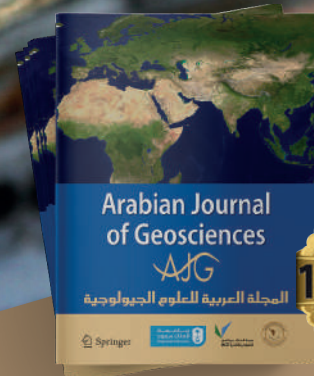


CONFERENCE PROGRAM



1ST CONFERENCE OF THE ARABIAN
JOURNAL OF GEOSCIENCES (CAJG)

12 - 15
NOVEMBER
2018
TUNISIA

Celebrating
10 successful
years



Arabian Journal of Geosciences

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now

On the occasion of the journal's
10th Anniversary, Springer and the
Founder & Editor-in-Chief
Prof. Abdullah Al-Amri
have organised the 1st Conference of
the Arabian Journal of Geosciences

 | 1ST CONFERENCE OF THE ARABIAN
JOURNAL OF GEOSCIENCES (CAJG)
12–15 NOVEMBER 2018, HAMMAMET, TUNISIA



PARTNERS



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12
Nov.

08:00 — 10:00 Arrival of participants / Registration

10:00 — 10:30 WELCOME DRINK

10:30 — 12:30 **Congress Hall**

KEYNOTE 1: Pinnaduwa Kulatilake [T3]

KEYNOTE 2: Zhen-Dong Cui [T3]

KEYNOTE 3: Janusz Wasowski [T3]

KEYNOTE 4: Biswajeet Pradhan [T4]

12:30 — 14:00

14:00 — 15:00 Official Opening Ceremony

15:00 — 16:00 Icebreaker / Group Photo

15:00 — 16:00 **Congress Hall**

KEYNOTE 5: Turgay Ertekin [T8]

KEYNOTE 6: Beatriz Bádenas [T9]

KEYNOTE 7: Christian Gorini [T10]

KEYNOTE 8: Dorrik Stow [T9]

KEYNOTE 9: Mohamed Soussi [T9]

KEYNOTE 10: Celâl Sengör [T10]

19:00 — 20:30

20:30 — 22:00 Editorial Meeting of the Arabian Journal of Geosciences

8:30 — 10:30 **Congress Hall**

KEYNOTE 11: Sheryl Luzzadder-Beach [T4]

KEYNOTE 12: Tim Beach [T9]

KEYNOTE 13: Essam Heggy [T2]

KEYNOTE 14: Michael Sarnthein [T1]

Room1 [T10-OS1]

Room2 [T3 - OS1]

Room3 [T8 - OS1]

10:30 — 11:00

11:00 — 12:30 **Congress Hall**

KEYNOTE 15: Hesham M. El-Askary [T2]

KEYNOTE 16: Enrico Drioli [T6]

KEYNOTE 17: Pablo León Higueras [T7]

Room1 [T10-OS2]

Room2 [T3 - OS2]

Room3 [T8 - OS2]

12:30 — 14:00

14:00 — 16:00

Congress Hall [T5 - OS1]

Room1 [T10-OS3]

Room2 [T3 - OS3]

Room3 [T8 - OS3]

[T9-PS1 - Screen 1]

[T9-PS2 - Screen 2]

[T6-PS1 - Screen 3]

[T6-PS2 - Screen 4]

[T6-PS3 - Screen 5]

[T6-PS4 - Screen 6]

16:00 — 16:30

16:30 — 19:00

Congress Hall [T5 - OS2]

Room1 [T10-OS4]

Room2 [T3 - OS4]

Room3 [T6 - OS1]

[T1-PS1 - Screen 1]

[T7-PS1 - Screen 2]

[T7-PS2 - Screen 3]

[T7-PS3 - Screen 4]

19:00 — 20:30

20:30 — 22:00 Special issues' editorial meeting

SCHEDULE

14
Nov.

8:30 — 10:30 **Congress Hall**

KEYNOTE 18: Michael Weber [T10]

KEYNOTE 19: François Roure [T10]

KEYNOTE 20: N. Ellouz-Zimmermann [T10]

KEYNOTE 21: Martin Mai [T5]

Room1 [T9-OS1]

Room2 [T6-OS2]

Room3 [T2-OS1]

Room4 [T7-OS1]

10:30 — 11:00

11:00 — 12:30

Congress Hall [T1-OS1]

Room1 [T9-OS2]

Room2 [T6-OS3]

Room3 [T2-OS2]

Room4 [T7-OS2]

Poster Hall [T4-PS1 - Screen 1]

[T3-PS1 - Screen 2]

[T3-PS2 - Screen 3]

[T3-PS3 - Screen 4]

[T3-PS4 - Screen 5]

12:30 — 14:00

14:00 — 16:00

Congress Hall [T1-OS2]

Room1 [T9-OS3]

Room2 [T6-OS4]

Room3 [T2-OS3]

Room4 [T7-OS3]

Poster Hall [T8-PS1 - Screen 1]

[T5-PS1 - Screen 2]

[T5-PS2 - Screen 3]

[T5-PS3 - Screen 4]

16:00 — 16:30

16:30 — 19:00

Room1 [T9-OS4]

Room2 [T6-OS5]

Room3 [T4-OS1]

Poster Hall [T10-PS1 - Screen 1]

[T10-PS2 - Screen 2]

[T10-PS3 - Screen 3]

[T2-PS1 - Screen 4]

[T2-PS2 - Screen 5]

[T2-PS3 - Screen 6]

19:00 — 20:30

20:30 — 21:30 Panel discussion / award ceremony / closure

21:30 — 00:00 Arabian musicology / AJGS 10th birthday ceremony

15
Nov.

Courses

Room1 Course 1

Room2 Course 2

Room3 Course 3

Room4 Course 4

Workshops

Bar Lounge Workshop 1

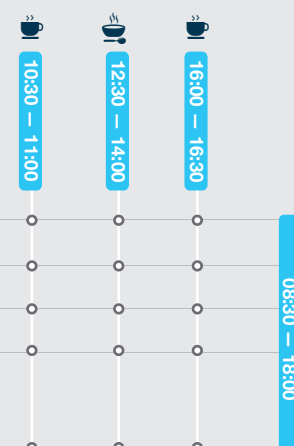
8:30 — 10:30 **Congress Hall** Workshop 4

11:00 — 12:30 **Congress Hall** Workshop 3

18:00 Departure of conference participants

18:00 — 19:00 Meetings of field-trip participants with the leaders of Field-Trip 3

19:00 — 20:30 DINNER
(open to field-trip participants and conference participants with extended stay)



T: TRACK OS: ORAL SESSION PS: POSTER SESSION

REFER TO PROGRAM INDEX TO FIND OUT DETAILS OF YOUR PRESENTATION (REFER TO YOUR PAPER NUMBER)

About the 1st Springer Conference of the Arabian Journal of Geosciences (CAJG-1), Tunisia 2018

The Arabian Journal of Geosciences (AJGS) is a Springer journal publishing original articles on the entire range of Earth sciences in partnership with the Saudi Society for Geosciences. The journal focuses on, but not limited to, research themes which have regional significance to the Middle East, the Euro-Mediterranean, Africa and Asia. The journal receives on average 2000 submissions a year and accepts around 500 papers for publication in its 24 annual issues (acceptance rate 25%). It enjoys the participation of an editorial team of 100 international Associate Editors who generously help in evaluating and selecting the best papers.



In 2008, Prof. Abdullah Al-Amri, in close partnership with Springer, founded the Arabian Journal of Geosciences (AJGS). In this year, the journal celebrates its 10th anniversary. On this occasion and to mark this event, the Founder and Editor-in-Chief of the AJGS Prof. Al-Amri organized in close collaboration with Springer the 1st Conference of the Arabian Journal of Geosciences (1st CAJG) in Hammamet, Tunisia from 12 to 15 November 2018 (www.cajg.org).

The conference was an occasion to endorse the journal's long-held reputation for bringing together leading authors from the Middle East, the Euro-Mediterranean, Africa and Asia who work at the wide-ranging fields of Earth sciences. The dynamic four-day conference provided more than 450 attendees with opportunities to share their latest unpublished findings and learn the newest geosciences studies. The event also allowed attendees to meet and discuss with the journal's editors and reviewers.

More than 950 short contributed papers to the conference were submitted by authors from more than 70 countries. After a pre-conference peer-review process by more than 500 reviewers, 700 papers were accepted. These papers were published as chapters in the conference proceedings by Springer.

The conference proceedings consist of 10 edited volumes, each edited by the following group of Editors:

Proceedings Volume 1. Patterns and Mechanisms of Climate, Paleoclimate and Paleoenvironmental Changes from Low-Latitude Regions

- Zhihua Zhang (AJGS Editor): Beijing Normal University, Beijing, China
- Nabil Khélifi (AJGS Editor): Earth Sciences Editorial Department, Springer, Heidelberg, Germany
- Abdelkader Mezghani (Guest Editor): Norwegian Meteorological Institute, Norway
- Essam Heggy (Guest Editor): University of Southern California & NASA Jet Propulsion Laboratory, Caltech, USA

Proceedings Volume 2. Advances in Remote Sensing and Geo Informatics Applications

- Hesham M. El-Askary (Guest Editor): Schmid College of Science and Technology at Chapman University, USA
- Saro Lee (AJGS Editor): Korea Institute of Geoscience and Mineral Resources, Daejeon, South Korea
- Essam Heggy (Guest Editor): University of Southern California & NASA Jet Propulsion Laboratory, Caltech, USA
- Biswajeet Pradhan (AJGS Editor): University of Technology Sydney, Sydney, Australia

Proceedings Volume 3. Recent advances in geoenvironmental engineering, geomechanics and geotechnics, and geohazards

- Amjad Kallel (AJGS Editor): ENIS, University of Sfax, Tunisia

- Zeynal Abiddin Erguler (AJGS Editor): Dumlupinar University, Kutahya, Turkey
- Zhen-Dong Cui (AJGS Editor): China University of Mining and Technology, Xuzhou, Jiangsu, China
- Ali Karrech (AJGS Editor): The University of Western Australia, Australia
- Murat Karakus (AJGS Editor): University of Adelaide, Australia
- Pinnaduwa Kulatilake (AJGS Editor): Department of Materials Science and Engineering, The University of Arizona, USA
- Sanjay Kumar Shukla (AJGS Editor): School of Engineering, Edith Cowan University, Perth, Australia

Proceedings Volume 4. Exploring the Nexus of Geoecology, Geography, Geoarchaeology and Geotourism

- Haroun Chenchouni (AJGS Editor): University of Tebessa, Algeria
- Ezzoura Errami (Guest Editor): Chouaib Doukkali University, El Jadida, Morocco
- Fernando Rocha (Guest Editor): University of Aveiro, Portugal
- Luisa Sabato (AJGS Editor): Università degli Studi di Bari "Aldo Moro", Bari, Italy

Proceedings Volume 5. On Significant Applications of Geophysical Methods

- Narasimman Sundararajan (AJGS Editor): Sultan Qaboos University, Muscat, Oman
- Mehdi Eshagh (AJGS Editor): University West, Trollhättan, Sweden
- Hakim Saibi (AJGS Editor): United Arab Emirates University, Al-Ain, Abu Dhabi, UAE
- Mustapha Meghraoui (AJGS Editor): Université de Strasbourg, Strasbourg, France
- Mansour Al-Garni (AJGS Editor): King Abdulaziz University, Jeddah, Saudi Arabia
- Bernard Giroux (AJGS Editor): Centre Eau Terre Environnement, Québec, Canada

Proceedings Volume 6. Advances in Sustainable and Environmental Hydrology, Hydrogeology, Hydrochemistry and Water Resources

- Helder I. Chaminé (AJGS Editor): School of Engineering - ISEP, Polytechnic of Porto, Portugal
- Maurizio Barbieri (AJGS Editor): University of Rome La Sapienza, Italy
- Ozgur Kisi (AJGS Editor): Ilila State University, Tbilisi, Georgia
- Mingjie Chen (AJGS Editor): Sultan Qaboos University, Muscat, Oman
- Broder J. Merkel (AJGS Editor): TU Bergakademie Freiberg, Freiberg, Germany

Proceedings Volume 7. Petrogenesis and Exploration of the Earth's Interior

- Domenico Doronzo (AJGS Editor): Consejo Superior de Investigaciones Científicas, Spain
- Emanuela Schingaro (AJGS Editor): Università degli Studi di Bari Aldo Moro - UniBa, Italy
- John S. Armstrong-Altrin (AJGS Editor): The National Autonomous University of Mexico, Mexico
- Basem Zoheir (Guest Editor): Benha University, Egypt & University of Kiel, Germany

Proceedings Volume 8. Advances in Petroleum Engineering and Petroleum Geochemistry

- Santanu Banerjee (AJGS Editor): Indian Institute of Technology Bombay, Mumbai, India
- Reza Barati (AJGS Editor): The University of Kansas, Lawrence, KS, USA
- Shirish Patil (Guest Editor): Saudi Aramco and King Fahd University of Petroleum and Minerals, Dhahran, Saudi Arabia

Proceedings Volume 9. Paleobiodiversity and Tectono-Sedimentary Records in the Mediterranean Tethys and Related Eastern Areas

- Mabrouk Boughdiri (AJGS Editor): University of Carthage, Amilcar, Tunisia
- Beatriz Bádenas (AJGS Editor): University of Zaragoza, Zaragoza, Spain
- Paul Selden (AJGS Editor): University of Kansas, Lawrence, Kansas, USA
- Etienne Jaillard (Guest Editor): Université Grenoble Alpes, France
- Peter Bengtson (AJGS Editor): Universität Heidelberg, Heidelberg, Germany
- Bruno R.C. Granier (AJGS Editor): Université de Bretagne Occidentale, Brest, France

Proceedings Volume 10. The Structural Geology Contribution to the Africa-Eurasia Geology: Basement and Reservoir Structure, Ore Mineralisation and Tectonic Modelling

- Federico Rossetti (Guest Editor): Università Roma Tre, Roma, Italy
- Ana Crespo Blanc (Guest Editor): University of Granada, Spain
- Federica Riguzzi (Guest Editor): National Institute of Geophysics and Volcanology, Roma, Italy
- Estelle Leroux (Guest Editor): IFREMER, Unité Géosciences Marines, Plouzané, France
- Kosmas Pavlopoulos (Guest Editor): Paris Sorbonne University Abu Dhabi, Abu Dhabi, UAE
- Olivier Bellier (Guest Editor): CEREGE, Aix-en-Provence, France
- Vasilios Kapsimalis (Guest Editor): Institute of Oceanography, Hellenic Centre for Marine Research, Anavyssos, Greece

About the Conference Organizing Committee

Abdullah M. Al-Amri, Saudi Arabia: General Chairman



Founder & Editor-in-Chief
Arabian Journal of Geosciences
King Saud University, Riyadh, Saudi Arabia

Dr. Al-Amri holds a B.Sc. in Geology (1981) from King Saud University (KSA), a M.Sc. in Applied Geophysics (1985) from the University of South Florida (USA) and a Ph.D. degree in Earthquake Seismology (1990) from the University of Minnesota (USA). He is currently a Professor of Earthquake Seismology at King Saud University (KSU), the Director of the Seismic Studies Center at KSU, the Chairman of KSU's Geology and Geophysics Department and the President of the Saudi Society for Geosciences (SSG). He has received several international prizes and awards for scientific excellence and innovation. His research interests focus on crustal structures and seismic microzoning of the Arabian Peninsula. He has conducted more than 45 research projects, the most recent of which involved EM and MT applications in deep groundwater exploration of the Empty Quarter, and geothermal prospecting of volcanic Harrats in the Arabian shield. He has co-published 65 research articles in international indexed and refereed journals and authored several books. In 2008 Dr. Al-Amri, in close partnership with Springer, founded the Arabian Journal of Geosciences (AJGS) on behalf of the SSG. In 2018, Marquis Who's Who, the world's premier publisher of biographical profiles, proudly presented to Prof. Abdullah M. Al Amri with the Albert Nelson Marquis Lifetime Achievement Award.

