
ERL Founding Members Consortium: Overview

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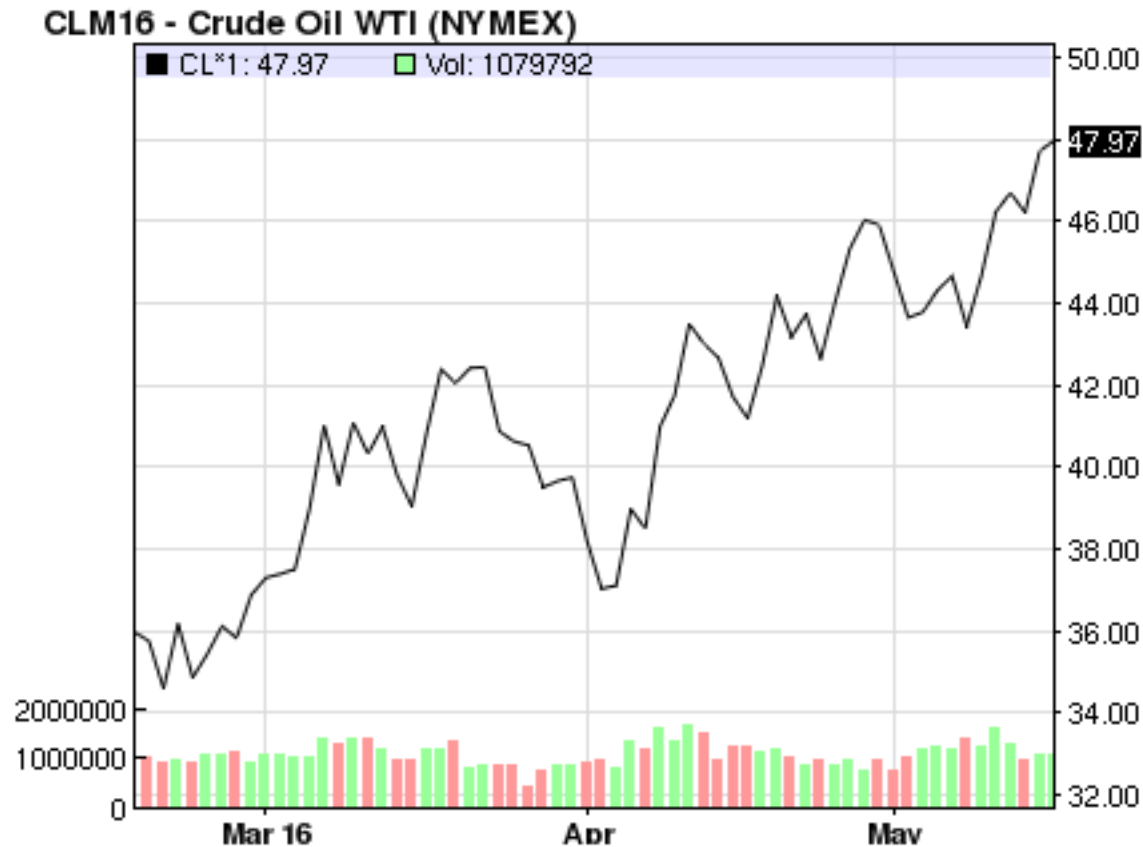
MIT Earth Resources Laboratory
2016 Annual Founding Members Meeting
May 18, 2016

