa Samadi, Matteo Pedrotti and Rebecca Lunn

12:25 — *Keynote*
Evidence of an alkaline reaction in a 15-year iron powder–compacted bentonite interaction
Cuevas, J.F., Mota, C., Torres, E., Fernandez, R., Martín, P.L., Ruiz, A.I., Ortega, A., Garralón, A., Turrero, M.J.

12:55 — *LUNCH*

14:00
Student
An XAS study on the effect of ionizing radiation on the redox state of the structural iron in hydrated clay minerals
Lavauzelle, N., Jonsson, M., Holmboe, M.

14:20
Influence of salinity gradients on the diffusion of water and ionic species in dual porosity clay samples
Emmanuel Tertre, Thomas Dabat, Jingyi Wang, Sébastien Savoye, Fabien Hubert, Baptiste Dazas, Christophe Tournassat, Carl I. Steefel and Eric Ferrage

14:40
Effects of Alkaline and Saline Conditions on Bentonite Alteration, Cesium and Iodine Retention, and Key Performance Parameters
Ja-Young Goo, Seonyi Namgung, Sang-Ho Lee, Jang-Soon Kwon and Ho Young Jo

15:00
Student Remote
Cs sorption onto clays from different deposits: what controls the process?
Menshikova-Tonyan I., Semenkova A., Svitelman V., Krupskaya V., Romanchuk A., Kalmykov S.

15:20
A generic kaolinite sorption model for a consistent radionuclide sorption database
Marinich, O., Miron, G.D., Baeyens, B., Marques Fernandes M., Zechel, S., Bok, F. and Brendler, V.

15:40
CEC as quality proof for quantification of smectitic phases in lower Cretaceous clay rocks – illite-smectite ± pure smectite?
Dohrmann, R., Ufer, K.

16:00 — *BREAK*

16:00 — *Early Career Clay Scientist Meet and Mingle Coffee (lower concourse)*

17:05 — *Plenary Jackson Lecture*
Small Minerals, Big Impacts: A Geochemist's Approach for Resource Recovery
Tang, Yuanzhi

Lecture theatre 3-Emmet

Advances in Calcined clays as supplementary cementitious materials in blended cements (session #31)

Karen Scrivener, EPFL, Switzerland. karen.scrivener@epfl.ch
Shashank Bishnoi, IIT Delhi, India. shashank.bishnoi@civil.iitd.ac.in
Alastair Marsh, EPFL, Switzerland. alastair.marsh@epfl.ch

09:35
Student
Characterization of the local Al environment in calcined clays using transmission electron microscopy
Mouro, E., Paris, M., Gaillot, A.C., and Deneele, D.

09:55
Student
The Potential of Co-calcining Bentonite and Calcite for SCM Production: Insights into Ca2SiO5 Stabilization
Mohammad Mobasheri, Alastair T.M. Marsh and Karen L. Scrivener

10:15
Enhancing the rheology, reaction kinetics and early-age strength of limestone calcined clay cement (LC3) with sodium silicate addition
Xiaodi Dai, Marcus Yio, Haoming Wu, Susan A. Bernal, Chris Cheeseman, Hong S. Wong

10:35 — *Keynote*
Understanding Reactivity: From Nanoscale Layer Thinning to a 5-minute UR2 Test
Nishant Garg

11:05 — *BREAK*

11:25
Remote
Enhanced performance of blended cements with high levels of calcined clay
Sharma, P.K., Rehman M.UL., Babatola, O., MacLeod, A.J.N., **Gates, W.P.**

11:45
Characterisation, activation, reactivity and performance of heterogenous natural clays
Arezou Baba Ahmadi

12:05
Performance of cements blended with limestone and calcined 2:1 clays with focus on early hydration, sulfate demand, setting and workability
Maier, M., Schaller, V., Shams, T., Panzer, M., Scherb, S. and Beuntner, N.

12:25
Student
Thermal Performance of Calcined Clay Supplementary Cementitious Materials in Mass Concrete Applications
Sristi Das Gupta, Christopher Ferraro, Oscar Cardenas, Kejin Wang, Maria Juenger, Kimberly Kurtis, Kyle Riding

12:45
Automatic control of raw clay quality and clay calcination in the cement industry through XRPD
Negrão, L. B. A., Pernechele, M., Olmeda G., **O'Meara P.**

13:05 — *LUNCH*

Lecture theatre 3-Emmet

From Dioctahedral to Trioctahedral Smectites: Where Volcanism meets Weathering, Sedimentation and Diagenesis (session #4)

George E. Christidis, Technical University of Crete, Greece, gchristidis@tuc.gr
Manuel Pozo, Universidad Autónoma de Madrid, Spain, manuel.pozo@uam.es
Telma Musso, Universidad Nacional del Comahue, Argentina, telma.musso@probien.gob.ar

14:15
Student
Natural 1-layer and 2-layer hydrated montmorillonites are resilient to changes in basal spacing despite major cation substitution
Zabala, A.B., Cuevas, J. and Villar, M.V.

14:35
Characterization of trioctahedral smectite-sepiolite assemblages in the Neogene Madrid Basin (Spain): Genetic considerations
Pozo, M., Villa, L. and Pérez-Abad, A.

14:55
Student
Predicting cis- and trans-vacant configurations in smectites using X-Ray Diffraction
Lorenzo, A., García-Romero, E.-, Suárez, M. and Hillier, S.

15:15
Influence of Detrital Input on Saponite Authigenesis in the Pre-Salt Barra Velha Formation, Santos Basin
Silva, L.A.C., **Mexias, A.S.**, Da Silva, M.D., Gomes, M.E.B., Rossoni, R.B., Sobiesiak, J.R.S., Bongiolo, E., Semeler, A.R., Jantsch, L.C.

15:35
Remote
Geochemical constraints of Upper Cretaceous Na-bentonite beds from Pellegrini Lake deposit, Argentina
Musso, T.B., Christidis, G. and Pozo, M.

15:55 — *BREAK*

Lecture theatre 4-Synge

Clay Applications in Ceramics (session #13)

Fernanda Andreola, University of Modena and Reggio Emilia, Italy. andreola.fernanda@unimore.it
Fakher Jamoussi, Water Research and Technologies Center, Tunisia. fakher.jamoussi@certe.rnrt.tn
Sonia Conte, Istituto di Scienza, Tecnologia e Sostenibilità per lo Sviluppo dei Materiali Ceramici-ISSMC, Italy, sonia.conte@issmc.cnr.it

09:35
Student Remote
Influence of diatomite addition to two types of clay on the hydrothermal synthesis of zeopolymer materials
Cotón, N., Morita, A.K.M., Sánchez-Arcos, O., Alonso-Azcárate, J., Fernández, R., Ruiz, A.I., Conde-Sánchez, A., Martínez-Rodríguez, A.M., Jamoussi, F. and Moreno-Maroto, J.M.

09:55 — *Keynote*
Case Study of Spanish, Italian and Portuguese Clays as Raw Material for Lightweight Workable Aggregates (LWAs)
Cotes-Palomino, M.T, López-García, A.B., Iglesias-Godino, F.J., Alonso-Acárate, J., Moreno-Maroto, J.M., Barbieri, L., Lancellotti, I., Andreola, F., Labrincha, J., **Martínez-García, C.**, Cobo-Ceacero, C.J.

10:25
Student
Influence of Sewage Sludge Ash on Brick Properties Using Diverse Clay Types
Feldthus, F.B., Ottosen, L.M., Bertelsen, I.M.G. and Kirkelund G.M.

10:45 — *Keynote*
From Design to Valorization: Circular and Innovative Practices for the Use of Clay Products in Construction
Díaz Rubio, **Roberto**, Millanes Sánchez, Marta, Peces Martín, Celia, Rodriguez Chirico, Caterina

11:15 — *BREAK*

11:35
Student
Relationship between the presence of iron and the sintering atmosphere on the final properties of kaolin-based ceramics
Guillemin, F., Lecomte-Nana, G., El Hafiane, Y., Duttine, M., Peyratout, C. and Smith, A.

11:55
Energy savings in silicate ceramics through Optimization of the raw material mix
Piribauer, C.J., Haeusser, S., Friedrich, H. and Stepanyan, M.

12:15
Zeolites as ceramic raw materials for feldspar substitution in porcelain stoneware tiles production
Chiara Molinari, Sossio Fabio Graziano, Guia Guarini, Sonia Conte, Michele Dondi, Concetta Rispoli, Piergiulio Cappelletti, Chiara Zanelli

12:35
Student
Mineralogical, physico-chemical and geotechnical characterization of Yagoua clays (Far North Cameroon) for application in traditional ceramics
Moongon Obam, B.I., Mache, J.R., Balo Madi, A., Manjia, M.B. and Fagel, N.

12:55
Brazing of ceramics with reactive metallic alloys and oxide glasses
Hodaj F.

13:15 — *LUNCH*

Lecture theatre 4-Synge

Nanoelectronic and Nanophotonic Applications (session #28)

Jon Otto Fossum, Norwegian University of Science and Technology, Norway, jon.fossum@ntnu.no
Raphaela de Oliveira Gonçalves, LNLS/CNPEM, Brazil, raphaela.goncalves@lnls.br
Ingrid David Barcelos, LNLS/CNPEM, Brazil, ingrid.barcelos@lnls.br
Alisson Ronieri Cadore, LNNano - CNPEM, Campinas, Brazil, alisson.cadore@lnnano.cnpem.br

14:05 — *Keynote*
Naturally occurring 2D semiconductor with antiferromagnetic ground state
Pacakova, B., Lachtingen-Dahl, B., Kirch, A., Demchenko, H., Osmundsen, V., Fuller, Ch.A., Chernyshov, D., Zakutna, D., Miranda, C.R., Raaen, S., Fossum, J.O.

14:35
Remote
Ultra-confined plasmons reveal moiré patterns in a twisted bilayer graphene-talc heterostructure
Barbosa, T. C., Chaves, A. J., Freitas, R. O., Campos, L. C., Barcelos, I. D.

14:55
Student
Ionic Transport in 2D Slits with Angstrom Precise Confinement Control
Stevenson, D. M. and Breu, J.

15:15 — *BREAK*

15:35
Remote
Ultrathin natural biotite as a layered dielectric for van der Waals heterostructure and device applications
de Oliveira, R, Rodrigues, G. L., de Oliveira, R. C., Malachias, A., Teixeira, V. C., de Oliveira, A. J. A., Gobato, Y. G., Barcelos, I. D. and **Cadore, A. C.**

15:55
Towards a delamination of iron(II)-rich synthetic mica
Jourdain, A., Thanner J. and Breu, J.

16:15
Remote
Defects in Natural 2D Materials
Thamires C. Soares, Raphaela de Oliveira, Verônica C Teixeira, Yara Galvão Gobato, Luiz Fernando Zagonel, and Ingrid D. Barcelos

16:35
Manipulating heterogeneities of clay minerals at the nanoscale to tune their properties for nanodevice applications
De Oliveira, Raphaela, Gobato, Y. G., Freitas, R. O., Teixeira, V. C., Malachias, A., Krambrock, K., Cadore, A. R. and Barcelos, I. D.

Lecture theatre 5-Swift

Natural Zeolites: From Geology and Fundamental Science to Applications and Market Challenges (session #10)

Hossein Kazemian, University of Northern British Columbia, Canada, hossein.kazemian@unbc.ca
Fernando Borsatto, Zeogroup and Conquer Business School, Brazil, fb.faria82@gmail.com
Bruno Azevedo, Università di Pisa, Italy, bruno.piodeazevedo@phd.unipi.it

09:35
Geological value of the Si/Al ratio in natural zeolites: critical assessment of selected precursor reactions
Campbell, L.S., and Bish, D.L.

09:55
Student Remote
Hydronium exchange in ion exchange and dissolution of feldspathoids sodalite and cancrinite
Lin, C.W., Graefe, M., Howe, J.A., and Deng, Y.

10:15
Remote
Characterization of Natural Zeolites from the Republic of Argentina
Vigna, Belen, Cozzi, Guillermo, Sapag, Karim, Lamas, Diego

10:35
Student
Natural Zeolite Modified with MnOx Coating: Treatment of Mn^{2+} and Fe^{2+} contamination
de Azevedo, B.F.P., Mugnaioli,E. Petrini, R., Perchiazzi, N., Ghezzi, L.

10:55 — *BREAK*
11:15
Remote
Challenges of Scaling Resilience: A Critical Review of Pettit et al. (2010) in the Natural Zeolites Sector
Cruz, J.C.

11:35 — *Keynote*
Actual and expected application of zeolite for remediation and waste management of radioactively contaminated nuclear site
Koyama, T., Hijikata, T. and Uozumi, K.

12:05
Modified Zeolite for Groundwater Treatment: A Brazilian Plant Study
Maronezi, V., Borsatto, F., Silva, L.B., Silva L.M. and Sousa, A.B.M.

12:25
Synthesis of Zr^{4+}/Ag^{+} Modified Zeolite for Fluoride and Pathogen Removal
Mudzielwana, R., and Nemakanga, S

12:45 — *LUNCH*

13:05

Student
Zeolitic Tuff for Ammonium Recovery from Anaerobic Digestates: Efficiency, Optimization, and Large-Scale Potential Application
Alberghini, M., Ferretti, G., Galamini, G., Botezatu, C. and Coltorti, M.

13:25
Assessment of the Potential Role of Zeolites in Biological Electro Molecular Mechanisms
Cortés Hernández, F.A., Insignares-Carrione, E., and Bolaños Gómez, B.

13:45
Evaluation of Philippine natural zeolite-based particle film for pest management in cacao
Olegario, E.M., Barrion, A., Santos, K.L., Esguerra, J.M. and Amalin, D.

14:05 — *BREAK*

Lecture theatre 5-Swift

Clay Mineral-Based Catalysts for Environmental Engineering and Chemical Processes (session #23)

Ambra Maria Fiore, Università degli studi di Bari, Italy. ambra.fiore@uniba.it
Alfin Kurniawan, Zhejiang University of Technology, Hangzhou 310032, China. alfin_kur@yahoo.com
Chun Hui Zhou, Zhejiang University of Technology, Hangzhou 310032, China. clay@zjut.edu.cn

14:25
Designing Montmorillonite-Supported Metal Oxide Catalysts for Efficient Gas-Phase Glycerol Oxydehydration
Kurniawan, **Alfin**, Roy, Tania, and Zhou, Chun Hui

14:45
Design of clay-based catalysts assisted by machine-learning
Lo Dico, G., Esteban Cubillo, A., Haranczyk M.

15:05
Construction strategies of the organic-inorganic interface structures in phyllosilicates-based nanozymes and their environmental applications
Shiyong Sun, Ke Wang, Jin Liu, Yifan Zeng, Yan Liu

15:25
Remote
Silica/clay based Composites used in the Adsorption of FFA, Optimizing the Process by RSM
Kepdieu J. M., Djangang C.N., Tchanang G., Njimou J.R., Maicaneanu S.A. and Tizaoui C.

15:45
Amino-functionalized porous nanosilica modulates Pt nanoparticle morphology for low-temperature toluene catalytic combustion
Zhang, **X**, Chen, Q., and Zhu, R.