Nabil Khélifi, Germany: Conference Supervisor



Senior Publishing Editor
Springer Middle East & North African Program
Springer, a part of Springer Nature
Heidelberg, Germany

Dr. Khelifi holds a BSc in Natural Sciences and a MSc in Earth & Environmental Sciences from the University of Sfax in Tunisia (2004). He received fellowships from the global change System for Analysis, Research and Training (START) in 2005 and the German Academic Exchange Service (DAAD) from 2006 to 2010 to continue with his PhD studies in Marine Geosciences at the University of Kiel in Germany. After his PhD in 2010, Dr. Khelifi received a postdoctoral research grant from the German Science Foundation (DFG) to start his self-designed research projects at the GEOMAR – Ocean Research Centre in Kiel, Germany on reconstructing past changes in oceanography and climate in the North Atlantic and the Mediterranean Sea using marine sediment samples retrieved by the International Ocean Drilling Program (IODP) and applying foraminiferal and geochemical proxy methods. He published his research work in some reputable journals. Dr. Khelifi also received funding from the European Science Foundation (ESF) and some European universities to co-organize two workshops on Pliocene climate in Bordeaux, France (2009) and Bristol, UK (2013). He also received the Swiss Government Excellence Scholarship (SGES) to continue with his research projects at ETH Zurich, Switzerland in early 2014. However, he decided in March 2014 to pursue his career as a Publishing Editor with Springer, a part of Springer Nature in Heidelberg, Germany. He is mainly responsible for developing the Springer's publishing program in the Middle East & North Africa (MENA). The program currently consists of developing 18 journals and publishing about 40 scientific books every year. In January 2017, he got promoted to Senior Publishing Editor with Springer. Dr. Khelifi also helps researchers in MENA countries publish their work by delivering educational seminars for authors, reviewers, and journal editors to help improve publication output and quality. Dr. Khelifi is also a Visiting Lecturer at the University of Carthage, Tunisia and King Saud University, KSA giving MSc and PhD courses in geo-communication/-presentations and techniques of paper publishing, as well as career development training and professional development/soft skills workshops. In 2016, Dr. Khelifi has been awarded with the Africa Green Future Leadership Award in recognition of work contributing to sustainable development through advancing science and promoting publications in Africa and Middle East.

François Roure, France: Scientific Committee Chairman



Guest of Editorial Board / Former
Associate Editor
Arabian Journal of Geosciences
IFP – Energies Nouvelles, France

Dr. Roure is a graduate of the Ecole Normale Supérieure of St-Cloud, France, holder of a Doctorate in Sciences from the University of Paris VI. He joined the IFP's Geology-Geochemistry-Geophysics Division in 1984, following a four-year career at the CNRS. His research is predominantly focused on the study of sedimentary basins (architecture and geodynamics, thermicity, oil-bearing systems, fluid/rock interactions and reservoir characterization). He was selected as an extraordinary Professor at the Free University of Amsterdam (VU). He also chaired the working group on sedimentary basins in the International Lithosphere Program (ILP). He has contributed more than a hundred articles, published in prestigious international journals. In 2010, François Roure was honored by the EAGE (European Association of Geoscientists and Engineers), which selected him as the winner of the 2010 Wegener Award, as a recognition of his contribution to the geoscientific research in the area of petroleum exploration of frontier areas and the search for new reserves, particularly in mountain belts. Dr. Roure served the founding editorial board of the Arabian Journal of Geosciences during several years and contributed at establishing it as a reputable scientific journal in its region.

Walter D. Mooney, USA: Scientific Committee Chairman



Guest of Editorial Board
Arabian Journal of Geosciences
United States Geological Survey Western
Region, USA

Dr. Mooney is a research seismologist and geophysicist at the United States Geological Survey (USGS), Menlo Park, California (1978–present). He was Chief of the USGS Branch of Seismology from 1994 to 1997. Mooney was born in Floral Park (Long Island), New York and is the sixth of seven children. He attended Cornell University from 1969–1973 for his B.S in Physics. In 1976, he spent 6 months as a Graduate Fellow in Karlsruhe University, Germany. He went on to complete his Ph.D. on the Deep Structure of the South American Andes in 1979 at the University of Wisconsin-Madison. Mooney's major interest is global Earth crustal structure and tectonics, with a focus on the continental lithosphere. Mooney has led fieldwork throughout North and South America. According to Mooney his international research collaborations have provided both a rich basis for my science, and a broad cultural understanding. He has co-authored more than 170 scientific papers. Mooney has also been a visiting professor of geophysics in many different universities over the years including, Stanford University (1984–2008; 2014–present), Pierre et Marie Curie University, France (1998) and University of Kiel, Germany (1985). With Claus Prodehl of Universität Karlsruhe, Germany, Mooney wrote *Exploring the Earth's Crust - History and Results of Controlled-Source Seismology*. Since 2011, he has been collaborating with the Saudi Geological Survey in a study of the crustal and upper mantle structure beneath western Saudi Arabia using data from the SGS broadband seismic network. Mooney is considered a world leader in geophysical studies of the Earth's crust and upper mantle. In 1995, he was awarded the Geological Society of America's (GSA) George P. Woollard Award which is given annually to recognize a person who has made outstanding contributions to geology using geophysical methods, as well as being a Fellow of the American Geophysical Union (AGU) and the Royal Astronomical Society and the Geological Society of London. He received the Gold Medal Award in 2002 from the Indian Geophysical Union and was elected Foreign Fellow by the European Academy in 2004.

Mabrouk Boughdiri, Tunisia: Local Chairman



Associate Editor
Arabian Journal of Geosciences
University of Carthage, Bizerte, Tunisia

Dr. Boughdiri holds a B.Sc. in Geology (1988) from El Manar University of Tunis (Tunisia), a M.Sc. in Paleontology and Stratigraphy (1989) from the Bourgogne University of Dijon (France), a Ph.D. degree in Paleontology and Stratigraphy (1994) from the Claude Bernard University of Lyon (France) and a Habilitation in Geology (2006) from El Manar University of Tunis. He is currently a full Professor of Paleontology and Stratigraphy and the Chair of the Doctorate Commission at the Faculty of Sciences of Bizerte (University of Carthage, Tunisia). He is also the President of the Tunisian National Commission of Geological Sciences, the President of the National Commission of Co-built LMD formation at Tunisian universities and the President of the Tunisian Association of Paleontology and Stratigraphy. Since 2008, Pr. Boughdiri has been a voting member of the International Commission of Stratigraphy (Subcommission of Jurassic Stratigraphy) and, until 2016, an active member of the international Berriasian Working Group for the Jurassic-Cretaceous boundary at the International Subcommission on Cretaceous Stratigraphy (ISCS). He has received one national prize and two international awards for scientific excellence. His research interests focus on Upper Jurassic-Lower Cretaceous ammonite, calpionellid and radiolarian paleontology, biostratigraphy and paleobiogeography, mainly from the South-Tethyan Margin of the Maghreb and neighboring provinces. He has participated at (and conducted) many national and international research projects, the most recent of which involved comparative Jurassic bio-, chemo- and magnetostratigraphy of the Iberian Peninsula and the Maghreb. He has co-published many research articles in international indexed and refereed journals and chaired and/or co-organized four international thematic meetings. In 2015 Pr. Boughdiri joined the AJGS as an Associate Editor responsible for evaluating submissions in the fields of Paleontology and Life History.

Amjad Kallel, Tunisia: Evaluation Chairman



Assistant Editor
Arabian Journal of Geosciences
ENIS, University of Sfax, Tunisia

Dr. Kallel holds a B.Eng. in Georesources and Environment (1998) from the University of Sfax (Tunisia), a M.Sc. and a Ph.D. degree in Georesources and Environment (2004) from Hokkaido University (Japan). He joined Venture Business Laboratory (VBL) at Akita University, Japan (2005–2006) as a researcher focusing on refining and recycling technologies for recovering of rare elements from natural and secondary sources. Back in Tunisia, he started working at the University of Gabes from 2006–2011 where he contributed to the elaboration of teaching programs at the Higher Institute of Water Sciences and Technologies of Gabes. Since 2011, he has started lecturing at the Sfax National School of Engineering (University of Sfax, Tunisia). There, he has been also involved in various research projects related to Environmental Geology and Environmental Geotechnics. In 2016 Dr. Kallel joined the Arabian Journal of Geosciences (AJGS – Springer) and the Euro-Mediterranean Journal for Environmental Integration (EMJE – Springer) as an Assistant Editor supporting the Editors-in-Chief. Dr. Kallel has organized many prestigious workshops, seminars and international conferences. In 2017, he helped in launching the First Springer Euro-Mediterranean Conference for Environmental Integration (EMCEI 2017).

Biswajeet Pradhan, Australia: Publication Chairman



Associate Editor
Arabian Journal of Geosciences
University of Technology Sydney, Sydney,
Australia

Before joining the School of Information, Systems and Modelling at the Faculty of Engineering and IT, Biswajeet was a Full Professor of GIS and Remote Sensing at the Faculty of Engineering, Universiti Putra Malaysia. He has more than nineteen years of teaching, research, and industrial experience in the field of Geospatial Information Systems. He is listed as the World's most Highly Cited researcher by Clarivate Analytic's Report in 2017 and 2016 as one of the world's most influential mind. He is a recipient of Alexander von Humboldt Research Fellowship from Germany. In 2011, he received his habilitation in "Remote Sensing" from Dresden University of Technology, Germany. He was also a recipient of German Academic Exchange Research (DAAD) Fellowship Award, the Saxony State Fellowship from 1999 to 2002, the Keith Aurtherton Research Award, and the Georg Forster Research Award from the German Government. Since February 2015, he is serving as "Ambassador Scientist" for Alexander Humboldt Foundation, Germany. He has widely travelled abroad visiting more than 55 countries to present his research findings.

He received the B.Sc. degree (with honours) from Berhampur University, India, the M.Sc. degree from the Indian Institute of Technology (IIT), Bombay, India, the M.Tech. degree in civil engineering from IIT, Kanpur, India, and the Dresden University of Technology, Dresden, Germany, and the PhD degree in GIS and Geomatics engineering from the University Putra Malaysia, Serdang, Malaysia.

Essam Heggy, USA: Publication Chairman



Guest of Editorial Board
Arabian Journal of Geosciences
University of Southern California & NASA Jet
Propulsion Laboratory, Caltech, USA

Dr. Heggy is a Research Scientist at the Microwave Systems, Sensors and Imaging Lab (MiXIL), at the Viterbi School of Engineering at the University of Southern California and affiliate of the Rosetta project at the NASA Jet Propulsion Laboratory. Heggy obtained both his MSc. and Ph.D. respectively in 1999 and 2002 with distinguished honors from the Paris VI University in France (UPMC-Sorbonne). His research focuses on understanding water evolution in Earth's arid environments as well as planetary surfaces using radar surface and subsurface characterization methods. His research particularly focuses on understanding volatile evolution in the North African Sahara and Arabian Peninsula, as well as Mars, the Moon, Jovian Icy satellites and Near-Earth Objects. His work involves probing structural, hydrological and volcanic elements in terrestrial and planetary environments using different types of radar imaging and sounding techniques as well as measuring the electromagnetic properties of rocks in the radar frequency range. He is currently a member of the science team of the MARSIS instrument aboard the Mars Express orbiter (2003-present), the Mini-SAR experiment aboard Chandrayaan-1, the Mini-RF experiment on board the Lunar Reconnaissance Orbiter (2008-present), the CONSERT radar experiment aboard the Rosetta mission (2004-present) and the WISDOM GPR onboard ExoMars 2020 Rover (2008 to Present). He also edited a special JGR-Planets (AGU) volume on terrestrial and planetary radars. He is on the founding editorial board of the Journal of Arctic Geoscience ARKTOS (Springer), Geosciences (MDPI), National Geographic and co-chaired several sessions in international conferences and workshops on terrestrial and planetary radar subsurface imaging including AGU, LPSC and IEEE meetings.

Hakim Saibi, UAE: Program Chairman



Associate Editor / Assistant Editor
Arabian Journal of Geosciences
United Arab Emirates University, Al-Ain,
Abu Dhabi, UAE

Dr. Saibi holds a B. Sc. in Geology (2000) and a M. Sc. in Hydrogeology (2003) from University of Science and Technology Houari Boumediene (Algeria) along with a Ph.D. degree in Earth Resources Engineering (2007) from Kyushu University (Japan). He is currently an Associate Professor at Geology Department, United Arab Emirates University (UAE). From 2007 to 2009, he was a Post-Doctoral fellow (Japan Society for the Promotion of Science) at Kyushu University, Japan. In 2009, he received a business degree at the Innovation Training Program for R" & "D and Business Leaders of Kyushu University and completed training at The Matsushita Institute of Government and Management in Kanagawa, Tokyo. From 2010 to 2016, he was an Associate Professor at the Department of Earth Resources Engineering at Kyushu University in Japan, where he developed new courses in Geophysics, Physics and supported students in their international internships. He developed international connections between Japanese universities and north African universities and helped in organizing international conferences on Earth sciences. His research interests focus on exploration geophysics in general and developing new 2D and 3D geophysical codes for gravity and magnetic methods specially, 2D/3D Magnetotelluric for geothermal exploration, geothermal reservoir simulation, Artificial Neural Network in geophysics, volcanology, GIS and remote sensing and hydrochemistry. He has published more than 40 International Journal papers, 60 proceedings in international conferences, 3 books and one book chapter. His publications covered 13 different countries from Asia, Africa and central America. He has supervised more than 10 M. Sc. and Ph.D. theses. In 2017 Dr. Saibi joined the AJGS as an Assistant Editor supporting the Editor-in-Chief, and as an Associate Editor responsible for evaluating submissions in the fields of Geophysics.

Domenico Doronzo, Spain: Program Chairman



Associate Editor / Assistant Editor
Arabian Journal of Geosciences
Consejo Superior de Investigaciones
Cientificas, Spain

Dr. Doronzo holds a B.Sc. in Earth Sciences (2005), a M.Sc. in Earth Sciences (2007) and a Ph.D. degree in Earth Sciences (2011) from Università degli Studi di Bari (Italy). Theses and specialties related to the degrees are petrology-volcanology, experimental volcanology and physical volcanology, respectively. He is currently an Assistant Professor of rock physics at the National Autonomous University of Mexico (Mexico). He has received the Rittmann Medal in 2014 from Associazione Italiana di Vulcanologia (AIV), which is assigned to the best young Italian volcanologist. His research interests focus on integrating theory, field, numerical modeling, experiments and laboratory to study geological processes and products in volcanic areas from a fluid dynamic perspective. His current investigation consists of physically characterizing porous and fractured rocks in areas of geothermal and petroleum interest. He also studies dust storms, subaqueous gravity currents and man-made environmental phenomena for hazard assessment. He has recently coordinated the Topical Collection on Dust for the Arabian Journal of Geosciences (AJGS). In 2014 Dr. Doronzo joined the AJGS as an Associate Editor responsible for evaluating submissions in the fields of Petrology, Volcanology and Geothermal Research, and in 2017 as an Assistant Editor supporting the Editor-in-Chief.

Mohamed Ksibi, Tunisia: Communication Chairman



Guest of Editorial Board
Arabian Journal of Geosciences
ISBS, University of Sfax, Tunisia

Dr. Ksibi is the Director of the High Institute of Biotechnology at the University of Sfax (Tunisia). Dr. Ksibi obtained his M.Sc. (1989) and PhD (1993) degrees in Applied Chemistry from the University of Poitiers (France). He also gained the Habilitation (HDR) in Chemistry from the University of Sfax, Tunisia (2003). Afterwards, he received a one-year postdoctoral research fellowship at the National Institute of Scientific and Technical Research (Tunisia, 1995) and then was appointed as an Adjunct Professor in Chemistry (1996), Assistant Professor (1999), Associate Professor (2004) and as a full Professor of Chemistry (2009) at the University of Sfax, Tunisia. His research focuses on chemicals in the environment, water and wastewater treatment and reuse. He developed new methods for toxicity assessment of water containing various pollutants (dyes, phenolic and pharmaceutical compounds, pulp and paper mills pollute water, domestic wastewater, ...etc.) after applying different wastewater treatment techniques. Dr. Ksibi has been involved in establishing several joint scientific projects with Moroccan, Portuguese, German and Japanese scientists aiming at studying the quantification and risk assessment of emerging organic contaminants and heavy metals in soil and surface waters in Tunisia. Most recently, he has been participating at the NATO-SFP project 'Remediation Processes in Uranium and other Mining Explorations'. Dr. Ksibi is currently the Managing Editor of the Euro-Mediterranean Journal for Environmental Integration (Springer). In 2017, he helped in launching the First Springer Euro-Mediterranean Conference for Environmental Integration (EMCEI 2017).

