

Geo-soundings

NEWSLETTER – JUNE 2012

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WELCOME

Welcome to the second edition of Geo-soundings for 2012. During this past quarter, two new staff members have been appointed. Several staff and senior students have been very productive, resulting in 5 journal publications and 10 conference papers/posters, the majority being presented at the EAGE Copenhagen Conference. We hope you enjoy this issue and look forward to again keeping our readers informed of our activities during 2012 and hope that the remainder of the year is rewarding and productive for all.

CONFERENCE PRESENTATIONS

Saint Petersburg International Conference & Exhibition, St Petersburg, Russia, April 2012

Tertyshnikov, K., A. Bona, R. Pevzner, and B. Gurevich, 2012, *Velocity-less Pre-stack Time Migration in Application to Hard Rock Environments*.

74th EAGE Conference & Exhibition, Copenhagen, Denmark, June 2012

Alonaizi, F., M. Alshamry, R. Pevzner, A. Bona, and B. Gurevich, 2012, *Application of Diffracted Waves Analysis to Edge Detection on 3D and 4D Seismic Data*.

Asgharzadeh, M., A. Bona, R. Pevzner, M. Urosevic, and B. Gurevich, 2012, *Uncertainties in Local Anisotropy Estimation from Multi-offset VSP Data*.

Caspari, E., T.M. Müller, and B. Gurevich, 2012, *Frequency-dependent Effective Hydraulic Conductivity in Randomly Layered Porous Medium - Strong Contrast Approximation*.

Madadi, M., M. Pervukhina, and B. Gurevich, 2012, *Modelling Anisotropy Pattern of Dry Rocks as a Function of Applied Stress*.

Mikhaltsevitch, V., M. Lebedev, and B. Gurevich, 2012, *An Experimental Study of Low-frequency Wave Dispersion and Attenuation in Water Saturated Sandstone*

Pervukhina, M., P. Golodoniuc, **B. Gurevich**, M.B. Clennell, D. Nadri, D.N. Dewhurst, and H.M. Nordgård Bolås, 2012, *An Estimation of Sonic Velocities in Shale Using Clay and Silt Fractions from the Elemental Capture Spectroscopy Log*.

Pervukhina, M., V. Shulakova, **M. Lebedev**, S. Mayo, M.B. Clennell, and **B. Gurevich**, 2012, *Elastic Properties of*

Lochaline Sandstone - Numerical Experiment vs. Measurements.

Williams, P.K., M. Urosevic, A. Kepic, and M. Whitford, 2012, *Recent Experience with Use of High Definition Seismic Reflection for Nickel Sulphide Exploration in Western Australia*.

14th International Conference on Ground Penetrating Radar, Shanghai, China, June 2012

Strobach, E., B Harris, C. Dupuis, A Kepic, and M. W. Martin, 2012, *Time-lapse borehole radar measurements in a sandy groundwater system during a winter recharge cycle*.

JOURNAL PUBLICATIONS

Jenkins, C., P.J. Cook, J. Ennis-King, J. Underschultz, C. Boreham, T. Dance, P. de Caritat, D. Etheridge, B. Freifeld, A. Hortle, D. Kirste, L. Paterson, **R. Pevzner**, U. Schacht, S. Sharma, L. Stalker, and **M. Urosevic**, 2012, *Safe storage and effective monitoring of CO₂ in depleted gas fields*. Proceedings of the National Academy of Sciences of the United States of America, Vol 109 (2), E35-E41, January 2012.

Lopes, S., and M. Lebedev, 2012, *Research note: Laboratory study of the influence of changing the injection rate on the geometry of the fluid front and on P-wave ultrasonic velocities in sandstone*. Published in *Geophysical Prospecting*, Vol 60, (3) 572-580, May 2012.

de Paula, O., M. Pervukhina, D. Makarynska, and B. Gurevich, 2012, *Modeling squirt dispersion and attenuation in fluid-saturated rocks using pressure dependency of dry ultrasonic velocities*. Published in *Geophysics*, Vol 77, (3), WA157-WA168, May-June 2012.

Malehmir, A., M. Andersson, **M. Lebedev, M. Urosevic, and V. Mikhaltsevitch**, 2012, *Experimental estimation of velocities and anisotropy of a series of Swedish crystalline rocks and ores*. Published in *Geophysical Prospecting on-line*, 2012, doi:10.1111/j.1365-2478.2012.01063.x

Shulakova, V., M. Pervukhina, T.M. Muller, **M. Lebedev**, S. Mayo, S. Schmid, **P. Golodoniuc, O. De Paula, M. Clennell, and B. Gurevich**, 2012, *Computational elastic up-scaling of sandstone on the basis of X-ray micro-tomographic images*. Published in *Geophysical Prospecting on-line*, 2012, doi: 10.1111/j.1365-2478.2012.01082.x.

