

Available lectures from M. Stephen Enders as of October 2010

New in 2010

1. **Geology & Exploration.** This is a two-part lecture targeted at engineers and other professionals in the mining industry. I developed these lectures initially for the Sandvik International Mining School, which has a two-week program at the Colorado School of Mines every September. The first lecture is focused on how ore deposits are formed starting at the planetary scale and ending at the ore deposit scale with a focus on structure. The second lecture is a description of greenfields exploration. Both of these lectures have an emphasis on gold.
2. **Exploration Effectiveness: The view of the major mining company.** I presented this talk at the Prospectors & Developers Association of Canada (PDAC) annual meeting as part of a panel discussion regarding exploration effectiveness. I use examples from the copper and gold sectors to highlight the current issues and opportunities for both major and junior mining companies. My basic conclusions are that we have to collaborate much more with each other.
3. **What does industry need from governments and research institutions?** This was an invited talk for the AMIRA Exploration Managers Conference held in the Yarra Valley in March. I focus on expectations for both governments and research institutions and postulate a few underlying causes for the general lack of cooperation in the world today. I offer a few concrete recommendations for better collaboration and support.

Previous from 2009

4. **The Mining Industry – are the business models broken?** This is my newest talk and it focuses on key aspects of the business that I believe are broken. I focus on only three topics: discovery, innovation and learning, and I offer new ways to look at each topic. There is probably more brain science than geosciences in this talk, and I have already found it to be pretty provocative.
5. **So you want to be a geologist – careers in the mining business.** I have presented versions of this talk for a few years starting with the University of Arizona in 2006. This latest version was an invited Keynote Address for the UNLV GeoSymposium in April. The talk focuses on: why have a career in the mining business, why consider the gold sector in particular as an example, and what types of jobs are there for graduating geoscientists. I end the talk with a cautionary discussion of surviving the business cycles.

Previous from 2008

6. **West Africa- Newmont's golden opportunity.** This topic was the subject of an invited talk that I gave at the SEG-GSSA conference in South Africa in July 2008. The talk includes a description of the general geologic setting and ore controls in West Africa, the Sefwi Belt in Ghana, and then focuses on the granitoid-hosted mineralization in the Subika deposit with implications for exploration in similar terranes.

Previous from 2007

7. **Future education trends – what does industry want.** This topic was a late addition to my menu of IEL talks, and I first presented this as an invited speaker at the SGA conference in Dublin in August 2007. The research leading up to this and the subsequent lively debates around education of the next generation of economic geologists proved to be quite interesting and enlightening.

8. ***The role of bacteria in the supergene environment of the Morenci porphyry copper deposit – the rest of the story.*** This is by far the most technical talk. I selected this topic because of its relevance to students and professionals who want to know more about the field of economic geology, the characteristics of porphyry copper deposits and the supergene environment, and the growing interest in geomicrobiology.
9. ***Bridging the gaps in exploration & mining - opportunities for research and development across the life cycle of an ore deposit.*** This topic was the outgrowth of some research that I conducted to prepare for the 2007 AMIRA Exploration Managers meeting in the Barossa Valley, South Australia last March. This talk has ended up being probably the most popular among audiences ranging from students, geoscientists, and researchers to engineers and others outside of our field. Parts of this talk are now incorporated into my new lecture # 7 below.
10. ***Greenfield Exploration: integrating science, human resources and business principals.*** This is how I have made my living. Originally, I developed this talk to show how a major mining company approaches greenfield exploration using the Newmont example. I have since modified it to be more general and not focus on the Newmont story. This talk was particularly popular among SEG Student Chapters as well as state/country geological surveys and other professional organizations.

Previous from 2004

11. ***The environment of discovery.*** I originally researched and developed this talk for Newmont Exploration geoscientists and explorers. It is based on an integration of a number of publications relating to this topic modified by my 33 years of experience in the mineral exploration business. This talk is very relevant to anyone looking to develop and motivate a team of researchers or those interested in fostering a culture of innovation. I have integrated some of these themes into parts of talks #5 and #6.
12. ***Meeting quarter-century exploration requirements in a quarterly reporting business world.*** Rich Leveille, currently President of Freeport Exploration Corp. and I developed this talk for the Society for Mining, Metallurgy and Exploration in 2004. It was subsequently selected to be a Henry Krumb Lecture for the Society and was also presented at the PACRIM 2004 Conference in Adelaide, Australia. This topic is pertinent to anyone trying to develop and grow a long-term research & development program across business cycles and in the face of short-term pressures.

Previous from 2003

13. ***Exploration & Mining – bridging the gap and the role of collaborative R&D.*** I developed this invited talk for the 2003 AMIRA Exploration Managers Conference at Margaret River, Western Australia. It addresses the huge understanding and cultural gap between academic researchers and industry professionals, both of whom can benefit from much closer collaboration on meaningful research. I proposed the concept of a geometallurgical research program, which has subsequently grown into the most successful AMIRA geoscience-based research program.