Mohamed Sahbi Moalla, Tunisia: Conference Manager



Coordinator
Arabian Journal of Geosciences
ISET, University of Sfax, Tunisia

Mohamed Sahbi Moalla is a lecturer at the Department of Information Technology of the Higher Institute of Technological Studies of Sfax (ISET Sfax) in Tunisia. He is a founding member of the ISET's LPI Training Center and the Cisco Academy. He is a senior consultant in computer security and information systems architecture, certified Cisco IT Essentials. Besides, he is a Risk Manager ISO 27005, Google Apps Education Qualified Lead Implementer ISO 27001, Kaspersky Certified Professional, HTML developer, CSS developer, StonGate Firewall Engineer, and StonGate Firewall Architect. He is the Journal Editorial Coordinator of the (Springer) Euro-Mediterranean Journal for Environmental Integration at the University of Sfax, Tunisia. He managed the organization of 35 international conferences. Since 2014, Mohamed Sahbi Moalla together with Boubaker Elleuch (Professor at ENI-Sfax) organized three editions of the International Conference on Integrated Environmental Management for Sustainable Development (ICIEM 2014, 2016 and 2018). In 2017, in collaboration with Nabil Khélifi (Senior Editor, Springer), he launched the First Springer Euro-Mediterranean Conference for Environmental Integration (EMCEI 2017).

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Coordinator
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Track 2. Geo-informatics, remote sensing, geodesy

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- Fernando Rocha: University of Aveiro, Portugal

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- Hesham El-Araby: King Saud University, Riyadh, Saudi Arabia
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Oman

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- Hakim Gabtni: Technopole Borj Cedria, Tunis, Tunisia
- Marcelo Assumpção: Geophysics Department, University of São Paulo, Brazil
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- Said Maouche: Center for Research in Astronomy and Astrophysics Geophysics, Algeria
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- Tuna Eken: Istanbul Technical University, Turkey
- Walter D. Mooney: United States Geological Survey Western Region, USA
- Zuhair Hasan El-Isa: University of Jordan, Amman, Jordan

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- Fernando A.L. Pacheco: Trás-os-Montes and Alto Douro University – UTAD, Portugal
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- Ali Tlili: University of Sfax, Tunisia
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- Carlos J. Garrido: The Andalusian Earth Sciences Institute CSIC & University of Granada, Spain
- Fernando Rocha: University of Aveiro, Portugal
- İskender Işık: Dumlupınar University, Kutahya, Turkey
- Kamal A. Ali: Faculty of Earth Sciences, King Abdulaziz University, Jeddah, Saudi Arabia

- Kamal Regmi: University of Namibia, Namibia
- Mongi Felhi: University of Sfax, Tunisia
- Mounir Medhioub: University of Sfax, Tunisia
- Nasrddine Youbi: Faculty of Sciences of Semlalia, Cadi Ayyad University, Marrakech, Morocco
- Pablo León Higuera: Institute of Applied Geology, University of Castilla-La Mancha, Almadén (Ciudad Real), Spain
- Sherif Kharbush: Suez University, El Suweis, Egypt

Track 8. Petroleum engineering and petroleum geochemistry

- Barry Jay Katz: Chevron Corporation, USA
- Ray Rui: Massachusetts Institute of Technology, USA
- Reza Barati: The University of Kansas, Lawrence, KS, USA
- Roger Davies: Neftek Petroleum Consultants Ltd., UK
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- Andrea Moscariello: Department of Earth Sciences, University of Geneva, Switzerland
- Anirbid Sircar: Pandit Deendayal Petroleum University, School of Petroleum Technology, Gandhinagar, India
- Madani Benyoucef: Faculty of Natural and Life Sciences, Mustapha Stanbouli-Mascara University, Mascara, Algeria
- Turgay Ertekin: University, University Park, USA
- Shirish Patil: Saudi Aramco and King Fahd University of Petroleum and Minerals, Dhahran, Saudi Arabia
- Watheq J. Al-Mudhafar: Louisiana State University, Louisiana, USA

Track 9. Sedimentology, stratigraphy, paleontology, geomorphology, pedology

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- Idoia Rosales: Instituto Geológico y Minero de España, Spain
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- Massimiliano Ghinassi: Università degli Studi di Padova, Padova, Italy
- Matteo Spagnolo: School of Geosciences, University of Aberdeen, Scotland, UK
- Mohamed A.K. El-Ghali : Department of Earth Sciences , Sultan Qaboos University , Muscat, Oman
- Mohamed Soussi: Tunis El Manar University, Tunis, Tunisia
- Oula Amrouni: National Institute of Marines Sciences and Technologies, Salammbô, Tunisia
- Patricia Vickers-Rich: Monash University & Swinburne University of Technology, Melbourne, Australia
- Peter Skelton: The Open University, Milton Keynes, United Kingdom
- Poppe de Boer: Faculty of Geosciences, Utrecht University, The Netherlands
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- Ana Crespo Blanc: University of Granada, Spain
- Celâl Sengör: Istanbul Technical University, Istanbul, Turkey
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- Christian Gorini: Sorbonne University, Paris, France
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- Federica Riguzzi: National Institute of Geophysics and Volcanology, Roma, Italy
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- François Roure: IFP – Energies Nouvelles, France
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- Vasilios Kapsimalis: Institute of Oceanography, Hellenic Centre for Marine Research, Anavyssos, Greece
- Walter L. Pohl: Austrian Academy of Sciences, Vienna, Austria

Track 10. Structural / petroleum / mining geology, geodynamics, marine geology

- Dominique Frizon de Lamotte: Université de Cergy-Pontoise, Cergy-Pontoise, France
- Eugenio Fazio: University of Catania, Catania, Italy

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- Ahmed El Kenawy: Department of Geography, Mansoura University, Mansoura, Egypt
- Ayoub Zeroual: Ecole Nationale Supérieure d'Hydraulique de Blida, LGEE, Algeria
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- Bouchta El Moumni: FST-Tanger, UAE, Morocco
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- Domenico Chiarella: Royal Holloway, University of London, UK
- Roja Raman Mekalathur: S V University, Tirupati, India
- Driss Nachite: Abdelmalek Essaâdi University, Tetouan, Morocco
- Evgenij Chernykh: Institute of Archaeology of Russian Academy of Sciences, Moscow, Russia
- Fahad Saeed: Climate Analytics, Berlin, Germany
- Giovanni Zanchetta: Dipartimento di Scienze della Terra, University of Pisa, Italy
- Habib Taibi: Division of Space Geodesy, Centre of Space Techniques, Algeria
- Hamed Ben Dhia: ENIS - University of Sfax, Tunisia
- Harunur Rashid: Memorial University of Newfoundland, St John's, Canada
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- Kameni Modeste: Environmental Energy Technologies Laboratory, University of Yaounde I, Cameroon
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- Sajid Ali: Institute of Geosciences, Christian-Albrechts-University, Kiel, Germany
- Sajjad Saeed: University of Leuven (KU Leuven), Belgium
- Şevket Şen: Université Paris Sorbonne - Museum of Natural

History Département Origins and Evolution, France

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- Francesco Sciuto: Università degli Studi di Catania, Catania, Italy
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- Nadia Gaaloul: FST, University of Tunis El Manar, Tunis, Tunisia
- Mehmet Serkan Akkiraz: Dumlupinar University, Geological Engineering Department, Turkey
- Sherif Farouk: Egyptian Petroleum Research Institute, Cairo, Egypt

Track 2. Geo-informatics, remote sensing, geodesy

- Abdellah El Hmaidi: FS. Meknès, UMI, Morocco
- Ahmed El Kenawy: Department of Geography, Mansoura University, Mansoura, Egypt
- Ayoub Zeroual: Ecole Nationale Supérieure d'Hydraulique de Blida, LGEE, Algeria
- Bassem Jalali: University of Sfax, Faculté des Sciences de Sfax, Sfax, Tunisia
- Bouchta El Moumni: FST-Tanger, UAE, Morocco
- Damià Gomis: IMEDEA, Universitat de les Illes Balears—CSIC, Mallorca, Spain
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- Evgenij Chernykh: Institute of Archaeology of Russian Academy of Sciences, Moscow, Russia
- Fahad Saeed: Climate Analytics, Berlin, Germany
- Giovanni Zanchetta: Dipartimento di Scienze della Terra, University of Pisa, Italy
- Habib Taibi: Division of Space Geodesy Centre of Space Techniques, Algeria
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- Mengdie Xie: Beijing Normal University, China

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- Sajjad Saeed: University of Leuven (KU Leuven), Belgium
- Şevket Şen: Université Paris Sorbonne - Museum of Natural History Département Origins and Evolution, France
- Yating Chen: Beijing Normal University, China
- Francesco Sciuto: Università degli Studi di Catania, Catania, Italy
- Hugh C. Jenkyns: Department of Earth Sciences, University of Oxford, South Parks Road, Oxford, UK
- Nadia Gaaloul: FST, University of Tunis El Manar, Tunis, Tunisia
- Mehmet Serkan Akkiraz: Dumlupınar University, Geological Engineering Department, Turkey
- Sherif Farouk: Egyptian Petroleum Research Institute, Cairo, Egypt

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- Abbas Taheri: The University of Adelaide, Adelaide, Australia
- Abdelwaheb Aydi: FSB, University of Carthage, Tunisia
- Adrian Oshioname Eberemu: Ahmadu Bello University, Zaria, Nigeria
- Ahmet Karakaş: Kocaeli University, Turkey
- Aida Ben Hassen Trabelsi: CERTÉ Borj Cedria, Tunisia
- Aida Kesraoui: Ecole Supérieure des Sciences et des Technologies Hammam Sousse, Tunisia
- Alan Carter: ETS, Montreal, Canada
- Ali Kayabaşı: Eskişehir Osmangazi University, Turkey
- An Deng: The University of Adelaide, Adelaide, Australia
- Andrew Gorovtsov: Southern Federal University, Russia
- Asghar Ali: Department of Geology, University of Peshawar, Peshawar, Pakistan
- Ayberk Kaya: Recep Tayyip Erdogan University, Turkey
- Cem Şensöğüt: Dumlupınar University, Turkey
- Enes Zengin: Dumlupınar University, Turkey
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- **KEYNOTE 9 (T9) Mohamed Soussi, Tunisia:** Phanerozoic Global Sea-Level Changes: Evidences from Tunisia illustrating how Eduard Suess' Concepts (Gondwana, Tethys, Eustatism) are still relevant
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- **KEYNOTE 20 (T10) Nadine Ellouz-Zimmermann, France:** Impact of the Geodynamics on Tectonic and Climatic Risk Instabilities in Interior Seas: Insights of Land-to-Sea Study on Caribbean Pathways (Haiti) – Potential Application on Mediterranean
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Pinnaduwa Kulatilake, USA: A New Three-Dimensional Rock Mass Strength Criterion**KEYNOTE 1**

Dr. Pinnaduwa H.S.W. Kulatilake is a Professor of Geotechnical Engineering and Director of Rock Mass Modeling and Computational Rock Mechanics Laboratories at the University of Arizona. He is a registered Professional Civil Engineer in California. He received his B.Sc. (in 1976) in Civil Engineering from the University of Sri Lanka, Peradeniya, MS (in 1978) in Soil Engineering from the Asian Institute of Technology, Bangkok, Thailand and Ph.D. (in 1981) in Civil Engineering (with geotechnics emphasis) from the Ohio State University, USA. He has over 38 years of experience in rock mechanics & rock engineering associated with mining, civil and petroleum engineering, geotechnical engineering, and applications of probabilistic and numerical methods to geo-engineering. He has written over 240 papers and is a member of several technical committees. He has delivered over 30 keynote lectures and over 50 other invited lectures throughout the world on topics related to rock fracture network modeling, probabilistic geotechnics, mechanical and hydraulic properties of joints, rock slope stability and mechanical and hydraulic behavior of rock masses. He has been a research paper reviewer for over 25 technical Journals and an editorial board member for Int. Jour. of Rock Mechanics & Mining Sciences, Int. Jour. of Geotechnical and Geological Engineering, Int. Jour. of Advances in Geological and Geophysical Engineering, Coal Science and Technology and Journal of Mining & Science-Turkey. Currently he is serving as an Associate Editor for Arabian Journal of Geosciences. He has taught short courses on stochastic fracture network modeling, rock slope stability analysis, Block theory, and rock joint roughness and aperture in Sweden, Mexico, Austria, USA, Canada, Hong Kong, Poland, Finland, Australia, South Korea, Sri Lanka, Egypt, Iran, Chile, China, Italy, Peru and Tunisia. He has served over 20 years either as the primary or the sole examiner for the geological engineering professional exam conducted by the Arizona State Board of Technical Registration. He was a Visiting Professor at the Royal Institute of Technology and Lulea University of Technology in Sweden as part of his sabbatical leave. Also, he was a Visiting Research Fellow at the Norwegian Geotechnical Institute, for another part of his sabbatical leave. Due to the contributions he made on teaching, research, consulting and service activities, he was elected to the Fellow Rank of the American Society of Civil Engineers at the relatively young age of 45. In 2002, he received Distinguished Alumnus Award from the College of Engineering, Ohio State University and Outstanding Asian American Faculty Award from the University of Arizona in recognition of his achievements and contributions made to the advancement of his profession. In December 2005, Eurasian National University, Kazakhstan conferred him "Honorary Professorship". In August 2007, he organized and ran a successful International Conference on Soil & Rock Engineering in Sri Lanka. In January 2009, he organized and ran a high quality International Conference on Rock Joints and Jointed Rock Masses in Tucson, Arizona. He was the guest editor for two special issues published in the Jour. of Geotechnical and Geological Engineering. He received "Kwang-Hua Visiting Professorship" for 2009-2010 from the College of Engineering, Tongji University, China. He was a Recipient of "Guest Professorship" from Wuhan University, China for 2010-2013. A few years back, he also received an award from the Chinese Academy of Sciences to spend a sabbatical in China as a Senior Visiting Professor. In 2013 and 2016, he received Peter Cundall awards.



Zhen-Dong Cui, China: Land Subsidence Induced by the Engineering-Environmental Effect in Shanghai, China

KEYNOTE 2

Prof. Dr. Zhen-Dong Cui is the Dean of Institute of Geotechnical Engineering, China University of Mining and Technology. In July 2008, he obtained the PhD from School of Civil Engineering, Tongji University, Shanghai, China. Since then, he had been a postdoctoral research fellow in the Hong Kong University of Science and Technology for one year. He joined Shanghai Institute of Geological Survey in 2009. In July 2010, he joined CUMT as an associate professor and was promoted to full professor in 2013. Supported by China Scholarship Council, from Aug. 2015 to Aug. 2016, as a visiting scholar, he researched and studied in the department of Civil, Environmental and Architectural Engineering, University of Colorado Boulder. He won Nomination of 100 Excellent Doctoral Dissertations in China in 2011. He won Shanghai Excellent Doctoral Dissertations in 2010 and Excellent doctorate thesis of Tongji University in 2009. In 2015, he was awarded the third prize of Shanghai Natural Science. In 2003, he was awarded the second prize of Natural Science of the Ministry of Education. In 2008, he was awarded the second prize of Progress of Science and Technology in Shanghai. In 2012, he was selected as Qinglan Project for Outstanding Young Teachers of Jiangsu Province and in 2016, he was selected as 333 Talent Project in Jiangsu Province. In 2014 and in 2017, he was twice selected as Young Academic Leader of China University of Mining and Technology. In 2015, he was awarded as Excellent Innovation Team Leader of China University of Mining and Technology.

