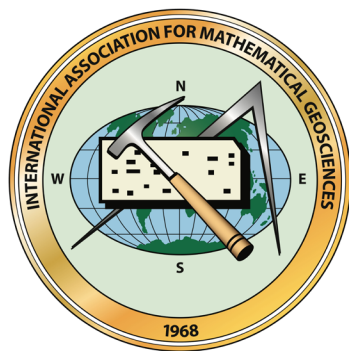




IAMG Newsletter

No. 102 June 2021

Official Newsletter of the International Association for Mathematical Geosciences

Contents

ANNOUNCEMENT OF THE 2021 IAMG AWARDS.....	1
PRESIDENT'S FORUM	3
MEMBER NEWS	3
NOMINATIONS FOR IAMG AWARDS	3
MEMORANDUM WITH CODA ASSOCIATION	3
RESEARCH CENTER FOR SOLID EARTH BIG DATA FOUNDED AT THE CHINA UNIVERSITY OF GEOSCIENCES.....	4
REMEMBERING DR. PETER FOX - A TITAN IN THE EARTH SCIENCE INFORMATICS COMMUNITY.....	4
IEEE GEOSCIENCE AND REMOTE SENSING SOCIETY (GRSS) DIS- TINGUISHED LECTURER (DL).....	4
PROFESSOR NOEL CRESSIE NAMED A FELLOW OF THE ROYAL SOCIETY OF NEW SOUTH WALES.....	4
A SPECIAL ISSUE ON JOURNAL OF EARTH SCIENCE IN HONOR OF PROF. PENGDA ZHAO'S 90TH BIRTHDAY	5
UPCOMING MEETINGS	5
IAMG2022.....	5
IAMG2023.....	5
DISTINGUISHED LECTURERUPDATES.....	6
IAMG JOURNAL CONTENTS	6-11
IAMG JOURNAL STATISTICS.....	7

<>

With the Covid-19 pandemic far from over, most scientific meetings have been postponed or converted to a digital format. While there are certainly benefits to online meetings (I definitely don't miss multiple flights each way and jetlag) they tend to lose the personal interactions. It is difficult for an online conference to replicate the conversations in the hallways between sessions or during a meal that can bring a community together and build new connections and ideas. If you have any ideas or examples of how the IAMG could work to bring the community together, please feel free to email any suggestions to me. For now, I'm looking forward to seeing everyone again at IAMG2022 in Nancy, France.



Congratulations to the winners of the 2021 IAMG awards!

Nominations are currently open for the 2022 Founders Scholarship; the John Cedric Griffiths Teaching Award; and the William Christian Krumbein Medal. Please consider nominating a colleague or student for an award. Details are on page 3.

Katie Silversides

<>

Announcement of the 2021 IAMG Awards

Prof. Grethe Hystad from Purdue University Northwest, USA is the recipient of the 2021 Felix Chayes Prize. Dr. Vanessa A. Godoy from Universitat Politècnica de València, Spain and Dr. Francky Fouedjio from AngloGold Ashanti, Australia are recipients of the 2021 Andrei Borisovich Vistelius Award. Mr. Shoubin Zhou from China University of Geosciences, Beijing is the recipient of the 2021 Founders Scholarship. Congratulations to all the awardees! The Awards Committee coordinates the publication of award laudations on IAMG journals. Dr. Hystad's laudation was recently published at: <https://doi.org/10.1016/j.cageo.2021.104743>. The other laudations are in press.

Xiaogang (Marshall) Ma

IAMG is on LinkedIn, Twitter and Facebook!

Join the conversation using
@IAMG_Math_Geo for news,
journal and conference updates



Dr. Grethe Hystad



Dr. Vanessa Godoy



Dr. Francky Fouedjio



Mr. Shubing Zhou

The mission of the IAMG is to promote, worldwide, the advancement of mathematics, statistics and informatics in the Geosciences

International Association for Mathematical Geosciences

IAMG Office (official address)

611 Pennsylvania Av, SE #440
Washington, DC 20003-4303, USA

E-mail: support@iamgmembers.org

Tel. Messages: +1-832-380-8833

Fax: +1-800-983-1346

Website: IAMG.org

Officers of the Executive Committee

President: Peter Dowd

School of Civil, Environmental and Mining Engineering,
University of Adelaide, Australia, Tel. 618 8313 4543,
Email: peter.dowd@adelaide.edu.au

Vice President: Christien Thiert

University of Cape Town, Department of Statistical Sciences,
Private Bag, Rondebosch 7700, South Africa, Tel: 27-21-650-3223, fax:
27-21-650-4773,
Email: christien.thiert@uct.ac.za

Secretary General: Juliana Leung

School of Mining & Petroleum Engineering,
Dept. of Civil & Environmental Engineering, University of Alberta
Tel. (780) 492-3338
Email: juliana2@ualberta.ca

Treasurer: Madalyn Blondes

USGS Eastern Energy Resources Science Center USA
Tel: +1 703-648-6509,
Email: mblonde@IAMG@gmail.com

Other Voting Council Members

Past President: Jennifer McKinley

School of Geography, Archaeology and Palaeoecology,
Queen's University, Belfast, BT7 1NN, UK
Tel: 44 (0)28 90973827
Email: j.mckinley@qub.ac.uk

Special IGC Councilor: Jonggeun Choe

Department of Energy Resources Engineering,
Seoul National University (SNU), Korea, Tel: 880-8081
Email: johnchoe@snu.ac.kr

Editors

Mathematical Geosciences

Roussos Dimitrakopoulos
Department of Mining, Metals and Materials Engineering,
McGill University, Montreal H3A 2A7, Canada
Tel: +1 514 398-4986, E-mail: roussos.dimitrakopoulos@mcgill.ca

Computers & Geosciences

Pauline Collon
University of Lorraine National Graduate School of Geology,
Vandœuvre-les-Nancy, France
Tel: +33 3 72 74 45 23, E-mail: pauline.collon@univ-lorraine.fr

University of Wyoming, Laramie,
Wyoming, USA,

Tel: +1 307-223-2079, dgrana@uwyo.edu

Dario Grana

Derek Karssenberg

Faculty of Geosciences. Utrecht University,
Heidelberglaan 2, 3584 CS UTRECHT, The Netherlands,
d.karssenberg@uu.nl

Natural Resources Research

University of KwaZulu-Natal,
Durban, South Africa
Email: ejmcarranza@gmail.com

John Carranza

Applied Computing and Geosciences

Natural Resources Canada Earth Sciences,
Ottawa, Ontario, Canada
Email: Brodaric@gsc.nrcan.gc.ca

Boyan Brodaric

IAMG Newsletter and Website

Australian Centre for Field Robotics,
University of Sydney, NSW 2006, Australia
E-mail: newsletter@iamg.org

Katherine Silversides

Councilors

Jie Zhao

School of the Earth Sciences and Resources, China University of
Geosciences, Beijing (CUGB) Tel: +(86) 135-2070-9895
Email: [jiezha2014@163.com](mailto:jiezhao2014@163.com)

Renguang Zuo

State key Laboratory of Geological Processes and Mineral
Resources (GPMR), China University of Geosciences (CUG),
Wuhan 430074, China, Tel:+86-13667264536
Email: zrguang@cug.edu.cn; zrguang1981@126.com

Pauline Collon

École Nationale Supérieure de Géologie - Université de Lorraine,
GeoResources UMR 7359, RING - Research for Integrative
Numerical Geology, Tel: (00 33) 3 72 74 45 23
Email: pauline.collon@univ-lorraine.fr

Alessandra Menafoglio

MOX - Dept. of Mathematics, Politecnico di Milano, Piazza
Leonardo da Vinci, 32, 20133, Milan - Italy, Tel: +39 02 2399 4642
Email: alessandra.menafoglio@polimi.it

Natalie Caciagli

Barrick Gold Corp and Mineral Exploration Research Centre at
Laurentian, University, Canada.

Karel Hron

Palacky University Olomouc Czech Republic, Tel: +39 02 2399
4642
Email: hronk@seznam.cz

Committee Chairs

Awards Committee: Xiaogang "Marshall" Ma

Department of Computer Science, University of Idaho, 875
Perimeter Drive MS 1010, Moscow, ID 83844-1010, United States,
Tel: +1.208.885.6592, E-mail: max@uidaho.edu

Curriculum Quality Committee: Julián Ortiz

Department of Mining Engineering, Queen's University
Kingston, ON K7L 3N6 Canada
Phone: 613-533-2910, Email: julian.ortiz@queensu.ca

Lectures Committee: Christien Thiert

University of Cape Town, Department of Statistical Sciences,
Private Bag, Rondebosch 7700, South Africa, Tel: 27-21-650-3223,
fax: 27-21-650-4773, E-mail: christien.thiert@uct.ac.za

Meetings Committee: Regina van den Boogaart

Balthasar-Rößler-Str. 58, 09599 Freiberg
Email: support@iamgmembers.org

Outreach Committee: Eric Grunsky

Dept. of Earth and Environmental Sciences,
University of Waterloo
E-mail: egrunsky@gmail.com

Publications Committee: Jaime Gómez Hernández

Univ. Politécnica de Valencia, Departamento de Ingeniería
Hidráulica, 46071 Valencia, Spain, Tel: 963879614 (Ext.:79614)
E-mail: jgomez@upv.es

Students Affairs Committee: Ute Mueller

Edith Cowan University, Joondalup Campus, JO5.208
270 Joondalup Drive, Joondalup WA 6027, Australia
Tel: +61863045272, E-mail: u.mueller@ecu.edu.au

Archivist

Graeme F. Bonham-Carter

110 Aaron Merrick Drive, Merrickville, ON K0G 1N0, Canada
Tel: +1 (613) 269-7980
E-mail: Graeme.bc1@gmail.com

PRESIDENT'S FORUM

Dear IAMG Members,

I am pleased to inform members that the IAMG has signed an Agreement of Association with the European Association of Geoscientists and Engineers (EAGE). The benefits of this Agreement for the IAMG are, *inter alia*, a subscription to the EAGE on-line *First Break* magazine and the *EAGE Newsletter*; on request, a reduced fee subscription to the EAGE scientific journals (*Geophysical Prospecting*, *Near Surface Geophysics*, *Petroleum Geoscience* and *Basin Research*); subject to the approval of the editor, inclusion of items or announcements in *First Break* or the *EAGE Newsletter*; and one lecture per year from the EAGE Distinguished Lecturer Programme via a live-stream webinar. In return, EAGE will be able to announce its events in the IAMG newsletters and on the IAMG website; EAGE will receive a subscription to IAMG Newsletters; and, on request, an EAGE member will receive a reduced fee subscription to the IAMG scientific journals (*Mathematical Geosciences*, *Natural Resources Research*, *Computers and Geosciences*, and *Applied Computing and Geosciences*); and receive a copy of the IAMG annual report. I know that many of you are active in EAGE I thank Eric Grunsky for his work in securing this Agreement on behalf the IAMG.