16:05 — *Keynote*
Acidified Montmorillonite and Site-Specific V-Doping Keggin-Type NH4PM Catalysts for Sequential Conversion of Glycerol to Acrylic Acid and Allyl Alcohol
Tania Roy, Alfin Kurniawan, Jin Wang, **Chun Hui Zhou**

Lecture theatre 6-Ui Cadhain

Synthesis of geo-inspired clay minerals and associated hybrids (session #34)

Pierre Picot, CEA Paris-Saclay, France. pierre.picot@cea.fr
Sabine Petit, Université de Poitiers, France. sabine.petit@univ-poitiers.fr
Liva Dzene, Université de Haute-Alsace, France. liva.dzene@uha.fr
Vanessa Prévot, Institut de Chimie de Clermont-Ferrand, France. vanessa.prevot@uca.fr
Chun-Hui Zhou, Zhejiang University of Technology, China. clay@zjut.edu.cn
Hongping He, Chinese Academy of Sciences, China. hehp@gig.ac.cn
Makoto Ogawa, VISTEC, Thailand. waseda.ogawa@gmail.com
Antoine Thill, University Paris-Saclay, France. antoine.thill@cea.fr
Kirill Shafran, BYK Additives Ltd., Widnes, UK, kirill.shafran@altana.com
Jocelyne Brendlé, Université Haute-Alsace, France, jocelyne.brendle@uha.fr

09:35
Diameter and chirality of natural and synthetic imogolite
Picot, Pierre, Gobeaux, Frédéric, Charpentier, Thibault, Belloni, Luc, Takahara, Atsushi, Wada, Shin-Ichiro and **Thill**, **Antoine**

09:55
From molecular precursors to allophane and imogolite: evidence and importance of intermediate nanostructures
Pierre Picot, Fabienne Testart, Frederic Gobeaux, Luc Belloni and Antoine Thill

10:15
Student
Experimental assessment of pH dependent allophane formation rates at low temperatures
Kayla R. Russo, Nicole M. Fernandez

10:35 — *Keynote*
Strategy in host-guest assembly for organic light emitter interleaved into layered double hydroxide: to retain or release, that is the question
Leroux, F.

11:05 — *BREAK*

11:25
Student Remote
The influence of reaction conditions on kaolinite synthesis
Koroleva T.A., Pokidko B.V., Nesterenko A.A., Morozov I.A. and Krupskaya V.V.

11:45
Formation of iron-rich phyllosilicates in the $FeO–SiO_2–H_2O$ system during hydrothermal synthesis as a function of pH
Dzene, L., Doggaz, A., Dutournié, P., Inoué, S., Abdelmoula, M., Jourdain, A., Le Meins, J.-M., Brendlé, J., Martin, C. and Michau, N.

12:05
Student
Synergistic chemical evolution of Fe-smectite and glycine during mineral crystallization
Fkiri, R., Gregoire, B., Baron, F., Geffroy, C., and Petit. S.

12:25 — *LUNCH*

13:25
Experimental evidence for the evolution of crystal chemistry and morphology during saponite growth
Zhang, C.Q., Decarreau, A., Baron, F., Tao, Q., Gregoire, B., Zhu, J.X., He, H.P., **Petit, S.**

13:45
Electrophoretic Mobility Characteristics Resulted from Varying Layer Charge of Smectite
Zhou Chun Hui, Wang Guo Ya, Chen Xiao Lan, Kurniawan Alfin, and Roy Tania

14:05
Student
On the all-inorganic protection of lead halide perovskite nanocrystals from the environment
Clasen, E.B. and Hill, E.H.

14:25
Remote
A straightforward, one-step synthesis of a layered alkylammoniumsiloxane without additives
Fujii, K., Wakahara, T., Iwanade, A., Hattori, M., Higuchi M. and Hayashi, S.

14:45 — *BREAK*

Lecture theatre 6-Ui Cadhain

Teaching, History, and Future of Clay Mineralogy (in honor of Dewey Moore and Bruce Velde) (session #5)

Georg Grathoff, University of Greifswald, Germany, Grathoff@uni-greifswald.de
Bruno Lanson, ISTerre, CNRS, France, bruno.lanson@univ-grenoble-alpes.fr
Paul Schroeder, University of Georgia, USA, schroe@uga.edu

15:05
Dewey Moore: Teacher, Mentor, and Visionary
Grathoff, G.H.

15:25
Teaching Clay Mineralogy: A survey of who, what, where, and how it is being taught
Schroeder, P.A., Grathoff G.H. and Lanson B.

15:45
An update on the multidisciplinary science of applied clay research: A 2023–2025 bibliographic analysis
Biswas, B., Warr L.N. and Naidu R.

16:05
Remote
The future of clay mineralogy: Soil Forensic Examinations Using Advanced Laboratory Source and Synchrotron XRD Techniques
Fitzpatrick R.W., Raven M.D. and Self P.G.

16:25 — *Break*

Lecture theatre 7-Davis

Fundamentals of Tubular Nanoclays (session #25)

Nia Gray-Wannell, The James Hutton Institute, UK. Nia.Gray-Wannell@hutton.ac.uk
Giuseppe Cavallaro, The University of Palermo, Italy. giuseppe.cavallaro@unipa.it
Eirini Siranidi, National Hellenic Research Foundation, Greece. esiranidi@eie.gr
Aasim Shaffi, University College London, UK. aasim.shaffi.17@ucl.ac.uk
Milan Pšenička, Charles University, Czech Republic. milan.psenicka@centrum.cz
Pooria Pasbakhsh, University of Melbourne, Australia. pooria.pasbakhsh@unimelb.edu.au
Yafei Zhao, Zhengzhou University, China, zhaoyafei007@zzu.edu.cn
Mingxian Liu, Jinan University, China, liumx@jnu.edu.cn

09:35
Student
Structure and Dynamics of Water Confined in Halloysite Nanotubes
Pšenička, M. and Pospíšil, M.

09:55
Integrated Computational and Experimental Approach for the Design of Halloysite Clay based Multifunctional Catalysts
Lisuzzo, L., Lazzara, G., Guercio, L., Ferlito, F., Ferrante, F., Bertini, M., Palella, A., Aho, A., Spadaro, L., Murzin, D.Y. and Duca, D.

10:15
Student
Toward Green Catalysis with Halloysite–Gold Nanocomposites Materials
Guercio, L., Ferrante F., Bertini M., Lisuzzo L., Ferlito C., Cavallaro G., Lazzara G., Duca D.

10:35
Filling halloysite nanotubes with functional materials
Liu, M.X., Zhao, P.X., Feng, Y., Chen, X.Y. and Zhou, S.Q.

10:55 — *BREAK*

11:15
Patch halloysite as a clay precursor for hydrogel and multifunctional inorganic films
Calvino, M.M., Lo Bianco, A., Cavallaro, G., Pasbakhsh, P., Lisuzzo, L., Milioto, S., Lvov Y., Lazzara, G.

11:35
Halloysite Nanotubes Under the Microscope: Potential Occupational Risks and Toxicity Indicators
Fantini, R., Glossop, L., Malferrari, D., Castellini, E., Lassinantti Gualtieri, M., Hanuskova, M., Nodari, L., Ogor, J. and Gualtieri, A.F.

11:55 — *Keynote*
Fundamentals of powder XRD data in relation to hydration state, particle morphologies, and nomenclature: a short review of key features
Hillier, S.

12:25
N-methyl formamide (NMF) intercalation in Halloysites
Siranidi, E., Kouseri, A.A., Chryssikos, G.D. and Hillier, S.

12:45 — *Lunch*

Lecture theatre 7-Davis

Soil and Clay Chemical Analysis – Symposium Honoring M.L. Jackson (session #7)

Joseph W. Stucki, University of Illinois at Urbana-Champaign, USA, jstucki@illinois.edu
Janice L. Bishop. SETI Institute, USA, jbishop@seti.org

14:00
Introduction
Stucki, J.W.

14:05
Family Reflections
Conlon, T.

14:15
Reflections of a former student (live remote)
Roth, C.

14:22 — *Keynote*
How M.L. Jackson paved the way for our understanding of the mineralogy of soil clays: the case of the complex nature of interstratified clay minerals
Hubert, F.

14:29
Oxidation-reduction Mechanism of Structural Fe in Clay Minerals
Stucki, J.W.

14:36
Interlayers and Interconnections: The Influence of M.L. Jackson on a Scientific Career
Johnston, C.T.

14:43
Updating life at the edge: Clay mineralogy and the Kamchatka microbial observatory
Schroeder, P.A., and Karpov, G.

14:50
Coupled redox cycling of iron in clay minerals and organic matter transformation across redox interfaces
Dong, H., Zeng, Q. and Sheng, Y.Z.

14:57
Lithium extraction methods influence Li-isotope measurements of clays
Williams, L.B., Bose, M. and Vierling, S.A.

15:04
Remote
The pink book: A useful resource for mineralogical research
Gates, W.P.

15:11
Association of organic carbon with different forms of metal oxides in Australian soils
Bright E. Amenkhienan, Feike A. Dijkstra, Charles Warren, and **Balwant Singh**

15:18
Remote
Career Research: Inorganic Contaminant Interactions at the Mineral-Water Interface and in Soils
Arai, Y.

15:25 — *BREAK*
15:45
Clays on Mars: Their Identification from Orbit and Implications for the Martian Environment
Bishop, J.L.

15:52
Modulation of Sorption and Transformation of Organic Contaminants in Clay Minerals
Li, H., Boyd, S.A., and Teppen, B.J.

15:59
Digital Soil Mineralogy – Some recent advances and future horizons
Hillier, S.

16:06
Mineralogical Controls over Environmental Fate and Behavior of Contaminants and Nutrients
Qafoku, N.P.

16:13
Tracking Mineral and Chemical Changes in Fertilized Soils: Combining Synchrotron X-Ray Techniques and Wet Chemical Methods Reveal Key Insights
Hettiarachchi, G.M.

16:20
Remote
Photochemically-induced abiotic Mn oxide nanoparticle formation
Jun, Y.-S., Gao, Z., Chou, P.-I., and Jung, H.

16:27
An isotope approach to identify biologically mediated reactions and fingerprinting of sources of phosphorus
Jaisi, D.P.

16:34
On the interaction between clays and fungi: an alternative interpretation of the role of medicinal clays
Milling, S., Izaz U.Z., Venieri, D., **Christidis, G.E.**, Rattray, N.J.W., Gounaki, I., Andrusaite A., Hareendran A., Knapp, C.W., Jones, A.X. and Photos-Jones E.

TUESDAY 15th July

Lecture theatre 1-Burke

08:30 — *Plenary Bailey Lecture*
Clay mineral-microbe interactions and applications
Dong, H., Zeng, Q., Sheng Y. and X. Liu

09:15 — *Sponsor's Presentation*
09:20 — *Break*

Science and Engineering of Clays for Nuclear Waste Disposal (session #20b)

Marcelo Javier Sanchez Castilla, Texas A&M University, USA, msanchez@civil.tamu.edu
Youjun Deng, Texas A&M University, USA, yjd@tamu.edu
Ian C. Bourg, Princeton University, USA, bourg@princeton.edu
Maria Victoria Villar Galicia, Centro de Investigaciones Energéticas, Medioambientales y Tecnológicas, Spain, mv.villar@ciemat.es
David Schofield, Nuclear Waste Services, UK, david.i.schofield@nuclearwasteservices.uk

09:25 — *Keynote*
Granular buffer material after 12 years heating under early repository conditions
Villar, M.V., Gutiérrez-Rodrigo, V., Melón, A.M., Cuevas, J., Mäder, U. and Kober, F.

09:55
Student
Experimental Characterisation of Water Affinity in a Colloidal Silica-Bentonite System
Mutahi, N.S., Pagano, A.G. and Lunn R.J.

10:15
Time-dependent rheology of charge and shape anisotropic clay gels: Role of electric double layer repulsive force in structural rejuvenation process, layer and face charge effects
Leong, Y.K.

10:35
Student
Microstructure observation of cemented bentonite under the swelling state using electron microscopy
Tobimaru Ishiwata, Ryosuke Kikuchi and Tsubasa Otake

10:55 — *BREAK*

11:15
Full pore size distribution of shale by combination of innovative gas adsorption isotherms, mercury intrusion porosimetry and laboratory nano-X ray tomography
Pret, D., Rogers Evarist S., Mazurier A., Faivre M., and Giot R.

11:35
Geochemical characterisation of porewater from poorly indurated Neogene and Paleogene clays in the Netherlands
Fernández, A.M., Nieto, P., de Jong, T., Toshniwal, V., Broere, W., Vardon, P.J., Dieudonne, A-C.

11:55
Remote
The rationale for choosing bentonite in the the engineered barrier system of the Russian deep geological nuclear waste disposal concept
Krupskaya V.V., Zakusin S.V., Koroleva T.A. and Morozov I.A.

12:15
Ion migration under gravitational fields for nuclear waste disposal
Im, J. and Santamarina, J.C.

12:35 — *Lunch*

Lecture theatre 1-Burke

Advances in structural characterization of layered compounds (session #12)

Bruno Lanson, Université Grenoble Alpes - CNRS, France, bruno.lanson@univ-grenoble-alpes.fr
Toshihiro Kogure, University of Tokyo, Japan, kogure@eps.s.u-tokyo.ac.jp

13:45
Thermogravimetric Characterization of Trans- and Cis-Vacant Dioctahedral Smectite Structures Reveals Acid Leaching and Interior Acid Storage
Bickmore, B.R., Villafane-Barajas, S. and Sahai N.

14:05
Confirmation of dehydroxylation of dioctahedral 2:1 layers in TEM by oxygen imaging using OBF-STEM
Kogure, T., Miura, H., Murayama, H., Aoyama, Y., Sato, H., Okumura, T. and Ohnishi, I.

14:25
Atomic-resolution OBF-STEM imaging for beam-sensitive clay minerals
Miura, H., Kogure, T., Okumura, T. and Ohnishi, I.

14:45
Local Surface Charge, Ion Adsorption, and Water Structuring at Layered Mineral–Electrolyte Interfaces: Insights from Atomic Force Microscopy
A. Klaassen, F. Mugele and **I. Siretanu**

15:05
Student
Specific Cr(VI) Removal through Colloidal Nanoparticles: Unraveling the Complex Interactions in Mg/Al LDH Anionic Exchange
Fezraoui A., Cornu D., Steciuk G., Ghanbaja J. and Hebrant M.

15:25
Exchange of interlayer K in mica and implications for mineral identification
Jelavić, S., **Lanson, B.**

Lecture theatre 2-Beckett

Interactions of Iron-rich Clays and Iron Oxides with Organics and Heavy Metals: Implications for Iron/Carbon/Metal Cycling (session #47)

Thomas L. Gout, Peking University, China, tlg29@cantab.ac.uk
Yandi Hu, Peking University, China, huyandi@pku.edu.cn
Hailiang Dong, China University of Geosciences, China, dongh@cugb.edu.cn

09:25 — *Keynote*
Ferrihydrite transformation in soils: The impact of organic carbon
ThomasArrigo, L.

09:55
Remote
Schwertmannite formation and properties as an indicator of biogeochemical processes at low pH in acid sulfate weathering environments
Fitzpatrick R.W., Burton E.D., Mosley L.M., Raven M.D. and Self P.G.

10:15 — *Keynote*
Coprecipitation and phase transformation OF Fe(III)/metal hydroxides with organics
Hu, **Yandi**

10:45 — *Break*

11:05
Student
Microbially-mediated ferrihydrite transformation for controlling the mobility of Mo
Jing Zhang

11:25
Photochemical Alterations of Fe-Organic Matter Coprecipitates Promoted the Organic Matter Preservation or Degradation: Role of Organic Matter Functional Groups
Dawei Cai, Yandi Hu, Suona Zhang

11:45
Clay Minerals Regulating the Fe(II)-Catalyzed Ferrihydrite Transformation under Anoxic Conditions
Chen, Q.Z., Zhu, R.L., Wei, H.Y., Wei, S.S., Liu, J., Zhu, J.X., and He, H.P.