His research interests focus mainly on the urban subway tunnel, the deformation of soft foundation, the soil dynamics, the centrifuge model test and the artificial frozen soil. In the past 5 years, he took charge of National Natural Science Foundation of China (NSFC), Jiangsu Natural Science Foundation of China, Outstanding Innovation Team Project in China University of Mining and Technology and Special Fund for China Postdoctoral Science Foundation. He published more than 60 papers, in which 37 English papers (indexed by SCI) have been published in Engineering Geology, Natural Hazards, Computers and Geotechnics, Cold Regions Science and Technology, Environmental Earth Sciences, International Journal of Rock Mechanics and Mining Sciences, etc. He published three books. He has applied for 6 national invented patents, among which four patents have been awarded. He is the specialized committee member of the soft soil engineering of the geotechnical engineering branch of the Civil Engineering Society of China, the member of international society for soil mechanics and geotechnical engineering (ISSMGE) and the member of international association for engineering geology and environment (IAEG).



Janusz Wasowski, Italy : New Tools and Techniques of Remote Sensing for Geologic Hazard Assessment

KEYNOTE 3

Dr. Janusz Wasowski is a research geologist at CNR-IRPI (National Research Council - Institute for Geo-hydrological Protection) in Bari, Italy. Since 2016, he is also the Editor-in-Chief of Engineering Geology. Since 2011, he has held the positions of Visiting Professor at the Research School of Arid Environment and Climate Change, Lanzhou University, China and of Science Officer of the Natural Hazards Group Programme, European Geosciences Union (EGU). He is a Visiting Professor at the State Key Laboratory for Geohazard Protection (SKLGP), Chengdu University of Technology (CDUT), China (since 2018), and a Member of the Academic Committee of the SKLGP (CDUT), China (2016-2020). He is an internationally recognized scientist in the field of engineering geology, natural hazards and applied remote sensing. For nearly 30 years, Dr. Wasowski's work has covered a broad spectrum of research topics ranging from slope instability and landslide assessment, collateral seismic hazards, geotechnical field investigation and in situ monitoring, to exploitation of air/space-borne remote sensing and geophysical surveying in engineering geology. He has also served as a consultant for the National Department for Civil Protection, Italy, the Government of Gansu Province, China, and the Centre National de l'Information Géo-Spatiale, Haiti, focusing on landslides and other geohazards and on the application of satellite multi-temporal interferometry for monitoring terrain deformations and infrastructure stability. Since 2007 Dr. Wasowski has been a member of the Editorial Board of Engineering Geology (Elsevier) and the Quarterly Journal of Engineering Geology and Hydrogeology (The Geological Society, London). He is the author/co-author of over 150 articles/book chapters and the guest editor of 11 special issues published in international scientific journals.



Biswajeet Pradhan, Australia : Artificial Intelligence and Spatial Modelling in Natural Hazards and Environmental Applications

KEYNOTE 4

Before joining the School of Information, Systems and Modelling at the Faculty of Engineering and IT, Biswajeet was a Full Professor of GIS and Remote Sensing at the Faculty of Engineering, Universiti Putra Malaysia. He has more than nineteen years of teaching, research, and industrial experience in the field of Geospatial Information Systems. He is listed as the World's most Highly Cited researcher by Clarivate Analytic's Report in 2017 and 2016 as one of the world's most influential mind. He is a recipient of Alexander von Humboldt Research Fellowship from Germany. In 2011, he received his habilitation in "Remote Sensing" from Dresden University of Technology, Germany. He was also a recipient of German Academic Exchange Research (DAAD) Fellowship Award, the Saxony State Fellowship from 1999 to 2002, the Keith Aurtherton Research Award, and the Georg Forster Research Award from the German Government. Since February 2015, he is serving as "Ambassador Scientist" for Alexander Humboldt Foundation, Germany. He has widely travelled abroad visiting more than 55 countries to present his research findings.



He received the B.Sc. degree (with honours) from Berhampur University, India, the M.Sc. degree from the Indian Institute of Technology (IIT), Bombay, India, the M.Tech. degree in civil engineering from IIT, Kanpur, India, and the Dresden University of Technology, Dresden, Germany, and the PhD degree in GIS and Geomatics engineering from the University Putra Malaysia, Serdang, Malaysia.

Turgay Ertekin, USA : Use of Artificial Intelligence in Determining the Location of Infill Wells in Hydrocarbon Exploration and Production Activities

KEYNOTE 5

Turgay Ertekin is a professor emeritus of Petroleum and Natural Gas Engineering at Penn State University. Prior to his retirement, he was the holder of the George E. Trimble Chair in Earth and Mineral Sciences. At Penn State he served for 30 years as the Chair of the Petroleum and Natural Gas Engineering Program and for 4 years as the Head of the Energy and Mineral Engineering Department. Ertekin in his research programs with his graduate students emphasizes on fluid flow dynamics in porous media and develops numerical models and artificial expert systems applicable to hydrocarbon reservoirs. He has supervised the thesis work of 56 PhD and 111 MS students to completion. He is the author of more than 300 papers and four books and has given more than 300 invited presentations and workshops in different parts of the world. Ertekin is a Distinguished Member and was a Distinguished Lecturer of the Society of Petroleum Engineers and is a recipient of the SPE Distinguished Faculty Achievement and SPE Lester C. Uren awards. In 2013 Ertekin has been elected as the Honorary Member of the Society of Petroleum Engineers. Ertekin for a two-year period served as the executive editor of SPE Formation Evaluation Journal and currently is serving as an editor-in-chief for the Journal of Petroleum Exploration and Production Technology. Ertekin has received his B.Sc. and M.Sc. degrees in petroleum engineering from Middle East Technical University in Ankara, Turkey and his Ph.D. in petroleum and natural gas engineering from the Pennsylvania State University in U.S.



Beatriz Bádenas, Spain : Facies Architecture in Carbonate Ramps: Learned Lessons from Jurassic Case Studies in the Iberian Basin

KEYNOTE 6

Dr. Bádenas obtained a five-year B.Sc. in Geology (1991) and a Ph.D. degree in Stratigraphy (1999) at the Earth-Science Department of the University of Zaragoza (Spain), where she teaches courses in Stratigraphy and Sedimentology since 1998. Her research interests mainly focus on Sedimentology and Sequence and cyclostratigraphic analyses of marine carbonate sediments, with special emphasis on sedimentary processes and facies heterogeneities from coastal to hemipelagic sediments. She is currently working in a multidisciplinary research project on the palaeoenvironmental reconstructions of the Jurassic and Cretaceous in the Iberian Plate. She has co-published near one hundred research articles in international indexed and refereed journals. Since 2011, she is member of the editorial board of the journals edited by the Geological Society of Spain, and from 2016 she is Associate Editor of Stratigraphy and Sedimentology of the Arabian Journal of Earth Sciences.



Christian Gorini, France : Vanished Ocean: How Tethys Re-shaped the World

KEYNOTE 7

Christian Gorini is a full Professor of the University of Pierre et Marie Curie (PR1 Paris 6) specialized in marine geology and basin research. His research interests include integrated onshore and offshore studies concerning shallow to deep marine Environments (source to sink). One of his important contributions consists in the knowledge of a huge Paleo-environmental crisis: the Messinian salinity crisis in the deep basins of the Western and Eastern Mediterranean area. He is involved in High resolution seismic interpretation work on the Plio-Quaternary architecture and cyclicity of shelf depositional systems in the Santos Basin and the Gulf of Lion margin. He has a worldwide experience in seismic and sequence stratigraphy and their application in basin research, paleoceanography, geological hazards and hydrocarbon exploration. He is member of the Continental margin group of ICM CSIC of Barcelona.



Dorrik Stow, UK : Mediterranean Sea Level and Bathymetry of the Deep Basin during the Salt Giant Deposition: Inference from the Seismic- and Litho-Facies

KEYNOTE 8

Professor Stow FRSE, FGS, PhD, MA, BA is a world-renowned sedimentologist, geologist and oceanographer with wide-ranging interests and an extensive record of publications in both research and teaching, including over 300 scientific papers, books and edited volumes. Research: He specialises in deep sea sedimentary systems – modern, ancient and sub-surface. Current research programmes are focused on contourites and turbidites, their sedimentary facies, depositional processes. He has worked in and with the oil industry, particularly in their ongoing quest for deep-sea oil and gas and on new and tight reservoir targets. He has led major international missions for scientific drilling into the deep Indian Ocean seafloor (ODP 116) and Gulf of Cadiz (IODP 339 on Mediterranean Outflow), and carried out research or provided training courses in more than 50 countries worldwide. General: He maintains a strong interest in the field of geoscience, development, and capacity building, especially concerning the petroleum and energy sectors, hazard mitigation, geoscience education and marine management. He is enthusiastic for the popularisation of ocean and earth sciences through public lectures and broadcast, and recent popular science books with Oxford University Press. Education: Cambridge University BA, MA, Dalhousie University (Canada) PhD. Career: Academic positions at Edinburgh, Nottingham, and Southampton Universities. Visiting Professorships in France, Spain and China. Industrial positions in Britoil and BP. Joined Heriot-Watt University in 2008 as Professor of Petroleum Geoscience at the Institute of Petroleum Engineering, became Director of Research and Director of the Edinburgh Collaborative of Subsurface Science and Engineering (ECOSSE). Assumed the role of Head of Institute from 2012-2017. Currently Professor of Geoscience.



Mohamed Soussi, Tunis : Phanerozoic Global Sea-Level Changes: Evidences from Tunisia illustrating how Eduard Suess' Concepts (Gondwana, Tethys, Eustatism) are still relevant

KEYNOTE 9

Dr Soussi has Twenty-eight years' experience in research and teaching on Sedimentary Basins, Sedimentology, Sequence stratigraphy and Petroleum geology. He is Professor at the Faculty of Sciences of Tunis of University of Tunis El Manar, and Director of the Laboratory: Sedimentary Basins and Petroleum Geology. He is widely recognized as an expert in the Petroleum Geology of Tunisia through several projects conducted for international oil companies on the Ordovician, Triassic (Ghadames basin), Jurassic, Cretaceous and Tertiary Petroleum systems, particularly their carbonate reservoirs (Atlas and Pelagian block) from surface geology, E-logs and core data analysis.



Celâl Şengör, Turkey : Eduard Suess and the Essence of Geology

KEYNOTE 10

A. M. Celâl Şengör is professor of geology in the İstanbul Technical University. He is the author, editor, co-author or co-editor of 18 books and some 275 research papers on diverse aspects of geology. In 2004-2005 academic year, he held the Chaire International in Collège de France. Şengör is a member of the Academy of Science in İstanbul, the Academia Europaea and the Leopoldina German National Academy of Sciences. He is also a foreign associate of the U.S. National Academy of Sciences and the Russian Academy of Sciences and a corresponding member (abroad) of the Austrian Academy of Sciences. Şengör also received numerous awards and medals for his work on geology, including the Arthur Holmes Medal of the European Geosciences Union, the Steinmann Medaille of the Geologische Vereinigung, the Bigsby Medal of the Geological Society of London and the Lutaud Award of the Academy of Sciences in Paris. He is also the author of 13 books in Turkish on popular science, philosophy of science and science politics plus numerous articles on these topics in popular magazines and newspapers in Turkey.



Sheryl Luzzadder-Beach, USA : Using Water Chemistry to Understand Ancient Maya Land and Water Use Interactions

KEYNOTE 11

Dr. Sheryl Luzzadder-Beach is Professor in the Department of Geography and the Environment at the University of Texas-Austin, where she is Fellow of the C.B. Smith, Sr. Centennial Chair in U.S.-Mexico Relations. She recently completed her term as Department Chair (2014-2018), as the first and only woman to ever lead the Department. Dr. Luzzadder-Beach is also Associate Faculty of the Theresa Lozano Long Institute of Latin American Studies, Affiliated Faculty of the Center for European Studies and the Bernard and Audrey Rapoport Center for Human Rights and Justice at UT. She was Professor of Geography and Associate Provost at George Mason University, where she was a faculty member for over 20 years prior to arriving at UT Austin. She is currently the President of the American Association of Geographers (2018-19). She serves as Associate Editor for the Arabian Journal of Geosciences. Dr. Luzzadder-Beach was awarded, along with Dr. Tim Beach, the 2010 AAG G.K. Gilbert Outstanding Research Award in Geomorphology, and in 2013 she was recognized with the GMU College of Science Outstanding Publication Award. In 2018 Drs. Luzzadder-Beach and Beach were both selected as CSU Chico's 2018 Distinguished Alumni for the College of Behavioral and Social Sciences. She specializes in physical geography, hydrology and geomorphology, water chemistry, geoarchaeology, geostatistics, and gender, science and human rights, with field research in Mesoamerica, California, the Mediterranean and Near East, and Iceland. Dr. Luzzadder-Beach's research has been funded by grants from the National Science Foundation, the National Geographic Society, and the National Aeronautics and Space Administration, among other sources, publishing more than 50 peer reviewed book chapters and articles. Dr. Luzzadder-Beach is the Founding Director of the Water Quality and Environmental Hydrology Lab in the Department of Geography and the Environment at UT Austin. She received both her M.A. and Ph.D. in Geography from the University of Minnesota- Minneapolis, and her Bachelor of Arts in Geography from California State University at Chico.



Timothy Paul Beach, USA : An Early Anthropocene Analog: the Geomorphology and Hydrology of the Rio Bravo Watershed in the Belize Tropics

KEYNOTE 12

Tim Beach holds The C.B. Smith, Sr. Centennial Chair in United States - Mexico Relations #2 and directs the Beach-Butzer Soils and Geoarchaeology Lab in Geography at the University of Texas at Austin. For twenty-one years, he taught at Georgetown University, where he held the Cinco Hermanos Chair and was Professor of Geography and Geoscience and Director of the STIA and Environmental Studies Programs. He has conducted field research on soils, geomorphology, paleoecology, wetlands, and geoarchaeology in the Corn Belt of the United States, Mexico, Belize, Guatemala, Nicaragua, Syria, Turkey, Iceland, Colombia, Italy, and Germany funded by the National Science Foundation, the National Geographic Society, USAID, The University of Texas at Austin, and Georgetown University. These field seasons have been the bases for more than one hundred peer-reviewed articles and chapters and hundreds of scientific presentations around the world, including at the Vatican in 2017. Most of his publications were on long-term environmental change, soils and geomorphology, paleoclimate, and geoarchaeology in the Maya world. He was elected as a Fellow of the American Association for the Advancement of Science and awarded Guggenheim and Dumbarton Oaks Fellowships, the G.K. Gilbert Award in Geomorphology, Georgetown University's Distinguished Research Award in 2010, Georgetown's School of Foreign Service's Faculty of the Year for Teaching Excellence in 2014, the Carl O Sauer Award in 2017, and the CSU Chico Alumni of the Year in 2018.