We are currently exploring ways to upgrade the IAMG website. This will include a comprehensive overhaul and re-design including an outreach section to engage relevant communities and promote the mathematical geosciences.

The *Encyclopedia of Mathematical Geosciences*, to be published by Springer, is well underway with an expected publication date of July/August 2022. This initiative is led by Behara Seshadri Daya Sagar, Qiuming Cheng, Jennifer McKinley and Frits Agterberg.

Council has agreed to provide funding to support the Deep-time Digital Earth (DDE) Eurasian Marginal Seas project. This is part of the ongoing support for IAMG/DDE linked, or sponsored, projects. Information on this project can be found on the website for the December 2020 virtual conference: <https://baltic.earth/EMS2/>.

Professor Pengda Zhao, one of the pioneers of mathematical geology and mineral exploration in China, will celebrate his 90th birthday in May. Professor Zhao was awarded the William Christian Krumbein Medal in 1990 and he was elected to honorary life membership of the IAMG in 2011. I am sure that I speak for all of you in extending our best wishes to Professor Zhao for a happy birthday and we look forward to his continuing involvement in the mathematical geosciences.

The review of committee chairs and memberships has largely been completed and the updated membership will be posted on the website within the next few weeks.

IAMG has signed a Memorandum of Understanding with the Association for Compositional Data (CoDa Association). The purpose of the Memorandum is to document the intent and basis for an initial, non-binding collaboration to allow both parties to assess whether to enter into a formal binding agreement.

Yours sincerely,

Professor Peter Dowd, FREng, FTSE

President, International Association for Mathematical Geosciences

Member News

Nominations for three IAMG awards are due on October 31, 2021

The Association invites all members to submit nominations for the Founders Scholarship, the John Cedric Griffiths Teaching Award and the William Christian Krumbein Medal. Please note the Deadline: October 31, 2021.

For details about prerequisites for nominations please see the IAMG web site <http://www.iamg.org/> and click on Awards&Honors. There is also a list of past recipients and their laudations on the web site. Please have a look at it before sending your nominations! The (informal) documents which should accompany a proposal are:

- A short statement summarizing the relevant qualifications of the nominee
- A curriculum vitae of the nominee

The Founders Scholarship is a new IAMG award. The IAMG Bylaws state that, "The Founders Scholarship shall be presented annually to an outstanding student or post-graduate scientist." However, to avoid overlap with the Vistelius award, preference will be given to an outstanding undergraduate, Masters, or Ph.D. student. A motion will be put before the membership in a General Referendum in the near future to make this change official in the Bylaws.

Nobody gets an award without a nomination, so please support your colleague when you believe he/she deserves an award by submitting a nomination. Nominations can be submitted by a single person or by a group. The laudations written over the last few years and published in *Mathematical Geosciences* are a good source of inspiration on how to write a nomination.

Nominations can be submitted via e-mail <max@uidaho.edu> or sent to:

Xiaogang (Marshall) Ma - Chair, IAMG Awards Committee
Department of Computer Science, University of Idaho
875 Perimeter Drive MS 1010, Moscow, ID 83844-1010, USA

Nominations for other Awards may also be submitted at any time.

<>

Memorandum with CoDa Association

The Association for Compositional Data (CoDa Association) and the IAMG signed a memorandum of understanding last January. The document is intended to reinforce collaboration between the two organizations that goes back to the founding of the CoDa Association.

Last February, the CoDa Association had internal elections for selecting the members to serve in the 2021–25 Council. The elected officers to be installed on 7 June 2021 are:

Antonella Bucciatti (University of Florence, Italy), president
Javier Palarea-Albaladejo (Biometrics and Statistics Scotland, Edinburgh, UK), vice president
Germà Coenders (University of Girona, Spain), secretary general
Josep A. Martín-Fernández (University of Girona, Spain), treasurer

Berta Ferrer (University of Lleida, Spain), councilor
Gianna Monti (University of Milan, Italy), councilor

Because of the pandemic, the CoDa Association has decided to postpone the 2021 workshop to June 2022, and instead the Toulouse School of Economics is organizing an online only event in 2021. It will consist in five invited talks and will take place on Thursday June 17, 2021, 14h-17h (UTC+1). Registration is free but compulsory at <https://www.tse-fr.eu/fr/conferences/2021-online-coda-day/>

Research Center for Solid Earth Big Data founded at the China University of Geosciences

The first solid Earth big data symposium was held at the China University of Geosciences, Wuhan, China, on March 28, 2021. More than 200 colleagues (including online audiences) attended this symposium. The main subject of this symposium is on how to efficiently explore and integrate solid earth big data for innovating the research paradigm of geosciences.

In this symposium, the Research Center for Solid Earth Big Data (RCSEBD) at the China University of Geosciences was founded. The RCSEBD will build a storage center, computing center and visualization center for studying solid earth big data. The focus of the RCSEBD is to use diverse solid earth big data and novel artificial intelligence algorithms to study the spatiotemporal evolution of the earth, deep geological processes, and the impacts of geological resources and environments, with the aim of well understanding the evolution of the earth and planets, and predicting and assessing geological resources and environments. Prof. Qiuming Cheng is the chairman of the academic committee of the RCSEBD, and Prof. Renguang Zuo is the founding director of the RCSEBD.



Some of the attendees of the first solid earth big data symposium (from <https://voice.cug.edu.cn/info/1032/17794.htm>)

<>

Remembering Dr. Peter Fox - A titan in the Earth science informatics community



[https://en.wikipedia.org/wiki/Peter_Fox_\(professor\)](https://en.wikipedia.org/wiki/Peter_Fox_(professor))

Dr. Peter Fox, a titan of the Earth and space science informatics community, passed away on March 27. The news was shared by Rensselaer Polytechnic Institute (RPI), where he was Tetherless World Constellation Chair, Director of the Information Technology and Web Science program, and Professor of Earth and Environmental Sciences, Computer Science, and Cognitive Science.

Dr. Fox made significant contributions to the Earth and space science informatics community. From 1991 to 2008,

Fox was at the High Altitude Observatory (HAO) of NCAR in Boulder, Colorado, as Scientist until 1995, and Chief Computational Scientist from 1995 to 2008. As a Tetherless World Constellation senior chair and professor of Earth and Environmental Science, Computer Science and Cognitive Science and director of the Information Technology and Web Science Program at RPI, Peter made significant contributions to both domain science and informatics as he and his group supported distributed scientific repositories and addressed "the full life-cycle of data and information within specific science and engineering disciplines as well as among disciplines (Source:Wikipedia)."

In the United States, Dr. Fox partnered with NASA, NOAA, USGS, and the US Global Change Research Program. Dr. Rahul Ramachandran, Project Manager and Senior Scientist, NASA said "Peter's contributions to the NASA Earth Science Data community have been immense. His research in Informatics and Data Science has had a lasting impact in

defining the direction of science data and information system evolution. But more importantly, he was genuinely selfless in sharing his knowledge and touched so many lives. He taught so many of us to be good researchers, gracious colleagues, supportive mentors, and above all, to be generous human beings."

Full text at

<https://connect.agu.org/essi/about/history/memori>

<>

Professor Noel Cressie named a Fellow of the Royal Society of New South Wales

Distinguished Professor Noel Cressie has been recently named a Fellow of the Royal Society of New South Wales (FRSN). Her Excellency, The Honourable Margaret Beazley AC QC, Governor of New South Wales and a Patron of The Royal Society of New South Wales, announced Prof. Cressie's election on 9 December 2020. The Royal Society of New South Wales recognises the substantial contribution made by NSW leaders in their fields in science, art, literature, and philosophy.

Noel Cressie is a statistical scientist who develops world-leading statistical methodology for analysing spatial and spatio-temporal data with applications to the geosciences. He is Director of UOW's Centre for Environmental Informatics in the National Institute for Applied Statistics Research Australia (NIASRA) at the University of Wollongong, Australia.

<>

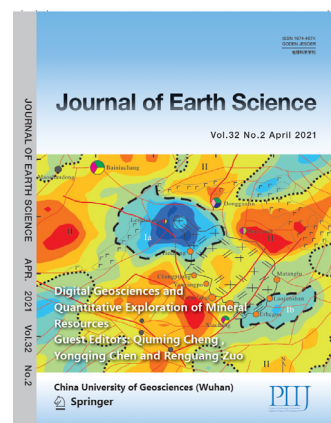
A special issue of Journal of Earth Science in honor of Prof. Pengda Zhao's 90th birthday

Prof. Pengda Zhao, an Academician of China Academy of Science and a professor of China University of Geosciences, is a pioneer in the fields of mathematical geology and mineral exploration in China. Professor Zhao was the fifteenth recipient of the William Christian Krumbein Medal by the International Association for Mathematical Geosciences (IAMG) in 1990. He was further elected as the fifth Honorary Life Member of IAMG in 2011.

On the special occasion of celebration of Prof. Pengda Zhao's 90th birthday, a special issue entitled "Digital geosciences and quantitative exploration of mineral resources", was published in Journal of Earth Science and co-edited by Qiuming Cheng, Yongqing Chen, and Renguang Zuo (<https://www.springer.com/journal/12583>) This special issue contains 17 research papers and 1 report. The topics of these papers range from fundamental mathematical geoscientific studies to mineral exploration such as geochemical anomaly recognition, deeply seated prospecting information mining, and multiple prospecting information integration. The authors of the papers in the special issue would express their sincere appreciation and respect to Prof. Zhao for his long-term dedication to scientific study of mineral exploration and outstanding contribution to the field of quantitative geosciences.



Prof. Pengda Zhao



A cover of the special issue of Journal of Earth Science



**Due to Covid-19 many meetings are being postponed!
Please check the relevant websites for updated details.**

2021

Geostats2020, 12-16 Jul, Toronto, Canada. <http://www.geostats2020.com/home.html>

36th International Geological Congress (IGC), 16-21 Aug, Delhi, India. <http://www.36igc.org/>

ISEH 2020, ICEPH 2020 & G16 2020, Aug, Galway, Ireland. <http://www.nuigalway.ie/iseh2020/>

APCOM 2021, Sept, Johannesburg, South Africa. <https://apcom.info/apcom-2021/>

2022

21th Annual Conference of the IAMG, 28 Aug - 3 Sep, Nancy, France. <http://www.iamgconferences.org/iamg2022>

IAMG2022

Dear Colleagues,

The 21th Annual Conference of the IAMG will be a major event in Mathematical Geosciences, and expected to gather international participants from academia, industry and government organizations. It will be hosted at the Centre Prouvé in the beautiful city of Nancy, France.