12:05
Fe(II)-Catalysed Transformation of Ferrihydrite: Effects of Organic-Functionalised Solid-Liquid Interfaces
Goût, **Thomas L.**, Zhang, J. and Hu, Y.

12:25 — *LUNCH*

Lecture theatre 2-Beckett

Universal (Session #1b)

Simon Kemp, BGS, UK, sjk@bgs.ac.uk
Helen Pendlowski, The James Hutton Institute, UK, helen.pendlowski@hutton.ac.uk
Dave Wray, University of Greenwich, UK, D.Wray@greenwich.ac.uk
Francis Clegg, University of Shefield, UK, f.clegg@shu.ac.uk
Mohamed Mouafon, Institut Clément Ader, FRANCE, mohamed.mouafon@mines-albi.fr
Javier Garcia Rivas, Complutense University of Madrid, SPAIN javier.garcia.rivas@ucm.es

13:35
Ni- and Cr- bearing clays in green siliceous gemstones: a LA-ICP-MS study
Gilg, H.A., Dussubieux, L., Thoresen, L., and Allen, R.

13:55
Student
GALOPER 2: Simulating and Analyzing Crystal Growth Processes in MATLAB
Nye, J.G., Vest, D., Bickmore, B.R., Evans, E.J. and Eberl D.D.

14:15
Remote
Stimuli-induced excimer formation in confined space
Matejdes, M., Škorňa, P., Slaný, M., Klement, R., Kawamata, J., Breu, J.

14:35 — ***BREAK***

14:55
Student Remote
Mineralogical Properties of Two Hydrothermal Illite from Yeongdong County, South Korea
Lee, N., Koo, T.-h., Park, H.†, Jeong, H., Son, W., Lee, S., Kogure, T., and Kim, J.

15:15
Student
Characterization of Illite Clay Mineral in Norwegian Quick Clay
Tammen, R.,, Eiser, E., Li, G., de Wijn, A., Zablocka, K., and de Weerdt, K.

15:35
High oxygen barrier coating using non-toxic nanosheet dispersions for flexible food packaging film
Yu, J., Ruengkajorn, K., Crivoi, D.G., Chen, C., Buffet, J.C., O'Hare, D.

15:55
Effect of Al powder and CTAB addition on the properties of porous metakaolin based geopolymers
Mohamed M., Elodie P., Gilles D., Thierry C. and Pascal R.

Lecture theatre 3-Emmet

Synthesis and Applications of Modified Clays in Environmental Remediation (session #44)

Bhabananda Biswas, University of Newcastle, Australia, Bhaba.Biswas@newcastle.edu.au
Bénédicte Prelot, Institut Charles Gerhardt Montpelier, France, benedicte.prelot@umontpellier.fr
Laurence N. Warr, University of Greifswald, Germany, warr@uni-greifswald.de
Himanshu Yadav, Indian Institute of Technology, India, yadav18b@iitg.ac.in

09:25
Student Remote
Exploring Polycaprolactone, Halloysite Nanotubes, Diatomaceous Earth, and their composites for Acetic Acid Mitigation in Museum Display Cases
Carotenuto, M.R., Strlič, M., Kraševec, I., Deraz, R., Cavallaro, G., Chinnici, I., Lazzara, G., Milioto S.

09:45
Nonionic Organoclay: a versatile material for the sorption of organic contaminants
Guégan, R.

10:05
Remote
Elaboration of glyphosate pesticide electrochemical sensor based on synthesized organophilic saponite
Tagne, A.J., Dzene, L., Michelin, L., Josien, L., Rigolet, S., Dedzo, G.K. and Ngameni E.

10:25
Enhanced VOC removal from natural rubber emissions using combined water scrubbing and surface-modified Philippine natural zeolites
Olegario, E.M., Arellano, F.J.T., Lauzon, M.J.A., and Vasquez, M.R.

10:45 — *BREAK*

11:05 — *Keynote*
Organo-modification of clay minerals for remediation, and a focus on bentonite-chitosan adsorbents for heavy metals
Clegg, F., Sammon, C. and Majiya, H.

11:35
Student
Development and evaluation of non-expansible pillared Quick Clay for pollutant removal in water
Coulombe, A., Soubaneh, Y.D., Pelletier, É., Lu, Z., L'Heureux, J.S. and Bardeau, J.F.

11:55
Preparation of calcium-aluminum layered bimetallic hydroxide and study on their adsorption properties for U (VI)
Faqin Dong, Siyi Liao and Jing Bai

12:15
Student
Computational Insights into Styrene Adsorption by Pristine and Modified Smectites
Asbat, A., Scholtzova, E.

12:35 — *LUNCH*

13:45
Student
Targeting zearalenone and deoxynivalenol: Two distinct mycotoxin elimination strategies using kaolin group-based mineral materials
Klaudia Dziewiątka, Jakub Matusik

14:05
Remote
Effective removal of lead (II) ions from aqueous solutions using modified waste mica
Navya, M. and Sandeep, S.

14:25
Use of layered double hydroxides (LDHs) for short chain PFAS removal in water treatment: impact of structure and surface properties
Darracq, G., **Jakob, A.**, Gabas, C., Carême, C.

14:45
Student
Rapid removal of chromium (VI) and diuron from aqueous solution by novel Sepiolite-based nanocomposite: Material characterizations, enhanced performance and mechanism
Zhang, **Chenhao**, Hou, Kai

Lecture theatre 4-Synge

The Role of Clays in Human Health and Biomedical Sciences (session #35)

Cesar Viseras, University of Granada, Spain. cviseras@ugr.es
Saverio Fiore, Italian National Research Council, IMAA, Italy. saverio.fiore@cnr.it
Serena Riela, University of Catania, Italy. serena.riela@unict.it

09:20 — *Keynote*
Modification of clay minerals for biomedical applications
Massaro, M., Cinà, G., de Melo Barbosa, R., Leone, F., Sanchez-Espejo, R., Viseras, C., Riela, S.

09:50 — *Keynote*
Halloysite nanotube-based shuttle for intracellular transport of Peptide Nucleic Acids (Ps) in Gene Therapy
Falanga, A.P., Oliviero, G., Borbone, N., Riela, S.

10:20
Student
The Influence of Clay Pores Volume and Surface Charge on Isoniazid Adsorption and Release
Arjona, J.C., Ulsen, C., Samara, M., Valenzuela-Diaz, F.R., and Demarquette, N.R.

10:40
Student
Exploring Halloysite Nanomaterials for potential theranostic applications
Leone, F., Bagherpour, S., de Melo Barbosa, R., Massaro, M., Noto, R, Pérez-Garcia, L., Raymo, F.M., Sánchez-Espejo, R., Viseras, C., and Riela S.

11:00 — *Break*
11:20
Student
A Perspective of Halloysite and Carbon Dots-Based Nanomaterials
Cinà, G., Massaro, M., Cavallaro, G., de Melo Barbosa, R., Lazzara, G., Sanchez-Espejo, R., Viseras, C., and Riela, S.

11:40
Development of a nanoemulgel system based on Opuntia ficus-indica seed oil and nanoclays: a promising approach for skin biocompatibility and antimicrobial performance
Anna Imbriano, Maria Mendico, Sara Primavilla, Luana Perioli, Alberto López Galindo, Maurizio Ricci, Alessandro Di Michele, **César Viseras**, Cinzia Pagano, Fátima García Villén, Raquel de Melo Barbosa

12:00
Surface Characteristics of Geologically Ancient Occluded Quartz from Bentonite and Their Toxicological Implications: A Case of Guilt by Association?
Brown, R. K., Hochella, M. F., Murayama, M., Berti, D. and Cantando, E.

12:20 — *Keynote*
Remote
Clays in Epoxy composites: a new tool against healthcare associated infections
R. Bertani, P. Sgarbossa, A. Pontefisso, F. Tateo, A. Mansi, A.R. Proietto, A. Chiominto, F. Boccuni, A. Bargellini, I. Marchesi, C. Cermelli, A. Rossini

12:50 — *LUNCH*

14:10 — *Keynote*
Photoactive Clay/Polymer Nanocomposite Surfaces: A Promising Strategy for Combatting Pathogenic Biofilms
Bujdák J., Skoura E., Bugyna L., Bilská K., Bujdáková H.

14:40
Remote
Study of anti pathogens activity of zeolite, activated by silver ions (Ag+)
Purevtsogt Dorgjoo, Tsogtbaatar Lkhagvajav, Banzragch Sukhbat, Ulzii-Uchral Davaasuren, Tumenjargal Bazarragchaa, Demberel Shirchin, **Zolzaya Majigsuren**

15:00
Geophagy and cultural practices among the Businenge of western Guyana: a physico-chemical and mineralogical characterization of ingested pemba clays
Joussein, E., Soubrand, M., Schreck, E., Maurice, L., Paineau, E., Courtin, A., Reguer, S., Vantelon, D., Tareau, M.A.,, Ansoe-Tareau, C. and Odonne, G.

15:20
Covalent functionalisation of natural clays for environment remediation
Puglisi, R., Massaro, M., Pappalardo, A., Trusso, G., Nicosia, A., Mineo, P. G., Viseras, C.,, Sánchez-Espejo, R., Riela S.

Lecture theatre 5-Swift

Origin and Age of Clay Minerals in Soil and Sediment (session #6)

Thierry Allard, Sorbonne Université, France, thierry.allard@upmc.fr
Thomas Munier, University of Burgundy, France, thomas.munier@sorbonne-universite.fr
Pierre Pellenard, University of Burgundy, France, Pierre.Pellenard@u-bourgogne.fr
Pauline Corentin, Université de Montepellier, France, pauline.corentin@u-bourgogne.fr

09:25
Reconstructing kaolinite formation conditions and ages in lateritic profiles from central Amazonia: Insights from EPR Spectroscopy
Ataytür, Ö., Allard,T., Gautheron, C., Balan, E., Messias, R., Calmels, D. Guinoiseau, D., Bouchez, J., Fekiacova, Z., Genezini, F., Somogyi, A., Horbe, A.

09:45
Dating the polytypes of illite to decipher the successive hydrothermal events leading to uranium mineralization in the Athabasca basin, Canada
Gerardin, M., Bartier, D., Hueck, M., Cathelineau, M., Milesi, G. and Mercadier, J.

10:05
Soil clay minerals on Byers Peninsula (South Shetland Islands, Antarctica) "R.A. Howie Memorial Lecture"
Pelayo M., Schmid T., Melón A.M. and López-Martínez J.

10:25
Evidence of massive authigenic kaolinite proportions in Early Cretaceous silico-clastic deposits: the impact of marine weathering on paleoclimate interpretation
Munier, T., Abouassi, P. and Riquier, L.

10:45 — *BREAK*

11:05
Student
Origin of smectite and influence of volcaniclastic material on a Paleocene-Eocene Thermal Maximum clay assemblage record from the Norwegian-Greenland Sea (IODP Expedition 396)
Turton, N.A., Pellenard, P., and Xu, W.

11:25
Clay Mineralogy coupled to Hf-Nd Isotopes: deciphering chemical weathering and mechanical erosion in the Late Cretaceous climate evolution
Pauline Corentin, Camillo Esteban Gaitan, **Pierre Pellenard**, Emmanuelle Pucéat, Michel Guiraud

11:45
Student
Clay mineral response to hyperthermal events in coastal settings: new insights from Eocene deposits in the Paris Basin
Talon, J., Pellenard, P., Baele, J.-M., Quesnel, F., Iakovleva, A., Bruneau, L., Santoni, A.-L. and Dupuis, C.

12:05 — *LUNCH*

13:05
Student
Early diagenetic overprint on Eocene-Miocene lacustrine clay minerals: Influence of phreatomagmatism and microbial activity in the Limagne Basin, France
Lawnizack G., Pellenard P., Vennin E., Bosse V., Olivier N., Pucéat E.

13:25
Varve-like sediments in caves from the northern rim of the Dachstein Massif (Austria)
Franziska Holzer, **Susanne Gier**, Lukas Plan

13:45 — *Keynote*
Clay Minerals Markers of Paleo-conditions
Abderrazzak El Albani

14:15 — *Keynote*
Climatic significance of clay minerals in Cenozoic sediments
Fagel, N.

14:45 — *BREAK*

Lecture theatre 5-Swift

Clays in Mining (session #40)

Heather Kaminsky, Northern Alberta Institute of Technology, Canada. hkaminsky@nait.ca
Andrew Vietti, Vietti Slurrytec, South Africa. AVietti@VSlurrytec.com
Daniel Dodoo, University of Melbourne, Australia. ddodoo@student.unimelb.edu.au

15:05
A new exploration in surrounding of Michaľany-Lastovce bentonite deposit, East Slovakia – mineralogical, geochemical and petrological characterization
Uhlík, P., Gread, F.A., Biroň, A. Osacký, M., Šurka, J., Kureková, V., Majdan, M., Pálková, H. and Lintnerová, O.

15:25
Clay Characterization Challenges: Insights from Methylene Blue Index and X-Ray Diffraction Analyses of Coal Mine Wastes from Alberta
Luu, V., Khatun, M., Ng, J., Knudson, C. and Kaminsky H.

15:45
Student
Characterising and predicting the flotability of gangue minerals from X-ray diffraction patterns: A case study of talc
Daniel Dodoo, Liza Forbes, Nathan A.S. Webster, Nick Owen, Shane P. Usher, Peter J. Scales, and Anthony D. Stickland

16:05
The Role of Water Chemistry on Clay Behavior in Mine Process and Tailings Circuits
Vietti, A.J.

16:25
Remote
Impact of Clay Activity and Surface Chemistry on Polymer-Assisted Dewatering of Oil Sands Fluid Fine Tailings
Ghuzi, M., Patel, A., Tacas, J., Kaminsky, H., Wong, P., Tizzotti, M., and Whitham, L.

16:45
Lime Treatment Impact of In-Line Flocculation Polymer Performance and Strength Development of Deposited Tailings
Heather Kaminsky, Yunhui Li, Catalina Romero, Joel Tacas and Nikolas Romaniuk

Lecture theatre 6-Ui Cadhain

Universal (session #1a)

Simon Kemp, BGS, UK, sjk@bgs.ac.uk
Helen Pendlowski, The James Hutton Institute, UK, helen.pendlowski@hutton.ac.uk
Dave Wray, University of Greenwich, UK, D.Wray@greenwich.ac.uk
Francis Clegg, University of Shefield, UK, f.clegg@shu.ac.uk
Mohamed Mouafon, Institut Clément Ader, FRANCE, mohamed.mouafon@mines-albi.fr
Javier Garcia Rivas, Complutense University of Madrid, SPAIN javier.garcia.rivas@ucm.es

09:25
Student
A Deep Learning Approach for Mineral Identification With X-Ray Powder Diffraction Patterns
Spencer Chandler, Barry Bickmore, and Emily Evans

09:45
Data quality of low angle X-ray powder diffraction
Ectors, D.

10:05
Identifying clay minerals based on oxide compositions using MinMatch
Warr, L.N., Thombare, B.R, Sudheer Kumar, R., and Grathoff G.H.

