

CML Seminar

Thursday, Oct. 22, 2015 10:30 a.m.

Room G-124

Host: Fran Tanzella

Ultra-dense Hydrogen and Low Energy Nuclear Reactions (LENR)

Dr. Sveinn Ólafsson

Science Institute, Physics Department, University of Iceland

Details:

A 40-minute colloquium representing research conducted with Leif Holmlid from the University of Gothenburg, Sweden. For about 10 minutes after Sveinn's presentation, Alan Goldwater, representing the Martin Fleischmann Memorial Project (MFMP, headed by Bob Greenyer), will present experimental work/techniques being conducted on reproducing/replicating results obtained from researchers such as Andrea Rossi & Alexander Parkhomov. The final 10 minutes of the 1 hour-long colloquium will be open to questions.

Abstract:

For over the last 25 years the science of cold fusion/LENR has been researched around the world with slow pace of progress. Modest quantity of excess heat and signatures of nuclear transmutation and helium production have been confirmed in experiments and theoretical work has resulted in a flora of possible theoretical scenarios. [1-2] Here we present energy production in several stages of surface processes that result first in the formation of Rydberg matter of Hydrogen [3] that can later condense in a new ultra-dense Hydrogen phase with 2.3 pm short bond distances. This phase is nuclear active showing break-even fusion reaction [4] under 100mW laser pulsing and slow spontaneous fusion occurring without laser pulsing [5, 6, 7]. The experimental work in around 30 publications is briefly reviewed and latest experimental results presented and discussed. In that work high-energy particles are detected from the spontaneous processes using scintillation and other similar detectors. Both spontaneous line-spectra and a spontaneous broad energy distribution similar to a beta decay distribution are observed indicating detection of particles such as muons. The broad distribution is concluded to be due to nuclear particles, giving straight-line Kurie-like plots. They are observed even at a distance of 3 m in air and have a total rate of 10^7 - 10^{10} s⁻¹. In the talk the link of these observation to Low energy nuclear reactions (LENR) or so-called cold fusion will be discussed experimentally and theoretically.

1. The Science of Low Energy Nuclear Reaction. Storms E. World Scientific Publishing Company; **2007**.
2. The Explanation of Low Energy Nuclear Reaction. Storms E. Infinite Energy Press; **2014**.
3. Review Paper: Experimental Studies and Observations of Clusters of Rydberg Matter and Its Extreme Forms, Leif Holmlid, Journal of Cluster Science 23:1 pp 5–34 (**2012**)
4. Heat generation above break-even from laser-induced fusion in ultra-dense deuterium, Leif Holmlid, AIP Advances 5, 087129 (**2015**)
5. Spontaneous ejection of high-energy particles from ultra-dense deuterium D(0), Leif Holmlid and Sveinn Ólafsson, International Journal of Hydrogen Energy 40:33, pp 10559-10567, 7 September **2015**
6. Charged particle energy spectra from laser-induced processes: nuclear fusion in ultra-dense deuterium D(0), Leif Holmlid and Sveinn Ólafsson (submitted **2015**)
7. Muon detection studied by pulse-height energy analysis: Novel converter arrangements, Leif Holmlid and Sveinn Ólafsson, Rev. Sci. Instrum. 86, 083306 (**2015**)

SRI International

SRI Menlo Park

Directions to SRI's Building G

SRI's [headquarters facility in Silicon Valley \(/about/locations/headquarters-silicon-valley\)](#) is located at 333 Ravenswood Avenue, Menlo Park, CA 94025-3493. The G Building conference room, is located near the corner of Ravenswood Road and Laurel Avenue. Directions and maps to the parking entrance are found below.

Main phone number: (650) 859-2000.

101 Southbound from San Francisco

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101 Northbound from San Jose

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280 Southbound from San Francisco

Take the Sand Hill Road - Menlo Park exit; go approximately 2 miles to intersection with Santa Cruz Avenue; turn left at traffic signal onto Santa Cruz Avenue and follow Santa Cruz to El Camino Real; turn right at traffic signal onto El Camino Real; turn left at first traffic signal onto Ravenswood Ave. Follow Ravenswood to the first traffic light (Laurel Ave.); turn right at Laurel. SRI's Building G will be on your left.

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Take the Alpine Road - Menlo Park exit; bear right and follow Alpine Road; bear left at first traffic light; continue to intersection with San Hill Road and Santa Cruz Avenue; you are now on Santa Cruz Avenue; follow Santa Cruz to El Camino Real; turn right at traffic signal onto El Camino Real; turn left at first traffic signal onto Ravenswood Ave. Follow Ravenswood past first traffic light (Laurel Ave.); turn right at Laurel. SRI's Building G will be on your left.

Parking and entrance

Park in the Building G Visitor Parking. The meeting room is opposite to the main entrance, adjacent to the lobby.