STAFF NEWS

The Department Welcomes-



Dr Eric-Martial Takam Takougang commenced his 3 year appointment as a Research Fellow on the 9th April 2012 following an international recruitment and selection process. Eric's primary role will be to work with the **DETCRC Project 2.4 "Joint inversion of 3D seismic and MT data"**. Eric recently completed his PhD in Geophysics at Simon Fraser University, Canada in December 2011. His thesis title was – *"2-D frequency domain full waveform tomography of seismic reflection data from the Queen Charlotte basin of western Canada and the Seattle fault zone"*. Eric also has a Diploma in Mathematical Sciences (2006-2007) (Univ of Cape Town, South Africa); a MSc Physics, major – Geophysics (2002-2005) (Univ of Yaoundé I, Cameroon); and a BSc Physics, minor – Electrical Engineering (1997-2001) (Univ of Dschang, Cameroon). He has experience with programming languages such as Python, FORTRAN, Matlab and C, as well as ProMAX, SeismicUnix, and AccuMap. He also has 6 publications to his name, 5 as the lead author and speaks both English and French fluently.



Mr Sasha Ziramov commenced a 1 year contract via invitation as a Research Fellow on the 1st June 2012. Sasha's expertise will significantly contribute to **DETCRC Projects 3.1 and 2.1** in the areas of borehole and surface seismic imaging and improve imaging ahead of the drilling bit.

Sasha has a Masters degree from the Faculty of Mining and Geology, Geophysics Department, University of Belgrade, Serbia (2005). Sasha has worked for Geokinetics Inc, Houston since 2007 and has expertise in seismic designs, seismic processing and development, acquisition, and processing 2D/3D data.

Departure –

We are sorry to advise that **Associate Professor Jayson Meyers** has resigned from his fractional appointment, to take effect from the 15th June 2012. Jayson was initially appointed as Associate Professor in Mineral Geophysics 10½ years ago. We thank Jayson for his teaching and research supervision commitments to the Department and students during this time and wish him all the best for the future.

HONOURS/AWARDS

The ASEG WA Student Night was held in November 2011 and the **Best Presentation Award** from this event went to Honours Student - **Mr Jason Valuri**. Jason was presented with a certificate and gift by the ASEG. We congratulate Jason Valuri and his supervisors – Dr Christian Dupuis (Curtin) and Dr Timothy Dean (Western Geco) for this achievement.

Congratulations to PhD student **Ms Sinem Yavuz**, who has been awarded a **CRC LEME Regolith Top-up Scholarship** of \$5,000 per year up to a maximum of 3 years.

We congratulate **Mr Simon Abbott** on being awarded his Doctor of Philosophy. We received notification from the University Graduate Studies Office, advising that Simon's thesis entitled *"Application of geophysical technologies for 3D visualization of regolith hydrogeological architecture and use of this information for management of dryland salinity in Western Australia"* was officially passed on the 29th May 2012. Congratulations to Simon and his supervisor, Jayson Meyers, and his panel on this achievement.

RESEARCH ACTIVITIES

Dominic Howman has again played a leading role in the Department's presence at the **Careers and Education Expo**, held 3rd – 6th May at the Perth Convention and Exhibition Centre. More than 12,000 attended the four day event. We are very grateful to Dominic and the following staff and students who volunteered to contribute their time to support this activity: **Andrej Bona, Bai Chun Sun, Elmar Strobach** and **Qi Qiaomu**.

STUDENT COMMITTEE MEMBERS

2012 KEGS Office Bearers (Member of the SEG-Student Chapter)

Following a meeting of the Geophysics student body, held mid-March 2012, elections were held to elect the 2012 KEGS Committee.

The results are as follows:

President: Aldo De Rooster

Vice- President: Gavin Jones

Secretary: Deena Hineidi

Treasurer: Matthew Kovacevic

Student Reps:

1st Yr Rep	Jason Robbshaw
2nd Yr Rep	Joshua Meertens
3rd Yr Rep	Stephen Stark
4th Yr Rep	John Ellison

Committee Members: Nathan Tabain, Alexander Landwehr, Zenon Platritis, Danny Husodo, Peter Lebedev, Benjamin Williams, Garry Yong, Mahesh Raghvani, Kevin Fu, Simon Wong

UPCOMING EVENTS

Focus on Mining Camp

9th – 13th July, Bentley & Kalgoorlie

8th EUROMECH Solid Mechanics Conference

9th – 13th July, Graz, Austria

34th International Geological Congress (IGC)

5th – 10th August, Brisbane, Australia

18th Near Surface Geoscience Meeting

3rd – 5th September, Paris, France

KSEG International Symposium on "Geophysics for Discovery and Exploration"

19th – 21st September, Jeju Island, Korea