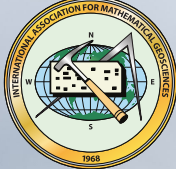
Nancy is home of one of the largest geoscience communities in France, and the birthplace of the French Mathematician Henri Poincaré, who wrote in 1901: "Mathematicians do not study the objects but the relationships between objects" in *La Science et l'hypothèse*. There is no doubt that this statement accurately applies to mathematical geoscientists!

IAMG 2022 sessions will cover all aspects of mathematical geosciences and their applications, including classical and emerging subfields of statistics and geostatistics, artificial intelligence, machine learning, geoinformatics, geomodeling and computational methods.

We are looking forward to a productive and enjoyable IAMG 2022 Conference, and we look forward to welcoming you to Nancy in Summer 2022!

The Organizing Committee

**21th Annual Conference of the
International Association for Mathematical Geosciences**



IAMG 2022

August 28 - September 3, 2022
Nancy, France

<https://www.iamgconferences.org/iamg2022>

Important dates

- 2021/09/30 Short courses and topical session proposals
- 2022/02/01 Short abstract submission deadline
- 2022/04/30 Early bird registration deadline
- 2022/08/29 Short Courses, Registration, Ice-Breaker
- 2022/08/30 - 2022/09/02 Scientific Sessions
- 2022/08/03 Field Trips
- Contact: iamg2022@iamgmembers.org



IAMG2023 in Trondheim, Norway

www.iamgconferences.org/iamg2023



Norwegian University of
Science and Technology

We look forward to seeing you in Q3 2023!

Distinguished Lecturer Updates

Distinguished Lecture 2021

Jaime Gómez-Hernández, the 2021 Distinguished Lecturer still believes that he could travel to deliver his lecture in person during the last quarter of the year. Interested institutions should get in touch with him to organize his visit. The following three talks are offered, all of them oriented to the larger public.

My name is Filter, Kalman Filter

In this talk, Jaime will introduce the Kalman filter and how it has evolved into the ensemble Kalman filter and its variants. From the original work by Kalman to the Extended Kalman filter to the Ensemble Kalman filter (EnKF) and beyond. He will comment on the similarities with cokriging, and will demonstrate the application of the EnKF for parameter identification in hydrology.

Inverse modeling in hydrogeology

A review of methods and practices for inverse modeling in hydrogeology. Jaime will start introducing the problem and will present a journey of how inverse modeling has evolved in hydrogeology in the last forty years.

Who is to blame?

Contaminant source identification whether in an aquifer, a river or a water distribution system is a hard problem to solve. On many occasions, contamination is detected in the system but when, where and how much contaminant was introduced is unknown. Forensic methods have been used for the identification of the source and its parameters. Jaime will make a historical review contaminant source identification in hydrogeology and present some cases from hydrology, hydrogeology and water distribution systems.

<>

IAMG Distinguished Lecturer 2020 Report

Peter M. Atkinson, Lancaster University

The following talks were advertised as part of the DL series.

*12-16.07.2021 Distinguished Lecture (IAMG), Geostats 2020 Conference, Toronto, Canada (postponed)
20/20 Hindsight Talk (title to be confirmed)

*16-18.06.2021 Distinguished Lecture (IAMG), GeoENV 2020, Parma, Italy
Implications of the PSF for Downscaling and Image Fusion in Remote Sensing

*26.05.2021 Distinguished Lecture (IAMG), Indian Statistical Institute, India
The Importance of Representations for Spatial Data Science

*15.04.2021 Distinguished Lecture (IAMG), GISRUUK 2021 conference, Cardiff University, Wales, UK
A Novel Paradigm for Simultaneous Land Use and Land Cover Classification

*26.11.2020 Distinguished Lecture (IAMG), International Geospatial Week, National Geographic Institute of Colombia, Columbia
Trends in Geospatial Data Science and Remote Sensing

*12.11.2020 Distinguished Lecture (IAMG), IAMG Student Chapter, University of Freiberg, Germany
Implications of the PSF for Downscaling and Image Fusion in Remote Sensing

IAMG Journal Reports



Editorial Excellence in Natural Resources Research

Natural Resources Research has been rated as a top Springer Nature journal for editorial excellence, placing in the top percentile of journals based on data collected from the Journal Author Satisfaction Survey.

<>

IAMG Journal Contents

Mathematical Geosciences

MG - Volume 53, Issue 1, January 2021

Discriminant Analysis for Compositional Data Incorporating Cell-Wise Uncertainties — S. Pospiech, R. Tolosana-Delgado, K.G. van den Boogaart

Improving Automated Geological Logging of Drill Holes by Incorporating Multiscale Spatial Methods — E.J. Hill, M.A. Pearce, J.M. Stromberg

A Critical Comparison of Three Methods for Time-Lapse Time-Shift Calculation — L. Ji, C. MacBeth, M.-D. Mangriotis

Mathematical Optimization Problems for Particle Finite Element Analysis Applied to 2D Landslide Modeling — L. Wang, X. Zhang, F. Zaniboni, E. Oñate, S. Tinti

Sample Truncation Strategies for Outlier Removal in Geochemical Data: The MCD Robust Distance Approach Versus t-SNE Ensemble Clustering — R. Leung, M. Balamurali, A. Melkumyan

Three-Dimensional Prospectivity Modeling of Honghai Volcanogenic Massive Sulfi de Cu–Zn Deposit, Eastern Tianshan, Northwestern China Using Weights of Evidence and Fuzzy Logic — J. Tao, F. Yuan, N. Zhang, J. Chang

Entropy and Information Content of Geostatistical Models — T.M. Hansen

MG - Volume 53, Issue 2, February 2021

Special Issue in Honor of André G. Journel

Guest Editors: J.J. Gómez-Hernández, R.M. Srivastava

Introduction to the Special Issue in Honor of André G. Journel — J.J. Gómez-Hernández, R.M. Srivastava

One Step at a Time: The Origins of Sequential Simulation and Beyond — J.J. Gómez-Hernández, R.M. Srivastava

Geostatistical Seismic Inversion: One Nugget from the Tróia Conference — A. Soares

Implementation of Geostatistical Algorithms — C.V. Deutsch

From Natural Resources Evaluation to Spatial Epidemiology: 25 Years in the Making — P. Goovaerts

Multiple-Point Statistics Simulation Models: Pretty Pictures or Decision-Making Tools? — S. Strebelle

Conditional Simulation for Mineral Resource Classification and Mining Dilution Assessment from the Early 1990s to Now — G. Verly, H.M. Parker

MG - Volume 53, Issue 3, April 2021

Special Issue: Petroleum Geostatistics

continued on next page

Journal Statistics

Mathematical Geosciences:

2019 ISI Impact factor: 2.471

5-Year Impact Factor: 2.183

Ave. review time: 53 days (submission to first decision 2020)

261 days (submission to final decision 2020)

Computers & Geosciences:

2019 ISI Impact Factor: 2.991

5-Year Impact Factor: 3.339

Ave. review time: 7.7 weeks (submission to first decision 2020)

12.2 weeks (submission to final decision 2020)

Natural Resources Research:

2019 ISI Impact Factor: 3.708

Ave. review time: 32 days (submission to first decision 2020)

128 days (submission to final decision 2020)

MG continued from p. 6

Guest Editors: Leonardo Azevedo, Jo Eidsvik

A Special Issue on Petroleum Geostatistics — L. Azevedo, J. Eidsvik

Boolean Spectral Analysis in Categorical Reservoir Modeling — N. Ismagilov, V. Borovitskiy, M. Lifshits, M. Platonova

Geophysics-Based Fluid-Facies Predictions Using Ensemble Updating of Binary State Vectors — M.K. Loe, D. Grana, H. Tjelmeland

Adaptive Ensemble-Based Optimisation for Petrophysical Inversion — R. Moyaen, T. Gentilhomme

p-Kernel Stein Variational Gradient Descent for Data Assimilation and History Matching — A.S. Stordal, R.J. Moraes, P.N. Raanes, G. Evensen

Comparison of Recursive Neural Network and Markov Chain Models in Facies Inversion — E. Talarico, W. Leão, D. Grana

Connectivity in Pixel-Based Facies Models — D.A. Walsh, T. Manzocchi

Prestack Bayesian Linearized Inversion with Decorrelated Prior Information — B. Yu, H. Zhou, L. Wang, W. Liu

Acknowledgement for Reviewers for 2020

MG - Volume 53, Issue 4, May 2021

Modeling and Simulating Depositional Sequences Using Latent Gaussian Random Fields — D. Allard, P. Fabbri, C. Gaetan

Spatiotemporal Precipitation Estimation from Rain Gauges and Meteorological Radar Using Geostatistics — E. Cassiraga, J.J. Gómez-Hernández, M. Berenguer, D. Sempere-Torres, J. Rodrigo-Illari

MIN3P-HPC: A High-Performance Unstructured Grid Code for Subsurface Flow and Reactive Transport Simulation — D. Su, K.U. Mayer, K.T.B. MacQuarrie

Temperature Dependence of the Permeability of Sandstone Under Loading and Unloading Conditions of Confining Pressure — Y.-H. Huang, S.-Q. Yang, S.-Y. Teng

Is Cell-to-Cell Scale Variability Necessary in Reservoir Models? — H. Osman, G.H. Graham, A. Moncorge, C. Jacquemyn, M.D. Jackson

A New Type of Conditioning of Stationary Fields and Its Application to the Spectral Simulation Approach in Geostatistics — N.S. Ismagilov, M.A. Lifshits, A.A. Yakovlev

Clarifications and New Insights on Conditional Bias — G. Bourgault

Weighted Symmetric Pivot Coordinates for Compositional Data with Geochemical Applications — K. Hron, M. Engle, P. Filzmoser, E. Fišerová

Risk Reduction in Line Grid Search for Elliptical Targets — D.A. Singer

An Analytical Microcrack-Based Rock Model with Implications for Earthquake Mechanisms Induced by Stress Changes — X. Li, C. Qi, L. Ban, Z. Shao

A Comparison of Extremal Optimization, Differential Evolution and Particle Swarm Optimization Methods for Well Placement Design in Groundwater Management — F. Redoloza, L. Li

Uncertainty Integration in Dynamic Mining Reserves — J. Neves, C. Araújo, A. Soares

Resource and Grade Control Model Updating for Underground Mining Production Settings — A. Prior, J. Benndorf, U. Mueller

Book review — Jörg Benndorf: Closed Loop Management in Mineral Resource Extraction: Turning Online Geo-Data into Mining Intelligence. Springer, 2020, 104 pp — A. Soares

<>

Computers & Geosciences

C&G - Volume 146, January 2021

Rapid computation of set boundaries of multi-scale grids and its application in coverage analysis of remote sensing images — Xiangyu Wu, Xiaochong Tong, Yi Lei, He Li, Congzhou Guo, Yongsheng Zhang, Guangling Lai, Shengxiong Zhou