Logistical Issues

- Emergency Exits
- Restrooms

Major Events in Past Year – Economics of Oil

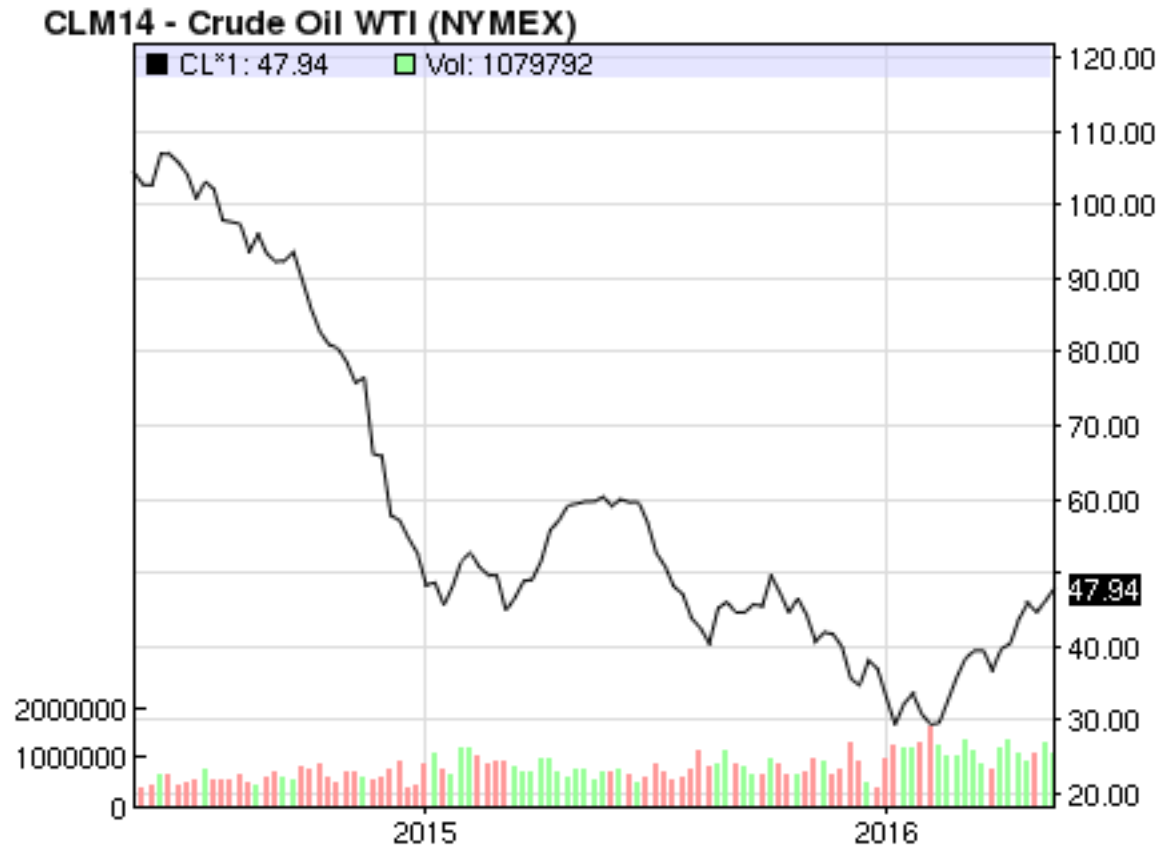
- Price of oil up 33% in past 3 months!