Essam Heggy, USA : Exploring Desert Aquifers and Polar Ice Sheets and their Role in Current and Paleo-Climatic Evolution

KEYNOTE 13

Dr. Essam Heggy is a Research Scientist at the Microwave Systems, Sensors and Imaging Lab (MiXIL), at the Viterbi School of Engineering at the University of Southern California and affiliate of the Rosetta project at the NASA Jet Propulsion Laboratory. Heggy obtained both his MSc. and Ph.D. respectively in 1999 and 2002 with distinguished honors from the Paris VI University in France (UPMC-Sorbonne). His research focuses on understanding water evolution in Earth's arid environments as well as planetary surfaces using radar surface and subsurface characterization methods. His research particularly focuses on understanding volatile evolution in the North African Sahara and Arabian Peninsula, as well as Mars, the Moon, Jovian icy satellites and Near-Earth Objects. His work involves probing structural, hydrological and volcanic elements in terrestrial and planetary environments using different types of radar imaging and sounding techniques as well as measuring the electromagnetic properties of rocks in the radar frequency range. He is currently a member of the science team of the MARSIS instrument aboard the Mars Express orbiter (2003-present), the Mini-SAR experiment aboard Chandrayaan-1, the Mini-RF experiment on board the Lunar Reconnaissance Orbiter (2008-present), the CONSERT radar experiment aboard the Rosetta mission (2004-present) and the WISDOM GPR onboard ExoMars 2020 Rover (2008 to Present). He also edited a special JGR-Planets (AGU) volume on terrestrial and planetary radars. He is on the founding editorial board of the Journal of Arctic Geoscience ARKTOS (Springer), Geosciences (MDPI), National Geographic and co-chaired several sessions in international conferences and workshops on terrestrial and planetary radar subsurface imaging including AGU, LPSC and IEEE meetings.



Michael Sarnthein, Austria : Fifty Years of Paleoceanography: Major Achievements in our Understanding of Past and Future Climate Change – Some Memories and Hearsay

KEYNOTE 14

Michael Sarnthein is one of the leading paleoclimatologists and marine geologists in the world. He played a central role in the development of paleoceanography in Germany, and became a major player in the international community. He has published extensively and has contributed significantly to better understanding of Quaternary Ocean and climate history. The standard of excellence of his contributions his insistence on detail and high chronological resolution have provided crucial insight into oceanic processes involved in abrupt and orbital-scale climate change. He has been a leader in setting high standards of investigation that have generally improved the quality and rigour of investigations utilizing deep-sea sediments. He has also pioneered the multi-proxy approach that has proven invaluable for the interpretations of past environmental change.



Michael Sarnthein is one of the world's foremost authorities on the paleoceanographic history of the high-latitude North Atlantic Ocean. He was an important contributor to the discovery that a sequence of abrupt ocean circulation changes was associated with deglacial events involving different ocean states in the north Atlantic. He has been able to relate these changes in state to meltwater events, ice sheet instability and surface water salinity and temperature changes and to place them within the most solid of radiocarbon chronologies of any studies in the world. In doing so he has been able to help demonstrate the strong linkage between deep-water circulation and climate change at high latitudes.

Throughout the last several decades, Michael Sarnthein has always been at the forefront. His extensive work on the Quaternary history of West African margin upwelling was an early demonstration of connections between climate change and surface ocean productivity, organic carbon deposition and the carbon isotopic record. These studies had important implications for explaining variations in atmospheric carbon-dioxide concentrations. He also made early and important advances in understanding of the sedimentary environment of the monsoon history in the Arabian and China Seas. His work also includes one of the earliest demonstrations of the remarkable extent of aridity of the earth during the last glacial episode.

Michael Sarnthein's impact on the advancement of science also involved many technical and organizational activities. He was the primary force behind the development of the "Kiel Device" for automated analysis of the stable isotopic composition of carbonates, now widely employed in laboratories; he led the development of an important AMS radiocarbon laboratory in Germany; he effectively served in numerous leadership roles in international committees on climate change, and directed, for some time, the important IMAGES coring program which led to major advances in understanding abrupt climate change and ocean margin paleoceanography. Furthermore, he has produced many graduate students of the highest quality who, in turn, have contributed significantly to scientific advances. These former students now take their places as valued members of the international paleoclimate community where, combined with their mentor's technical and scientific contributions, they serve as the continuing legacy of Michael Sarnthein.

Since 2015, Michael Sarnthein is a Fellow of the American Geophysical Union (AGU). In 2006, the Milutin Milankovic Medal was awarded to Michael Sarnthein by the European Geosciences Union (EGU) for his valuable work on Quaternary climate changes, and for his leadership role in the palaeoceanographic investigations of deep-sea sediments from the Atlantic, Pacific and Indian oceans.

Hesham M. El-Askary, USA : Strong Interactions Indicated Between Dust Aerosols and Precipitation Related Clouds in the Nile Delta

KEYNOTE 15

Prof. El-Askary received his Ph.D. in Computational Sciences and Informatics from George Mason University in 2004. He is the 2015 recipient of the Chapman University's elite Senior Wang-Fradkin Professorship award. In 2016, he was named as the regional coordinator on a \$3 million Euro grant from the European Union's (EU) Horizon 2020. The three year project, known as GEO-CRADLE, deals with Coordinating and integrating state-of-the-art Earth Observation Activities in the regions of North Africa, Middle East and Balkans and Developing Links with GEO related initiatives toward GEOSS. Through this work he with the research team were able to deliver the first analytical solar Atlas of Egypt that is now considered to be the official document of the government for solar investment. This work was recently presented at Planet Earth Institute at the Royal Society in London during a seminar that discussed the future of solar energy in Africa. His research interests include dust storms monitoring and detection using different remote sensing technologies as well as studying other extreme events. He is also involved in studying air pollution problems over mega cities due to natural and man-made effects as well as climate change and its impacts on sea level rise and coral reefs for coastal areas. His research also included using earth observations in studying impact of sever dust storms anomalous chlorophyll outbreaks in the marine environment, hurricanes intensification as well as transport of microbes' causing Kawasaki disease outbreaks. Recently Prof. El-Askary has been focusing on using earth observations for water resources management, precision agriculture along the sustainable development goals. Today Prof. El-Askary views himself as an Earth System Scientist with a major interest in natural hazards, atmospheric events and using renewable energy as the only way to address global climate change issues. Prof. El-Askary has published over a 100 refereed research publications, conferences full paper and book chapters in these research areas. Dr. El-Askary's research has been supported by National Science Foundation, NASA, United States Department of Agriculture and European Union. Dr. El-Askary has received the Saudi Arabia award hosted by the Arab Administrative Development Organization (ARADO) affiliated with the League of Arab states for the best published article in Environmental Management among 150 articles in 2006. He is also member of the Institute of Electrical and Electronics Engineers (IEEE), AGU, EGU, COSPAR, and Phi



Enrico Drioli, South Korea : Innovation in Process Engineering for Hydrology

KEYNOTE 16

Enrico Drioli Emeritus Professor at the School of Engineering of the University of Calabria. Founding Director of the Institute on Membrane Technology, CNR, Italy. Since 2018 Guest Professor of School of Marine Science and Technology of Harbin Institute of Technology, Weihai, P.R.China. Since 2012 Distinguished Adjunct Professor, CEDT King Abdulaziz University, Jeddah Saudi Arabia; since 2010 WCU Distinguish Visiting Professor, at the Hanyang University, Seoul Korea; His research activities focus on Membrane Science and Engineering, Membranes in Artificial Organs, Integrated Membrane Processes, Membrane Preparation and Transport Phenomena in Membranes, Membrane Distillation and Membrane Contactors, and Catalytic Membrane and Catalytic Membrane Reactors. He is involved in many International Societies, Scientific Committees, Editorial Boards, and International Advisory Boards. Currently Chairman of the Section on «Membrane Engineering» of the European Federation of Chemical Engineering and coordinator of EU-EUDIME Doctorate School on Membrane Engineering. He has been coordinator of several international research projects. He is Honorary President of European Membrane Society (1999). He is the recipient of various Awards and Honours, ex. "Richard Maling Barrer Prize" of the EMS, Academician Semenov Medal of Russian Academy of Engineering Science, MIAC International Award for his contributions in the field of Membrane Science and Technologies, etc. He is author of more than 850 scientific papers, 22 patents and 28 books on Membrane Science and Technology.



Pablo León Higuera, Spain : Biogeochemical Mapping: a New Tool to Assess the Soil Quality and Health

KEYNOTE 17

PABLO L. HIGUERAS is Graduated (1981) and PhD (1994) at University of Granada (Spain). From 1981 to 1984 he worked as Project Geologist at the consulting company "Investigaciones Geológicas y Mineras S.A.", INGEMISA, in Córdoba; and from 1984 to 1990, at the mining company "Minas de Almadén y Arrayanes S.A.", MAYASA, in Almadén (Ciudad Real), also as a project geologist. In both companies he participated in the development of mining research projects, for different clients, including the Spanish Geological Survey (IGME), and different mining companies.

In March 1990 he passed to the University of Castilla-La Mancha, where he has developed his academic and research carrier, reaching the level of Full Professor in Mining Exploration in 2008. He is integrated in the Department of Mining and Geological Engineering, teaching at the Almadén Scholl of Mines the subjects of "Ore Deposits" and "Mining Environmental Technology".

His research carrier started with some minor publications and communications in regional and national conferences during the years at INGEMISA and MAYASA. Since year 1999 he has been the leader of some 14 research projects funded by Regional, National or International (LIFE Environment Programme) funding agencies or institutions. Besides, he has also been the leader of some 20 research projects funded by different companies. Since its creation in 2010, he is the head of "Instituto de Geología Aplicada" (IGeA-UCLM), research institute of this University based in Almadén, and clustering the researchers linked to studies on Earth Sciences at UCLM.

The main research lines characteristic of his activity have been, successively: i) geological and geochemical characterization of sulfides ores deposits; ii) applications of geochemistry to ore deposits prospecting; iii) applications of geochemistry to the characterization of mining-related contamination; iiiii) atmospheric geochemistry of mercury; and iiiiii) biogeochemistry of mining-related contaminated areas. Besides, he has collaborated sporadically in several additional research lines, always in collaboration with researchers from a large number of Spanish and international research institutions worldwide.

Linked to his research activity, he has been the author or co-author of some 150 scientific publications, 80 of them published in JCR journals, and has presented or co-authored some 200 communications in national or international conferences. The JCR publications has a HIndex of 20 (Scopus.com).

His research activity has also implied short stays in a large number of countries, with different missions, both academic (participation in courses) and scientific-technical (collaboration in different tasks with technicians and academics from the corresponding countries). These include invited stays in Chile (10 times), Colombia (3 times), Venezuela (3 times), Bolivia (2 times), Perú (2 times), Argentina (2 times), México, Italy (U. Trieste; 3 months); Germany (3 times), or Kirgizstan (3 times), among others.



Michael Weber, Germany : The Alps Revisited – 4D-MB, the German Contribution to the AlpArray Mission

KEYNOTE 18

Dr. Michael Weber is a full Professor of Geophysics at University of Potsdam in Germany since 1998. He is also Head of Section Geophysical Deep Sounding at The Helmholtz Centre Potsdam - GFZ German Research Centre for Geosciences since 1997. His research interests cover the development and application of geophysical methods (seismics, seismology, magnetotelluric, modelling) for interdisciplinary connection with other geo-disciplines - with the aim to understand processes and for applications on scales ranging from plate tectonics to near surface processes. Applied aspects include the study of near surface processes, shale gas and geothermal reservoirs.



François Roure, France : Tethyan and Alpine Controls on the Crustal Architecture of the Tunisian and Algerian Atlas and Tell: Needs for Coupled Deep Seismic Soundings and Tomography

KEYNOTE 19

François Roure was trained at the ENS in St-Cloud in France. He got his Ph.D. at Paris VI University in 1979 and his "thèse d'état" in 1984 at the same university, dealing the geodynamic evolution of the North American Cordillera in northern California and Oregon during the Mesozoic. After 4 years spent with CNRS (1980–1984), he joined the French Institute of Petroleum (IFP) in 1984, and was still senior geosciences advisor at IFP Energies nouvelles (<http://www.ifpenergiesnouvelles.fr>), the current name of former IFP, from 2000 to 2018, extraordinary professor at the University of Utrecht, the Netherlands, from 2012 to 2016, and member of the CNE2 (French assessment board for research and the studies into the management of radioactive waste and materials, <http://www.cne2.fr>) from 2010 to 2016. Together with Magdalena Scheck-Wenderoth from GFZ, François was also leading from 2005 till 2015 the Task Force 6 on Sedimentary basins from the International Lithosphere Program (ILP, with support from IUGS and IUGG, <http://www.scl-ilp.org/>). Until 1995, his main research topic was the crustal architecture of the Alps and Pyrenees (Ecors program), and the petroleum systems offshore fold-and-thrust belts in the Apennines, Carpathians, Albania, Sicily, Alaska and Venezuela. After a sabbatical year spent at the USGS in Menlo-Park, California (1994–1995), François initiated numerous international joint industry projects for reservoir appraisal (SubTrap, Sub-thrust reservoir appraisal) in the Himalayan foothills in Pakistan, in sub-Andean basins in Venezuela and Colombia, as well as in the North American Cordillera (Mexico and Canadian Rockies). More recently, he was also involved in the study of the crustal architecture of the Northern Emirates and North Algeria (Tellian and offshore domains). He received the following awards:

- Charles Jacob prize from the French Academy of Sciences (1996)
- Distinguished Lecturer for the AAPG (1998)
- Alfred Wegener prize from the EAGE (2010)
- André Dumont medal from Geologica Belgica (2012)



Nadine Ellouz-Zimmermann, France : Impact of the Geodynamics on Tectonic and Climatic Risk Instabilities in Interior Seas: Insights of Land-to-Sea Study on Caribbean Pathways (Haiti) – Potential Application on Mediterranean Tomography

KEYNOTE 20

After accomplishing her PHD on subsidence modeling of the central, eastern Tunisian Basins and Pelagian Sea in 1984 at Paris VI University under the supervision of X. Le Pichon, Dr. Ellouz-Zimmermann joined the University of Sfax in Tunisia for teaching Geology and Geophysics at ENIS during 5 years. Afterward, she joined Elf AQUITAINE in France and BEICIP for two years, working on offshore regional synthesis. In 1989, she joined the Institut Français du Pétrole (IFP) where she is still in function until today. She has been working on various basins and fold and thrust belts in the world respectively: Atlantic, Mediterranean, Arabian and Indian margins; Carpathians, Himalayas (Pakistan India), N. and Central Americas, N. Africa, and Greenland. For few years, she developed a project dealing with fault activity and interaction with natural CO₂ escape (in Utah and Rockies front), and analyses natural sequestration in travertines. Since 2011, at IFPEN, she has been focusing her interest on the N. Caribbean domain, coupling offshore and onshore acquisitions across this complex Transform boundary. Along this very active margin she developed projects, by coupling regional and different time scales: from the long-term geodynamic, tectonic and sedimentary heritages to the recent seismic activity ones. The latter being actively used for geological and societal risk assessment. Dr Ellouz-Zimmermann is a specialist in Tectonics, Field Geology, Basin Modeling and Petroleum systems.



Martin Mai, Saudi Arabia : Rupture Dynamics and Seismic Radiation on Multi-Scale Geometrically Complex Faults

KEYNOTE 21

Prof. P. Martin Mai is Professor of Geophysics, in the Physical Sciences and Engineering Division at KAUST. He joined KAUST in June 2009 as founding faculty member. Prior to his affiliation with KAUST, Prof. Mai worked as senior research scientist at ETH Zurich, Switzerland. Since 2003, Prof. Mai has supervised more than twenty PhD and MSc students, guided more than ten postdoctoral researchers, and served on numerous student evaluation committees. Prof. Mai is an active member of the American Geophysical Union (AGU), the Seismological Society of America (SSA), the European Geosciences Union (EGU), and the German Geophysical Society (DGG). Prof. Mai has published over 80 peer-reviewed papers in highly ranked international journals, has (co-)organized several international workshops and conferences, and chaired many special sessions at international conferences. In 2015, he was elected Division President of the Seismology Division of the European Geosciences Union (EGU); he will serve in this capacity until April 2019. Prof. Mai is also the Chair of the Earth Science Faculty and the Associate Dean for the Division of Physical Sciences and Engineering at KAUST.

Research Interests

In Professor Mai's research, he and his team members and collaborators investigate the physics of earthquakes and the complexity of earthquake phenomena, focusing on earthquake-source imaging, dynamic rupture modeling, and earthquake mechanics. His work extends to strong ground-motion properties and near-source seismic wave-field simulations that include wave scattering in heterogeneous media. As such, his work spans from fundamental earthquake physics to earthquake-engineering applications, by quantifying earthquake source complexity to improve ground-motion simulation for seismic hazard assessment. In addition, he works on uncertainty quantification in earthquake source studies, leading an international collaboration to perform numerical experiments for validating and improving earthquake source inversion strategies.