EMagPy: Open-source standalone software for processing, forward modeling and inversion of electromagnetic induction data — Paul McLachlan, Guillaume Blanchy, Andrew Binley

GPU acceleration of MPAS microphysics WSM6 using OpenACC directives: Performance and verification — Jae Youp Kim, Ji-Sun Kang, Minsu Joh

ES-MDA applied to estimate skin zone properties from injectivity tests data in multilayer reservoirs — Thiago M.D. Silva, Renan Vieira Bela, Sinesio Pesco, Abelardo Barreto

Real-time switching and visualization of logging attributes based on subspace learning — Min Shi, Zirui Wu, Suqin Wang, Dengming Zhu

Dynamic committee machine with fuzzy-c-means clustering for total organic carbon content prediction from wireline logs — Yang Bai, Maojin Tan

Adaptively accelerating FWM2DA seismic modelling program on multi-core CPU and GPU architectures —

Ashutosh Londhe, Richa Rastogi, Abhishek Srivastava, Kiran Khonde, Kiranmayi M. Sirasala, Komal Kharche

Machine learning applied to anthropogenic seismic events detection in Lai Chau reservoir area, Vietnam — Jan Wiszniowski, Beata Plesiewicz, Grzegorz Lizurek

TubeDB: An on-demand processing database system for climate station data — Stephan Wöllauer, Dirk Zeuss, Falk Hänsel, Thomas Nauss

A modeling framework (WRF-Landlab) for simulating orogen-scale climate-erosion coupling — Hong Shen, Brigid Lynch, Christopher J. Poulsen, Brian J. Yanites

Complex-valued neural networks for machine learning on non-stationary physical data — Jesper Sören Dramsch, Mikael Lüthje, Anders Nymark Christensen

A new two-phase flow model based on coupling of the depth-integrated continuum method and discrete element method — Huicong An, Chaojun Ouyang, Dongpo Wang

GravPSO2D: A Matlab package for 2D gravity inversion in sedimentary basins using the Particle Swarm Optimization algorithm — J.L.G. Pallero, J.L. Fernández-Martínez, Z. Fernández-Muñiz, S. Bonvalot, G. Gabalda, T. Nalpas

Numerical modelling of self-potential in subsurface reservoirs — Mutlaq Alarouj, Amadi Ijioma, Malcolm Thomas Graham, Donald John MacAllister, Matthew David Jackson

Hydro-morphodynamics 2D modelling using a discontinuous Galerkin discretisation — Mariana C.A. Clare, James R. Percival, Athanasios Angeloudis, Colin J. Cotter, Matthew D. Piggott

Accelerating geostatistical modeling using geostatistics-informed machine Learning — Tao Bai, Pejman Tahmasebi

A novel framework for seamless mosaic of Cartosat-1 DEM scenes — Rajeshreddy Datla, C. Krishna Mohan

Sensitivity of glacier elevation analysis and numerical modeling to CryoSat-2 SIRAL retracking techniques — Thomas Trantow, Ute C. Herzfeld, Veit Helm, Johan Nilsson

C&G - Volume 147, February 2021

Automated crater detection with human level

performance — Christopher Lee, James Hogan

A positive and unlabeled learning algorithm for mineral prospectivity mapping — Yihui Xiong, Renguang Zuo

Recurrence plot analysis of GPS ionospheric delay time series in extreme ionospheric conditions — Kristijan Lenac, Renato Filjar

Direct Multivariate Simulation - A stepwise conditional transformation for multivariate geostatistical simulation — Leandro P. de Figueiredo, Tcharles Schmitz, Rafael Lunelli, Mauro Roisenberg, Daniel Santana de Freitas, Dario Grana

Deep geothermal energy in northern England: Insights from 3D finite difference temperature modelling — Louis Howell, Christopher S. Brown, Stuart S. Egan

Toward real-time optical estimation of ocean waves' space-time fields — Filippo Bergamasco, Alvis Benetazzo, Jeseon Yoo, Andrea Torsello, Francesco Barbariol, Jin-Yong Jeong, Jae-Seol Shim, Luigi Cavaleri

powdR: An R package for quantitative mineralogy using full pattern summation of X-ray powder diffraction data — Benjamin M. Butler, Stephen Hillier

HiVision: Rapid visualization of large-scale spatial vector data — Mengyu Ma, Ye Wu, Xue Ouyang, Luo Chen, Jun Li, Ning Jing

A neural network approach for deriving absorption coefficients of ocean water constituents from total light absorption and particulate absorption coefficients — Srinivas Kolluru, Shirishkumar S. Gedam, Arun B. Inamdar

Objective functions from Bayesian optimization to locate additional drillholes — Bahram Jafarsteh, Alberto Suárez

Real-time water level monitoring using live cameras and computer vision techniques — Navid H. Jafari, Xin Li, Qin Chen, Can-Yu Le, Logan P. Betzer, Yongqing Liang

Extracting and visualising glacial ice flow directions from Digital Elevation Models using greyscale thinning and directional trend analyses — Artūrs Putniņš, Håvard Tveite

A log-barrier approach for airborne gamma-ray spectrometry inversion — Jessica Derkacz Weihermann, Saulo Pomponet Oliveira, Yaoguo Li, Francisco José Fonseca Ferreira, Adalene Moreira Silva, Richard Fortin

Corrigendum to "A two-dimensional, higher-order, enthalpy-based thermomechanical ice flow model for mountain glaciers and its benchmark experiments" [Comput. Geosci. 141 (2020) 104526] — Yuzhe Wang, Tong Zhang, Cunde Xiao, Jiawen Ren, Yanfen Wang

C&G - Volume 148, March 2021

A comparison of isometric and amalgamation logratio balances in compositional data analysis — Michael Greenacre, Eric Grunsky, John Bacon-Shone

3D CNN-PCA: A deep-learning-based parameterization for complex geomodels — Yimin Liu, Louis J. Durlowski

An algorithm for tracking drifters dispersion induced by wave turbulence using optical cameras —

Henrique P.P. Pereira, Nelson Violante-Carvalho, Ricardo Fabbri, Alex Babanin, Uggo Pinho, Alex Skvortsov

TITIPy: A Python tool for the calculation and mapping of topside ionosphere turbulence indices — Alessio Pignalberi

Three-dimensional magnetotelluric modeling in general anisotropic media using nodal-based unstructured finite element method — Yixin Ye, Jiaming Du, Ying Liu, Zhengmin Ai, Fenyong Jiang

Constructing large-scale complex aquifer

continued on next page

CG continued from p. 7

systems with big well log data: Louisiana model — Hamid Vahdat-Aboueshagh, Frank T.-C. Tsai

A new strategy for spatial predictive mapping of mineral prospectivity: Automated hyperparameter tuning of random forest approach — Mehrdad Daviran, Abbas Maghsoudi, Reza Ghezelbash, Biswajeet Pradhan

Enhanced conditional Co-Gibbs sampling algorithm for data imputation — Nasser Madani, Talgatbek Bazarbekov

Data-driven semi-supervised clustering for oil prediction — Tue Boesen, Eldad Haber, G. Michael Hoversten

Machine learning in ground motion prediction — Farid Khosravikia, Patricia Clayton

PDAL: An open source library for the processing and analysis of point clouds — Howard Butler, Bradley Chambers, Preston Hartzell, Craig Glennie

C&G - Volume 149, April 2021

3D geological structure inversion from Noddy-generated magnetic data using deep learning methods — Jiateng Guo, Yunqiang Li, Mark Walter Jessell, Jeremie Giraud, Chaoling Li, Lixin Wu, Fengdan Li, Shanjun Liu

On a new statistical wave generator based on atmospheric circulation patterns and its applications to coastal shoreline evolution — J. Pringle, D.D. Stretch

A hybrid approach for El Niño prediction based on Empirical Mode Decomposition and convolutional LSTM Encoder-Decoder — Si Wang, Lin Mu, Darong Liu

RaDeCC Reader: Fast, accurate and automated data processing for Radium Delayed Coincidence Counting systems — Sean Selzer, Amber L. Annett, William B. Homoky

Learning high-order spatial statistics at multiple scales: A kernel-based stochastic simulation algorithm and its implementation — Lingqing Yao, Roussos Dimitrakopoulos, Michel Gamache

The effect of calibration data length on the performance of a conceptual hydrological model versus LSTM and GRU: A case study for six basins from the CAMELS dataset — Georgy Ayzel, Maik Heistermann

Near-real-time prompt assessment for regional earthquake-induced landslides using recorded ground motions — Qingle Cheng, Yuan Tian, Xinzhen Lu, Yuli Huang, Lieping Ye

Improving the robustness of the Comparison Model Method for the identification of hydraulic transmissivities — Alessandro Comunian, Mauro Giudici

Study on offshore seabed sediment classification based on particle size parameters using XGBoost algorithm — Fangan Wang, Jia Yu, Zhijie Liu, Min Kong, Yunfan Wu

Image-based rock typing using grain geometry features — Yuzhu Wang, Shuyu Sun

Inversion of 1D frequency- and time-domain electromagnetic data with convolutional neural networks — Vladimir Puzyrev, Andrei Swidinsky

A machine learning model for structural trend fields — Italo Gomes Gonçalves, Felipe Guadagnin, Sissa Kumairá, Saulo Lopes Da Silva

Multi-layer perceptron-based tectonic discrimination of basaltic rocks and an application on the Paleoproterozoic Xiong'er volcanic province in the North China Craton — Richen Zhong, Yi Deng, Chang Yu

The CHIMAERA system for retrievals of cloud top, optical and microphysical properties from imaging sensors — Galina (Gala) Wind, Steven Platnick, Kerry Meyer, Tom Arnold, Nandana Amarasinghe,

Benjamin Marchant, Chenxi Wang

Corrigendum to "The CHIMAERA system for retrievals of cloud top, optical and microphysical properties from imaging sensors" [Comput. Geosci. 134 (2019) 104345] — Galina (Gala) Wind, Steven Platnick, Kerry Meyer, Tom Arnold, Nandana Amarasinghe, Benjamin Marchant, Chenxi Wang

C&G - Volume 150, May 2021

Upgraded GROWTH 3.0 software for structural gravity inversion and application to El Hierro (Canary Islands) — Antonio G. Camacho, Juan F. Prieto, Alfredo Aparicio, Eumenio Ancochea, José Fernández

Dynamic modelling of overprinted low-permeability fault cores and surrounding damage zones as lower dimensional interfaces for multiphysics simulations — Thomas Poulet, Martin Lesueur, Ulrich Kelka

A new procedure for generating data covariance inflation factors for ensemble smoother with multiple data assimilation — Thiago M.D. Silva, Sinesio Pesco, Abelardo Barreto Jr., Mustafa Onur