10:25
RockJockML: An updated version of RockJock for the modern geologist
Evans, E.J., and Bickmore B.R.

10:45
Student
A comparison of ATR and transmission FTIR spectroscopic methods as tools for qualitative and quantitative analysis of clay mineral identities and properties
Chipman, A.J., Bickmore, B.R., LeMonte J.J.

11:05
VNIR-SWIR spectroradiometric study of ground samples from the Tajo Basin
García-Rivas, J., García-Romero, E., and Suárez, M.

11:25 — *BREAK*

Lecture theatre 6-Ui Cadhain

Identification and Characterization of Phyllosilicates on Mars and Other Planetary Bodies through Remote Sensing, Rover Instruments, and Analog Studies (sessions #2+11)

Janice Bishop, SETI Institute, USA, jbishop@seti.org
Slávka Andrejkovičová, University of Aveiro, Portugal, slavka@ua.pt
Marco Ferrari, Istituto di Astrofisica e Planetologia Spaziali, INAF, Italy, marco.ferrari@inaf.it

11:45
Clay minerals survey along the Martian Crustal Dichotomy to Assess Aqueous Conditions on Early Mars
J. Brossier, F. Altieri, M.C. De Sanctis, A. Frigeri, M. Ferrari, S. De Angelis, E. Bruschini, A. Apuzzo, M. Rasmussen, and J. Trisic Ponce

12:05
Student
Distinguishing detrital from authigenic phases in a subaqueously altered basaltic sandstone: A Mars analog remote sensing study
Yanez, K.L., Milliken, R.E., Meyer, M.J. and Robertson, K.M.

12:25
Characterizing Phyllosilicate-Sulfate Assemblages at Mawrth Vallis as Indicators of Environmental Change on Mars
Bishop, J.L., Gross, C., Gruendler, K.E.W., Tjan, G., Huang, R., Parente, M., Gruendler, M.R.D., Saranathan, A.M., Itoh, Y., and Gulick, V.C.

12:45 — *LUNCH*

13:45
Remote
Formation of jarosite in a nontronite bearing deposit on Mawrth Vallis, Mars
Mukherjee, A., Gupta, S.

14:05
Student
Cation-Exchange Reactions in Nontronite − Indicator for Water Reservoir and Active Geochemical Processes on Mars
Trung Nguyen, Amanda Ekman, Nicolas Boulanger, Michael Holmboe, Merve Yesilbas

14:25
Formation mechanisms of hematite in Gale crater, Mars: insight from hematite crystallite sizes
Peretyazhko, T., Szczerba, M., Rampe, E., Bristow, T., Tutolo, B., Ming, D., Vaniman, D., Morris, R., Ralston, S.J., Haney, N., Blake, D., Chipera, S., Downs, R., Hazen, R., Morrison, S., Treiman, A., Yen, A., Tu, V., Thorpe, M., Achilles, C., Des Marais, D, Grotzinger, J., Castle, N., Craig, P., Hausrath, E. and Simpson, S.

14:45
Student
Mineral mapping in Uzon Caldera for classifying surficial alteration terrains over time and implications for similar studies of Mars
Bradley T.W., Schroeder P.A., Crowe D.E., and Karpov G.

15:05 — *BREAK*

15:25
New model for NIR band assignment in 2:1 dioctahedral Fe-rich phyllosilicates
Cuadros, J., López-Quirós, A., Nieto, F., Marco, J.F. and Montgomery, W.

15:45
Remote
Exploring serpentinization: Insights from Cabeço de Vide (Portugal) as an analog for Mars
Rebelo, R., Andrejkovičová, S., Carrizo, D. and Macário, I. P. E., Rocha, F.

16:05
Remote
Amorphous constituent of sialic/silicate rust in nakhlites
Velbel, M.A.

16:25
Phengite textures in Precambrian impact spherules reveal extreme shock disintegration mechanisms
Percival, J.A., Percival, J.B., and Shalchi Amirkhiz, B.

Lecture theatre 7-Davis

1D Nanoporous Clay Materials and Their Industrial Applications (session #26)

Peng Yuan, Guangdong University of Technology, China. yuanpeng@gdut.edu.cn
Pilar Aranda, Materials Science Institute of Madrid (ICMM), Spain. pilar.aranda@csic.es
Antoine Thill, CEA Saclay, France. antoine.thill@cea.fr
Giuseppe Lazzara, University of Palermo, Italy. giuseppe.lazzara@unipa.it
Lala Setti Belaroui, University of Oran 1, Ahmed Ben Bella, Algeria. belaroui.lalasetti@univ-oran1.dz
Pooria Pasbakhsh, University of Melbourne, Australia. pooria.pasbakhsh@unimelb.edu.au
Yanfu Wei, Macau University of Science and Technology, China. yfwei@must.edu.mo
Guanzheng Zhuang, Guangdong University of Technology, China. zhuangguanzheng@gdut.edu.cn

09:25 — *Keynote*
Designing Functional Nanoarchitectures through Cross-Assembly of 1D Clay Minerals
Ruiz-Hitzky, E.

09:55
Sustainable fibrous clay-based bionanocomposites as additive for the improvement of high strength art papers
Aguilar-Briceño, R., Darder, M., Martín-Sampedro, R., Eugenio, M.E., Tomás-Miralles, A. and **Aranda, P.**

10:15
Bioinspired superhydrophobic coatings based on palygorskite
Junping Zhang

10:35
Sepiolite modification with phosphatidylcholine to improve adsorption and controlled release of amphotericin B
Misol, A., Hernández Ponz, S., Saez, E., Colom, M.F., **Darder, M.** and Aranda, P.

10:55
Molecular simulation study of the adsorption of Cu(Ⅱ) on palygorskite
Jinhong Zhou, Xiancai Lu and Xueyuan Gu

11:15 — *BREAK*

11:35
Beneficiation and application of β-sepiolite in the field of environment and energy
Hou Kai, Feng Guorui and Xi Yunfei

11:55
Injectable halloysite-based nanocomposite hydrogel for antibacterial and hemostatic wound management.
Wong, L.W., Lau, C.S.S., Teow, S-Y., Chai, W.Y., Tan, J.B.L., **Pasbakhsh, P.**

12:15
Biohybrid Xerogels with Halloysite clay nanotubes and Chitosan for sustainable applications
Caruso, M.R., Calvino, M.M., Šiler, P., Cába, V., Milioto, S., Lisuzzo, L., Cavallaro, G. and Lazzara, G.

12:35
Student
Hydrophobically modified Halloysite nanotubes for the formulation of a water in oil Pickering emulsion gel
D'Agostino, G., Caruso, M.R., Joseph, E., Cavallaro, G., Milioto, S., and Lazzara, G.

12:55
Preliminary Investigation on the Role of Halloysite Nanotubes in Methane Hydrate Formation
Li, Y.

13:15 — *LUNCH*

14:15 — *Keynote*
From imogolite to Imogolite-Like-Structures family years of exciting discoveries
Thill A.

14:45
Student
Tailoring Functional Properties in Hybrid Composites through Geopolymerization: From Fire Resistance to Pollutant Capture
Lo Bianco A., Calvino M.M., Cavallaro G., Šiler P., Milioto S., Lazzara G.

15:05
A Comparative Study on Geopolymerization of Nanotubular Halloysite and Platy Kaolinite
Zhang, B. F., Yuan, P. and Yu, T.

15:25
How does the geological deposit affect the properties and applications of halloysite clay?
Cavallaro, G., Lo Bianco, A., Calvino, M.M., Milioto, S., Pasbakhsh, P., and Lazzara G.

15:45
Remote
Fabrication of Porous Adsorbents from Eco-friendly Aqueous Foam for High-Efficient Removal of Organic Pollutants and Sustainable Utilization
Yongfeng Zhu, Fangzhi Duan, Jiang Xu, Bin Mu, Aiqin Wang

THURSDAY 17th July

Lecture theatre 1-Burke

08:30 — *Plenary Pioneer Lecture*
Understanding the structure and dynamics of clay and other layered minerals and their interfaces using molecular modelling – a perspective
H. Chris Greenwell

09:15 — *Sponsor's Presentation*
09:20 — *BREAK*

Properties and Applications of Novel Smart Clay, LDH and Clay-related Nanomaterials (session #29)

Erwan Paineau, CNRS/UPSaclay, France. erwan-nicolas.paineau-lanone@cnrs.fr
Yusuke Ide, Yokohama National University, Japan. IDE.Yusuke@nims.go.jp
Nobuyoshi Miyamoto, Fukuoka Institute of Technology, Japan. miyamoto@fit.ac.jp
Vanessa Prévôt, Université Clermont Auvergne, France. vanessa.prevot@uca.fr

09:25
Organic-inorganic hybrids having a talc-like structure for light-driven applications
Dullin, T., **Brendlé, J.,** Schuller, A.-S, and Ley, C.

09:45 — *Keynote*
Photochemistry of 2D Molecular Assemblies on Clay Mineral Nanosheets
Yohei Ishida

10:15
Student
Insight on the photocatalytic properties of ZnAl-Cl LDH derived mixed oxide toward degradation of persistent herbicide in water
Hao Wang, Claude Forano, Monier Guillaume, Réveret François, Mohamed Sarakha, Vanessa Prévot

10:35
Proton conductivity of montmorillonite nanosheet membranes and their application as electrolytes in fuel cells
Ida, S., Tsugawa, T. and Hatakeyama, K.

10:55 — *BREAK*

11:15
Clay mineral-based separators and solid-state electrolytes for advanced lithium metal batteries
Yang, Y.F., Zhang, J.P.

11:35
Aggregation behaviour of colloidal clay-organic hybrids observed by utilizing fluorescence correlation spectroscopy
Kawamata, J., Tsubone, M., Hosoi, T., Ishii, K., Kinjo, M.

11:55 — *Keynote*
Materials Design of Bentonite by Purification and Organic Modification
Hayakawa, T., Minase, M., **Ogawa, M.**

12:25
Self-Assembly of Monodisperse Nanosheets Into Columnar Nanofibers
Miyamoto, N., Hiroyuki Iwano, Hiroyuki Nonaka

12:45
Columnar brucite-type layered metal hydroxides with tunable shape and surface properties associated with edges
Muramatsu, K., Watanabe, A. and Sugimoto W.

13:05 — *LUNCH*

14:05
Bridging the gap between osmotic and crystalline swelling in smectites clay minerals using levitated droplets
Hotton, C., Bizien, T., Hamon, C., Ferrage, E. and **Paineau, E.**

14:25
Sub-nanometer thickness engineering of amorphous silica nanosheets
Yamamoto, E., Takezaki, Y., Kobayashi, M. and Osada, M.

14:45
Remote
From Quenching to Fluorescence Enhancement: Central Metal Effects in Porphyrin–Smectite Hybrids
Boháč, P., Budzák, Š., Sasai, R., Planetová, V., and Bujdák, J.

15:05
Stabilisation of iron-oxo dimers in a natural layered clay for photocatalysts comparable to TiO2
El-Hosainy, H., Ezz-Elregal, E.M., **Ide, Y.**, and Okada, T.

15:25 — *Keynote*
Characterization of Polymer Hybrids from Imogolite and Halloysite
Takahara, **Atsushi**

Lecture theatre 2-Beckett

Role of Minerals and Mineral weathering in Carbon Sequestration and Other Ecosystem Services of Soils (sessions #39+42)

Balwant Singh, University of Sydney, Australia, balwant.singh@sydney.edu.au
Georg Guggenberger, Leibniz Universität Hannover, Germany, guggenberger@ifbk.uni-hannover.de
Ines Mulder, Ruhr-Universität Bochum, Germany, ines.mulder@ruhr-uni-bochum.de
Robert Mikutta, Martin-Luther-Universität Halle-Wittenberg, Germany, robert.mikutta@landw.uni-halle.de
Katharina Lenhardt, Martin-Luther-Universität Halle-Wittenberg, Germany, katharina.lenhardt@landw.uni-halle.de
Ranjan Paul, ICAR-National Bureau of Soil Survey and Land Use Planning, India, rajan.reliance@gmail.com
Raj Mukhopadhyay, ICAR-Central Soil Salinity Research Institute, India; Present address: Carnegie Mellon University, Pittsburgh, USA, rajssaciari@gmail.com
D.K. Pal, ICAR-National Bureau of Soil Survey and Land Use Planning, India, paldilip2001@yahoo.com

09:25 — *Keynote*
Essential role of minerals in modulating the dynamics of soil organic carbon
Thompson, **A.**

09:55

Probing the chemical environment of Al and Si in secondary silicates by X-ray photoelectron spectroscopy
Lenhardt, K.R., Rennert, T., and Mikutta, R.

10:15
Student
An investigation into chemical interactions between dissolved organic matter and clay minerals
Yang, Z., Dijkstra, F.A., Guggenberger, G. and Singh, B.

10:35
Soil minerals as boundary condition of microbial carbon use of sorbed organic model compounds
Ines Mulder, Alexander Konrad, Diana Hofmann, Kenton P. Stutz, Friederike Lang, Jan Siemens

10:55
Clay interactions with amino acids in marine sediments: Evidence for mineral-modulated organic matter stabilization
Blattmann, T.M.

11:15 — *BREAK*

11:35
Exploring soil mineralogy as an indicator of soil functioning and health.
Ghosh, U., Gray-Wannell, N., Afriyie, E., Baggaley, N., Paterson, E., Stephen Hillier

11:55
Multiple K-bearing minerals in soil distinctively react with two non-exchangeable potassium extraction tests
Kurokawa, K., Nakao, A., Suzuki, A., Wakabayashi, S., Fujimura, S., Eguchi, T., Shinano, T. and Yanai, J.

12:15
Stepwise expansion of micaceous interlayer space changes affinity to cesium
Nakao, A., Uno K., Kitayama, R., Ogasawara, S. and Yanai, J.

12:35 — *LUNCH*

13:35
Remote
Role of nanoscale soil minerals in stabilization of organic carbon in acidic Ultisols of humid tropical India
Ranjan Paul, Duraisamy Vasu, Pramod Tiwary and P. Chandran

13:55
Student
Tropical climates, soil clays and landslide susceptibility
Ryan, Peter C., Parkinson, T., Pérez-Martín, I., and **Reyes Collovati, J.**

14:15 — *Keynote*
Clays in the Critical Zone: How fast and how long do they hang around?
Schroeder. P.A., Richter, D.D., and Allard, T.

14:45 — *Break*

Lecture theatre 2-Beckett

Industrial Applications of Clays (session #17)

George E. Christidis, Technical University of Crete, Greece, gchristidis@tuc.gr
Stephan Kaufhold, BRG, Germany, s.kaufhold@bgr.de
Jon Phipps, IMERYS, United Kingdom, jon.phipps@imerys.com
Prakash Malla, United States, pbmalla10@gmail.com
Matthias Schellhorn, Stephan Schmidt Gruppe, Germany, Matthias.Schellhorn@schmidt-tone.de

15:05 — *Keynote*
How can the use of pre-consumer wastes from industrial minerals production help meet future customer demand?
Mariani, E., Ansari, D.

15:35
Redefining the terminology of bentonites based on geological and mineralogical criteria and the industrial practice
Christidis, G.E.

15:55
The importance of particle aspect ratio in industrial applications of clay minerals and its measurement
Phipps, J.S., Righton, O., Staples, M. and Rowe, N.B.

16:15
Student Remote
Investigation of Thermal and Mechanical Properties of Pyrophyllite-Impregnated Natural Fiber Fabrics
Aykasım, D. and Toksoy Köksal, F.