The second major thrust in Prof. Mai research investigates the Earth's structure underneath Saudi Arabia, using seismic data recorded by the Saudi Geological Survey and by their own observational network. The goal is to better image the structure of the Earth crust and upper mantle underneath the Arabian plate, as these affect our ability to locate earthquake and understand their tectonic origin. As such, these fundamental studies facilitate further seismological research in Saudi Arabia, as well as studying the geodynamic context of the Arabian plate and the Red Sea.





COURSES

- **COURSE 1 - Broder J. Merkel, Germany :** Water-rock interaction modeling with PHREEQC
- **COURSE 2 - Dorrik Stow, Scotland:** Deepwater Sedimentary Systems: Facies, Architecture and Petroleum Significance
- **COURSE 3 - Maurizio Barbieri, Italy :** Application of stable isotopes in environmental tracer studies
- **COURSE 4 - Hesham M. El-Askary, USA:** Observations of the Earth's Spheres and the Changing Climate

Broder J. Merkel, Germany : Water-rock interaction modeling with PHREEQC

COURSE 1

Water-rock interactions are important for many processes on earth. Some of them are fast while others are rather slow in view of reaction kinetics. Sorption as an example is normally always rather fast (minutes to hours until equilibrium is reached) while precipitation or solution of minerals covers a huge range from hours to geological times (thousands of years). Models based on kinetics are costly in terms of CPU time and do need site specific reaction rates for all processes. On contrary models based on thermodynamics are less costly and utilize commonly available log-K values for chemical reactions. Thus combining both thermodynamics and kinetics is often a feasible approach to simulate actual situations and problems. PHREEQC is used in this short course to demonstrate how certain problems can be solved.



Dorrik Stow, Scotland : Deepwater Sedimentary Systems: Facies, Architecture and Petroleum Significance

COURSE 2

Scientific understanding of processes, sediments and architecture in the deep sea is advancing rapidly. Turbidite reservoirs are currently the principal target for oil and gas exploration, with over 1600 existing fields, whereas contourites are the petroleum play of the future. Improved geohazards mapping in deepwater is vital, especially as over 90% of internet communications is via submarine cables. This course will provide a state-of-the-art overview of the very complex deep marine system. It will outline the processes and facies and how they evolve on the slope and in the open ocean; discuss how these facies build into distinctive architectural elements and how they can be recognized in the subsurface, using seismic records, wireline logs and borehole cores. Both modern seafloor and ancient outcrop analogues provide quantifiable attributes for the component elements of deepwater systems. Examples from deepwater hydrocarbon plays around the world will be used as case studies. Participants may bring their own datasets and questions for a final discussion session.



Maurizio Barbieri, Italy : Application of stable isotopes in environmental tracer studies

COURSE 3

Stable isotopes are being increasingly applied in earth sciences to study environmental-related processes. This course provides an introduction to the theory and application of stable isotopes in earth and environmental sciences. In particular, isotope-based methodologies have become well established within the hydrological community for water resource assessment, development and management, and are now an integral part of many water quality and environmental studies. These methodologies usually rely on «tracing» either isotope species naturally occurring in water (environmental isotopes) or on isotope tracers intentionally introduced into them. The list of stable isotopes that has important implications for water resources management has grown in recent years. In this context, the course will give an opportunity to explore some of stable isotopes techniques with examples and applications.



Hesham M. El-Askary, USA : Observations of the Earth's Spheres and the Changing Climate

COURSE 4

There is no point in denying climate change. We are living in a dynamic interactive system made up by a series of spheres namely, the atmosphere, the hydrosphere, the cryosphere, and the biosphere. We just focus on global warming, rising temperature and CO2 emissions! What about the domino effect in our fragile Earth system? This course will briefly discuss different aspects of these effects associated with the above mentioned spheres of the Earth system, how they interact to shape the environment in which we live? and how they are affected by our changing climate? Remote Sensing and Earth observations concepts will be employed and discussed to show how we can benefit from them.





WORKSHOPS

- **WORKSHOP 1 - François Roure, France & Sami Khomsi, Saudi Arabia:** From basin-scale to crustal and lithospheric architecture of the Maghrebides and their Atlasic-Saharan foreland: Needs for coupled deep seismic soundings and tomography
- **WORKSHOP 2:** Late Jurassic-Cretaceous Rudist palaeobiology and applications: Progress and prospects (cancelled)
- **WORKSHOP 3 - Nabil Khélifi, Germany:** How to prepare a successful scientific paper
- **WORKSHOP 4 - Amjad Kallel, Tunisia:** Step-by-step process for the submission and handling of manuscripts on the Editorial Manager system

15

08:30 ~18:00

NOV.

WORKSHOPS

François Roure, France & Sami Khomsi, Saudi Arabia: From basin-scale to crustal and lithospheric architecture of the Maghrebides and their Atlasic-Saharan foreland: Needs for coupled deep seismic soundings and tomography

WORKSHOP 1

Since the mid 80ies, national and international deep seismic reflection profiles have provided unique controls on the Moho and crustal architecture beneath sedimentary basins, tectonic wedges and adjacent forelands, mostly in North America and Europe. More recent and still ongoing 3D mantle and crustal tomography programs based on 3D passive seismic recording have also documented lateral seismic anisotropies and vertical seismic reversals in tectonic wedges and adjacent forelands. They provide accurate velocity models which can also be used for depth conversion and processing of more conventional reflection profiles. Mantle tomography has been successful in documenting the vertical and lateral extent of lithospheric slabs and crustal delamination. The lack of such deep controls in North African tectonic wedges and adjacent forelands still precludes any prospection of deep plays. For instance, deep seismic soundings profiles would be of huge interest for better controlling the geodynamic and thermal evolution of North African sedimentary basins, for unlocking new exploration objectives, as well as better documenting the deep architecture of active fault systems. Therefore, the aim of this roundtable is to stimulate the interest of both national and international research teams, agencies and companies for these topics, and to investigate the possibilities to launch ambitious North African crustal imagery projects.



15

11:00~12:30

NOV.

Nabil Khélifi, Germany : How to prepare a successful scientific paper

WORKSHOP 3

Publication must be seen as an important, if not the most important, part of the research process. However, writing research papers for academic journals is not easy and is also very competitive. After producing data and generating ideas from your research, how do you write a clear and concise paper that attracts the attention of journal editors? How should you prepare a cover letter? How should you respond to reviewer reports? A Senior Publishing Editor from Springer Nature in Heidelberg, Germany shares his advice during three hours on how to effectively write and structure your paper, prepare a cover page and respond to reviewers' comments.



15

8:30~10:30

NOV.

Amjad Kallel, Tunisia : Step-by-step process for the submission and handling of manuscripts on the Editorial Manager system

WORKSHOP 4

Research papers submitted for publication in academic journals require fastidious tasks through a long pathway until the day of publication. Journal editors are the hub of the process and have to handle many submissions without sacrificing quality and integrity of the journal. In addition, editors still have to carefully check whether the research being reported have been conducted in an ethical and responsible manner. Submission/evaluating systems such as Editorial Manager (EM) are used by many journal editors allowing them to handle several hundreds of submissions each year. How to efficiently use and manipulate the various features of EM from an initial submission until rendering a final decision (technical check and similarity report, targeting/inviting relevant reviewers, responding to authors queries, following up with associate editors and reviewers, etc.)? This short course intends to present/discuss the main steps for a successful editing process: What should be done and how it is done?



TRACK 1.

Climate, paleoclimate and paleoenvironmental changes



Track Editors/Chairs

- **Zhihua Zhang (AJGS Editor):** College of Global Change and Earth System, Beijing Normal University, Beijing, China
- **Nabil Khélifi (AJGS Editor):** Earth Sciences Editorial Department, Springer, Heidelberg, Germany
- **Abdelkader Mezghani (Guest Editor):** Norwegian Meteorological Institute, Norway
- **Essam Heggy (Guest Editor):** University of Southern California & NASA Jet Propulsion Laboratory, Caltech, USA

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Zhihua Zhang · Nabil Khélifi · Abdelkader Mezghani
Essam Heggy *Editors*

Patterns and Mechanisms of Climate, Paleoclimate and Paleoenvironmental Changes from Low-Latitude Regions

Proceedings of the 1st Springer Conference of the
Arabian Journal of Geosciences (CAJG-1), Tunisia 2018

- **ID829: Holocene paleoclimatic variation inferred from study of sediments in the gulf of Tunis (North Africa)**
Nizar Ouertani, Soumaya Yahyaoui
- **ID947: The Thar Desert Calcretes: A Proxy for Understanding Late Quaternary Paleoclimate Shifts**
Hema Achyuthan
- **ID799: Reconstruction of Holocene paleoenvironmental changes along northern coast of Sfax: analysis of foraminiferal associations**
Afef Khadraoui, Jérôme Bonnin, Chahira Zaïbi, Fekri Kamoun
- **ID803: Evolution of Korba Lagoon (Cap Bon, Tunisia) during the last millennia based on the analysis of foraminiferal assemblages**
Asma Ben Hamad, Chahira Zaïbi, Martin R. Langer, Fekri Kamoun
- **ID956: Paleoenvironment evolution of a paralic system, El Guettiate and Dreïaa sebkhas (Gulf of Gabès, Tunisia)**
Zeineb Gargouri, Kamel Zouari
- **ID922: Long-Term Ground Based Precipitation Data Analysis in California: Spatial and Temporal Variability**
Luciano Rodriguez, Cyril Rakovski, Mohamed Allali, Hesham El-askary
- **ID181: CORRELATION BETWEEN NAO AND RADIO REFRACTIVE INDEX OVER AFRICA**
Joseph Dada, Adekunle Adediji, Kayode Adedayo, Moses Ajewole
- **ID861: Impacts of relative sea level change and sedimentary dynamic on an historic site expansion along the coast between Sfax and Jebeniena, Tunisia**
Mohamed Kamoun, Afef Khadraoui, Asma Ben Hamad, Chahira Zaïbi, Martin R. Langer, Nejib Bahrouni, Mohamed Ben Youssef, Fekri Kamoun
- **ID808: Sedimentary dynamics and sea level change along Hachichina coast (Gulf of Gabes, Tunisia) during the Holocene - Response of ostracods and foraminifera assemblages**
Khaoula Benkhelifa, Chahira Zaïbi, Jerome Bonnin, Fekri Kamoun
- **ID195: Groundwater resources sustainability in Africa under climate change scenario: knowledge gaps and needs**
Ahzegbobor P. Aizebeokhai, Kehinde D. Oyeyemi, Adebola E. Adeniran
- **ID145: Adaptation strategies and resilience to climate change for warm, dry-summer continental climate zone in Iran**
Gholamreza Roshan, José A. Orosa, Ángel M. Costa, Rebeca Bouzón
- **ID146: Building energy consumption and carbon dioxide emissions in a small region with a warm and semi-humid climate type (Iran)**
Gholamreza Roshan, José A. Orosa, Ángel M. Costa, Rebeca Bouzón

14

11:00~12:30

NOV.

Session: T1-OS1

Congress Hall

- **ID144: Orbital-scale paleoceanographic response to the Indian monsoon in the Laxmi Basin of the Eastern Arabian Sea**
Boo-keun Khim, Ji-eun Kim, Keiji Horikawa, Minoru Ikehara, Yoshihiro Asahara, Jongmin Lee
- **ID797: The 4.2 ka event in the Euro-Mediterranean region – A study from the MISTRALS/PALEOMEX program**
Bassem Jalali, Marie-alexandrine Sicre
- **ID754: Record of Early Cretaceous Oceanic Anoxic Events in Adriatic Platform, Croatia**
Antun Husinec, J. Fred Read
- **ID129: Paleoclimate evolution of the Kordofan region, Sudan, during the last 13 ka**
Ahmed Dawelbeit, Etienne Jaillard, Ali Eisawi
- **ID389: Use of Paleoclimate Rainfall data to Detect Mega Drought Signals**
Joo-heon Lee, Chanyang Sur, Seo-yeon Park
- **ID312: Noble gas recharge temperature of Sfax deep groundwater (southeastern of Tunisia)**
Rim Trabelsi, Mahdi Trabelsi, Kamel Zouari, Takuya Matsumoto

14

14:00~16:00

NOV.

Session: T1-OS2

Congress Hall

- **ID540: Systematics and Palaeoclimatic investigations of Sivalhippus from the Late Miocene Siwaliks of Pakistan**
Muhammad tahir Waseem, Abdul majid Khan, Rana manzoor Ahmad, Ayesha Iqbal, Muhammad Ameen
- **ID305: Using of Environmental Isotopes and Krypton-81 to characterize and to date Continental Intercalaire Paleogroundwater (Southern Tunisia)**
Kamel Zouari, Takuya Matsumoto, Rim Trabelsi, Pradeep Aggarwal
- **ID294: New reports of Messinian Lago-Mare episodes from Tunisia: paleoenvironmental implications.**
Rim Temani, Hayet Ammar Khayati, Francesco Sciuto
- **ID742: Geochemical evidences of paleoenvironmental changes in lacustrine sediments of the Konya Closed Basin (Konya, Turkey) resulted from Late Quaternary paleoclimatic variations**
Orhan Hükmü, Delikan Arif, Demir Ahmet, Kapan Sevinç, Olgun Kemal, Özmen Ayhan, Sayin Ülkü, Ekici Gamze, Aydın Hülya, Nazik Atike
- **ID237: Collective statistical significance of trends: an application to the Mediterranean and Middle East**
Radan Huth, Martin Dubrovsky
- **ID22: Sensitivity of IDF Curves to Rainfall Gauge Type**
Abdullah Al-wagdany
- **ID353: Structural characteristics of precipitation in Jordan**
Fayez Abdulla, Abdulelah Al-qadami
- **ID352: Regionalization of Precipitation in Jordan**
Abdulelah Al-qadami, Fayez Abdulla
- **ID440: Economic Impact of Sand and Dust Storms on the Oil Sector in Kuwait**
Ali Al-Hemoud, Safaa' Al-Awadhi

TRACK 2.

