



The University of Texas at Austin  
Texas Materials Institute

# Goodenough Materials Innovation Lecture

Jeff Dahn, Ph.D. -- Dalhousie University

Thursday, July 21, 2022 | 10:00 - 11:00 AM



EER 3.646

<https://utexas.zoom.us/j/96867467408>

## Long Lived Li-ion Cells

Lithium-ion cells can be made with extremely long lifetimes. Electrolyte selection is critical to make cells with the longest lifetime. In this lecture I will speak about a new strategy we employed to find exceptionally stable liquid electrolytes for long lived Li-ion cells. Such cells have operated for over 3 months at 85°C and over 6 months at 70°C with less than 5% and 2% capacity loss, respectively, no gas generation and no impedance growth. Imagine how long they could last at room temperature!

### About Professor Dahn:

Jeff Dahn obtained his B.Sc. in Physics from Dalhousie University (1978) and his Ph.D. from the University of British Columbia in 1982. Dahn then worked at the National Research Council of Canada (82-85) and at Moli Energy Limited (85-90) before taking up a faculty position in the Physics Department at Simon Fraser University in 1990. He returned to Dalhousie University in 1996. At Moli, he did pioneering work on lithium-ion batteries.

Dr. Dahn was appointed as the NSERC/3M Canada Industrial Research Chair in Materials for Advanced Batteries at Dalhousie University in 1996, a position that he held until 2016. In 2016, Dr. Dahn began a research partnership with Tesla as the NSERC/Tesla Canada industrial research chair which will run at least till 2026. Jeff Dahn is the author or co-author of over 750 refereed journal papers and 73 inventions with patents issued or filed.

Dahn's research in the lithium-ion battery field has been recognized by numerous awards including a Governor General's Innovation Award (2016) and the Gerhard Herzberg Gold Medal in Science and Engineering (2017), Canada's top science prize. He was appointed an Officer of the Order of Canada in 2020..

Dr. Dahn's wife Kathy, daughters Hannah and Tara, and son, Jackson are all Dalhousie graduates, as are their spouses. All of them reside in Halifax, Nova Scotia.