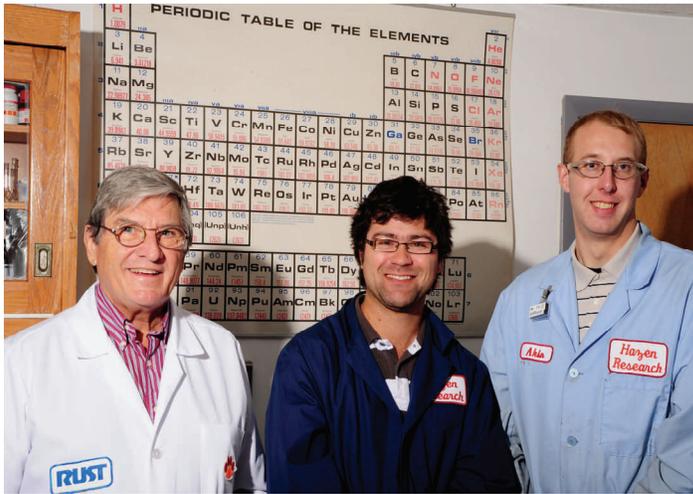




# PETR KOVARIK: Czech Republic

Radioactive wastes are no problem for this IAEA fellow.



Mr. Petr Kovarik is currently undergoing an IAEA fellowship at Hazen Research Inc, in Golden, Colorado, USA. In his home country of the Czech Republic, Kovarik works at the Nuclear Research Rez, where he has worked for the past five years. He is also a student working to obtain his PhD in Nuclear Chemistry from the Czech Technical University. Kovarik's research in the Czech Republic is focused on radioactive waste management, particularly the management of problematic radioactive wastes, such as ion exchangers and organic liquids. One example of this is how ion exchange resins are difficult to dispose of because they cannot be easily solidified by typical cementation processes, and incineration is not a viable treatment option. A promising technology for the processing of these problematic

wastes is Molten Salt Oxidations (MSO). It is this topic that Kovarik is being trained in during his IAEA Fellowship. Dr. James Navratil and Mr. Andrew Akin are supervising his training at Hazen Research Inc.

At Hazen Research Inc., Kovarik is developing and testing a laboratory scale MSO system for removal of uranium from lignites. This same system could also be used for radioactive ion exchange resin processing, which would be useful for Mr. Kovarik at the Nuclear Research Rez. This system consists of a chemical reactor containing a carbonate salt that is placed in a vertical furnace. The salt is heated until it is molten and a long stainless steel tube is lowered under the surface of the salt. This tube is used to introduce air and solids, such as lignites containing uranium or contaminated ion exchange resins, which oxidize in the molten salt. Later, the uranium is recovered from the salt and the salt is recycled.

Mr. Kovarik's training program consists of performing a literature search, constructing the MSO equipment and feeder, and demonstrating lignite processing and uranium recovery. After finishing his fellowship at the end of November, he will continue development of a similar MSO system at his home institution for processing problematic radioactive and hazardous wastes. Mr. Kovarik would like to thank and acknowledge the IAEA for funding his Fellowship. His experience has broadened his knowledge of this field of research, and has significantly improved his English language skills and cultural knowledge of the USA.

**Trained: 9/1/2010—11/30/2010**