Aboveground biomass estimates of tropical mangrove forest using Sentinel-1 SAR coherence data - The superiority of deep learning over a semi-empirical model — S.M. Ghosh, M.D. Behera

Hierarchical Dynamic Time Warping methodology for aggregating multiple geological time series — Yuval Burstyn, Asaf Gazit, Omri Dvir

Image-based rock typing using local homogeneity filter and Chan-Vese model — Yuzhu Wang, Abdulaziz Alzaben, Christoph H. Arns, Shuyu Sun

Parallel computing for Fast Spatiotemporal Weighted Regression — Xiang Que, Chao Ma, Xiaogang Ma, Qiyu Chen

A fast edge-based two-stage direct sampling method — Hexiang Bai, Gregoire Mariethoz

Sedimentary phosphate classification based on spectral analysis and machine learning — Rajaa Charifi, Najia Es-sbai, Yahya Zennayi, Taha Hosni, François Bourzeix, Anass Mansouri

Article(s) from the Special Issue on Emerging Trends in Big Data Analytics and Natural Disasters; Edited by Francisco Martinez-Alvarez, Antonio Morales-Esteban, Rudolf Scitovski and Cristina Rubio-Escudero

Generating a seismogenic source zone model for the Pyrenees: A GIS-assisted triclustering approach — José L. Amaro-Mellado, Laura Melgar-García, Cristina Rubio-Escudero, David Gutiérrez-Avilés

Association announcement 2021 Felix Chayes Prize — Robert M. Hazen

C&G - Volume 151, June 2021

High-performance parallel implementations of flow accumulation algorithms for multicore architectures — Bartłomiej Kotyra, Łukasz Chabudziński, Przemysław Stpczyński

Dual-input attention network for automatic identification of detritus from river sands — Shiping Ge, Cong Wang, Zhiwei Jiang, Huizhen Hao, Qing Gu

Deep learning in denoising of micro-computed tomography images of rock samples — Mikhail Sidorenko, Denis Orlov, Mohammad Ebadi, Dmitry Koroteev

Three-dimensional magnetotelluric modeling using the finite element model reduction algorithm — Jifeng Zhang, Jiren Liu, Bing Feng, Yi'an Zheng, Jianbo Guan, Zhongqiang Liu

A convolutional neural network for semi-automated lineament detection and vectorisation of remote sensing data using probabilistic clustering: A method and a challenge — Amin Aghaee, Pejman Shamsipour, Shawn Hood, Rasmus Haugaard

A stacking methodology of machine learning for 3D geological modeling with geological-geophysical datasets, Laochang Sn camp, Gejiu (China) — Ran Jia, Yikai Lv, Gongwen Wang, Emmanuel John M. Carranza, Yongqing Chen, Chao Wei, Zhiqiang Zhang

An index for quantifying geometric point disorder in geospatial applications — R. Sky Jones, H.G. Momm

Accelerating the Lagrangian particle tracking of residence time distributions and source water mixing towards large scales — Chen Yang, You-Kuan Zhang, Xiuyu Liang, Catherine Olschanowsky, Xiaofan Yang, Reed Maxwell

Numerical investigating the low field NMR response of representative pores at different pulse sequence parameters — Xinmin Ge, Yiren Fan, Jianyu Liu, Jier Zhao, Bingding Zeng, Donghui Xing

A general approach to seismic inversion with automatic differentiation — Weiqiang Zhu, Kailai Xu, Eric Darve, Gregory C. Beroza

Updating the Fast Grain Boundary program: Temperature-time paths from intragrain oxygen isotope zoning — Gabriel Kropf, Chloë Bonamici, Brian Borchers

Classifying tree species in the plantations of southern China based on wavelet analysis and mathematical morphology — Xiaomin Tian, Long Chen, Xiaoli Zhang

<>

Applied Computing & Geosciences

AC&G - Volume 8, December 2020

Unsupervised clustering of LA-ICP-MS raster map data for geological interpretation: A case study using epidote from the Yerington district, Nevada — Ayesha D. Ahmed, Shawn B. Hood, David R. Cooke, Ivan Belousov

Visualization of evolutionary relationships through geologic time in Timescale Creator — Abdullah Khan Zehady, James G. Ogg, Barry G. Fordham, Gangi Palem, Jason Bobick, Gabi M. Ogg

Robust input layer for neural networks for hyperspectral classification of data with missing bands — Laurent Fasnacht, Philippe Renard, Philip Brunner

Animated visualization of post-glacial land uplift and shore displacement from modeled paleotopographic reconstructions — Viljami Perheentupa, Ville Mäkinen, Hando-Laur Habicht, Juha Oksanen

Article(s) from the Special Issue on Compositional Data Analysis (CoDaWork2019); Edited by M.I. Ortego and G. Mateu Figueras

Biplots for compositional data derived from generalized joint diagonalization methods — U. Mueller, R. Tolosana Delgado, E.C. Grunsky, J.M. McKinley

Article(s) from the Special Issue on Remote Sensing and GIS applications in Geosciences; Edited by Ajay Kumar Taloor, Narsimha Adimalla and Ajanta Goswami

Monitoring and mapping of snow cover variability using topographically derived NDSI model over north Indian Himalayas during the period 2008–19 — Vishakha Sood, Sartajvir Singh, Ajay Kumar Taloor, Shivendu Prashar, Ravneet Kaur

PS-InSAR derived deformation study in the Kachchh, Western India — Rakesh K. Dumka, D. SuriBabu, Kapil Malik, Sandip Prajapati, P. Narain

Modeling the spatial pattern of sediment flow in lower Hugli estuary, West Bengal, India by quantifying suspended sediment concentration (SSC) and depth conditions using geoinformatics — Shruti Kanga, Gowhar Meraj, Barun Das, Majid Farooq, Subhamita Chaudhuri, Suraj Kumar Singh

continued on next page

AC&G continued from p. 8

AC&G - Volume 9, March 2021

FracRough—Computer program to calculate fracture roughness from reservoir rock core — Mohamed M. Al-Fahmi, Sait I. Ozkaya, Joe A. Cartwright

Article(s) from the Special Issue on Remote Sensing and GIS applications in Geosciences; Edited by Ajay Kumar Taloor, Narsimha Adimalla and Ajanta Goswami

Geomorphic mapping and investigation of the uplifted piedmont zone between Haridwar and Kotdwar, Indo-Gangetic Plain, India — Abhishek Kralia, Mahesh Thakur

Development of a monitoring system for ionospheric TEC variability before the earthquakes — Gopal Sharma, Malemnganba Soubam, Devesh Walia, Nilay Nishant, K.K. Sarma, P.L.N. Raju

Retrieval of land surface temperature, normalized difference moisture index, normalized difference water index of the Ravi basin using Landsat data — Ajay Kumar Taloor, Drinder Singh Manhas, Girish Chandra Kothiyari

Non-linear spectral unmixing of hyperspectral data using Modified PPNMM — Ankur Dixit, Shefali Agarwal

Mapping Hydrothermally Altered Minerals and Gossans using Hyperspectral data in Eastern Kumaon Himalaya, India — Himanshu Govil, Gaurav Mishra, Neetu Gill, Ajay Taloor, P. Diwan

<>

Natural Resources Research

NRR - Volume 30, Issue 1, February 2021

Forecasting of One-Day-Ahead Global Horizontal Irradiation Using Block-Oriented Models Combined with a Swarm Intelligence Approach — Sahbi Boubaker, Souad Kamel, Lioua Kolsi, Omar Kahouli

Random-Drop Data Augmentation of Deep Convolutional Neural Network for Mineral Prospectivity Mapping — Tong Li, Renguang Zuo, Yihui Xiong, Yong Peng

Integration of Machine Learning Algorithms with Gompertz Curves and Kriging to Estimate Resources in Gold Deposits — Steven E. Zhang, Glen T. Nwaila, Leon Tolmay, Hartwig E. Frimmel, Julie E. Bourdeau

Non-Gaussian Copula Simulation for Estimation of Recoverable Reserve in an Indian Copper Deposit — Krishna Dinda, Biswajit Samanta

Magnetic Data Interpretation Using a New R-Parameter Imaging Method with Application to Mineral Exploration — Salah Mehane, Khalid S. Essa, Zein E. Diab

A Novel Approach to Self-potential Data Interpretation in Support of Mineral Resource Development — Mahmoud Elhussein

Prospecting for Gold Mineralization Using Geochemical, Mineralogical, and WorldView-2 Data: Siyah Jangal Area Case Study, Northern Taftan Volcano, SE Iran — Mohammad Saeedi, Majid H. Tangestani, Arash Gourabjeri

Interpretation of Airborne Magnetic and Geo-electric Data: Resource Potential and Basement Morphology of the Ikom–Mamfe Embayment and Environs, Southeastern Nigeria — Charles Chibueze Ugbor, Chidubem Okwudiri Emedo, Innocent John Arinze

Global Optimization for Delineation of Self-potential Anomaly of a 2D Inclined Plate — Khushwant Rao, Shraddha Jain, Arkoprovo Biswas

A Novel Combination of Whale Optimization Algorithm and Support Vector Machine with Different Kernel Functions for Prediction of Blasting-Induced Fly-Rock in Quarry Mines — Hoang Nguyen, Xuan-Nam Bui, Yosoon Choi, Chang Woo Lee, Danial Jahed Armaghani

Hybridization of Parametric and Non-parametric Techniques to Predict Air Over-pressure Induced by Quarry Blasting — Xiangqi Zhou, Danial Jahed Armaghani, Jinbi Ye, Mahdy Khari, Mohammad Reza Motahari

A Novel Combination of Tree-Based Modeling and Monte Carlo Simulation for Assessing Risk Levels of Flyrock Induced by Mine Blasting — Jinbi Ye, Mohammadreza Koopialipoor, Jian Zhou, Danial Jahed Armaghani, Xiaoli He

Integration of Thermal Infrared and Synthetic Aperture Radar Images to Identify Geothermal Steam Spots Under Thick Vegetation Cover — Asep Saepuloh, Rezky Heidi Saputro, Mohamad Nur Heriawan, Dwiyoagarani Malik

Implications for a Geothermal Reservoir at Abgarm, Mahallat, Iran: Magnetic and Magnetotelluric Signatures — Seyed Hossein Hosseini, Banafsheh Habibian Dehkordi, Maysam Abedi, Behrooz Oskooi

Experimental Investigation of Thermal Effect on Fracability Index of Geothermal Reservoirs — Daobing Wang, Fujian Zhou, Yongcun Dong, Dongliang Sun, Bo Yu

Experimental Investigation of Mechanical Properties and Failure Behavior of Fluid-Saturated Hot Dry Rocks — Daobing Wang, Xiaobing Bian, Hao Qin, Dongliang Sun, Bo Yu