16:35
LAPONITE® 7007 – Introducing powerful new 'special agent' for rheological applications and beyond
Shafran, K.L., Potter C., Grant N. and Kelly, O.

16:55
Student
Potential of kaolin clay in reducing methanogenic microbial activity in cattle
Zubaer Hosen, Md. Rashidul Islam, Ravi Naidu, Bhabananda Biswas

17:15
Dry processed Westerwald Saprolithe Clays as a new filler for waterborne adhesives and further applications
Piribauer, C.J., Akbasak, T. and **Schellhorn, M.**

Lecture theatre 3-Emmet

Mechanical and Mechano-chemical Activation of Clays (session #33)

Ilda Tole, University of Bath, UK. it509@bath.ac.uk
Susan Bernal, University of Bath, UK. sbl30@bath.ac.uk
Alastair Marsh, EPFL, Switzerland. alastair.marsh@epfl.ch
Xinyuan Ke, University of Bath, UK. xk221@bath.ac.uk
Matej Balaz, SAS, Slovak Republic, balazm@saske.sk

09:25
Remote
Mechanochemical activation of kaolin with abrasive pozzolans and its effect on the pozzolanic reactivity
Makó, É. and Őze, Cs.

09:45
Characterisation of Iron-rich clay soils subjected to intense grinding
Juvenal Giogetti, **Deutou Nenaleu** and Takafumi Noguchi

10:05
Mechanical activation of halloysite-rich kaolin for slow-release phosphate fertiliser
Biswas, B., Amiri, A. and Warr L.N.

10:25 — *BREAK*

10:45 — *Keynote*
Mechanochemistry: A unique tool to boost the potential of natural minerals
Baláž, M.

11:15
Student
Mechanochemical Activation of Mine Tailings as Alternative Secondary Cementitious Materials
Papadopoulou, K., Cwirzen, A. and Alakangas, L.

11:35
Student
Mechanochemical Activation of Phyllosilicates: Efficient utilization of Agitator Ball Mills
Ruckes, L., Maier, M.

11:55
Comparative study of mechanochemical and thermal activation of clays in low-carbon binder
Tetiana Gutsalenko, Roberta Alfani, Laurent Frouin, Thomas Wattez, Mohend Chaouche, Martin Cyr

12:15 — *LUNCH*

13:15 — *Keynote*
Bridging the Gap: Meca-clay - Scaling Up Mechanochemical Clay Activation from Lab to industry
Hendrik Möller

13:45
Remote
Evaluation of different process conditions for mechanochemical activation of clays
Brito, B. L. F., Danieli, S. and Longhi, M. A.

14:05
Relationships between milling input energy and chemical reactivity
Marsh, A.T.M., Krishnan, S., Rahmon, S., Bernal, S.A., Ke, X.

14:25
Performance of thermo-mechanically activated Finnish clay
Asaam, N., Adediran, A., and **Perumal, P.**

14:45 — *BREAK*

15:05 — *Keynote*
Mechano-Chemical Activation of Low-Purity Clays
Susan A. Bernal

15:35
Student Remote
Mechanochemical activation of low-kaolinitic clays and basaltic fines
Amroun, S. and Suraneni, P.

15:55
Student
Reactivity, dissolution, and hydration of mechanochemically activated clay minerals as supplementary cementitious materials
Wu, H., Cheeseman, C.R., Wong H.S.

16:15
Student
Under the microscope: How mechanochemically activated shale behaves in hydrated blended cement systems
Pengfei Zhao, Alexander Ozersky, Alexander Khomyakov, Wisdom Okoh, and Karl Peterson

16:35
Enhancing the Reactivity of Low Purity UK Clays
Tole, I., Dhandapani, Y., Kemp S., Mitchell C., Wong H., and Bernal S.A

Lecture theatre 4-Synge

Clays in Geotechnics – Problems and Applications (session #30)

Michael Plötze, ETH, Zurich, Switzerland. ploetzel@ethz.ch
Claudia Vitone, DICATECh, Politecnico di Bari, Italy. claudia.vitone@poliba.it
Bharat Venkata Tadikonda, Indian Institute of Technology Guwahati, India. tvb@iitg.ac.in
Rossella Petti, DICATECh, Politecnico di Bari, Italy. rosella.petti@poliba.it

09:25
Micro- and Nano-scale investigation into the origins of sensitivity in clay
Casarella, A., Saaedifar, D. and Dijkstra, J.

09:45
Coupled geotechnical and electrical investigations to assess marsh soil variability: a case study at Poiré-sur-Velluire marsh (France)
Cosenza, **Ph.**, Caner, L., Pavageau, C., Salim I., and Decoene D.

10:05
Wetting-Induced Collapse Behaviour of Loosely Compacted Kaolin Soil: A Microstructural Study
Das, D. S., and Bharat, T. V.

10:25
Student
Impact of Substrate Friction on Internal Non-uniform Deformation and Desiccation Crack Formation in Drying Fine Sediments: An X-ray CT Study
Li, L.D., Tang, A.M. and Zhao, B.D.

10:45
Studies of electrochemical properties of compacted clays by concentration potential method
Andriy Yaroshchuk, Martin A. Glaus and Luc R. Van Loon

11:05 — *BREAK*

11:25
Novel perspectives on the transport and mechanical properties of pollutant containment systems comprising enhanced bentonites
Guarena, N., Dominijanni, A. and Manassero, M.

11:45
Student
Polymer-modified bentonite-silt composites to improve the hydro-mechanical properties of landfill mineral sealings
Kallerhoff, N., **Sellinghoff, R.**, Lieske, W., Baille, W. and Wichtmann, T.

12:05
Montmorillonite and kaolinite as a novel bio-inspired material for the attenuation of viral pathogens and salt leachates
Das, P. and Bharat, TV.

12:25
Student
Modified Clay Precursors for their Evaluation as Alkaline Binders for the Stabilization of Marine Sediments
Girardi, G., Petti, R., Pinto, D. and Vitone, C.

12:45
Student
Fix clay with clay
Sadasivan, V., Casarella, A., Baba Ahmadi, A., and Dijkstra J.

13:05 — *LUNCH*

14:05
Student
Stability and Solubility of Mg-Hydroxy-Interlayered Smectite (Mg-HIS)
Zucha, W.J., Bernard, E., Plötze, M. and Puzrin A

14:25
Student
Soft Calcite from mussel shells: a bio-derived additive for the geotechnical enhancement of marine clays.
Carcagni,M., Petti,R., Vitone,C., Giotta,L., Ploetze,M., Puzrin,A., Pinzon, G., Viggiani, G.

14:45 — *Keynote*
Remote
Soil-Contaminant Interaction: Influence of Elevated Temperatures
Singh, D.N.

Lecture theatre 5-Swift

Chemical reactions with clay minerals: implication for environmental challenges and remediation strategies (sessions #38+43)

Emmanuel Tertre, Université de Poitiers, France, emmanuel.tertre@univ-poitiers.fr
Valentin Robin, Université de Limoges, France, valentin.robin@unilim.fr
Thorsten Schaefer, Friedrich Schiller University Jena, Germany, thorsten.schaefer@uni-jena.de
Anke Neumann, PSI, Switzerland, anke.neumann-jenal@psi.ch
Binoy Sarkar, University of South Australia, Australia, Binoy.Sarkar@unisa.edu.au
Jonathan Suazo Hernandez, Universidad de la Frontera, Chile, jonathan.suazo@ufrontera.cl

09:25
Microwave-Assisted Synthesis of advanced NiFe Layered Double Hydroxides from MOFs for Environmental Remediation
Prévot, V., M. Li., and Forano, C.

09:45
Mineral-based advanced oxidation processes for enhancing the removal of antibiotic resistance genes from domestic wastewater
Adamou, P., Entwistle, J., Graham, D.W. and **Neumann, A.**

10:05
Student
Exploring oxidative pathways in iron redox-mediated chlorinated contaminant degradation
Malvika Patial, Lucia Rodriguez Freire, Shannon Flynn, Anke Neumann

10:25 — *Keynote*
Coarse-grained simulation of colloidal self-assembly, cation exchange, and rheology in Na/Ca smectite clay gels
Zheng, X., Shen, X., and **Bourg, I.C.**

10:55 — *BREAK*

11:15
Student
Osmotic swelling mechanism of clay soils from marsh: the spectacular case of 'mottureaux'
E. Le Gouguec, F. Hubert, E. Tertre, S. Hillier, A. Beaudoin, P. de Bouët du Portal, P. Lagrange & G. Rousseaux

11:35
Competitive adsorption of Cs and Sr onto a soil clay fraction
Latrille, C., Latrille, J., and Léonhardt, N.

11:55
Student
Source of metals (Mn, Fe) in fresh and altered basalts
Olivia Terry, Tianxiao Shen, Lucas Abernathy, Quin Miller, Nabajit Lahiri, James Leong, Todd Schaef, and Shaina Kelly

12:15
Student
Probing the Surface Bridging Hydroxyl sites of aluminum oxide by 19F Solid-State NMR Spectroscopy
Jinhui Li, Wei Li

12:35 — *LUNCH*

13:35
Stability of FeII-FeIII hydroxyphosphate formed by anionic exchange of a hydroxychloride green rust precursor
Sdiri W., Coustel R., Ounacer M., Ona-Nguema G., Cornu D., Despas C., Mallet M., Truong C., Nitschke W., Duval S., Abdelmoula M., Bergaoui L., **Ruby, C.**

13:55
Enhanced H_2S removal in greenhouse gases using copper-modified naturally occurring zeolite from Mangatarem, Philippines for waste to energy applications
Olegario, E.M.

14:15
Adsorption of chromate pollutants with polyethyleneimine- and poly(N-butylethyleneimine)-modified montmorillonite using combined theoretical and experimental approaches
Škorňa, P., Jankovič, L., Scholtzová, E. and Tunega D.

14:35
Remote
Clay-based amendments reduce PFAS bioavailability in soil: Dynamics of soil-pore water-lettuce system
Raj Mukhopadhyay, Carrie A. McDonough

14:55
Remote
Clay-based formulation of azoxystrobin to control corn late wilt disease and cotton coal rot disease
Rytwo, G., Hadad, A., Abramovici, A., Levi-Lion, A., Dimant, E., Hadari, P., Steckler, R. and Degani, O.

15:15 — *BREAK*

Lecture theatre 5-Swift

Clay Minerals in Diagenetic and Low-Grade Studies: Implications for Resource Exploration and Sustainable Energy Development (session #18)

Branimir Segvic, Texas Tech University, USA, branimir.segvic@ttu.edu
Rafael Ferreiro Mählmann, TU Darmstadt, Germany, ferreiro@geo.tu-darmstadt.de

15:35
Paragenetic and non-paragenetic clay mineral assemblages in geothermal prospection
Rafael Ferreiro Mählmann

15:55
Mid-Cretaceous Alpine metamorphism of the Tisza Mega-Unit (Inner Carpathians) constrained by illite K-Ar dating and mineral metamorphic indicators
Iuliu Bobos, Jan Środoń, Alexandre Kounov, Juliano Senna, Marek Szczerba, Zuzanna Ciesielska and Ionel Nicolae

16:15
Mutual influence of clay diagenesis and bacterially-induced siderite cementation in Carboniferous strata, Anadarko Basin, U.S.A.
Branimir Šegvić, Evans Akouko Ansah, Owen Smith and Dustin Sweet

16:35
Student
A new depositional and diagenetic hypothesis for Mg-clay minerals in the Pre-salt Tupi Field, Barra Velha Formation, Santos Basin (Southeastern Brazil)
Santana, F.L., Salgado-Campos, V.M.J., Santos, H., Diaz, N., Santos, J. and Ribeiro, A.

16:55
Student
Partitioning behavior of rare earth elements in hydrothermal chlorite
Oluwaseye Oyetade, Branimir Šegvić, Kevin Byerly, Kevin Werts, Damir Slovenec, and Matthew Siebecker

Lecture theatre 6-Ui Cadhain

Smectite Layer Charge and Interlayer Environment: Structure, Alteration, and Environmental and Technological Significance (session #19)

Arkadiusz Derkowski, Instytut Nauk Geologicznych Polskiej Akademii Nauk, Poland, ndderkow@cyf-kr.edu.pl
Eric Ferrage, CNRS Poitiers, France, eric.ferrage@univ-poitiers.fr
Liva Dzene, Ecole Nationale Supérieure de Chimie de Mulhouse, France, liva.dzene@uha.fr

09:25
Application of the vO-D probe to vermiculites
Kuligiewicz, A., Skiba, M., Kisiel M., Ferrage, E., Dzene, L. and Derkowski, A.

09:45
Inferring the position of interlayer cations and their effect on smectite properties from spectroscopic measurements of a D2O-saturated interlayer
Derkowski, A., Kuligiewicz, A., Rybka K., Siranidi, E. and Chryssikos G.D.

10:05
Layer Charge measurements for the industrial characterization of bentonite: The past and future of the OD method
Chryssikos, G.D. and Siranidi, E.

10:25 — *Keynote*
A Molecular View on the Effects of Smectite layer charge
Michael Holmboe

10:55 — *Break*
11:15
Homoionic trans-vacant and cis-vacant montmorillonites: A density functional theory study
Emmerich, K., Nugraha, I., Liu, Y.-Y., Asaad, A. and Thissen, P.

11:35
Determination of the presence and magnitude of tetrahedral layer charge of swelling clay minerals by intercalation of glycerol
Jelavić, S., Lanson, B., Lanson, M., Gverić, Z., Tibljaš, D., Fryer, B., and Violay, M.

11:55
Thermal effects on smectite's interlayer water stability under constant relative humidity conditions
Rybka K., Skiba M. and Derkowski A.

12:15 — *LUNCH*

Lecture theatre 6-Ui Cadhain

Impact of temperature on bentonite barrier systems based on findings from in situ experiments in the context of radioactive waste disposal (session #21)

Nadine Kanik, Institute of Geological Sciences Polish Academy of Sciences in Krakow, Poland, ndkanik@cyf-kr.edu.pl
Reiner Dohrmann, BGR/LBEG, Hannover, Germany, reiner.dohrmann@lbeg.niedersachsen.de
Patrik Sellin, SKB, Stockholm, Sweden, patrik.sellin@skb.se
Daniel Svensson, SKB, Oskarshamn, Sweden, Daniel.Svensson@skb.se

13:15 — *Keynote*
Results from field experiments covering the temperature-related clay mineralogy and pore water processes below and above 100°C on bentonite buffer materials.
Fernández, A.M.

13:45
Iron reduction in bentonite in field experiments
Sellin, P. and Svensson, D.

14:05
Bentonite Erosion and Piping Test (BEPT) Preparation considering Heating Effect in KAERI Underground Research Tunnel (KURT) in South Korea
Hong, C.H., Choi, S., Kim, J.S. and Hong, E.S.

14:25
Student
First H-and O-stable isotope results from the Alternative Buffer Materials experiments: Tracking structural isotope exchange in smectite during bentonite-water interactions from 70-250°C
Kanik, N.J., Longstaffe, F.J., Kuligiewicz, A., Gilg, H.A., and Derkowski, A.

14:45
What can we learn from cation exchange studies of buffer materials in in-situ tests' (ABM-1, -2 and -5) after heating from 140 °C to 250 °C?
Dohrmann, R., Gröger-Trampe, J., Kaufhold, S.