Geo-informatics, remote sensing, geodesy



Track Editors/Chairs

- **Hesham M. El-Askary (Guest Editor):** Schmid College of Science and Technology at Chapman University, USA
- **Saro Lee (AJGS Editor):** Korea Institute of Geoscience and Mineral Resources, Daejeon, South Korea
- **Essam Heggy (Guest Editor):** University of Southern California & NASA Jet Propulsion Laboratory, Caltech, USA
- **Biswajeet Pradhan (AJGS Editor):** University of Technology Sydney, Sydney, Australia

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Biswajeet Pradhan *Editors*

Advances in Remote Sensing and Geo Informatics Applications

Proceedings of the 1st Springer Conference of the
Arabian Journal of Geosciences (CAJG-1), Tunisia 2018

- **ID138: Visualization of subsurface data using three-dimensional cartograms**
Ziqiang Li, Saman Aryana
- **ID165: GIS contribution to the implementation of an EOSID process followed in case of an engine failure after the take-off of a Boeing 737-500 aircraft from Tabarka-Aïn Draham International Airport (NW of Tunisia)**
Mohamed Hafedh Hamza, Meriem Saddour, Hanen Mokrani, Raouf Khelif
- **ID167: On Geo-informatics Ecosystem Framework for Managing the Energy Resources in the Frontier Sedimentary Basins**
Shastri Nimmagadda, Said Hanafy, Sharaf Eldin Mahmoud
- **ID406: A GIS-based Spatially Distributed Crop Water Demand Modelling for Pullambadi Canal Command Area in lower Cauvery Basin, Tamil Nadu, India**
Subbarayan Saravanan, Jacinth Jennifer J, D Abijith, Leelambar Singh
- **ID702: Seasonal hydrological loading from GPS observed data across contiguous United States using Integrated Apache Hadoop framework**
Pece Gorsevski, Yuning Fu, Kurt Penter, Jeffrey Snyder, Asanga Ramanayake
- **ID866: Validation of TRMM satellite rainfall algorithm for forest basins in Northern Tunisia**
Saoussen Dhib, Zoubeida Bargaoui, Chris Mannaerts
- **ID196: Producing of land cover map for marshes areas in the south of Iraq using GIS and remote sensing techniques**
Hussein Jaber

- **ID277: A modified Triangle with Target Parameters of SAR for Soil Texture Categorization Mapping**
Shoba Periasamy, Divya Senthil, Ramakrishnan S. Shanmugam
- **ID58: Land use Classification and Change Detection using Multi-temporal Landsat imagery in Sulaimaniah Gov-ernorate, Iraq**
Karwan Alkaradaghi, Salahalddin Ali, Nadhir Al-ansari, Jan Laue
- **ID850: Toward satellite-based estimation of growing season framing dates in conditions of unstable weather**
Evgeny Panidi, Ivan Rykin, Giovanni Nico, Valery Tsepelev
- **ID35: Correlation between Surface Modeling and Pulse Width of FWF-Lidar**
Fanar M. Abed
- **ID785: Building Heights and Floor Estimation Using 3D Maps, central part of Kucukcekmece, Istanbul, Turkey**
Arzu Erener, Gulcan Sarp, Muhammet Ibrahim Karaca

- **ID787: Automatic Building and Building Height Determination From Unmanned Aerial Vehicle Data**
Efdal Kaya, Arzu Erener
- **ID166: Nile Delta Sedimentary Basin – a Big Data Guided Digital Petroleum Ecosystem**
Shastri Nimmagadda, Said Hanafy, Torsten Reiners
- **ID397: Spatial Modeling of Gully Erosion Using Different Scenarios and Evidential Belief Function in Maharloo watershed, Iran**
Mahdis Amiri, Hamid Reza Pourghasemi, Gholam Abbas Ghanbarian, Sayed Fakhreddin Afzali
- **ID411: Mapping information of fire events, from VGI source (twitter), for effective disaster management in Greece; the fire of North-East Attica (August 2017, Greece) case study**
Stathis G. Arapostathis, Marianthi Karantzia
- **ID516: Two Dimensional Flood Inundation Modelling In Urban Area Using WMS, HEC-RAS and GIS (Case Study in Jeddah City, Saudi Arabia)**
Kuswantoro Marko, Amro Elfeki, Nassir Alamri, Anis Chaabani
- **ID565: Detecting recent deformation patterns using geomorphometric indices and remote sensing: a case study from the Sahel of Sfax (eastern Tunisia)**
Mourad El Koundi, Radhia Mansour, Abdessalem El Ghali
- **Measuring and Monitoring Land Subsidence and Earth Fissures in Al-Qassim Region, Saudi Arabia: Inferences from InSAR.**
Abdullah Othman
- **ID276: Groundwater Productivity Potential Mapping using Logistic Regression and Boosted Tree Models: the case of Okcheon city in Korea**
Saro Lee, Chang-wook Lee, Jeong-cheon Kim

- **ID190: Comparative GIS-Based automated landform classifications: application of Jenness and Shary methods to the Jebel Chaambi area (west-central Tunisia)**
Meriem Labiadh, Ibtissem Amri, Mohamed Chedly Rabiaa
- **ID407: Solar power plant site location suitability analysis using GIS weighted average raster overlay [Lebanon]**
Amal laaly, Oussama Jadayel, Nabil Karame, Nachaat Khayat
- **ID716: Characterization of periodic signals and noises of Geocenter motion from Space geodesy techniques data**
Bachir Gourine
- **ID722: Geo-informatics for optimal design of desalination plants using renewable energy sources: The DESiRES platform paradigm**
Eftichios Koutroulis, George Petrakis, Dionissios Hristopulos, Achilles Tripolitsiotis, Nabila Halouani, Arij Ben Naceur, Panagiotis Partsinevelos
- **ID760: Combination of Simple Additive Weighting (SAW) and Hierarchical Analysis Process (AHP) methods for the determination of construction suitability zones in the eastern part of the Jijel region (North East Algeria)**
Karim Remoum, Azzedine Bouzenoune
- **ID826: Multi-source system for accurate urban extension detection**
Hassna Kilani, Hichem Ben Abdallah, Takoua Abdellatif, Rabah Attia
- **ID827: 3D Reconstruction of Residential Areas with SfM Photogrammetry**
Murat Yakar, Yusuf Dogan
- **ID864: Logistic Regression-Based Geomorphological Mapping in the Arabian Platform: Implications for the Paleohydrology and the Paleoclimate of the Arabian Desert**
Racha Elkadiri, Abotalib Abotalib, Mohamed Sultan
- **ID905: Contribution of remote sensing to cartography (Application in the region of Djanet, East Hoggar, Algeria)**
Dalila Nemmour- Zekiri, Yamina Mahdjoub, Fatiha Oulebsir, Zakaria Hamimi
- **ID330: Multitemporal remote sensing for monitoring highly dynamic phenomena: case of the ephemeral lakes in the Chott El Jerid, Tunisia**
Khairat Abbas, Jean-Paul Deroin, Samir Bouaziz
- **ID466: Delineation of Groundwater Potential Zones for Hard Rock Region in Karnataka using AHP and GIS**
Mohit Aggarwal, Subbarayan Saravanan, Jacinth Jennifer J, D Abijith
- **ID524: Impact of Land-use change on Soil erosion process in Coonoor watershed, Nilgiris Mountain range, Tamil Nadu, India**
Subbarayan Saravanan, Jacinth Jennifer J, Leelambar Singh, Saranya T, S Sivaranjani
- **ID573: Exploring the influence of land use type and population density on urban heat island intensity**
Mir Parvez, Yusuf Aina

- **ID215: Remote Spectral Imaging Using a Low Cost UAV Sys-tem for Monitoring Rangelands**
Mounir Louhaichi, Steven Petersen, Teresa Gomez, Ryan Jensen, Grayson Morgan, Chuck Butterfield, Russell Burton, Chandrashekhar Biradar
- **ID539: An Innovative Technique for Estimating the Radius of Buried Cylindrical Targets Using GPR**
Rim Ghazzi, Samer Lahouar, Chokri Souani
- **ID676: Classification of Landslide Features Using LiDAR DEM and Back-Propagation Neural Network**
Jee-cheng Wu, Chia-hao Chang
- **ID875: Estimation of tree crown biomass of single standing Oak trees using terrestrial photogrammetry in Zagros forests**
Zahra Azizi
- **ID876: Estimation of available canopy fuel of coppice oak stands using low-density airborne laser scanning data**
Farzad Yavari, Hormoz Sohrabi
- **ID241: Research Issues on Geovisual Analytics for Petroleum Data Management**
Rifaat Abdalla
- **ID292: Potential rock carbonate production site determination using qualitative site multifactor analysis: case study - South Africa**
Freeman Senzani, Antoine Mulaba-bafubiandi
- **ID321: Lineament Mapping using RS and GIS Techniques at Mbateka, SE Came-roon: implication for Mineralization.**
Melvin Tamnta Nforba, Linus Api, Nelvice Berinyuy, Salomon César Nguemhe Fils
- **ID772: Spatial estimation of Soil Organic Matter Content using remote sensing data in Southern Tunisia**
Emna Medhioub, Moncef Bouaziz, Samir Bouaziz
- **ID833: Applicability of Landsat TM Images to Detect Soil Salinity of Coastal Bangladesh**
Jannatul Ferdous, M Tauhid Ur Rahman
- **ID461: VegMeasure: Image Processing Software for Grassland Vegetation Monitoring**
Mounir Louhaichi, Sawsan Hassan, Douglas E. Johnson

- **ID410: Aerosol Optical Depth of Dust in Urban and Desert Area of Kuwait**
Noor Al-dousari, Ali Al-dousari, Modhi Ahmed
- **ID69: Assessing the impact of vegetation cover on total column ozone over West Africa**
Samuel Ogunjo, Ibiyinka Fuwape, Babatunde Rabi, Sunday Oluyamo, Eunice Owoola
- **ID842: Contribution of satellite imagery to study salinization effect of agricultural areas at northern eastern oasis Algerian region**
Khelifi Touhami Madina, Bouraoui Seyfallah, Berguig Mohamed-chérif
- **ID916: Ecological monitoring of grasslands using interferometric products sentinel-1**
Ons Chiboub, Maïlys Lopes, Pierre-louis Frison, Amjad Kallel
- **ID919: On the drying trends over the MENA Countries using Harmonic Analysis of the Enhanced Vegetation Index**
Wenzhao Li, Hesham El-askary, Mohamed Qurban, Mohamed Allali, K. P. Manikandan
- **ID659: GIS based multi-criteria analysis for flood risk assessment: Case of Manouba Essijoumi basin, NE Tunisia**
Salwa Saidi, Anis Ghattassi, Brice Anselme, Salem Bouri
- **ID771: Adaptation of MEDALUS method for the analysis depicting land degradation in Oued Labiod valley (Eastern Algeria)**
Rabah Bouhata, Aida Bensekhria
- **ID320: Radar Space Measurements of the Deforming Trends at Northern Greece resulting from Underground Water Activity**
Nikos Svigkas, Ioannis Papoutsis, Constantinos Loupasakis, Paraskevas Tsangaratos, Anastasia Kiratzi, Charalambos (Haris) Kontoes
- **ID535: Quantification of phytoplanktonic algae density in Algiers bay (Algeria) by combining in situ measurements and Landsat satellite images**
Redouane Larbi Boufeniza, Fouzia Houma Bachari, Mohammad Alsahli, Nour El Islam Bachari
- **ID694: Evaluation of coastal vulnerability and exposure to the risk of erosion and submersion in the coasts of Bou Ismail Bay**
Walid Chaib, Mokhtar Guerfi, Yacine Hemdane
- **ID655: Seasonal Air Pollution Investigation and Relation Analysis of Air Pollution Parameters to Meteorological Data (Kocaeli/Turkey)**
Arzu Erener, Gülcan Sarp, Özge Yildirim

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12–15 NOVEMBER 2018, HAMMAMET, TUNISIA



TRACK 3.

Geoenvironmental engineering, geomechanics and geotechnics, geohazards



Track Editors/Chairs

- **Amjad Kallel (AJGS Editor):** ENIS, University of Sfax, Tunisia
- **Zeynal Abiddin Erguler (AJGS Editor):** Dumlupinar University, Kutahya, Turkey
- **Zhen-Dong Cui (AJGS Editor):** China University of Mining and Technology, Xuzhou, Jiangsu, China
- **Ali Karrech (AJGS Editor):** The University of Western Australia, Australia
- **Murat Karakus (AJGS Editor):** University of Adelaide, Australia
- **Pinnaduwa Kulatilake (AJGS Editor):** Department of Materials Science and Engineering, The University of Arizona, USA
- **Sanjay Kumar Shukla (AJGS Editor):** School of Engineering, Edith Cowan University, Perth, Australia

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Recent advances in geo- environmental engineering, geomechanics and geotechnics, and geohazards

Proceedings of the 1st Springer Conference of the
Arabian Journal of Geosciences (CAJG-1), Tunisia 2018

- **ID12: Hydro-geochemical behavior of acid formation of sulfide bearing rocks based on kinetic column tests**
Guzide Kalyoncu Erguler, Zeynal Abiddin Erguler
- **ID712: Assessment of metal along a contamination gradient in soils collected from industrial areas in Northern Tunisia**
Ahmed Ouni, Chedliya Ghemari, Amina Ben Said, Christelle Pruvot, Francis Douay, Karima Nasri-ammam
- **ID245: Portland Cement exhaust characterization and its potential use in mineral carbon sequestration.**
Freeman Senzani, Antoine Mulaba-bafubiandi
- **ID927: Laboratory investigation on mitigation of salinity hazard from low permeable soil by electrochemical treatment**
Mohammed Mustapha Bessaim, Hanifi Missoum, Karim Bendani, Mohamed Said Bekkouche
- **ID171: Identification of geotechnical properties of weak rock masses and stockpiles at Tunçbilek open pit mining and the related slope stability analyses**
Zeynal Abiddin Erguler, Huseyin Karakus, I Goktay Ediz, Cem Sensogut
- **ID343: Engineering geological assessment using geochemical, mineralogical and petrographic analysis along the Riyadh Metro Line 3 (Saudi Arabia)**
Manuel Cueto, Carlos López-Fernández, Luis Pando, Daniel Arias

- **ID416: Strength Estimation of Evaporitic Rocks Using Different Testing Methods**
Hasan Arman, Osman Abdelghany, Ala Aldahan, Mahmoud Abu Saima, Bahaa Mahmoud, Saber Hussein, Abdel-Rahman Fowler, Saaed AlRashdi
- **ID476: Characterization of soil stability to withstand erection of high-rise structure using electrical resistivity tomography**
Theophilus Adagunodo, Lukman Sunmonu, Olagoke Oladejo, Anuoluwapo Olanrewaju
- **ID464: Sand failure: Effect of Biocide on the geomechanical properties of outcrop carbonate rock under static condition**
Elizabeth Wuyep, Gbenga Oluyemi, Kyari Yates, Alfred Akisanya
- **ID859: Evaluation of some part of Lagos Wetland for Liquefaction Vulnerability using Integrated Approach**
Hamid Oladunjoye, Kayode Oyedele, Omolara Adenuga, Sofiat Adekoya
- **ID27: Sand-steel interface behavior under cyclic loading**
Mohamed Khemissa, Naoui Tallah, Djaâfar Barkat

- **ID53: Direct Measurements of Swell Potential of Expansive Soils with Computerized Equipment**
Murat Türköz
- **ID163: Geotechnical Mapping of Clayey Subgrade soils Characteristics: A case study from Tebessa city (Algeria)**
Adel Djellali, Med Salah Laour, Abdelkader Houam
- **ID15: An experimental study to compare performance of two soil improvement techniques**
Yasin Baskose, Candan Gokceoglu
- **ID420: Effect of Combined application of mineral fertilizer in soil hydraulic properties**
Nissaf Karbout, Habib Bousnina, Mohamed Moussa, Nadhem Brahim, Roland Bol

- **ID764: Effect of full wrap-around ends of geotextile on the bearing capacity of sand**
Safa Djeridi, Naima Benmebarek, Sadok Benmebarek
- **ID883: Stability Analysis of Slopes Prone to Circular Failures Using Logistic Regression**
Mehmet Sari
- **ID472: The applicability of the hybrid method to analyze slope stabilizing contiguous pile walls**
Mehdi Dib, Salim Kouloughli, Mabrouk Hecini

- **ID494: Flow filling of a closed, circular and almost horizontal pipe**
Mokrane Wahiba, Kettab Ahmed
- **ID97: Assessment of Geological Hazards along Alagaba Highway - Red Sea State, Sudan**
Esamaldeen Ali, El Khidir Rahamt Allah
- **ID792: Mining Geohazards at the perimeter of the Amyntaio open pit coal mine, West Macedonia, Greece**
Constantinos Loupasakis
- **ID348: Road slope instabilities in schist massifs: Case of the national road linking Marrakech to Ouarzazate, Morocco**
Abdeltif Bouchehema, Azzouz Kchikach, Imad Kadiri, Hamid Essaidi, Mohammed Himmi, Khalil Bizani
- **ID914: Landslide distribution analysis and susceptibility mapping: A case study from Haveli District, Pakistan**
Muhammad Basharat, Rizwan Yousaf, Muhammad Riaz

- **ID668: A photogrammetric surface comparison for a dam reservoir in a landslide – prone area in Eastern Anatolia, Turkey**
Sultan Kocaman, Eray Sevgen, Candan Gokceoglu
- **ID685: Sinkhole morphologies from Photogrammetry and Distinct Element Modeling – an example from the Dead Sea.**
Djamil Al-Halbouni, Eoghan Holohan, Hussam Alrshdan, Ali Sawarieh, Torsten Dahm
- **ID213: Towards development of risk-based, soil and groundwater screening values (threshold values) for Petroleum Hydrocarbon (PHC) in Libya and Tunisia by considering climate and regional “geographical” factors**
Salahadein Alzien, Roger Brewer, Olfa Ben Said, Rafiq Azzam