Quaternary Alluvial Aquifer Study Using Integrated Geophysical Approach in Zaghuan Plain (Northeastern Tunisia) — Amina Ben Fraj, Hakim Gabtni

Interpretation of Geometric Elements of the Fahs Aquifer System, Northeast Tunisia: Joint Use of Vertical Electrical Sounding Data, Well Logs and Satellite Imagery — M. F. Hezzy, R. Guellala, A. Hamed Ferjani, Y. Ferchichi, A. Merzoughi, M. H. Inoubli

Spatial Differentiation Characteristics of Groundwater Stress Index and its Relation to Land Use and Subsidence in the Varamin Plain, Iran — Maryam Nayyeri, Seyed Abbas Hosseini, Saman Javadi, Ahmad Sharafati

Multi-scaling Properties of 2D Reservoir Micro-pore Heterogeneity Based on Digital Casting Thin-Section Images — Lihong Zhou, Mutian Qin, Dunning Xiao, Chongbiao Leng, Hongjun Li, Shuyun Xie, E. J. M. Carranza, Jinning Zhang

Three-Dimensional Structural and Petrophysical Modeling for Reservoir Characterization of the Mangaheha Formation, Pohokura Gas-Condensate Field, Taranaki Basin, New Zealand — Md Aminul Islam, Mutiah Yunsu, S. M. Talha Qadri, Mohamed Ragab Shalaby, A. K. M. Eahsanul Haque

Quantitative Reservoir Characterization of Tight Sandstone Using Extended Elastic Impedance — Ren Jiang, Chenglin Liu, Jing Zhang, Qingcai Zeng, Pei He, Jiaqiang Huang, Bingyi Du, Weiwei He, Tao Hao, Jianxin Zhang

Determination of Reservoir Flow Units from Core Data: A Case Study of the Lower Cretaceous Sandstone Reservoirs, Western Bredasdorp Basin Offshore in South Africa — Mimonitu Opuwari, Saeed Mohammed, Charlene Ile

Modeling the Depositional Environment of the Sandstone Reservoir in the Middle Miocene Sidri Member, Badri Field, Gulf of Suez Basin, Egypt: Integration of Gamma-Ray Log Patterns and Petrographic Characteristics of Lithology — Ahmed E. Radwan

Pore Structure Characteristics of Ultra-Low Permeability Reservoirs — Daiyin Yin, Dongqi Wang, Yazhou Zhou, Chengli Zhang

Stress Path Analysis for Characterization of In Situ Stress State and Effect of Reservoir Depletion on Present-Day Stress Magnitudes: Reservoir Geomechanical Modeling in the Gulf of Suez Rift Basin, Egypt — Ahmed RadwanSouvik Sen

Modeling Aquifer Flow Behavior in Low-Dip Edge-Water Drive Gas Reservoirs — Mahdi Amirardari, Najeh Alali, Khalil Afsari

Gradual or Instantaneous Wettability Alteration During Simulation of Low-Salinity

Water Flooding in Carbonate Reservoirs — Zahra Negahdari, Mohammad R. Malayeri, Mojtaba Ghaedi, Sabber Khandoozi, Masoud Riaz

Application of Low-Salinity Waterflooding in Carbonate Cores: A Geochemical Modeling Study — Daniel Isong Otu Egbe, Ashkan Jahanbani Ghahfarokhi, Menad Nait Amar, Ole Torsæter

Sorption and Desorption of CO₂ and CH₄ in Vitrinite- and Inertinite-Rich Polish Low-Rank Coal — Katarzyna Czerw, Paweł Baran, Jakub Szczurowski, Katarzyna Zarębska

Natural Attenuation of Acid Mine Drainage by Various Rocks in the Witbank, Ermelo and Highveld Coalfields, South Africa — E. Sakala, F. Fourie, M. Gomo, G. Madzivire

Modeling of Multiphysical–Chemical Coupling for Coordinated Mining of Coal and Uranium in a Complex Hydrogeological Environment — Tong Zhang, Liang Yuan, Ke Yang, Yang Liu, Fei Wei, Xiang Yu

Effect of Nanomagnetite on Properties of Medium- and High-Rank Coals — Fajun Zhao, Xinrun Liu, Qigen Deng

Quantitative Analysis of Pore Structure and Its Impact on Methane Adsorption Capacity of Coal — Shipai Xu, Erfeng Hu, Xingchun Li, Yu Xu

Rapid Determination of Gross Calorific Value of Coal Using Artificial Neural Network and Particle Swarm Optimization — Hoang Nguyen, Hoang-Bac Bui, Xuan-Nam Bui

New Mechanical Model of Slotting–Directional Hydraulic Fracturing and Experimental Study for Coalbed Methane Development — Jianyu Zhong, Zhaolong Ge, Yiyu Lu, Zhe Zhou, Jingwei Zheng

Analysis of Surface Cracking and Fracture Behavior of a Single Thick Main Roof Based on Similar Model Experiments in Western Coal Mine, China — Jianping Zuo, Meilu Yu, Chunyuan Li, Yunjiang Sun, Shunyun Hu, Zhengdai Li

Coal Petrology Effect on Nanopore Structure of Lignite: Case Study of No. 5 Coal Seam, Shengli Coalfield, Erlan Basin, China — Jincheng Zhao, Jian Shen, Yong Qin, Jinyue Wang, Junlong Zhao, Chao Li

Influence Mechanism of Coal Crack Development on Coal Biogasification Under the Influence of Mining — Dong Xiao, Mohamed Keita, Hailun He, Enyuan Wang, Yidong Zhang, Huan He, Jing Ma

Laboratory Investigations of a New Method Using Pressure Stimulated Currents to Monitor Concentrated Stress Variations in Coal — Dexing Li, Enyuan Wang, Yunqiang Ju, Dongming Wang

Distribution Characteristics and Enrichment Model of Germanium in Coal: An Example from the Yimin Coalfield, Hailar Basin, China — Bo Jiu, Wenhui Huang, Qilong Sun

A Wavelet-Based Model for Determining Asphaltene Onset Pressure — Mohammad Heidari, Kazem Fouladi Hossein Abad

Permeability of Oil Shale Under In Situ Conditions: Fushun Oil Shale (China) Experimental Case Study — Jing Zhao, Zhiqin Kang

Spatial Modeling of Hydrocarbon Productivity in the Nahr Umr Formation at the Luhais Oil Field, Southern Iraq — Amna M. Handhal, Amjad A. Hussein, Alaa M. Al-Abadi, Frank R. Etensohn

Estimation of Surface Soil Moisture Based on Improved Multi-index Models and Surface Energy Balance System — Mohammad Hossein Jahangir, Mina Arast

Influence of Geological and Environmental Factors on the Reconsolidation Behavior of Fine Granular Salt — Yanfei Kang, Jinyang Fan, Deyi Jiang, Zongze Li

Gas Adsorption and Controlling Factors of Shale: Review, Application, Comparison and Challenges — Asadullah Memon, Aifen Li, Bilal Shams Memon, Temoor Muther, Wencheng Han, Muhammad Kashif, Muhammad Usman Tahir, Imran Akbar

Mining Co-products as Sources of Multi-nutrients for Cultivation of Brachiaria

NRR continued from p. 9

ruziensis — Marlon Rodrigues, Marcos Rafael Nanni, Carlos Augusto Posser Silveira, Everson Cezar, Glaucio Lebozo Alemparte Abrantes dos Santos, Renato Herrig Furlanetto, Karym Mayara de Oliveira, Amanda Silveira Reis

Size Reduction Characterization of Underground Mine Tailings: A Case Study on Sandstones — Ekin Köken

Numerical Investigation of 3D Distribution of Mining-Induced Fractures in Response to Longwall Mining — Junchao Chen, Lei Zhou, Binwei Xia, Xiaopeng Su, Zhonghui Shen

NRR - Volume 30, Issue 2, April 2021

Natural Resources Research: Acknowledgement of Reviewers for 2020 — John Carranza

Optimal Thresholding of Predictors in Mineral Prospectivity Analysis — Adrian Baddeley, Warwick Brown, Robin K. Milne, Gopalan Nair, Suman Rakshit, Tom Lawrence, Aloke Phatak, Shih Ching Fu

GIS-based Mineral Prospectivity Mapping of Seafloor Massive Sulfide on Ultraslow-spreading Ridges: A Case Study of Southwest Indian Ridge 48.7°–50.5° E — Lushi Liu, Jilong Lu, Chunhui Tao, Shili Liao, Shengbo Chen

Spatio-Geologically Informed Fuzzy Classification: An Innovative Method for Recognition of Mineralization-Related Patterns by Integration of Elemental, 3D Spatial, and Geological Information — Saeid Esmaeiloghli, Seyed Hassan Tabatabaei, Emmanuel John M. Carranza

Data-driven Mineral Prospectivity Mapping by Joint Application of Unsupervised Convolutional Auto-encoder Network and Supervised Convolutional Neural Network — Shuai Zhang, Emmanuel John M. Carranza, Hantao Wei, Keyan Xiao, Fan Yang, Jie Xiang, Shihong Zhang, Yang Xu

Regionalized Classification of Geochemical Data with Filtering of Measurement Noises for Predictive Lithological Mapping — José A. Guartán, Xavier Emery

Unsupervised Machine Learning for Lithological Mapping Using Geochemical Data in Covered Areas of Jining, China — Guopeng Wu, Guoxiong Chen, Qiuming Cheng, Zhenjie Zhang, Jie Yang

Application of Soft Data in Nodule Resource Estimation — Steinar Løve Ellefmo, Thomas Kuhn

Geochemical Evaluation of Suitability of Central Anatolian (Turkey) Volcanic Rocks for Rock Fiber Production — Orkun Ersoy, Erkan Aydar, Hüseyin Evren Çubukçu

Correlation of Phase Composition, Structure, and Mechanical Properties of Natural Basalt Continuous Fibers — S. I. Gutnikov, S. S. Popov, V. A. Efremov, Peng-Cheng Ma, B. I. Lazoryak

Experimental Study on Physical and Mechanical Properties of Gypsum Rock During High-Temperature Dehydration-Hydration Expansion — Sijiang Wei, Yushun Yang, Chongbang Xu, Meng Wang, Wenlong Shen, Chengdong Su

Estimating Ore Production in Open-pit Mines Using Various Machine Learning Algorithms Based on a Truck-Haulage System and Support of Internet of Things — Yosoon Choi, Hoang Nguyen, Xuan-Nam Bui, Trung Nguyen-Thoi, Sebeom Park

Algorithmic Optimization of an Underground Witwatersrand-Type Gold Mine Plan — G. T. Nwaila, S. E. Zhang, L. C. K. Tolmay, H. E. Frimmel

