

# **AusIMM International Uranium Conference 2012**

Adelaide, Australia  
13-14 June 2012

ISBN: 978-1-5108-2298-6

**Printed from e-media with permission by:**

Curran Associates, Inc.  
57 Morehouse Lane  
Red Hook, NY 12571



**Some format issues inherent in the e-media version may also appear in this print version.**

Copyright© (2012) by Australian Institute of Mining & Metallurgy (AusIMM)  
All rights reserved.

Printed by Curran Associates, Inc. (2016)

For permission requests, please contact Australian Institute of Mining & Metallurgy (AusIMM)  
at the address below.

Australian Institute of Mining & Metallurgy (AusIMM)  
P.O. Box 660  
Carlton South Victoria 3053  
Australia

Phone: 61 3 9658 6100  
Fax: 61 3 9662 3662

[publications@ausimm.com.au](mailto:publications@ausimm.com.au)

**Additional copies of this publication are available from:**

Curran Associates, Inc.  
57 Morehouse Lane  
Red Hook, NY 12571 USA  
Phone: 845-758-0400  
Fax: 845-758-2633  
Email: [curran@proceedings.com](mailto:curran@proceedings.com)  
Web: [www.proceedings.com](http://www.proceedings.com)

# CONTENTS

---

## **Keynote Address**

The Changing Politics of Uranium *M Angwin*

## **Geology and Exploration**

To Gamma or not to Gamma? A South Texas Case Study of Uranium Detection Methods *C Ames and A Ross*

Mix and Match – A Review of Issues and Case Studies in Combining Radiometric and Chemical Data in Uranium Resource Evaluation *M Andrew, K Kärner, D Wilson, I Glacken and B Laws*

Grade – The Crucial Factor for an Economic Uranium Mine (An Opinion Based on Considerable Experience and Common Sense) *E Becker*

Airborne Geophysics for Uranium Exploration *M Blomfield and P Wolgram*

Samphire Uranium Project – Sources of Uranium *R Bluck*

Anatomy of a Successful Uranium Exploration Program *A Browne*

Mapping Calcrete Mineralogy using HyMap Imagery in Western Australia and Namibia *M Hussey and B Martini*

Theseus – The New Uranium Discovery at Lake Mackay, Western Australia *M McGeough and S Abbott*

Mapping Salinity Gradients Using TEMPEST™ AEM – New Insights into the Formation of Sand-Hosted Uranium Deposits *B H Michaelsen, A B Marsland-Smith, P D Magarey and I C Roach*

The Host Rock Depositional Facies and Mineralisation of Sandstone-Type Uranium Deposits in North China *F Nie, Q Liu, M Li, Z Lin, F Xia and J Deng*

Estimating Recoverable Uranium Resources using Uniform Conditioning – A Case Study on the Mkuju River Uranium Project, Tanzania *M O'Connor and O Bertoli*

How to Sort the Mineralisation from the Background – Processing of Radiometric Logging Data *M Owers and D Princep*

Exploration Techniques Employed for Unconformity Related Uranium Mineralisation in the Alligator Rivers Uranium Field *S Powell*

The Frome Airborne Electromagnetic Survey, South Australia – Reducing Risk for Uranium Explorers *I C Roach, S Jaireth and M T Costelloe*

The Frome Airborne Electromagnetic Survey, South Australia – Regional Airborne Electromagnetic Data and its Implications for Uranium System Exploration	<i>I C Roach, S Jaireth and A J Fabris</i>
Mineralogy of the Valhalla, Bikini and Skal Uranium Deposits	<i>A R Wilde, A Otto, J Jory, E Becker, C M MacRae, M I Pounceby, N C Wilson and A Torpy</i>
Mineral Potential Modelling of Uranium Mineral Systems in South Australia	<i>T C Wilson</i>

### **Government Approvals, Policy and Community Relations**

International Working Forum on Regulatory Supervision of Legacy Sites	<i>M Bush</i>
Physical Protection (Security) Requirements for the Transport of Uranium	<i>C Everton</i>
World Nuclear Association’s Stewardship Initiative – The International Assessment and Reporting of Sustainable Development Performance in Uranium Mining	<i>S Saint-Pierre</i>

### **Health, Safety and Environment Best Practice and Approvals Process**

Australia’s Nuclear Cooperation Agreements	<i>C Everton</i>
Product Stewardship in Uranium Mining – A Unique Leading Practice Opportunity with Potential for Whole of Industry Benefits	<i>F Harris</i>
Permitting an <i>In Situ</i> Recovery Uranium Project in Wyoming, USA	<i>J Simpson</i>
Uranium Mining and Regulation in the Northern Territory of Australia	<i>P Waggitt</i>

### **Mining Processing and International Projects**

The Radon Review Project	<i>C Mason</i>
The Discovery of Uranium Mineralisation in the Madaouela Formation – A Transitional Term between Carboniferous and Permian Sedimentation, Madaouela Uranium Project, Tim Merso Basin, Niger	<i>H Sanguinetti, T Mahaman, I Aouami, R Bowell and D Guibal</i>
Challenges Facing Uranium Mining in Africa	<i>A Johnston and M Berger</i>
Results of a 43-101 Compliant Preliminary Feasibility Study for the Kuriskova Uranium-Molybdenum Project, Slovakia	<i>A Kuestermeyer</i>
Uranium Mine Development in Colorado, USA – The Hansen Project	<i>M Haynes</i>

## **Process Technologies**

Uranium (VI) Adsorption on Common Gangue Minerals of Calcrete-Hosted U Ores

*S Bretnall, M Gräfe, C Johnson and R Hackl*

Tubas Red Sand Uranium Beneficiation at Reptile Uranium Namibia

*K Frielingsdorf and L E Pretorius*

Advances in Uranium Processing from the '70s Boom to the Present Day

*T Heinzle, T Hunter, D King and R Venter*

Advances in Uranium Precipitation

*G Jobling*

Alkaline Leaching for Uranium Ores - Effect of Carbonate/Bicarbonate Concentration

*M D Maley, J P Mata and R J Ring*

Cameco Technology and Innovation

*E Özberk*

Process Pilot Plant or Demonstration Plant?

*H Scriba, T Tang and R Venter*

Comparison of Uranium Solvent Extraction Strip Options

*G van Tonder and C Edwards*

Project Development of an *In Situ* Leaching Project

*J Visser*