<http://www.nasdaq.com/markets/crude-oil.aspx?timeframe=3m>, 05/17/2016

Major Events in Past Year – Economics of Oil

- Price of oil dropped 72% before the rebound to 45%



<http://www.nasdaq.com/markets/crude-oil.aspx?timeframe=2y>, 05/17/2016

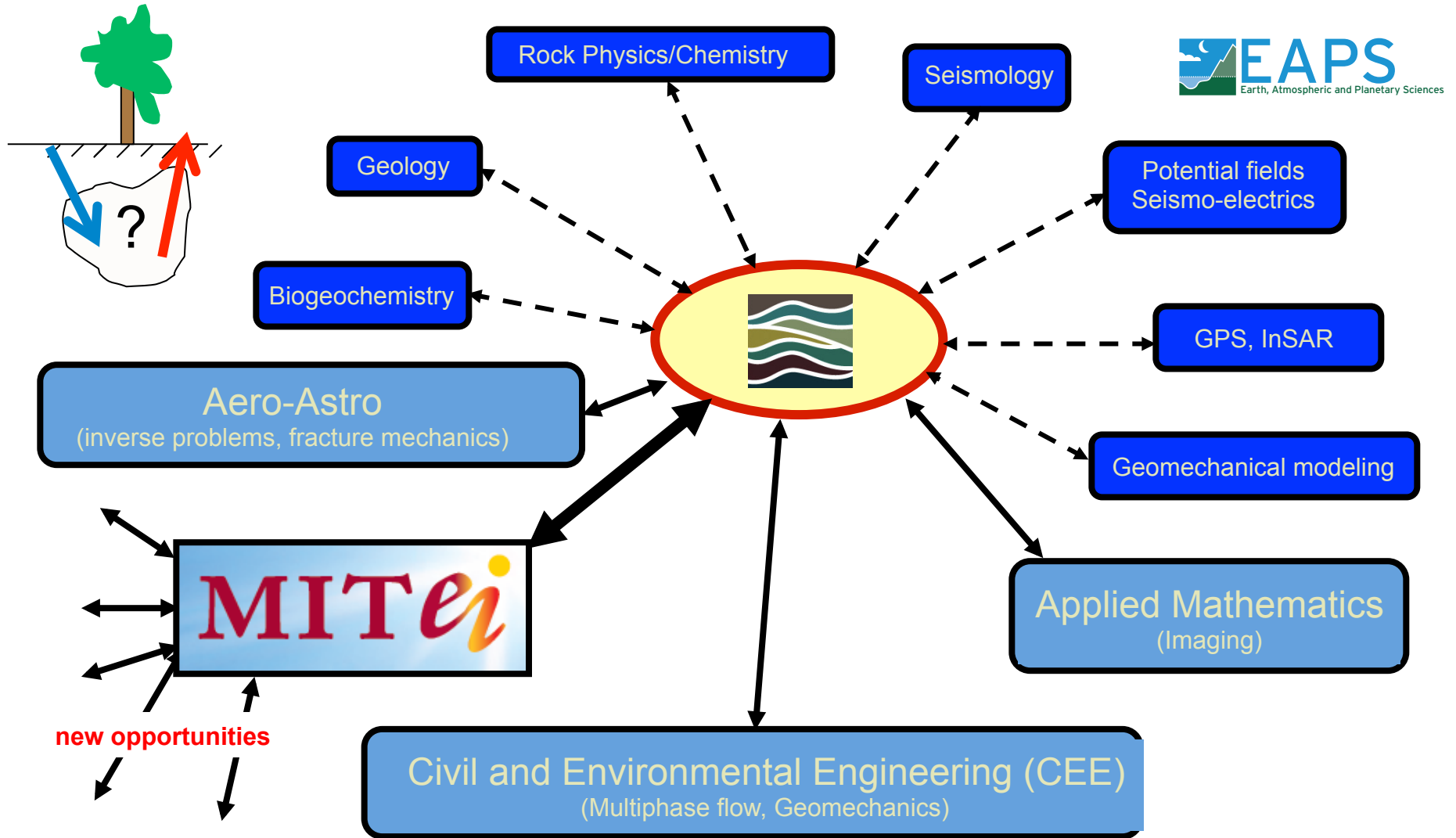
Major Events in Past Year – Climate Change

- Paris & COP21
 - Aggressive targets for CO₂ reduction
 - Natural gas; Carbon sequestration
- MIT and Climate Change
 - Fossil Free MIT movement
 - MIT Conversation on Climate Change
 - Listening Tour
 - Idea Bank
 - Survey
 - Community Events
 - Debate: “Should MIT Divest?”
 - MIT Plan for Action on Climate Change
 - Launch 8 Low-Carbon Energy Centers
 - Carbon Capture, Use & Sequestration
 - » Hager Co-Director, with Alan Hatton (Chem E)

ERL's Mission

- Research at the cutting edge of Subsurface Science
 - Broad and Interdisciplinary
 - Applications to sponsor-specific problems
- Educate future leaders of industry & academia
- Reputation for excellence and integrity

Home for subsurface energy research in EAPS & MIT



88 ERL Staff – Who we are (presenting)

- 14 Faculty: *Evans, Hager ([Director], Herring, Morgan [Associate Director], Ono, Prieto, Toksöz, van der Hilst (EAPS); Einstein, Juanes, McLaughlin, Williams (CEE); Demanet (Mathematics); Marzouk (Aero/Astro)*
- 12 Senior research staff: *Bechor, Bernabé, Brown, Burns, Cueto-Felgueroso, Durham, Fehler [Deputy Director], Fournier, Hill, Jones, Poliannikov, Rodi*
- 35 Graduate students
- 16 Postdocs
- 8 Visiting Scientists & Research Affiliates
- 3 Support staff: *Anna Shaughnessy [Exec. Dir.], Terri Macloon [Financial], Josh Kastorf [Admin]*

35 ERL Students (presenting)

Omar Al Dajani

Marwah Al Ismael

Saleh Al Nasser

Ali AlJishi

Josimar Alvez Da Silva Jr.

