

## INTRODUCING GEOLOGY TO HIGH SCHOOL STUDENTS

Professor Udo Becker and his interdisciplinary research group in the Department of Geological Sciences at the University of Michigan taught an introductory geology course in June 2007 as part of the Michigan Math and Science Scholars (MMSS) program. The purpose of the MMSS program is to engage and interest high school students in math and science. The two-week geology course, titled Nano-Rocks and Mega-Molecules, provided the high school students with an introduction to basic geology, including mineralogy, petrology, geologic time, and geologic events. Typical mineralogy and petrology labs were supplemented with field trips to a gravel pit and an environmental center, as well as a tour of the structural and artistic rocks located around Ann Arbor. Other field trips included spelunking in a fracture cave and fossil hunting in Ohio. Students were also given a unique opportunity to learn and use the scanning electron microscope and the atomic force microscope. Observing everyday items using these forms of microscopy gave students a better understanding of size scales. Guest lectures by professors Rodney Ewing and Henry Pollack introduced the students to current geologic research areas that have significant global impact, specifically nuclear waste management and climate change. Classroom lessons on the nuclear fuel cycle and climate change were aided by the use of two *Elements* issues: "The Nuclear Fuel Cycle: Environmental Aspects" and "Energy: A Geoscience Perspective." After calculating their



Students used the *Elements* issue "Energy: A Geoscience Perspective" to complete worksheets about alternative energy.



The Ann Arbor Rock Walk included a stop at the Michigan Bell Tower to take a closer look at fossiliferous limestone.



Group photo outside the Geological Sciences building at the University of Michigan

carbon footprint, students used the "Energy" issue to learn about alternative energy resources. The students had a great response to the journal. Copies of the issues were provided for the students to take home as a resource for further learning. Overall, the summer course was an eye-opening experience for the high school students, who were not only introduced to basic concepts of mineralogy but learned about molecular simulations, nanoscience, and biomineralization at the molecular level. This course was offered again in June 2008.

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**June 7–10 AAPG Annual Convention and Exhibition**, Denver, CO. Web page: [www.aapg.org/meetings/misc\\_mtgs.cfm](http://www.aapg.org/meetings/misc_mtgs.cfm)

**June 22–26 Goldschmidt 2009**, Davos, Switzerland. E-mail: [info@goldschmidt2009.org](mailto:info@goldschmidt2009.org); website: [www.goldschmidt2009.org](http://www.goldschmidt2009.org)

**July 7–10 American Association of Petroleum Geologists (AAPG) Annual Meeting**, Denver, CO, USA. Web page: [www.aapg.org/meetings/misc\\_mtgs.cfm](http://www.aapg.org/meetings/misc_mtgs.cfm)

**July 25–30 American Crystallographic Association (ACA) Annual Meeting**, Toronto, Ontario, Canada. Details: James F. Britten; e-mail: [britten@mcmaster.ca](mailto:britten@mcmaster.ca); web page: [aca.hwi.buffalo.edu/meetingspg\\_list/futuremeetings.html](http://aca.hwi.buffalo.edu/meetingspg_list/futuremeetings.html)

**Summer 2009 71<sup>st</sup> Annual Meeting of the Meteoritical Society**, Nancy, France. Web page: [www.crpq.cnrs-nancy.fr/NEWS/MetSoc](http://www.crpq.cnrs-nancy.fr/NEWS/MetSoc)

**August 2009 25<sup>th</sup> European Crystallographic Meeting (ECM25)**, Istanbul, Turkey. E-mail: [ecm@ecm25.org](mailto:ecm@ecm25.org); web page: [www.ecm25.org](http://www.ecm25.org)

**August 16–20 American Chemical Society 238<sup>th</sup> ACS National Meeting & Exposition**, Washington, DC, USA. Web page: [www.chemistry.org](http://www.chemistry.org)

**August 17–20 Society for Geology Applied to Mineral Deposits 10<sup>th</sup> Biennial Meeting**, Townsville, QLD, Australia. E-mail: [SGA2009@jcu.edu.au](mailto:SGA2009@jcu.edu.au)

**August 21–23 Gemological Research Conference 2009**, San Diego, CA, USA. E-mail: [grc2009@gia.edu](mailto:grc2009@gia.edu); web page: [www.grc2009.gia.edu](http://www.grc2009.gia.edu)

**September 1–3 The Mineralogical Society's Annual Meeting, in conjunction with the German and French Mineralogical Societies: MAPT – Materials, Analysis, Processes, Time**, Edinburgh, Scotland. Details: Simon Harley, e-mail: [s.harley@ed.ac.uk](mailto:s.harley@ed.ac.uk); web page: [www.minersoc.org/pages/meetings/meetings.html](http://www.minersoc.org/pages/meetings/meetings.html)

**September 7–11 Geoanalysis 2009**, Drakensburg Region, South Africa. E-mail: [maggi.loubser@up.ac.za](mailto:maggi.loubser@up.ac.za); web page: [geoanalysis2009.org.za](http://geoanalysis2009.org.za)