- **ID746: Behavioural responses of *Armadillidium granulatum* (Crustacea, Oniscidea) to zinc contaminated soil**
Raja Jelassi, Wafa Hammami, Chedliya Ghemari, Karima Nasri-Ammar
- **ID298: Heavy metals distribution in soils of an agricultural area impacted by former mining activities: case of Trozza mine, Tunisia**
Intissar Elmayel, Pablo Higuera, Jalel Bouzid, Eva.m Garcia Noguero, Zouhaier Elouaer
- **ID534: Statistical distribution of geochemical elements in stream sediments and the influence of flood phosphate mud in mining area, Metlaoui, western south of Tunisia**
Feyda Srarfi, Raouen Rachdi, Roland Bol, Nadhem Brahim, Najet Slim Shimi
- **ID541: Assessment of heavy metal contamination in the sediment of the Bizerte Lagoon in Northern Tunisia**
Ibtihel Saidi, Olfa Ben Said, Jamel Ben Abdelmalek3, Luis Chicharo, Hamouda Beyrem
- **ID487: Kinetics of crude oil desorption from contaminated soil**
Rahal Soufiane, Hadidi Noureddine, Moulai mostefa Nadji
- **ID383: Physical and chemical characteristics of municipal solid waste in Gabes**
Oumaima Chamem, Moncef Zairi
- **ID911: Evaluation of air pollutants and dispersion patterns for the adjacent areas of Mellitah gas complex, Libya**
Abdulhamid Danna, Amjad Kallel, Mohamed Jamel Rouis
- **ID161: Remediation treatments and economic assessment of oil residual sludge from the bottom of Tunisian refinery crude oil storage tanks**
Olfa Ben Said, Rihab Belgacem, Boudour Ben Gaffar, Hamouda Beyrem, James R. Kahn
- **ID380: Proposing rehabilitation scenarios for limestone quarries with 3D modeling and 3D print: Case of Jebel El Oust (Tunisian Atlas)**
Soumaya Ben Fredj, Fetheddine Melki, Kamel Jridi
- **ID931: Heated blends of phosphate sludge: Thermal transformation and Microstructure characterization**
Hajer Baccour, Samir Baklouti
- **ID529: Geochemical of fossil diatoms and its utilization as adsorbent in water treatment**
Touina Amel, Chernia Safia, Hamdi Boualem
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Ammar Yousfi, Mohammed Mechergui
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Es-sousy Mohammed, Gharibi Elkhadir, Ghalit Mohammad, Taupin Jean-denis, Ben Alaya Mohsen
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Hago Ali
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Zaineb Bakari, Nesrine Boujelben, Nesrine Turki, Massimo Del Bubba, Boubaker Elleuch
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Paula Carreira, António Lobo De Pina, Alberto Mota Gomes, José Marques, Fernando Monteiro Santos
- **ID600: Application of geochemical tracers and isotopic for investigation of recharge and salinization of water in the Menzel Bourguiba aquifer, northeast of Tunisia**
Mohsen Ben Alaya, Safouan Ben Ammar, Jean-denis Taupin, Mohamed Khouatmia, Raouf Jbeali, Fetheddine Melki
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Elhem Moussaoui, Abdelkader Mhamdi, Mouez Gouasmia, Ferid Dhahri, Mohamed Soussi

- **ID338: Relationship between hydrochemical variation and the seawater intrusion within coastal alluvial aquifer of Essaouira basin (Morocco) using HFE-Diagram**
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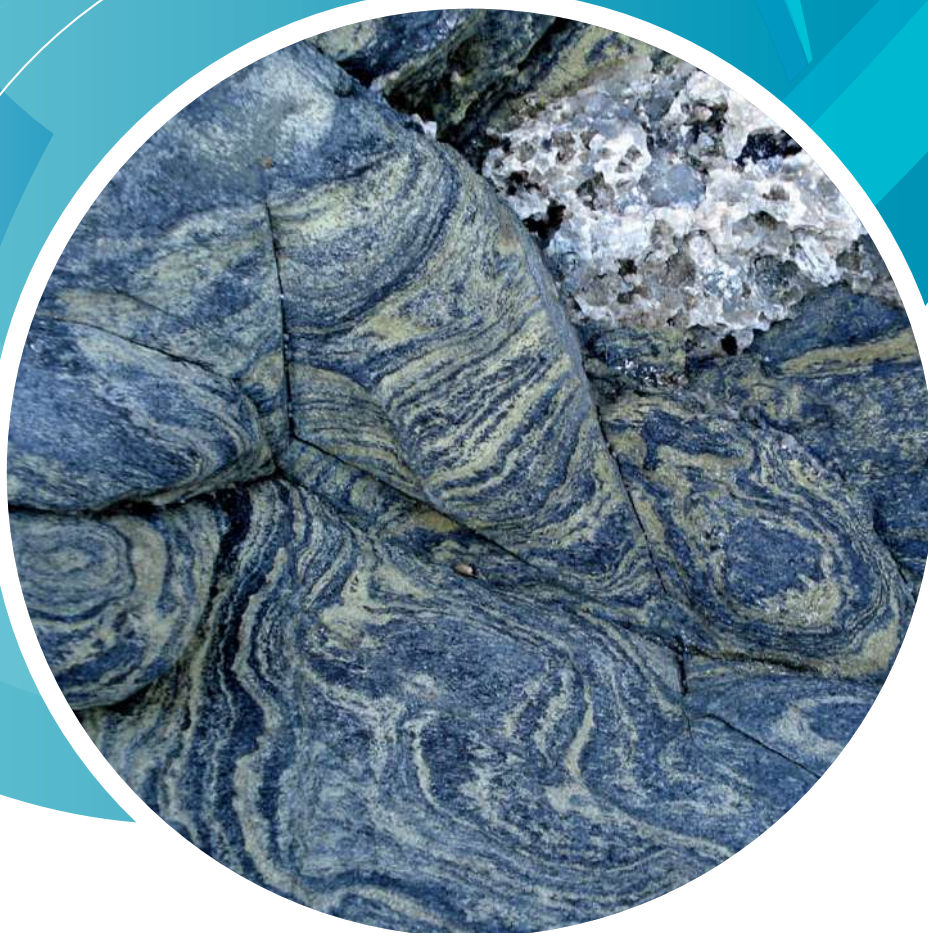
- **ID661: Numerical simulation of groundwater and surface water interaction and particle tracking movement due to the effect of pumping abstraction of Lower Muda River**
Mohd Khairul Nizar Shamsuddin, Wan Nor Azmin Sulaiman, Mohammad Firuz Ramli, Faradiella Mohd Kusin, Anuar Sefie
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Venkateswara rao Bekkam
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Jawad Shoqeir
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Pallavi Kulkarni, Sudhakar Pardeshi, Suchitra Pardeshi

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Hamouda Dakhlaoui, Jan Seibert, Kristi Hakala
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Salah Ouhamdouch, Mohammed Bahir, Paulà Maria Carreira, Kamel Zouari
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Dafalla Wadi, Wenbing Wu, Abuzar Fuad
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Hassane Moutahir, Juan Bellot, Aymen Moghli, Issam Touhami
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El Amami Hacib, Kompany Jean Robert, Hermassi Taoufik, Lellia Nada

TRACK 7.

Mineralogy, geochemistry, petrology and volcanology



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Rabah Laouar, Halima Saadia Zanouda, Sihem Salmi-laouar, Amar Sebai, Crystèle Verati, Salah Bouhlel, Adrian J. Boyce
- **ID456: New model of wadati-benioff zone in Java-Sumatra subduction system and its tectonic implication**
Mirzam Abdurrachman, Sri Widiyantoro, Muhammad Zaky Abdul Alim
- **ID733: The South West Atakor volcanic district (Hoggar): Petrography and mineralogy from the Taessa lavas**
Amel-zoulikha Benhallou, Yasmine Megueni, Faouzi Boussisse, Faiza Ikhlef-debabha, Youcef Babkar, Zakaria Boukhalfa, Khaled Aghanbilou, Abba Azzouni-sekkal, Jean-marie Dautria, Jean-louis Bodinier
- **ID734: Primary studies of Taessa-Torak granitic massif: petrography and mineralogy (Central Hoggar, Algeria)**
Faiza Ikhlef-debabha, Abba Azzouni-sekkal, Amel-zoulikha Benhallou, Delphine Bosch, Carlos J. Garrido
- **ID64: Petrographical and geochemical characteristics of the birbirites from the Mauritanides Belts**
Didi Ould Moctar, Ali Moukadiri, Abdellah Boushaba, Sid'ahmed Mohamed Lemine, Michel Dubois
- **ID490: The first example of kyanite-staurolite-garnet-bearing metapelites from the Hoggar (Egere terrane, South Algeria)**
Amar Arab, Khadidja Ouzegane, Abderrahmane Bendaoud, Sidali Doukkari, Gaston Godard
- **ID526: Petrographic, Mineralogical and Geothermometric Study Of Garnet Hornfels From The Region Of Iddeleh Silet Hoggar Occidental Algeria**
Khedoudja Nedjraoui, Abba Azzouni-sekkal, Rezia Kheloui, Mohamed Hamoudi, Riad Ben El Khaznadj
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V Masilamani, Nasser alarif, W Aslam Farooq, M. Atif, Shahid Ramay, Hayat Saeed Althobaiti, Saqib Anwar, Ibrahim elkhedr, MS AlSalhi, Bassam A. Abuamarah
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M. Atif, Saqib Anwar, W. A. Farooq, M. Ali, V. . Masilaimani, M. S. AlSalhi, Bassam A. Abuamarah
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Oladotun Oluwajana, Olugbenga Ehinola, Collins Ofiwe, Evidence Akhayere, Kehinde Egunjobi, Joseph Asanbe, Oluwafemi Akinjo
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Wael Badawy, Octavian Dulu, Marina Frontasyeva, Hussien El-samman
- **ID574: Enigma of ferruginous inclusions in evaporites**
Rail Kadyrov, Mikhail Glukhov, Evgeny Statsenko, Bulat Galiullin

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Nesrine Ouchir, Lassaâd Ben Aissa, Mabrouk Boughdiri
- **ID704: Mineralogical and Geochemical Characterization of the Northern Phosphatic Series of the Sra Ouertane Basin (Tunisia)**
Naima Ahmadi, Ali Enneili, Mongi Felhi, Ali Tlili, Khaoula Kaissi, Fathi Ben Mabrouk
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Maria Manuela Silva, Marina Cabral-Pinto, Pedro Alexandre Dinis, Lucas Mandavela
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Shuqing Yao, Enrique Gomez-rivas, Juan Diego Martín-martín, David Gomez-gras, Anna Travé, Albert Griera, John Howell
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Bachir Henni
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Azubuike Ekwere

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Fatiha Hadji, Abbas Marok, Ali Mokhtar Samet
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Naoufel Ghannem, Clemente Recio, Ildefonso Armenteros, Kamel Regaya
- **ID443: Geochemistry and mineralogy of depositional sequences (Paleocene-Eocene) in Oued Thelja stratigraphic framework, SW Gafsa, Tunisia**
Ali Enneili, Amel Hadj Ahmed, Mongi Felhi, Kamel Zayani, Nabil Fattah, Ali Tlili
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Eqbal Al-enezi, Fatema Al-shammari
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David Cruset, Jaume Vergés, Irene Cantarero, Anna Travé

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Petroleum engineering and petroleum geochemistry



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Marco Ludovico-marques

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Ali Garrouch

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Vladimir Astafev, Valeria Olkhovskaya, Sergey Gubanov

- **ID438: Effect of CO₂-Oil Contact time to Swelling Factor and Viscosity of Paraffinic Oil at Reservoir Temperature**

Muslim Abdurrahman, Asep K Permadi, Wisup Bae, Shabrina Sri Riswati, Rochvi Agus Dewantoro, Ivan Efriza, Adi Novriansyah

- **ID139: Nanoparticle-stabilized CO₂ foam flooding**

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Yuhang Wang, Saman Aryana

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Valentino Straser, Mario Campion

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Mohamed Seddik Mahmoud Bougi, Jawhar Gharbi, Syrine Baklouti, Mohamed Abdul Rasheed, P. Lakshmi Sirinivas Rao, Sayed Zaheer Hasan, Mohamed Ksibi

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Xinshun Zhang, Hongju Zheng, Congsheng Bian
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Quan Vo Thi Hai, Giao Pham Huy
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Sebastian Grohmann, Maria Fernanda Romero-sarmiento, Fadi Henri Nader, Francois Baudin, Ralf Littke

- **ID206: Source rocks and hydrocarbon accumulation characteristics of Upper Cretaceous to Paleogene in the northern KaikangTrough, Muglad Basin, Sudan**
Congsheng Bian, Youliang Feng, Jun Li, Xuexian Zhou, Yongxin Li, Xinshun Zhang
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Ghazwan Jreou

- **ID222: Back propagation and hidden weight optimization algorithms neural network for permeability estimation from well-logs data in shaly sandstone petroleum reservoirs: Application to Algerian Sahara**
Leila Aliouane, Sid-ali Ouadfeul, Amar Boudella
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Thomas Adebayo, Marie Loridon
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Rini Setiati, Septoratto Siregar, Taufan Marhaendrajana, Deana Wahyuningrum
- **ID432: Analyses and treatment of oil field formation Water of upper Assam basin (India)**
Tapan Jyoti Gogoi, Subrata Borgohain Gogoi
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Mohamed Malek Khenissi, Mohamed Montassar Ben Slama, Amina Mabrouk El Asmi, Anis Mohamed Bel Hadj, Moncef Saidi

- **ID508: Geochemical characterization of the Permian series and associated oil indices in the Jeffara area: origin of hydrocarbon and 1D thermal maturity modeling**
Khawla Ouirghi, Amina Mabrouk, Anis Bel Haj Mohamed, Moncef Saidi
- **ID580: Geopetroleum evaluation of the Ordovician and Triassic reservoirs in the southern part of Chotts area (southern Tunisia) and maturity modeling**
Safa Kraouia, Amina Mabrouk El Asmi, Abdelhamid Ben Salem, Moncef Saidi
- **ID952: Hydrocarbon source rocks within the western flank of the South Caspian basin (Azerbaijan): geochemical study and petroleum system modeling**
Shalala Huseynova
- **ID223: Biodegradation of hopanes, regular steranes and tricyclic terpanes in heavy oils from Carboniferous volcanic reservoir of the Chepaizi Uplift, Junggar Basin, NW China**
Yang Li, Jinliang Zhang

TRACK 9.

Sedimentology, stratigraphy, paleontology, geomorphology, pedology



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Fatiha Douas Bengoudira, Abdia Touahria, Abbas Sebane
- **ID130: First titanosauriform teeth from the Early Cretaceous of Tunisia**
Jihed Dridi
- **ID820: Bajocian ostracods from the Krachoua Formation (Beni kheddache, southern Tunisia): implications for biostratigraphy and paleoecology**
Lassad Tiss, Khaled Trabelsi, Fekri Kamoun
- **ID442: Paleobathymetric influence on the distribution of ammonite and foraminifer settlements in the Callovian of the Saïda region (western Algeria)**
Abdia Touahria, Abbas Sebane
- **ID845: Tethyan non-rudist associations from the Cretaceous rudist formations in northern Egypt**
Yasser Salama, Gouda Abdel-gawad
- **ID608: New biostratigraphic scheme for the Cenomanian-Turonian of southern Algeria**
Adaci Mohammed, Benyoucef Madani
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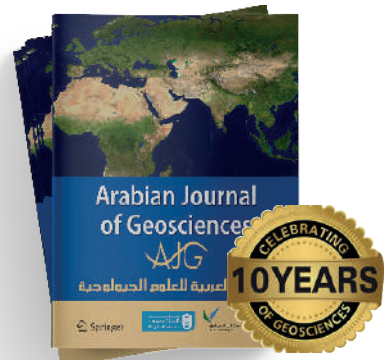
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