Lubna Barghouty

Jane Chui

Martina Coccia

Greg Ely

Manuel Flores Torres

Xiaojing (Ruby) Fu

Eva Golos

Bruno Goncalves da Silva

Chen Gu

Hao Kang

Matt Li

Qiuyi Bing Li

Wei Li

Zhiyong Li

Shujuan Mao

Harry Matchette-Downes

Saied Mighani

Justin Montgomery

Amir Pahlavan

Kai Pan

Jamie Potter

Anna Rogers

Yuval Tal

Raphael Villamor Lora

David Wang

Lucas Willemsen

Seonkyoo Yoon

Diming Yu

Zhulin Yu

Benzhong Zhao

16 ERL Postdocs (presenting)

Kevin Chao

Marie-Julie Dalbe

William Frank

Yunyue Li

Chunfang Meng

Zabihallah (Omid) Moradian

Steve Morgan

Jide Ogunbo

Piero Poli

Ranjan Pramanik

Ali Seiphoori

Farrokh Sheibani

Matthias Taus

Mathias Trojer

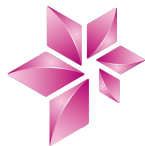
Hua Wang

Zhibing Yang

8 Visitors & Affiliates (presenting)

- **Michel Campillo** – U. Joseph Fourier, Grenoble
- Martijn de Hoop – Rice U.
- Ali Dogru – Saudi Aramco
- Jack Germaine – Tufts U.
- Doğan Kalafat- Boğaziçi University Kandilli Observatory
- Peter Kang- Korea Institute of Science and Technology
- Yanpeng Li - BGP
- Douglas Miller
- Zhenya Zhu

