



## Canadian Nuclear Society / Société Nucléaire Canadienne

Chalk River Branch, c/o Dr. Blair P. Bromley, AECL-Chalk River Laboratories, Chalk River, ON K0J 1J0

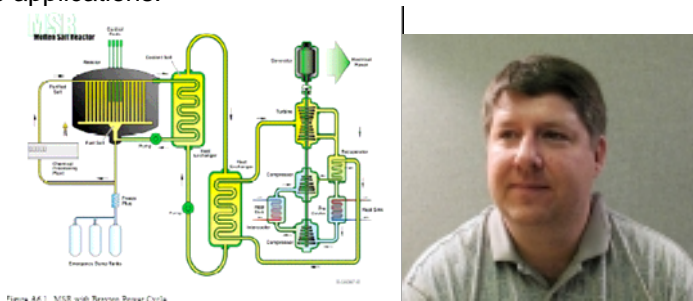
<http://www.cns-snc.ca/branches/ChalkRiver/> e-mail: [webmaster@cns-snc.ca](mailto:webmaster@cns-snc.ca)

*“Supporting nuclear science and technology for over 25 years”  
“plus de 25 ans de promotion de la science et de la technologie nucléaires”*

# MOLTEN SALT REACTORS

The Chalk River Branch of the Canadian Nuclear Society, in conjunction with the Deep River Science Academy (DRSA) is pleased to welcome David LeBlanc (Carleton University) who will speak on “Molten Salt Reactors”.

Molten Salt Reactors (MSR) have been under study as an alternative reactor concept since the 1950's, primarily at Oak Ridge National Laboratory (ORNL). It is one of the concepts being considered as part of the Generation IV program. The MSR fuel is in the liquid form of a mix of fluorides of lithium-7, sodium, beryllium, uranium (and possibly thorium) at a temperature of approximately 700°C. Neutrons are slowed down by solid graphite through which the liquid fuel flows. Such a system operates at near atmospheric pressure, and the fuel/coolant mixture is continuously circulated through a heat exchanger and a chemical processing facility to remove fission products and to add new fuel. If thorium is used as part of the molten salt mix, then there is the potential to actually create more fuel than is used. Hence, the MSR is an attractive concept for a breeder reactor. With the high operating temperature, thermal efficiencies exceeding 40% are achievable. The presentation will discuss some of the history of the MSR, recent developments, and the future applications.



## David LeBlanc

6:30 PM

Thursday, July 26, 2007

**Bennett / Mackenzie Room, J.L. Gray Centre**  
*(Entry via rear security entrance)*

*Free Admission; Refreshments will be served – ALL ARE WELCOME*  
*Further information: Blair Bromley at 584-8811 Ext. 3676, or 613-584-1518*