



Midland Geotechnical Society Meeting Notice

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Contact Us

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Meeting Venue

Lectures start 7pm

University of Birmingham B15 2TT

Refreshments are available prior to
the meeting in the Shell lounge,
Department of Mechanical and Civil
Engineering, from 6:15 onwards.

Talk kindly sponsored by:

ARUP

Monday 2nd October 2017

Mineral Extraction in the West Midlands: a Geotechnical Perspective

Dr Paul Anderson, University of Birmingham

Synopsis

The West Midlands has historically been a rich source of mineral resources, including coal, ironstone, clay, silica, limestone, dolerite, quartz arenite and sand and gravel. Many of these were extracted during Medieval times, although mineral extraction in the area reached its peak during the Industrial Revolution. This marked a time of significant engineering improvements, allowing underground mines to extend to depths of hundreds of feet. The Black Country region of the West Midlands was at the centre of many of these developments and hosted some of the deepest coal mines in the world during the nineteenth century. However, conditions for mine workers at this time were very unsafe. With the retrospect of current geotechnical understanding it is clear that both surface and underground mines were constructed poorly and unsustainably. This review of mineral extraction in the West Midlands focuses on how such lessons of the past have improved the safety and stability of current mining operations. It also considers the future of extraction in this area and how newly emerging science and technologies may lead to further improvements in the extractive industry.

Themes:

- A history of extractive industry in the West Midlands
- The development of extractive techniques in this area
- Challenges and dangers of extraction: applying new geotechnical knowledge to old problems
- The future of extractive industry in the West Midlands

About Our Speaker

Paul completed an MSci Geology degree at the University of Bristol in 2005, before working in consultancy and education of adults with learning disabilities until 2010. Through the latter role he developed his lifelong interest in teaching and decided to pursue a career in Earth science lecturing. He completed a PhD on the emplacement of the Newry Igneous Complex in Northern Ireland at the University of Birmingham between 2010 and 2014. Throughout this time he continued to develop his teaching experience by assisting in the deliverance of undergraduate programme content, including leading parts of field trips and co-supervising MSci student projects. During the final year of Paul's PhD in 2013, he secured a full-time teaching position at the University of Birmingham, which he continues to hold. Over the four years working in this role his initial expertise in the fields of igneous petrology and structural geology has expanded to include resource geology, engineering geology and metamorphic petrology. Recently Paul has been enthusiastic to develop links between Higher Education and

industry and has set up a number of student mapping projects that are collaboratively run by industry partners. Paul is also interested in the heritage of local mining and has completed a historical review of mineral extraction within the West Midlands, focusing on the coal industry of the Black Country. In the future he hopes to contribute to improvements within the extractive industry by combining his theoretical knowledge with his practical working experience.

This seasons lectures are as follows:

Date	Location	Speaker Name & Company	Title	Sponsor
2 nd October	University of Birmingham	Paul Anderson, University of Birmingham	Mineral Extraction in the West Midlands: a Geotechnical Perspective	Arup
6 th November	University of Birmingham	ARUP, Dr Nick O'Riordan	New Mexico City International Airport: Some challenges of building on virgin Lake Texcoco clays	Huesker
4 th December	University of Birmingham	Shezad Hafiz, Aecom	<u>BTYM Joint Meeting</u> Inner Doha Resewerage Implementation Strategy; tunnelling in the Middle East	AECOM
8 th January	<i>University of Birmingham</i>	<i>Nick Sartain</i>	<i>Geotechnical aspects of HS2</i>	Arcadis
5 th February	<i>University of Birmingham</i>	<i>TBC</i>	<u>IGS joint meeting</u> (provisional) Talk title TBC	<i>WSP</i>
5 th March	University of Birmingham	Mike Streetly, ESI	Hydrogeological Interpretation @ Stonehenge	Applied Geology
9 th April	<i>University of Birmingham</i>	<i>TBC</i>	<i>John Mitchell Lecture 2018</i>	<i>Geotechnics</i>
14 th May	<i>University of Birmingham</i>	<i>Ben De Waal, The Fiscal Incentives Group</i>	<i>Environmental lecture: Land remediation tax relief on brownfield/derelict sites</i>	<i>DTS-Raeburn</i>