15:05
Mineralogical and Chemical Transformation of Ca-Bentonite at High Temperatures: A Long-Term Evaluation
SeEun Chang, Deuk-Hwan Lee, Changsoo Lee, and Dong Keun Cho

Lecture theatre 7-Davis

Multiscale Computational Modeling of Clay-related Materials and their Fluid Interfaces (session #27)

Xiandong Liu, Nanjing University, China, xiandongliu@gmail.com
Andrey G. Kalinichev, Subatech, France, kalinich@subatech.in2p3.fr
Chris Greenwell, Durham University, UK, chris.greenwell@durham.ac.uk

09:25 — *Keynote*
Element partitioning between clay minerals and fluids: a molecular dynamics simulation approach
Xiancai Lu, Qin Li, Mengzi Zhou, Jinhong Zhou, Meng Chen, Xiandong Liu

09:55
Student
Hydrogen-Induced Swelling in Clay Minerals: Molecular Insights into Caprock Integrity for Subsurface Hydrogen Storage
Ghasemi, M., Erastova, V. and Babaei, M.

10:15
Molecular dynamics to resolve mechanistic ambiguities in Cs adsorption on todorokite
Juhyeok Kim and **Kideok D. Kwon**

10:35
Atomistic computational modelling of thaumasite and its aqueous interfaces
Tararushkin, E.V., Smirnov, G.S., Kondratyuk, N.D., and **Kalinichev, A.G.**

10:55
Student
Atomistic insight into the effects of actinyl-ligand interactions on the actinyl retention by clay minerals
Ličko, J. and Kalinichev, A.G.

11:15 — *BREAK*

11:35 — *Keynote*
Frontiers of multiscale modelling of retention and transport in clays: Surface reactivity to chemical thermodynamics
Churakov, S.V.

12:05
Bridging the Gap between Molecular Simulations and Surface Complexation Modeling for Heterogeneous Surfaces: A Case Study with Uranium and Arsenic Adsorption on Clay Minerals
Gao, P., Liu, X., Guo, Z., and Tournassat C.

12:25
Remote
Harnessing Machine Learning Models for Predicting Pore Size Distribution in Clays
Saranya, N., Valliappan Raman, Sudha, K., Keerthana, S., Haripriya, V., Nivetha, S. S., Pavithra, G.

12:45 — *LUNCH*

13:45
Multi-scale simulations of the retention and aggregation of organophosphate esters (OPEs) with clay-organic complexes
Chi Zhang, Zhiyu Zhou, and Hanzhong Jia

14:05
Surface complexation of rare earth elements on clay minerals and iron (oxyhydr)oxides: Insight from first principles simulations
Yingchun Zhang, Xiandong Liu, Xiancai Lu and Rucheng Wang

14:25 — **Warren Huff Clay Science Pathway Award**
Unravelling smectite clay nanoparticle aggregation: microstructure, dynamics, and coupled material properties
Zheng, **Xiaojin**, Bourg, Ian C.

14:45 — *BREAK*

Lecture theatre 7-Davis

Sorption and intercalation in layered materials: from origins of life to material science (sessions #3+16)

Valentina Erastova, University of Edinburgh, UK, valentina.erastova@ed.ac.uk
Chris Greenwell, Durham University, UK, chris.greenwell@durham.ac.uk
Sarah V Stewart, University of Edinburgh, UK, s.v.stewart@sms.ed.ac.uk
Daniel Santamaria Gonzales, University College London, d.santamaria@ucl.ac.uk
Stanislav Jelavic, ISTerre, CNRS, France, stanislav.jelavic@univ-grenoble-alpes.fr
Bruno Lanson, ISTerre, CNRS, France, bruno.lanson@univ-grenoble-alpes.fr

15:05
Role of Layered Minerals in the Emergence and Preservation of Proto-Proteins and Detection of Extraterrestrial Biosignatures
Valentina Erastova, Hannah Pollak and Sarah V Stewart

Student
15:25
Understanding the adsorption of amino acids onto montmorillonite clays through molecular simulations
Stewart, S.V., McMahon, S., Cockell, C.S. and Erastova, V.

15:45
Mineral-mediated RNA Revolution
Santamaria, D. and Attwater, J.

16:05
Competitive Sorption of H_2O and CO_2 in Clay Mineral Interlayers
Johnston, C.T. and Bish, D.L.

16:25
Student
Hybrid clay pigments: the influence of lamellar clays and intercalation on structural properties
Guillot, M., Rochut, S. Lambert, J.F. and Jaber, M.

16:45
Luminescent pigments based on organically modified smectites: structural and spectroscopic characterization
Pálková, H., Barlog, M. and Bujdák, J.

FRIDAY July 18th

Lecture theatre 1-Burke

08:30 — *Plenary Bradley Lecture*
Clay minerals formation in MgO-SiO2-H2O low temperature system by hydrothermal synthesis: A study in function of Mg/Si molar ratio and pH
Jourdain, A., Dutournié, P., Michelin, L., Le Meins, J.-M., Brendlé, J., Michau, N., Martin, C., and Dzene, L.

09:00 — *Sponsor's Presentation*

09:05 — *BREAK*

Sustainable and eco-friendly clay-based materials (session #32)

Nathalie Fagel, University of Liège, Belgium. nathalie.fagel@uliege.be
Meriam El Ouahabi, Ecole Supérieure des Arts Saint-Lu, Belgium. elouahabi.meriam@saint-luc.be

09:10 — *Keynote*
Eco-friendly clay-based bricks using Construction and Demolition Waste
Andreola, F., Pozzi, P. and Barbieri, L.

09:40
Student
Remote
Recycling Aggregate Washing Sludge into Ceramic Applications: A Case Study of the Marrakech Region, Morocco
Zahir, S., Daoudi, L., El Ouahabi M. and Fagel, N.

10:00
Hydrothermally treated sewage sludge as a substitute for clay in the synthesis of ceramic bricks
Tarantino, S.C., Fernández-Jiménez, A., Marian, N.M., Riccardi, M.P., Sturini, M., and Zema, M.

10:20
Student
Thermophysical and mechanical performances of eco-friendly clay bricks from northeastern Morocco
Miri, H., Rezqi, H., Nasri, H., Fagel, N.

10:40 — *BREAK*

11:00
Remote
Hydrothermal synthesis of zeopolymers from kaolin and construction wastes
Morita, A.K.M, Cotón, N., Afonso, A.J., Fernández, K., Alonso-Azcárate, J., Regadío, M., Mota-Heredia, C. and Moreno-Maroto, J.M.

11:20
Low T fired clays with dolomite addition: sustainability in ceramic industry
Pérez-Monserrat, E.M., Capela, M., Oliveira, M. and Labrincha, J.

11:40
Remote
Behaviour of calcined and uncalcined Tunisian clay in the cold consolidation process by alkali activation

Jrad, Z., Genua, F., Lancellotti, I., Andreola, F., Leonelli, C., Mahmoudi, S.

12:00
Clay influence on compaction and strength of unfired sediment bricks
Ndahirwa, D., Shimpo, T., Levacher, D., Hussain, M., Zmamou, H., Leblanc, N., Karamian, P. and Katsumi, T.

12:20 — *LUNCH*

13:20
Remote
Student
Effect of prolonged curing of compressed lime-stabilized clays from the Far North Region of Cameroon on their physical, mechanical and mineralogical characteristics
Njimboum, A.S., **Balo, M.A.**, Mache, J.R., Fagel, N., Nchare, M.

13:40
Sediments as renewable raw earth for producing unfired bricks and mortars
Levacher, D., Hussain, M., Leblanc, N., Zmamou, H., Ndahirwa, D., Martellotta A.M.N. and Piccinni A.F.

14:00
Reusing excavated Finnish clays in sustainable construction: A laboratory study on compressed earth blocks
Thomas Kronberg, Jan-Erik Eriksson, Topias Mannisto, Leena Hupa

14:20
Remote
Improvement of characteristics of subbase layer materials in rigid pavement using natural aggregate and cement
Nzeukou, N.A., Adjindjibe, B., Tsozué, D. and Fagel, N.

14:40
Recycling marble waste clay powder for cement mixes
Martellotta, A.M.N., Petrella, A., Levacher, D. and Scarascia Mugnozza, G.

15:00
Durability and Resilience of Geopolymers Incorporating Iron Mine Tailings
Santos A., Pinho T., Andrejkovičová S., Rocha F., Almeida F.

15:20 — *BREAK*

15:30 — *AIPEA General Assembly, Awards and Closing Ceremony*

Lecture theatre 3-Emmet

10:30 — *Panel led discussion: Questions concerning clay minerals in radioactive waste disposal*

12:30 — *LUNCH*

14:00 — *Early Career Clay Scientist session: "How to Be a Good Reviewer"*

15:00 — *BREAK*

Lecture theatre 4-Synge

Materials via Ordered Interstratifications (session #14)

Josef Breu, University of Bayreuth, Germany, josef.breu@uni-bayreuth.de
Jon-Otto Fossum, Norwegian University of Science and Technology, Norway, jon.fossum@ntnu.no

09:10 — *Keynote*
Colloidal system of dye-sandwiching clay bilayers: liquid crystallinity and photonic applications
Nakato, T., Watanabe, T., Mouri, E., Harada, T., Shintaku M., Suzuki, Y., Kawamata, J., Miyata, H., Yamauchi, Y., and Breu, J.

09:40
The Multiple Ways to Break Symmetry during Partial Ion Exchange for Making Ordered Interstratifications
Felix Uhlig, **Josef Breu**

10:00
Student
Orderly Interstratified Layered Ruthenic Acid as a Precursor of Ruthenium Oxide Nanosheets with Double-Layer Structure
Eda, T., Muramatsu, K., and Sugimoto, W.

10:20
Bright, Non-Iridescent Structural Colors from delaminated Ordered Interstratified Clay Nanosheets
Fossum, J.O., Breu, J., Michels-Brito, P.H., Dudko, V., Trigueiro-Neto, O., Rosenfeldt, S.

10:40 — *BREAK*

Lecture theatre 4-Synge

Greenhouse Gas Remediation (session #24)

11:00 — *Keynote*
Functionalized Smectites for CH_4-CO_2 Gas Separation in Biogas Upgrading
N. Mendel, I. Siretanu, D.W.F. Brilman, and **F. Mugele**

11:30
Hybrid mineral composites obtained by heterocoagulation, as effective nanomaterials for CO2 capture
Małgorzata Zimowska, Jerzy Podobiński, Robert Kosydar, Jerzy Datka

11:50
A permselective membrane for size-sieving based H2/CO2 separation
Lukas Federer, Ingmar Pietsch, Felix Uhlig, Max Stevenson, Daniel Friedrich, **Josef Breu**

12:10
Remote
Natural kaolin minerals with varying iron contents reduced cattle's enteric methane generation
Md. Rashidul Islam, Ravi Naidu, Bhabananda Biswas

12:30 — *LUNCH*
13:30 — *BREAK*

Lecture theatre 5-Swift

Critical Minerals in Clay-rich Deposits: Processes, Occurrences, and Resource Potential (sessions #8+9)

Crawford Elliott, Georgia State University, USA, wcelliott@gsu.edu
Anthony Boxleiter, Georgia State University, USA, aboxleiter1@student.gsu.edu
Yuanzhi Tang, Georgia Institute of Technology, USA, yuanzhi.tang@eas.gatech.edu
Paul Schroeder, University of Georgia, USA, schroe@uga.edu
Rona Donahoe, University of Alabama, USA, rdonahoe@ua.edu
Martin Li, University of Brighton, UK, martinyhli@gmail.com

09:10
Experimental Investigation of Li+ Adsorption by Chlorite
Yu, W., Deng, Z., and Wan Q.

09:30
Student
Distribution, mineralogy, and formation environment of lithium- rich clays in the Salar de Pastos Grandes
Owen McCaffrey, Kristina Butler, Tom Benson

09:50 — *Keynote*
Utilizing stable isotopes to identify the formation processes responsible for lithium enrichment in clay deposits of the Western United States
Gagnon, C.A., Butler K.L., Robertson K., Emproto C., Gans, P., Eden R., Ibarra D.E., Benson, T.R.

10:20
Student
Mineralogical Insights in the Recovery of Lithium from Clays of the Thacker Pass Deposit (Nevada, USA) by Acid Leaching
Arias-Quintero, C.A., Muchez, P., Deferm, C. and Binnemans, K.

10:40
Using airborne and orbital imaging spectroscopy to differentiate lithium bearing hectorite from spectrally similar phyllosilicates - results and on-going difficulties
Meyer, John M., Swayze, Gregg A., Kokaly, Raymond F., Pfaff, Katharina, Key, Erica L., Wesoloski, Catherine E., Stillings, Lisa L., Hoefen, Todd M., and Cox, Evan.

11:00 — *BREAK*

11:20
Critical Mineral Potential of Clays and Clay-Rich Materials, Southeastern USA.
Donahoe, R.J., Okunlola, I.G. and Tew, K.J.

11:40
REE elements geochemistry in the present-day acid-sulfate types alteration from the active hydrothermal systems, São Miguel island, Azores Archipelago
Iuliu Bobos

12:00
Controls on cold-climate critical minerals: Rare earth elements in supra-permafrost sediments of three brine ponds in Wright Valley, Antarctica
Burton, Z.F.M., Koeberl, C., Bishop, J., Englert, P., Smith, M., Foerder, A., and Gibson, E.

12:20
Effect of clay mineralogy on REE recovery from regolith-hosted REE deposits
Martin Li

12:40 — *LUNCH*

13:40 — *Keynote*
Ion-sorbed Rare Earth Elements in Kaolins and Bauxite ore deposits, Western Georgia, Upper Coastal Plain, USA
W. Crawford Elliott, Yuanzhi Tang, Yinghao Wen, Anthony Boxleiter, Joell Ashcraft, Geoffrey Hooper, Prakash Malla

14:10
Student Remote
Clay mineralogical and geochemical characteristics of a lateritic profile within the Karakaya Complex, Biga Peninsula, NW Türkiye
Abdelnasser, A., **Kaya, M.**

14:30
Concentration and distribution of critical metals in laterites, bauxites and red muds
Laita, E., Bauluz, B., Yuste, A, Subirana, M.A., Schaumlöffel, D.

14:50
An uncommon occurrence of Ni-Co-Mn-Fe-rich nodules hosted in Plio-Pleistocene palygorskite and palygorskite-smectite continental deposits of west Macedonia, Greece
Stamatakis M., Vythoulkas K., Argyraki A., Pozo E., and Calvo J.P.

15:10 — *BREAK*

Lecture theatre 7-Davis

Clay Materials in Healthcare Technologies (session #36)

Huaming Yang, China University of Geosciences, Wuhan, China. hm.yang@cug.edu.cn
Menghan Yu, China University of Geosciences, Wuhan, China. yumenghan@cug.edu.cn
Hao Wang, China University of Geosciences, Wuhan, China. wanghao13@cug.edu.cn

09:10
Nanoclay-Mediated Crystal Engineering in Biofunctions to Balance Antibacteriality and Cytotoxicity
Menghan Yu

09:30
Student
Effect of Montmorillonite Modification on Its Antibacterial Mechanism
N. Ben Haj Yahia, J. Labille and A.R Schneider

09:50
Layered Clay Minerals in Cancer Therapy
Ying Chen, Huaming Yang

10:10 — *Keynote*
Biosafety of clay materials as biomedical nanocarriers
Huaming Yang, Juan Liao, Meng Zheng, Hao Wang, and Ying Chen

10:40 — *BREAK*

11:00
RENOVITE®: A Novel Injectable Clinical-Grade Nanoclay for Targeted Biomedical Applications
Himanshi Mishra, Allison Shaw, Roxanna Ramnarine-Sanchez, Mohamed Mousa, Richard OC Orefffo[1,2], Agnieszka Janeczek[2], Jonathan I Dawson[1,2]

11:20
Preparation and performance modulation of kaolin-based antimicrobial materials
Hao Wang, Huaming Yang

11:40
Facet engineering modulates d-π* hybridization for boosting antimicrobial activity
Xiongbo Dong, Huaming Yang

12:00 — *LUNCH*

13:00
Clay-based nanostructured systems for the controlled delivery of chlorhexidine
Martín-Morales, C., Aranda, P., Raquel Martin-Sampedro, David Ibarra, María E. Eugenio, Francisco Sánchez del Valle and Ruiz-Hitzky, E.