Application of Gaussian Mixture Model and Geostatistical Co-simulation for Resource Modeling of Geometallurgical Variables — Yerkezhan Madenova, Nasser Madani

Evaluation of Changes in Expected Ultimate Recovery for US Gulf of Mexico Oil and Gas Fields, 1975–2016 — Mark J. Kaiser

A Review of Exploration, Development, and Production Cost Offshore Newfoundland — Mark J. Kaiser

Effects of Fe³⁺ on Dissolution Dynamics

of Carbonate Rocks in a Shallow Burial Reservoir — Jiayi Ma, Shuyun Xie, Dan Liu, Emmanuel John M. Carranza, Zhiliang He, Mohai Zhang, Tianyi Wang

Hydrocarbon Reservoir Characterization Using Multi-point Stochastic Inversion Technique: A Case Study of Pennay Field — Akindeji O. Fajana

Stochastic Pix2pix: A New Machine Learning Method for Geophysical and Well Conditioning of Rule-Based Channel Reservoir Models — Wen Pan, Carlos Torres-Verdin, Michael J. Pyrcz

Quantitative Characterization, Classification, and Influencing Factors of the Full Range of Pores in Weathering Crust Volcanic Reservoirs: Case Study in Bohai Bay Basin, China — Qingyou Yue, Xuanlong Shan, Xintao Zhang, Chunqiang Xu, Jian Yi, Mao Fu

Evaluation of Spatio-temporal Changes in Surface Water Quality and Their Suitability for Designated Uses, Mettur Reservoir, India — Ajoy Saha, V. L. Ramya, P. K. Jesna, S. Sibina Mol, Preetha Panikkar, M. E. Vijaykumar, U. K. Sarkar, B. K. Das

Integration of Cluster Analysis and Rock Physics for the Identification of Potential Hydrocarbon Reservoir — Amjad Ali, Chen Sheng-Chang, Munawar Shah

Static Reservoir Modeling of the Eocene Clastic Reservoirs in the Q-Field, Niger Delta, Nigeria — Austin E. Okoli, Okechukwu E. Agbasi, Aref A. Lashin, Souvik Sen

Physical Simulations of Gas Production Mechanism in Constant-Rate Co-production from Multiple Coal Reservoirs — Qixian Li, Jiang Xu, Shoujian Peng, Fazhi Yan, Bin Zhou, Ende Han, Cheng Jiang

Disaster-Triggering Mechanisms Based on Interaction of Various Factors in Structured Gas Migration in Coal Seams Under Loading and Unloading Conditions — Kang Peng, Shaowei Shi, Quanle Zou, Gang Wang, Zebiao Jiang

Experimental Study on Temperature Response of Different Ranks of Coal to Liquid Nitrogen Soaking — Shumin Liu, Xuelong Li, Dengke Wang, Dongming Zhang

Gas Flow Characteristics and Optimization of Gas Drainage Borehole Layout in Protective Coal Seam Mining: A Case Study from the Shaqu Coal Mine, Shanxi Province, China — Zhiheng Cheng, Hui Pan, Quanle Zou, Zhenhua Li, Liang Chen, Jialin Cao, Kun Zhang, Yongguo Cui

Experimental Investigation of Microstructure-Related Scale Effect on Tensile Failure of Coal — Honghua Song, Yixin Zhao, Jiehao Wang, Yaodong Jiang

Differentiation of Carbon Isotope Composition and Stratabound Mechanism of Gas Desorption in Shallow-Buried Low-Rank Multiple Coal Seams: Case Study of Well DE-A, Northeast Inner Mongolia — Geng Li, Yong Qin, Zhongling Yao, Wutao Hu

Effects of Methane Saturation and Nitrogen Pressure on N₂-Enhanced Coalbed Methane Desorption Strain Characteristics of Medium-Rank Coal — Zhenzhi Wang, Ze Deng, Xuehai Fu, Guofu Li, Jienan Pan, Ming Hao, He Zhou

Prediction of Spatial Distribution of Coal Seam Permeability Based on Key Interpolation Points: A Case Study from the Southern Shizhuang Area of the Qinshui Basin — Xiaoming Ni, Cixiang Yang, Yanbin Wang, Zhongcheng Li

Comparative Analysis of Gas–Solid–Liquid Coupling Behavior in Front of the Working Face Before and After Water Injection During Coal Mining — Yuexia Chen, Tingxiang Chu, Xuexi Chen, Peng Chen

A Coal Permeability Model with Variable Fracture Compressibility Considering Triaxial Strain Condition — Jun Tang, Jie Zhu, Tangsha Shao, Jing Wang, Yaodong Jiang

Co-production of Tight Gas and Coalbed Methane from Single Wellbore: a Simulation Study from Northeastern Ordos Basin, China — Shihu Zhao, Yanbin Wang, Yong Li, Xiang Wu, Yinjie Hu, Xiaoming Ni, Du Liu

Micro-structural Damage to Coal Induced

by Liquid CO₂ Phase Change Fracturing — Zhiwei Liao, Xianfeng Liu, Dazhao Song, Xueqiu He, Baisheng Nie, Tao Yang, Longkang Wang

Numerical Simulation of Effects of Microbial Action on CO₂ Geological Storage in Deep Saline Aquifers — Xiaofang Shen, Weihong Dong, Yuyu Wan, Fengjun Zhang, Zhijiang Yuan, Qichen Zhang

Derivation of a Petrophysical Model for Contact Angle Based on PURCELL'S Equation and CO₂-Sandstone Brine System Calculation for Core flooding Wettability Preservation — Mumuni Amadu, Adango Miadonye

Implementation of Rock Typing on Waterflooding Process During Secondary Recovery in Oil Reservoirs: A Case Study, El Morgan Oil Field, Gulf of Suez, Egypt — Ahmed E. Radwan, Bassem S. Nabawy, Ahmed A. Kassem, Walid S. Hussein

Data-Driven Modeling Approach to Predict the Recovery Performance of Low-Salinity Waterfloods — Shams Kalam, Rizwan Ahmed Khan, Shah Nawaz Khan, Muhammad Faizan, Muhammad Amin, Rameez Ajaib, Sidqi A. Abu-Khamsin

An Advanced Well Log and an Effective Methodology to Evaluate Water Saturation of the Organic-Rich Cambay Shale — Sanjukta De, Debashish Sengupta

Combining Group Method of Data Handling with Signal Processing Approaches to Improve Accuracy of Groundwater Level Modeling — Vahid Moosavi, Javad Mahjoobi, Mehdi Hayatzadeh

Estimating Stable Measured Values and Detecting Anomalies in Groundwater Geochemistry Time Series Data Across the Athabasca Oil Sands Area, Canada — John G. Manchuk, Jean S. Birks, Cynthia N. McClain, Guy Baycegnak, John J. Gibson, Clayton V. Deutsch

Simulation of Underground Freshwater Exploitation and Analysis of Environmental Impact in Hangzhou Bay New Area, China — Zhigang Zhou, Chaolin Wang, Jing Bi, Yu Zhao, Wei Xiang

Strength of Stacking Technique of Ensemble Learning in Rockburst Prediction with Imbalanced Data: Comparison of Eight Single and Ensemble Models — Xin Yin, Quansheng Liu, Yucong Pan, Xing Huang, Jian Wu, Xinyu Wang

Assessment of Rockburst Risk in Deep Mining: An Improved Comprehensive Index Method — Qiming Zhang, Enyuan Wang, Xiaojun Feng, Chao Wang, Liming Qiu, Hao Wang

Evaluation of Rockburst Hazard in Deep Coalmines with Large Protective Island Coal Pillars — Dong Li, Junfei Zhang, Yuntian Sun, Guichen Li

Prediction of Blast-Induced Ground Vibration in a Mine Using Relevance Vector Regression Optimized by Metaheuristic Algorithms — Hadi Fattahi, Mahdi Hasanippanah

Application of Tree-Based Predictive Models to Forecast Air Overpressure Induced by Mine Blasting — Bhatawdekar Ramesh Murlidhar, Behnam Yazdani Bejarbaneh, Danial Jahed Armaghani, Ahmed Salih Mohammed, Edy Tonnizam Mohamad

A Combination of Expert-Based System and Advanced Decision-Tree Algorithms to Predict Air-Overpressure Resulting from Quarry Blasting — Ziguang He, Danial Jahed Armaghani, Mojtaba Masoumnezhad, Manoj Khandelwal, Jian Zhou, Bhatawdekar Ramesh Murlidhar

A Combination of Fuzzy Delphi Method and ANN-based Models to Investigate Factors of Flyrock Induced by Mine Blasting — Diyan Li, Mohammadreza Koopialipoor, Danial Jahed Armaghani

Deformation Field and Acoustic Emission Characteristics of Weakly Cemented Rock under Brazilian Splitting Test — Yixin Zhao, Bin Liu

NRR - Volume 30, Issue 3, June 2021

continued on next page

NRR continued from p. 10

Sustainable Release of Macronutrients to Black Oat and Maize Crops from Organically-Altered Dacite Rock Powder — Claudete Gindri Ramos, Adilson Celimar Dalmora, Rubens Muller Kautzmann, James Hower, Guilherme Luiz Dotto, Luis Felipe Silva Oliveira

Geochemically Constrained Prospectivity Mapping Aided by Unsupervised Cluster Analysis — Shuai Zhang, Emmanuel John M. Carranza, Keyan Xiao, Zhenghui Chen, Nan Li, Hantao Wei, Jie Xiang, Li Sun, Yang Xu

Regional-Scale Mineral Prospectivity Mapping: Support Vector Machines and an Improved Data-Driven Multi-criteria Decision-Making Technique — Reza Ghezelbash, Abbas Maghsoudi, Amirreza Bigdeli, Emmanuel John M. Carranza

Future Development of Gold Mineralization Utilizing Integrated Geology and Aeromagnetic Techniques: A Case Study in the Barramiya Mining District, Central Eastern Desert of Egypt — Mohamed M. Gobashy, Abdelmonem Eldoudoug, Maha Abdelazeem, Ahmed Abdelhalim

Method of Comparable Values: A New Approach for Efficient Exploration Target Selection in Small-Scale Mining — Ricardo Tichauer, Gustavo Correa de Abreu, Giorgio de Tomi

Model Selection for Mineral Resource Assessment Considering Geological and Grade Uncertainties: Application of Multiple-Point Geostatistics and a Cluster Analysis to an Iron Deposit — Jinpyo Hong, Seokhoon Oh

Reducing Uncertainty in Mineralization Boundary by Optimally Locating Additional Drill Holes Through Particle Swarm Optimization — Saeed Soltani-Mohammadi, Mohammad SafaBabak Sohrabian

Exploring Deep Learning for Dig-Limit Optimization in Open-Pit Mines — Jacob Williams, Jagjit Singh, Mustafa Kumral, Julian Ramirez Ruizeco