**September 14–18 13<sup>th</sup> International IUPAC Conference on High Temperature Materials Chemistry**, Davis, CA, USA. Details: Alexandra Navrotsky; e-mail: [ANavrotsky@UCDavis.edu](mailto:ANavrotsky@UCDavis.edu); web page: [neat.ucdavis.edu/HTMC%2D13/](http://neat.ucdavis.edu/HTMC%2D13/)

**October 18–21 Geological Society of America Annual Meeting**, Portland, Oregon, USA. E-mail: [meetings@geosociety.org](mailto:meetings@geosociety.org); web page: [www.geosociety.org/meetings/index.htm](http://www.geosociety.org/meetings/index.htm)

**October 25–30 Materials Science & Technology 2009 Conference and Exhibition – MS&T '09 combined with the American Ceramic Society (ACerS) 111<sup>th</sup> Annual Meeting**, Pittsburgh, Pennsylvania, USA. Details forthcoming

**November 16–20 Cities on Volcanoes 6 - Tenerife 2009 (Canary Islands, Spain)**. Details: Dr. Nemesio M. Pérez; e-mail: [nperez@iter.es](mailto:nperez@iter.es); web page: [www.citiesonvolcanoes6.com](http://www.citiesonvolcanoes6.com)

**November 30–December 4 2009 MRS Fall Meeting**, Boston, MA, USA. Web page: [www.mrs.org/s\\_mrs/index.asp](http://www.mrs.org/s_mrs/index.asp)

**December 7–11 2009 AGU Fall Meeting**, San Francisco, CA, USA. Web page: [www.agu.org/meetings](http://www.agu.org/meetings)

## 2010

**March 21–25 239<sup>th</sup> ACS National Meeting & Exposition**, San Francisco, CA, USA. Web page: [www.chemistry.org](http://www.chemistry.org)

**April 5–9 MRS Spring Meeting**, San Francisco, CA, USA. Web page: [www.mrs.org/s\\_mrs/sec.asp?CID=2073&DID=92005](http://www.mrs.org/s_mrs/sec.asp?CID=2073&DID=92005)

**June EURISPET: High-Temperature Metamorphism and Crustal Melting**, Padova, Italy. Details: Bernardo Cesare; e-mail: [bernardo.cesare@unipd.it](mailto:bernardo.cesare@unipd.it); web page: [www.eurispet.eu](http://www.eurispet.eu)

**June 14–18 Goldschmidt 2010**, Knoxville, TN, USA. Web page: [www.geochemsoc.org/news/conferencelinks](http://www.geochemsoc.org/news/conferencelinks)

**June 22–25 The Mineralogical Society's Annual Meeting: Environmental Mineralogy**, University of Aberystwyth, Wales, UK. Details: N. Pearce; e-mail: [pearce@aber.ac.uk](mailto:pearce@aber.ac.uk); web page: [www.minersoc.org/pages/meetings/meetings.html](http://www.minersoc.org/pages/meetings/meetings.html)

**July 4–9 16<sup>th</sup> International Zeolite Conference**, Sorrento, Italy. Details forthcoming; web page: [www.iza-online.org/ConfSched.htm](http://www.iza-online.org/ConfSched.htm)

**July 10 EMU School: High-Resolution Electron Microscopy of Minerals**, Nancy, France. Website: [www.lcm3b.uhp-nancy.fr/emu10](http://www.lcm3b.uhp-nancy.fr/emu10)

**August 22–26 240<sup>th</sup> ACS National Meeting & Exposition**, Boston, MA, USA. Web page: [www.chemistry.org](http://www.chemistry.org)

**August 22–27 20<sup>th</sup> General Meeting of the International Mineralogical Association**, Budapest, Hungary. Website: [www.univie.ac.at/Mineralogie/IMA\\_2010](http://www.univie.ac.at/Mineralogie/IMA_2010)

**September 29–October 5 European Crystallographic Meeting ECM-26 and EPDIC XII**, Darmstadt, Germany. Details forthcoming

**October 31–November 3 Geological Society of America Annual Meeting**, Denver, CO, USA. E-mail: [meetings@geosociety.org](mailto:meetings@geosociety.org); web page: [www.geosociety.org/meetings/index.htm](http://www.geosociety.org/meetings/index.htm)

**November EURISPET: Experimental Petrology and Rock Deformation**, Zürich, Switzerland. Details: Peter Ulmer, Swiss Federal Institute of Technology (ETH) Zürich; e-mail: [peter.ulmer@erdw.ethz.ch](mailto:peter.ulmer@erdw.ethz.ch); web page: [www.eurispet.eu](http://www.eurispet.eu)

The meetings convened by the societies participating in *Elements* are highlighted in yellow. This meetings calendar was compiled by **Andrea Koziol**. To get meeting information listed, please contact Andrea at [Andrea.Koziol@notes.udayton.edu](mailto:Andrea.Koziol@notes.udayton.edu)