13:20
Deep detoxification of secondary aluminum dross treated by carbide slag
Lei Liu, Xiubao Lv, Rui Wang and Huaming Yang

13:40
Student Remote
Effect of montmorillonite and sepiolite on the production of virulence factors, eDrelease, and biofilm formation in Pseudomonas aeruginosa culture medium
Md Wasek Foysal, Youjun Deng, Terry J. Gentry, Carolyn L. Cannon

14:00
Kaolinite Interface Engineering for Biomedical Applications
Dongyue Wang, Huaming Yang

14:20 — *BREAK*

POSTERS

All posters displayed from Monday–Friday, with two dedicated poster sessions (including refreshments) on Tuesday and Thursday afternoons.

Universal Session (session #1a,b)

Student

1. Clay-based systems for stimuli-controlled release of active molecules
   Dumont, A., Dhaini, A., Brendlé, J., Maillard, A., Arkoun, M., and Pluchon, S.
2. Clay minerals in the underpainting layers of northwestern European paintings (16th–19th century)
   El Ouahabi, M., and Broers, N., Fagel, N.
3. Mineralogy and Geochemistry of the Kaolinite-Alunite Deposit of Madriguera (Segovia, Spain)
   San-Cipriano, A., Santamaría-López, A., Suárez, M, **García-Romero, E.**

Student

4. Spectral and Geochemical Discrimination Between Different Slovak Bentonites
   Faisal A. Gread, Peter Uhlík
5. Determination of KGa-1b and SHCa-1 Δ'17O and δ18O via Laser Fluorination of Lithium Fluoride Clay Pellets
   Gagnon, C.A., Havel R., Chen J., Piccione G., Ibarra, D.E.
6. Utilization of infrared spectroscopy to study LBL films based on smectite and quaternized chitosan
   Kureková, V., Kováčik, D., Bilská, K., Bujdáková, H., Gread, F., Osacký, M. and Pribus, M.
7. Characterization and settling behavior of Alberta oil sands mature fine tailings (MFT)
   Osacký, M., Bai, Y. and Pálková H.

Student

8. Hydrothermal alteration and clay minerals in Palomares fault zone in Neogene volcanic province of the SE Iberian Peninsula (Spain)
   Real Fernández, E., Pozo Rodríguez, M., de Ignacio San José, C. and Sanz Rubio, E.
9. EvalOpt – Increasing the reliability of quantitative phase analysis by optimising Rietveld refinement results with alternative analytical methods
   Ufer, K., Ohmann, S., Dohrmann, R., Sitnikova, M., Ranneberg, M., Fell, H., Kernbach, C.

Sorption and intercalation in layered materials: from origins of life to material science (sessions #3+16)

Student

10. The role of layered double hydroxide minerals in the origin of prebiotic peptides
    Stewart, S.V., McMahon, S., Cockell, C.S. and Erastova, V.
11. Structural and spectroscopic characterization of montmorillonite modified with poly(2-n-alkyl-2-oxazolines)
    Pribus, M., **Jankovič, L.**, Kureková, V., Barlog, M. and Madejová, J.
12. Preparation and Characterisation of Montmorillonite/Polyquaternium-2 Nanocomposites
    Pribus, M., Bizovská Kureková, V., Matejdes, M., Jankovič, Ľ. and Madejová, J.

Student

13. Infrared spectroscopic analysis of smectite-chitosan nanocomposites
    Labib Shotorban, P. and Pálková, H.

From Dioctahedral to Trioctahedral Smectites: Where Volcanism meets Weathering, Sedimentation and Diagenesis (session #4)

14. Diagenetic and hydrothermal assemblages at Izu-Bonin rear arc (International Ocean Discovery Program – IODP Site U1437)

Bongiolo, E.M., Nascimento, L.S., Mexias, A.S., Neumann, R., Gomes, M.E.B.

Student

15. Use of Electron Probe Microanalysis in the Quantitative Analysis of Magnesium Clay Minerals from the Pre-Salt (Brazil): Microsite Evaluation and WDS Compositional Mapping
    Da Silva M. D., Gomes M. E. B., Pozo M., Mexias A. S., Bongiolo E. M., Ramnani C. W., Semeler, A.R., Jantsch, L.C.
16. Zircon U-Pb geochronology of Sarmatian (Serravallian) bentonite clay from the southern margin of the Pannonian Basin System
    Grizelj, A., Lukács, R., Mišur, I., Mandic, O., Milošević, M., Bakrač, K., Hajek-Tadesse, V., Ćorić, S. and Šegvić, B.
17. The Universe of Clay Minerals in Basalts – a petrographic approach of some Paraná-Etendeka flows in South Brazil
    Gomes, M.E.B., Toloti, C.K., Mexias, A., Bongiolo, E.M., and Da Silva, M.D.

Teaching, History, and Future of Clay Mineralogy (in honor of Dewey Moore and Bruce Velde) (session #5)

18. Combined 3D printing and computer models for teaching clay mineralogy: symmetry, rotation, shifting, and stacking of layer structures
    Deng, Y. and Sanchez-Avellaneda, C.

Origin and Age of Clay Minerals in Soil and Sediment (session #6)

Student

19. Mineralogical and geochemical evolution of Fe- and Al-rich phyllosilicates during the formation of the Baniaka Archean-age iron deposit in South-Eastern Gabon
    Aupissy, **Christian Pierrick**, Fontaine, Claude, Abderrazzak, El Albani
20. The crucial role of textural characteristics in sepiolite crystallinity and rheological properties
    Esteban Cubillo, A., Lo Dico, G., and Pozo Rodríguez, M.
21. A new method for measuring the K-Ar age of diagenetic illite
    Shahbazi-Asl, A., **Elliott, W.C.**, Wampler J.M., and McIntosh, J.A.
22. Investigating 40Ar* loss from hydrothermal illite crystals of different size
    Szczerba, M., Środoń, J. and Ciesielska, Z.
23. Formation of laterites through the alteration of basalts
    Bauluz, B., Do Campo, Yuste, A., Laita, E. M., Arranz E.

Student

24. Clay mineralogy in transitional-continental environments of the Late Triassic: an indicator of the paleoenvironmental impact of the Carnian Pluvial Episode in southeastern Iberia
    Boullosa, I., Barrenechea, J.F., and López-Gómez, J.
25. Mineralogical analysis of egg-bearing palaeosols (External Sierras, Pyrenees, Spain): Insights into Late Cretaceous paleoenvironmental conditions
    Laita, E., Ezquerro, L., Sanz-Acaso, C., Bauluz, B, Moreno-Azanza, M.

Student

26. Interstratified Kaolinite-Smectite in the Paris Basin: A new perspective on enhanced chemical weathering during the PETM
    Talon, J., Pellenard, P., Baele, J.-M., Quesnel, F., Iakovleva, A., Bruneau, L., Rusch, C. and Dupuis, C.

Student

27. Intensified hydrological conditions and environmental changes during the Paleocene-Eocene Thermal Maximum at Modgunn Hydrothermal Vent Complex (IODP Expedition 396)
    Turton, N.A., Xu, W., Varela, N., and Pellenard, P.

Student

28. Assessing the role of clay mineralogy in Blue Carbon storage and stability in Ireland's Offshore Continental Shelf Sediments
Ní Mhaoldomhnaigh, C.B., Grey, A., Chatting, M., Walsh, P., Coughlan, M. and Kelleher, B.

Critical Minerals in Clay-rich Deposits: Processes, Occurrences, and Resource Potential (sessions #8+9)

29. Boron, lithium and strontium in the Late Miocene saline-alkaline lake deposits of Karlovassi Basin, Samos Island, Greece
Stamatakis M.

Natural Zeolites: From Geology and Fundamental Science to Applications and Market Challenges (session #10)

Student

30. Sustainable Alternative to Copper-Based Pesticides in Agriculture: The LIFE MICROFIGHTER Approach
Alberghini, M., Ferretti,G., Galamini,G., Faccini, B. and Coltorti, M.

31. Obtention of Clinoptilolite Nanoparticles via Ultrasonic Cavitation Dispersion
Cortés Hernández, F.A., Insignares-Carrione, E., and Bolaños Gómez, B.

Student

32. Sodalite and cancrinite for safe entrapment of As and Se
Khait, L., Dähn, R. and Churakov, S. V.,.

33. Origins of compositional diversity in natural zeolites within the Antrim Lava Group, Northern Ireland, UK
Moles, N.R., Adair, B.J.I., Tindle, A.G. and Green, D.I.

34. Synthesizing zeolites from granite cutting sludge
Iglesias-Godino, F.J., Cotes-Palomino, M.T, López-García, A.B., Alonso-Acárate, J., Fakher Jamoussi, Martínez-García, C., Guerrero-Quirós, A.

Identification and Characterization of Phyllosilicates on Mars and Other Planetary Bodies through Remote Sensing, Rover Instruments, and Analog Studies (#11)

35. Assessing the Spectral Response of Secondary Martian Minerals
Santamaría-López, A., **Suárez, M.**

Remote

36. Spatially resolved analysis of habitability-related phenomena: Talc-like and associated minerals at different scales
Velbel, M.A., and Steele, A.

Advances in structural characterization of layered compounds (session #12)

37. Electron diffraction mapping and DFTEM imaging as potential tools to probe layered materials superstuctures and structural defects
Gaillot, A.-C.

38. Computational study of 1-Phenanthroline trapping by smectites
Scholtzova, E. and Mičejová, E.

39. Assessment of basic properties of nanostructured anionic layered double hydroxide derived nanocomposites by in-situ CO2 FTIR sorption
Małgorzata Zimowska, Jerzy Podobiński, Robert Kosydar, Jerzy Datka

Clay Applications in Ceramics (session #13)

Student

40. Shear stability of ceramic slips in solid casting product
Alessandro Fontanari, Maurizio Bellotto and Gilberto Artioli

Student

41. Physicochemical Characterization of Altered Clays from the Ankaratra Volcanic Massif (Madagascar) for Ceramic Applications
V.S. Randresiarison, N. Fagel & A.J. Mandimbiharison

Student

42. Monitoring the quality of a kaolin mine over time: Piloni di Torniella (Tuscany, Italy)
Zatti, G., Musa, M., Tarantino, S.C., Zucca, F. and Riccardi, M.P.

43. Preliminary development of a composite Circularity Indicator applied to the Construction and Demolition Waste Sector.
Torres-Fernández, Fco. de A., Cotes-Palomino, M.T, López-García, A.B., Revelo Rodríguez, A.C., Troyano-Pérez, F.J., **Martínez-García, C.**, Cobo-Ceacero, C.J.

44. Development of a strategy for obtaining lightweight artificial aggregates (LWAs)from CDW
Troyano-Pérez, F.J., Alonso Azcárate, J., Andreola, F., Barbieri, L., Conde Sánchez, A., **Cotes-Palomino, M.T.**, López, A.B., Labrincha, J., Lancellotti, I., Martínez-García, C. Martínez Rodríguez, A. M. and Cobo-Ceacero, C.J.

45. Circular Engineering: effect of adding different organic wastes on the development of lightweight artificial aggregates (LWAs) from mining waste
Cobo-Ceacero, C.J., Alonso Azcárate, J., Conde Sánchez, A., López, A.B., Martínez-García, C., Martínez Rodríguez, A.M., Troyano-Pérez, F.J. and **Cotes-Palomino, M.T.**

Remote

46. Manufacture of geopolymers for the sustainable recovery of CDW
López, **Ana. B.,** Revelo- Rodriguez A.C., Cotes-Palomino, M.T., Martínez-García C., Jimenez-Moreno, J.M., Cobo-Ceacero C.J. and Troyano-Pérez, F.J.

47. Sustainable Ceramics: Extractive Waste for Porcelain Stoneware Tiles
Fantini, R., Conte, S., Arletti, R., Molinari, C., Zanelli, C., Dondi, M., Bernini, M. and Gualtieri, A.F.

48. Porcelain Stoneware and Sustainability: Innovation through Local Resources and Recycling
Andreola, F., Conte, S., Sisti, M., Colombo, F., Fantini, R., Barbieri, L., Gualtieri, A.F. and Arletti, R.

49. Hydrothermal Synthesis of Mn- and Ni-Doped Talc and Its Effect on the Microstructure and Thermomechanical Properties of Clay-Based Stoneware
Bloise, A., Parisi, F., La Russa, M. F., Godbert, N., Aiello, I., Giorno, E., Croce, A., Filicetti, S., Vespasiano, G., Fuoco, I., Apollaro, C.

50. Influence of red muds in the properties of alumina ceramics
Laita, E., Yuste, A. Salazar, M., **Bauluz, B.**

Materials via Ordered Interstratifications (session #14)

52. Engineered Clays for CO_2 Capture and Biogas Separation: Influence of Layer Charge and Interlayer Cations
Fossum, J.O., Breu, J., Hunvik, K.W.B., Loch, P., Bordallo, H.N., Pacakova, B., Cavalcanti, L.P., Kirch, A., Miranda, C.R.

Industrial Applications of Clays (session #17)

53. Deep learning methods for quantitative characterization of bentonite clays via X-ray diffraction
Owen, N.D., Li, R., and Huang, S., Fan, R., Gomez-Camacho, R., Roccisano, J., Webster, N.A.S., Self, P.G., Raven, M.D.

Clay Minerals in Diagenetic and Low-Grade Studies: Implications for Resource Exploration and Sustainable Energy Development (session #18)

54. Clay (trans)-formation in sediment-hosted mineral systems: examples from world-class Zn and Cu districts
Schleicher, A.M., Magnall, J.M., Mohammedyasin, M.S., Gleeson, S.A.

Science and Engineering of Clays for Nuclear Waste Disposal (session #20)

55. Multiscale simulation of thermal-hydraulic-mechanical-chemical (THMC) coupled processes in compacted bentonite clay
    Zheng, X. and **Bourg, I.C.**
56. Mineralogy and geochemical processes in the Upper Eocene volcanic ash and bentonite deposits in East Central Texas, USA
    Deng, Y. a, Barrientos-Velazquez, A. L., Yancey, T. and Berti D. and Smith, C.
57. In-situ experiment Engineered Barrier 200C – Preliminary results of a mineralogical study of the bentonite barrier
    Magdaléna Koubová, František Laufek, Jiří Svoboda, Markéta Kučerová, Radek Vašíček and Marek Szczerba

Student Remote

58. Behaviour of engineered safety barrier materials under deep geological repository model conditions
    Morozov I.A., Koroleva T.A. and Krupskaya V.V.