Geoelectrical Resistivity and Geological Characterization of Hydrostructures for Groundwater Resource Appraisal in the Obudu Plateau, Southeastern Nigeria — Ebong D. Ebong, Augustine A. Abong, Eric B. Ulem, Loveth A. Ebong

Integrated Water Harvesting and Aquifer Recharge Evaluation Methodology Based on Remote Sensing and Geographical Information System: Case Study in Iraq — Muthanna M. A. AL-Shammari, Ayser M. AL-Shamma'a, Ali Al Maliki, Hussain Musa Hussain, Zaher Mundher Yaseen, Asaad M. Armanuos

Local Scale Groundwater Vulnerability Assessment with an Improved DRASTIC Model — Santanu Malik, Tridip Bhowmik, Umesh Mishra, Niladri Paul

Thermal Behavior of Some Indian Coals: Inferences from Simultaneous Thermogravimetry–Calorimetry and Rock–Eval — Prasenjeet Chakraborty, Bodhisatwa Hazra, Pinaki Sarkar, Ashok K. Singh, Pradeep K. Singh, Saroj Kumar

Mechanical Properties and Energy Dissipation Characteristics of Coal–Rock-Like Composite Materials Subjected to Different Rock–Coal Strength Ratios — Yongchen He, Pengxiang Zhao, Shugang Li, Chun-Hsing Ho, Sifao Zhu, Xiangguo Kong, Diego Maria Barbieri

Characteristics of Pore Evolution and Its Maceral Contributions in the Huolinhe Lignite during Coal Pyrolysis — Lei Han, Jian Shen, Jinyue Wang, Khadija Shabbiri

Characteristics of Modern Geostress and Removability of No. 15 Coal Reservoir, Yangquan Mining Area, China — Tengfei Cao, Zhaobiao Yang, Yong Qin, Zhiming Yan, Zhaoying Chen, Chao Li

Evaluation of Coal Body Structures and Their Distributions by Geophysical Logging Methods: Case Study in the Laochang Block, Eastern Yunnan, China — Zhengguang Zhang, Yong Qin, Geoff Wang, Hansen Sun, Zhenjiang You, Jun Jin, Zhaobiao Yang

A New Method for Determining Gob Methane Sources Under Extraction Conditions of Longwall Coal Mines — Lanning Hu, Shengyong Hu, Guorui Feng, Guofu Li, Dengyu Wu

Experimental Research on Adsorption Kinetic Characteristics of CH₄, CO₂, and N₂ in Coal from Junggar Basin, China, at Different Temperatures — Wanjie Sun, Haifei Lin, Shugang Li, Xiangguo Kong, Hang Long, Min Yan, Yang Bai, Jiamin Tian

Permeability Anisotropy in High Dip Angle Coal Seam: A Case Study of Southern Junggar Basin — Taiyuan Zhang, Shu Tao, Dazhen Tang, Shuling Tang, Hao Xu, Aobo Zhang, Yifan Pu, Yingying Liu, Qiang Yang

A Well Temperature Correction Based on the Least Squares Method and its Application in a Coal Mining Area, China — Yan Guo, Jiuchuan Wei, Herong Gui, Huang Hong, Chunhui Ren, Yali Cui, Qingshan Lu, Jiwen Wu, Tao Peng, Zhan Liang, Lixiang Zhao

Acoustic Emission Source Location Monitoring of Laboratory-Scale Hydraulic Fracturing of Coal Under True Triaxial Stress — Nan Li, Weichen Sun, Bingxiang Huang, Dong Chen, Shaohua Zhang, Manyue Yan

Reliability Assessment of the Hydraulic Fracturing Process in Coal Mine Based on the Analysis of Micro-Seismic Source Parameters — Dong Chen, Nan Li, En-yuan Wang

Study on the Effect and Mechanism of Water Immersion on the Characteristic Temperature during Coal Low-Temperature Oxidation — Xiaowei Zhai, Bobo Song, Bo Wang, Teng Ma, Hui Ge

Assessing Gas Leakage Potential into Coal Mines from Shale Gas Well Failures: Inference from Field Determination of Strata Permeability Responses to Longwall-Induced Deformations — Eric Watkins, C. Ozgen Karacan, Vasu Gangrade, Steven Schatzel

Advantageous Seepage Channel in Coal Seam and its Effects on the Distribution of High-yield Areas in the Fanzhuang CBM Block, Southern Qinshui Basin, China — Yaning Wu, Shu Tao, Wenguang Tian, Hao Chen, Shida Chen

Gas Adsorption Characterization of Pore Structure of Organic-rich Shale: Insights into Contribution of Organic Matter to Shale Pore Network — Yang Wang, Luofu Liu, Hongfei Cheng

Understanding Immiscible Natural Gas Huff-N-Puff Seepage Mechanism in Porous Media: A Case Study of CH₄ Huff-N-Puff by Laboratory Numerical Simulations in Chang-7 Tight Core — Taiyi Zheng, Zhengming Yang, Xiangui Liu, Yutian Luo, Qianhua Xiao, Yapu Zhang, Xinli Zhao

A Methodology to Estimate Proximate and Gas Content Saturation with Lithological Classification in Coalbed Methane Reservoir, Bokaro Field, India — Abir Banerjee, Rima Chatterjee

Smart Proxy Modeling of a Fractured Reservoir Model for Production Optimization: Implementation of Metaheuristic Algorithm and Probabilistic Application — Cuthbert Shang Wui Ng, Ashkan Jahanbani Ghahfarokhi, Menad Nait Amar, Ole Torsæter

3D Multi-scale Reconstruction of Fractured Shale and Influence of Fracture Morphology on Shale Gas Flow — Peng Hou, Xin Liang, Yun Zhang, Jian He, Feng Gao, Jia Liu

How Many Wells? Exploring the Scope of Shale Gas Production for Achieving Gas Self-Sufficiency in Poland — Henrik Wachtmeister, Magdalena Kuchler, Mikael Höök

Development and Identification of Petrophysical Rock Types for Effective Reservoir Characterization: Case Study of the Kristine Field, Offshore Sabah — Bjørn Atem Bjørn Barach, Mohd Zaidi Jaafar, Gamal Ragab Gaafar, Augustine Agi, Radzuan Junin

Experimental Investigation of the Anisotropic Evolution of Tensile Strength of Oil Shale Under Real-Time High-Temperature Conditions — Shaoqiang Yang, Dong YangZhiqin Kang

Application of Artificial Intelligence to Predict Enhanced Oil Recovery Using Silica Nanofluids — Mahdi Shayan Nasr, Hossein Shayan Nasr, Milad Karimian, Ehsan Esmailnezhad

Scaling-Based Transfer Function for Prediction of Oil Recovery in Gravity Drainage Process — Amirhossein Aghababari, Mojtaba Ghaedi

A Comparative Study of Geometrical Upscaling Methods for Inclusion of Fault Zone Structure into Upscaled Reservoir Simulation Models — Md. Saiful Islam, Tom Manzocchi, John J. Walsh, David Stern

A New Approach to Embed Complex Fracture Network in Tight Oil Reservoir and Well Productivity Analysis — Jiaxiang Xu, Lifeng Yang, Zhe Liu, Yunhong Ding, Rui Gao, Zhen Wang, Shaoyuan Mo

Effect of Depletion and Fluid Injection in the Mesozoic and Paleozoic Sandstone Reservoirs of the October Oil Field, Central Gulf of Suez Basin: Implications on Drilling, Production and Reservoir Stability — Ahmed A. Kassem, Souvik Sen, Ahmed E. Radwan, Wael K. Abdelghany, Mohamed Abioui

Air Pollution Risk Assessment Using a Hybrid Fuzzy Intelligent Probability-Based Approach: Mine Blasting Dust Impacts — Ezzeddin Bakhtavar, Shahab Hosseini, Kasun Hewage, Rehan Sadiq

Estimating Air Over-pressure Resulting from Blasting in Quarries Based on a Novel Ensemble Model (GLMNETs–MLPNN) — Hoang Nguyen, Xuan-Nam Bui, Quang-Hieu Tran

Optimal ELM–Harris Hawks Optimization and ELM–Grasshopper Optimization Models to Forecast Peak Particle Velocity Resulting from Mine Blasting — Canxin Yu, Mohammadreza Koopialipoor, Bhatawdekar Ramesh Murlidhar, Ahmed Salih Mohammed, Danial Jahed Armaghani, Edy Tonnizam Mohammad, Zengli Wang

Predicting Ground Vibrations Due to Mine Blasting Using a Novel Artificial Neural Network-Based Cuckoo Search Optimization — Xuan-Nam Bui, Hoang Nguyen, Quang-Hieu Tran, Dinh-An Nguyen, Hoang-Bac Bui

Understanding the Impact of Land Use and Land Cover Change on Water–Energy–Food Nexus in the Gidabo Watershed, East African Rift Valley — Zinabu Wolde, Wu Wei, Dereje Likessa, Rollins Omari, Haile Ketema

Trade-offs Among Ecosystem Services After Vegetation Restoration in China's Loess Plateau — Peng Shi, Zhanbin Li, Peng Li, Yan Zhang, Binbin Li

Absorption and Aggregation Characteristics and Changes in the Reflectance Spectrum of an Arid Desert Plant under Gold, Copper, Zinc and Nickel Stress — Shichao Cui, Kefa Zhou, Rufu Ding, Jinlin Wang, Yinyi Cheng, Guo Jiang, Kai Ma

Mechanical Behaviors of Granite After Thermal Treatment Under Loading and Unloading Conditions — Zhennan Zhu, Hong Tian, Thomas Kempka, Guosheng Jiang, Bin Dou, Gang Mei

Scenario Reduction of Realizations Using Fast Marching Method in Robust Well Placement Optimization of Injectors — Reza Yousefzadeh, Mohammad Sharifi, Yousef Rafiei, Mohammad Ahmadi

Determination of In Situ Wettability Using Wavelet Analysis and Nuclear Magnetic Resonance Log Data — Mohammad Heidary

Water Vapor Adsorption Behavior in Shale Under Different Temperatures and Pore Structures — Jianhua Li, Bobo Li, Zheng Gao

A Core Logging, Machine Learning and Geostatistical Modeling Interactive Approach for Subsurface Imaging of Lenticular Geobodies in a Clastic Depositional System, SE Pakistan — Umar Ashraf, Hucai Zhang, Aqsa Anees, Hassan Nasir Mangi, Muhammad Ali, Xiaonan Zhang, Muhammad Imraz, Saiq Shakeel Abbasi, Ayesha Abbas, Zaheen Ullah, Jar Ullah, Shucheng Tan

<>

International Association for Mathematical Geosciences
(IAMG)

c/o IAMG Office
Balthasar-Rößler-Str. 58
09599 Freiberg
Germany