ERL Founding Members – Who you are

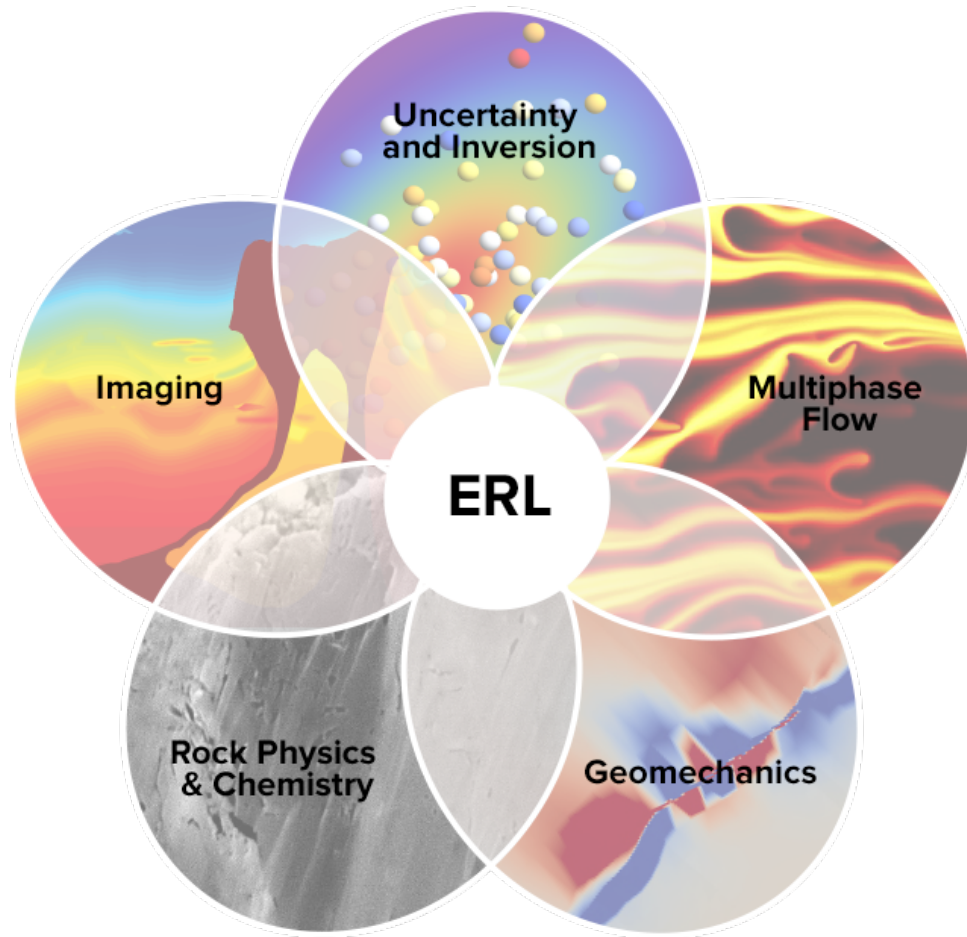


Statoil



ERL Research Areas and Applications

Research Areas



Applications:

Monitoring Change
CO₂ Sequestration
Induced Seismicity
Unconventionals
Water

<https://erlweb.mit.edu/research>

ERL – Current Reports

- On your USB stick
 - Recent ERL Publications, 2015 - 2016
 - Extended abstracts
 - Journal articles
 - Over 80 titles in total
 - Slides from the meeting (drafts)
- On Sponsors Area of new web-site
 - > 1,000 publications from ERL-affiliated authors
 - Meeting materials
 - Video archive
 - Access information sent after meeting

ERL – This year's Technical Agenda

- 1 ½ days of Technical presentations
 - On your USB stick
- 21 short talks
 - Mainly Student and Postdoc speakers
- Plenary Session
 - Visiting Prof. Michel Campillo
- Student/Postdoc introduction

Special thanks to;
Laurent Demanet and German Prieto
Key driver's of the Technical Agenda

Today's Agenda

- 09:00; Welcome and ERL Overview
- 09:10; Session 1: Geomechanics, Part I
- 10:50; Session 2: Uncertainty and Inversion
- 11:50; Student/Postdoc Introductions

- 12:10; Lunch

- 13:30; Plenary Session: Imaging and monitoring with industrial seismic noise, Michel Campillo
- 14:00; Session 3: Imaging, Part I
- 15:30; Session 4: Rock Physics/Chemistry and Fluids

- 17:15; Board buses to Rowes Wharf
 - Board on Ames St, outside this building
- 18:00; Dinner Cruise – Boston Harbor
 - 21:00 Board return buses to MIT

Thursday's Agenda

- 08:30; Continental Breakfast
- 09:00; Session 5: Geomechanics, Part II
- 10:50; Session 6: Imaging, Part II
- 11:50; Concluding remarks
- 12:00; Business Lunch (Sponsors & ERL faculty)
- 14:00; Meeting Adjourned

New & Improved Web Site

The screenshot shows the top portion of the website. On the left is the Earth Resources Laboratory logo, consisting of three wavy lines in green, blue, and purple. To its right, the text 'Earth Resources Laboratory' is displayed. In the top right corner, there are links for 'For Staff' and 'For Founding Members', along with the MIT logo. Below these are navigation links for 'Announcements', 'Calendar', and 'Contact'. A secondary navigation bar contains links for 'About', 'Research', 'Academics', 'People', 'Support', and 'Publications', followed by a search bar labeled 'Search ERL...'. The main hero section features a background image of layered rock formations with the text 'MIT's home for research and education on sub-surface energy resources and environmental issues.' and a central button that says 'Learn About Our Research'.

Upcoming Event



May 17, 2016

ERL 2016 Annual Founding Members Meeting

(All day)
MIT Campus, Cambridge, MA

Announcements



May 9, 2016

Work by Prieto and Mordret featured in "The Science Explorer"

"The Science Explorer" website featured this article on work by ERL researchers Prof. ...

Spotlight



ERL Students Aid Search for Drinking Water on St. Lucia

During MIT's January 2016 Independent Activities Period, ERL grad students accompanied Prof. Dale Morgan to the...

ERL – Summary

- World class graduate and post-doctoral education
 - Generations of leaders produced
- Cutting edge subsurface research
 - Participants have broad interests
 - Emphasis on fundamental problems
 - Expand to CO₂ sequestration, water resources
- Integration across disciplines, departments, schools
- Stimulating environment to work in or visit

Thank you

ERL Recent Graduates

Haoyue Wang – Google

Chunquan Yu – Caltech

Leonardo Zepeda – UC Irvine