Impact of temperature on bentonite barrier systems based on findings from in situ experiments in the context of radioactive waste disposal (session #21)

Student

59. Impact of a long-term thermal pulse on bentonite erosion rates in lab scale experiments: First results from samples of the LOT/ABM experiments
    Van Overloop, L., Brandt, F., Klinkenberg, M, Schäfer, T.
60. What limits the temperature at canister surface in clay-based HLRW concepts? – Discussion in an international context
    Dohrmann, R., Chaudry, S., Lippmann, R.

Clay Mineral-Based Catalysts for Environmental Engineering and Chemical Processes (session #23)

Student

61. Optimization and molecular insights into the adsorptive efficiency of Cu-Al layered double hydroxides derived from aluminum saline slags
    Boulahbal, A.I., Santamaría, L., Bourzami, R., Bendrihem, A.S., Boutahala, M., Korili, S.A. and Gil, A.
62. Design of clay-based catalysts assisted by machine-learning
    Lo Dico, G., Esteban Cubillo, A., Haranczyk M.
63. Advanced and sustainable piperazine functionalized clay catalyst for aldol production in water-acetone mixture
    Muhammad Kashif, Alireza Pourvahabi Anbari, Fatimah Algarni, Jeroen Lauwaert, Joris W. Thybaut, **Philippe M. Heynderickx**

Fundamentals of Tubular Nanoclays (session #25)

Remote

64. Halloysite nanotubes as stable support materials for gold/silver-nanotags
    Gray-Wannell, N., Kershaw, C., Aslam, Z., McGettrick, J., Hillier, S., Greenwell, C., Brydson, R. and Holliman, P.J.
65. Halloysite nanotubes dispersions in chitosan for archaeological wood conservation
    M.R. Caruso, M. Romani, G. Cavallaro, O. Gómez-Laserna, M. Maguregui, **G. Lazzara**

1D Nanoporous Clay Materials and Their Industrial Applications (sessions #26)

66. Sepiolite-carbon based bionanocomposites: a green approach to corrosion protection
Barra A., García-Galván F.R., Nunes C., Ferreira P., Galván J.C., **Ruiz-Hitzky E.**

67. Kinetics and isotherms evaluation of Albumin protein adsorption on Algerian Clays
Abderraouf Boudahri, **Lala Setti Belaroui**

68. Application of tubular halloysite in low-carbon building materials: geopolymers and limestone calcined clay cement
Yuan, P., Zhang, B. F. and Yu, T.

Multiscale Computational Modeling of Clay-related Materials and their Fluid Interfaces (session #27)

69. Multiscale simulation of thermal-hydraulic-mechanical-chemical (THMC) coupled processes in compacted bentonite clay
Zheng, X. and **Bourg, I.C.**

70. A comparison study between halloysite interactions with mono-cationic and di-cationic form of irinotecan
Gianni, E., Avgoustakis, K., Scholtzova, E., Panagiotaras, D., Papoulis, D. and Pospíšil, M.

Student

71. A classical forcefield for selenium oxyanions in aqueous solutions and minerals
Glushak, A.A., Tararushkin, E.V. and Smirnov G.S.

Student

72. ClayCode: A software tool for modelling realistic clay systems
Pollak, H., Degiacomi, M. T., and Erastova, V.

73. Physical adsorption of OH- ions at mineral-water interface
Xiandong Liu, Yingchun Zhang, Pengyuan Gao

74. Various concentrations of atorvastatin intercalated into Mg-Al layered double hydroxides
Pospíšil, M., Novotný, R. and Kovanda, F.

Nanoelectronic and Nanophotonic Applications (session #28)

Remote

75. Memory Effects in Ultrathin $MoSe_2$/Clinochlore Devices
Ames, A., Sousa, F. B., Souza, G. A. D., de Oliveira, R., Barcelos, I. D., Cadore, A. R., Lopez-Richard, V. and Teodoro, M. D.

76. Nitrogen-doped graphene in the interlayers of a nanolayered silicate for sustainable upscaled energy applications
Pacakova, B., Matejdes, M., Thanganian, K., Demchenko, H., Wagner, D., Michels, L., Brito, P., Blanco, M.V., Araki, K., Raaen, S., Breu, J., Fossum, J.O.

Properties and Applications of Novel Smart Clay, LDH and Clay-related Nanomaterials (session #29)

77. Aspect Ratio Control of Layered Double Hydroxide Nanosheets and Their Application for High Oxygen Barrier Coating in Flexible Food Packaging
Fan, S., Yu, J.

Student

78. Durable radially polarized tubular nanoreactors for catalysis
Lucile Hamm, Antoine Thill, Sophie Le Caër and Pierre Picot

Student

79. Tuning the interlayer space of Li-Al LDHs as adsorbents with application in the direct lithium extraction (DLE) technology
Kaźmierczak, M., Matusik, J., Seftel, E.M., Cool, P.

Student

80. Synthesis and Characterization of BODIPY with different meso groups for the study of hybrid materials
Leonardo K. Santos, Peter Boháč, Juraj Bujdák

81. Efficiency Enhancement of Circularly Polarized Luminescence from a Binaphthyl Compound via Interlayer Confinement in Clay
Hiroki Moritomo, Ryo Moriguchi, Daichi Yamashita, Ren Nishiyama

Student

82. Unlocking Fluorescence Enhancement in Benzothiazole-based Dyes in Hybrid Silicate Dispersions
Planetová, V., Boháč, P., Hrobárik, P. and Bujdák, J.

Student

83. Synthesis of transition metal-doped Li-Al layered double hydroxides and their application for selective lithium extraction from brines
Siwek, K., Matusik, J., Seftel, E.M., Cool, P.

84. Ionic Conductivity of Ion Defect Introduced Layered Double Hydroxide and its Mechanism
Sonoyama, N, Uchimura, S. and Yamaguchi G.

85. Analysis of the abrasive and micro-impact wear of hydrotalcite-like coatings on zinc alloy
S. Zimowski, D. Kharytonau, K. Skowron, G. Mordarski, J. Krupa, M. Zimowska

Clays in Geotechnics – Problems and Applications (session #30)

86. An appraisal on the characteristics of organically modified clays for applications as engineered barriers
Vandana Sreedharan, Sivapullaiah, P.V

Student

87. Experimental method for testing thixotropic properties of clays
Alicja Bożek, Łucja Kordaszewska .

88. Strength and Liquidity Index Correlation in Transitional Oil Sands Tailings
Kaheshi, P., Kaminsky, H. and Wilson G.W.

89. The role of vermiculite in the geotechnical behaviour of Plioquaternary clayey soils from the Zagreb Podsljeme hilly area
Martinčević Lazar, J., Durn, G., Mihalić Arbanas, S., Grizelj, A., Peh, Z.

90. Experimental Study on Biogenic $CaCO_3$ for Sustainable Stabilisation of Dredged Fine Sediments
Petti, R., **Vitone, C.**, Plötze, M. and Puzrin, A.

Student

91. Clay materials identified within construction and demolition waste
Tijero-Martín, M., Ruiz, A.I., Cuevas, J. and Regadío, M.

Advances in Calcined Clays as Supplementary Cementitious Materials in Blended Cements (session #31)

92. Calcined Clay interaction with superplasticizers: adsorption behaviour and ion release kinetics
Hellmann, S., Jara Heredia, D., Link, J., Strybny, B., Hoffmann, C., Sowoidnich, T., Rößler, C., Gil-Díaz, T., Lützenkirchen, J., Heberling, F., Ludwig, H.M., Haist, M. and **Schäfer, T.**

93. The role of accessory minerals in the activation of natural bentonites
Aguilar Guimaraes, P., Paris, M. and **Deneele, D.**

Student

94. Hydration Mechanisms and Phase Assemblage Of Very-Low Clinker Cement Blends Comprising Non-Kaolinitic Calcined Clays
Menezes, D.C., Vanhee, L., Arnout, L. and Snellings, R.

95. Sedimentation as a low-cost alternative to laser diffraction for particle size measurement of calcined clays – limitations and opportunities
    Marsh, A.T.M., Massonnet, G., Scrivener, K.L.

Sustainable and eco-friendly clay-based materials (session #32)

Remote

96. Experimental Design-Based Optimization of Clay Bricks from Rissani for Enhanced Mechanical and Thermal Performance
    Mahdi Lechheb, Kamal Essifi, Soukaina El Bourachdi, Hassan Ouallal, M'barek Azdouz, Mohamed Azrour, Meriam El Ouahabi and Gharibi El Khadir

Remote
Student

97. From fired clay bricks to an accessible eco-material in the Sudano-Sahelian zone of Cameroon: what local appropriation for sustainable development?
    Mounpe Chare, I., Pirotte, G., Mache, J.R., Fagel, N.

Remote

98. Potential reuse of Steel Slag and Phosphogypsum in Bentonite-Lime Composites
    Harrou, A., Jouini M., Elghali A., El Ouahabi M., Fagel N., Gharibi E.

99. Porosity in sustainable bricks: merging tradition with environmental innovation
    Zema, M., Lica, J., Marian, N.M., Bonou, S., Idjiwole, F., Agbahoungbata, M., Fernández-Jiménez, A., A. Monno, Riccardi, M.P., and Tarantino, S.C.

Student

100. Clay minerals in earthen binders for Earth Additive Manufacturing (EAM) applications
     Tsiotou, S., Maier, M. and Machner, A.

101. Addition of stevensite to a magnesium potassium phosphate cement formulation with application for 3D printing
     Padilla-Encinas, P., Guerrero, A., Cuevas, J. and Fernández, R.

Remote

102. Compressed lime-stabilized clay from Benoue valley (North, Cameroon) for sustainable construction: Evolution of their properties
Mache, J.R, Moongon Obam, B.I., Balo Madi, A and Fagel, N.

103. Promoting green compressed earth bricks towards net zero emissions commitment of Vietnam
Hieu, N.T., Tuan, N.V, **Dinh, N.Q.**, and Fagel, N.

104. High strength eco-cement from alkali-activated gravel wash mud and quartzite dust
Kukemilks, K., Wagner J.-F. and Baeza Urrea, O.

Remote
Student

105. Physico-mechanical and mineralogical properties of lime-treated clay materials from Northern Cameroon (Pitoa and Gaschiga)
Njimboum, A.S., Mache, J.R., Balo, M.A., Fagel, N., Nchare, M.

Mechanical and Mechano-chemical Activation of Clays (session #33)

Student

106. Impact of metakaolin characteristics on properties of alkali-activated materials
Launai, D., Robin, V. and Joussein, E.

The Role of Clays in Human Health and Biomedical Sciences (#35)

Student

107. A Novel Nanomaterial Based on Halloysite and Laccase: A Sustainable Approach for Dyes Degradation
Riela, S., **Cinà, G.**, Cardullo, N., Mancari, G.G., Massaro, M., Mineo, P.G., Nicosia, A., Sanchez-Espejo, R., Sciacca, C., Viseras-Iborra, C., and Muccilli, V.

Student

108. Photosensitizer-Loaded Nanocomposite Hydrogels with Functional Photoactive Surfaces for Photodynamic Applications
Vinny George, Peter Bohac and Juraj Bujdak,.

109. Application of Ukrainian Kaolins for the Development of Novel Hemostatic Agents
Zatovsky, I.V., Prokopenko, V.A., **Panko, A.V.**, Tsyganovich O.A., Dybkova S.M. and Rieznichenko L.S.

110. Interactions of cyclic peptides with montmorillonite surface for a natural drug delivery system
Sainz-Díaz, C.I., Nogueira de Sousa, L.H., Viseras, C.

Clay Materials in Healthcare Technologies (session #36)

Remote

111. Monitoring the cellular internalization of Eu^{3+}-Laponite using combined Raman imaging and fluorescence microscopy
Perdigón, A.C., Iturrioz-Rodríguez, N., Martín-Rodríguez, R., Aguado, F.

Role of Minerals and Mineral weathering in Carbon Sequestration and Other Ecosystem Services of Soils (sessions #39+42)

112. Changes in Clay Mineral Composition in Pit-Mound Profiles Resulting from Tree Uprooting in the Žofín Forest, Czech Republic
Magdaléna Koubová, Pavel Šamonil, Filip Oulehle, Jan Dietel

113. Quantifying N_2 and H_2O isotherm-based mineral surface area and cation exchange capacity: Revisiting basic properties related to mineral reactivity
Blattmann, T.M., Galili, N.N., Yoshimura, T., Usman, M.O., Eglinton, T.I. and Plötze, M.

Student

114. Impact of Clay on Soil Organic Carbon in Response to Agricultural Management in Central Kansas

Nelson, I., Presley, D. R. and Tomlinson, P. J.

115. Redox-Driven Interactions of Fe^{2+} with Imogolite Nanotubes in the Presence of Ca^{2+} and As(III) under Anoxic and Oxic Conditions.
Cuevas R.D., Orozco L., Fabris, José D., Pizarro, C., Manquián-Cerda, K. and Arancibia-Miranda N.

Student

116. Modeling cohesive fine-grained sediment erosion using a computational fluid dynamics framework
Jans, M.D., Yang, J.Q., Soulaine C., and Bourg I.C.

Student

117. Long-Term Agricultural Inputs and Clay Mineral Weathering, Plus Potential Evidence of Shallow Mixed-Layer Silicates
Correira, A. L., LaCroix, B., Arnall, B., and Presley, D. R.

118. Mapping organic carbon species in soils with contrasting clay minerals
Mia, S., Dijkstra, F.A., Guggenberger, G. and **Singh, B.**

119. Potential of Clays from the Nahuelbuta Mountain Range in Chile for Agricultural Crop Applications
Castro, E., Pinto, A., Mora, S., Jarpa, M., Sanhueza, V.

Clays in Mining (session #40)

Student

120. Portable VNIR-SWIR spectroradiometry for material classification in clay mineral deposit exploitation works
García-Vicente, A., **Lorenzo, A.**, San-Cipriano, A., García-Romero, E.-, Suárez, M.

Chemical reactions with clay minerals: implication for environmental challenges and remediation strategies (sessions #38+43)

121. Adsorption of short-chain perfluoroalkyl acids (PFAAs) on montmorillonite clay using density functional theory
Bashir, S., Scholtzova, E.

Student

122. Adsorption performance of Eu(III) on natural clays and high-charge synthetic micas: Isotherm and kinetic studies comparison
López-Marín, A., Martín-Rodríguez, R., Perdigón, A.C., and Aguado, F.

Synthesis and Applications of Modified Clays in Environmental Remediation (#44)

123. Monitoring drug adsorption by smectite composites
Plevova, E., Vallova, S., Vaculikova, L., Vytiskova, K., Duraczynska, D., Ocwieja, M. and Hlavacek, P.

124. Adsorption of Cs-137 and Co-60 by metabentonite and metakaolin-based geopolymer composites
Slaný, M., Juriček, A., Struhárová, G.A., Rezbárik, Š.J., Vavrincová, L. and Horník, M.

125. Multifunctional smectite composites
Vaculikova, L., Plevova, E., Valovicova, V., Vallova, S., Duraczynska, D., Kosydar, R., Krzan, M. and Mahdi Niktabar, S. M.

Interactions of Iron-rich Clays and Iron Oxides with Organics and Heavy Metals: Implications for Iron/Carbon/Metal Cycling (session #47)

126. Structural Fe promotes allophane reactivity towards model organic compounds
Zelano, I.O., Emmanuelle-Montarges-Pelletier, Ralf Kaegi, Laurel ThomasArrigo