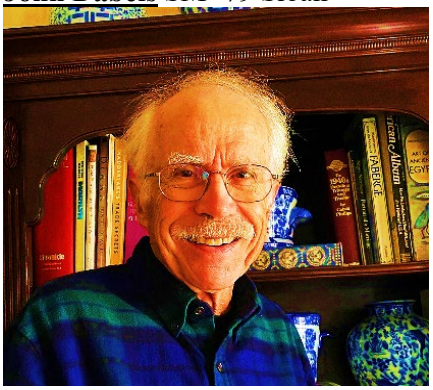
MIT Alumni for Climate Action (MACA) – MIT Campus Group

Collectively, our MACA-MIT Campus expert alumni group (geothermal energy systems, including certified geo-exchange designers (CGD certification), management, finance, extensive experience bringing innovations to scale,) has contributed an estimated 2,000 hours of volunteer time over the past 12 months to evaluate options for MIT campus decarbonization. In alphabetical order, we are:

Rick Clemenzi ’81, Computer Engineering / **Judy Siglin**, MACA Affiliate;


Rick Clemenzi is a Systems Engineer specializing in Advanced Thermal Systems. He is the principal engineer at Geothermal Design Center a licensed geothermal specialty engineering firm, and co-founder of Net Zero Foundation along with Judy Siglin who has backed their undertaking in this non-profit development. Geothermal Design Center is focused on 5th and 6th Generation Advanced Geothermal Heat Pump applications, and Net Zero Foundation is working for the fastest overall path to energy decarbonization. See also https://www.linkedin.com/in/rickclemenzi/.As the Net Zero Foundation, they won the 2016 MIT Climate CoLab MIT Campus Decarbonization competition presenting a geothermal district heating and cooling (GDHC) solution specifically targeted to MIT's campus. Rick is also a Certified GeoExchange Designer (CGD), and sits on the C-448 ANSI/CSA Bi-National Ground Source Heat Pump Design and Installation Standard's Technical Committee. Rick and Judy are members of MIT Alumni for Climate Action. Rick Clemenzi rickclemenzi@gmail.com]; Judy Siglin judysiglin@gmail.com

John Dabels SM ’79 Sloan



Major portion of John's career has been split between: (i) helping guide the development and launch of a range of products, mostly transportation related. Environmental-related products include electric vehicles (GM EV1), electric motorcycles, electric bicycles, hybrid-electric buses; (ii) conducting financial analysis and/or operating as senior financial executive in several larger and smaller companies. www.linkedin.com/in/johndabels

Susan Murcott '90, '92 Civil and Environmental Engineering

Susan is an environmental engineer specializing in sustainable water, wastewater, energy and earth systems. For over 3 decades at MIT, she has held research and teaching/senior lecturer positions in the Civil and Environmental Engineering Department, the Department of Urban Studies and Planning and as Lecturer at D-Lab/ (D-Lab "advances collaborative approaches and practical solutions to global poverty" as well as engaging students in project-based learning as it relates to design, development and dissemination of innovations).

Beginning in 2020, student teams from D-Lab have created the MIT Climate Clock. See: https://web.mit.edu/CLIMATECLOCK/#future This spring 2024 will be the 9th year Susan co-teaches D-Lab "Climate Change and Planetary Health" (EC.719/EC.789). One focus of climate action is the emphasize on rapid decarbonizaton MIT campus decarbonization, targeting 2035 as a do-able goal. Susan has significant experience mentoring students in design and innovation. See videos: http://globalwater.mit.edu/videosvv Susan Murcott murcott@mit.edu

Shiladitya DasSarma, '84, Biochemistry

Shiladitya DasSarma, PhD ‘84, Biochemistry; After his PhD from MIT with Nobel laureate HG Khorana and postdoc at the Massachusetts General Hospital, Harvard Medical School, Dr. DasSarma has served on the faculty of the University of Massachusetts Amherst and the University System of Maryland for nearly 40 years. As a Professor at the University of Maryland School of Medicine, he developed an interprofessional course entitled “Climate Change, Health, and Society” for medical and law students. His research lab at the Institute of Marine and Environmental Technology in Baltimore concerns the impacts of climate change on society, life in extreme environments and the mechanisms of cell survival after environmental stress. He is Founder and President of the MIT Alumni for Climate Action (see: https://maca.earth) and was awarded the Margaret McVicar Award for his leadership on climate action by MIT. See his recent interview with the New York Times on impacts of climate change in Hawaii (https://www.nytimes.com/2023/11/11/us/hawaii-kaelia-pond-pink.html

David T. Williams MIT ’82, Mechanical Engineering Dept. Principal, Senior Mechanical Engineering, Sustainability Specialist, LHB Corporation

David attended MIT from 1977-1982 pursuing a course in Mechanical Engineering with a strong interest in building systems. At the time courses of this nature were few in number and collaboratively taught with the School of Architecture, to such an extent he did an IIA option to take more architectural courses. He took a memorable course in HVAC taught by an architect, Harvey Bryan, where he studied heat pump systems design. (Harvey Bryan also taught the solar energy design course that David took). Additionally David did his bachelor’s thesis with Dr. Tom Bligh where he did some testing to support energy modeling of underground buildings heat loss to the ground (DOE2 software). All these experiences led to a keen interest in energy efficient building design, which he has done for most of his 40+ year professional career in Architecture/Engineering consulting for the premier firm in this area of design in MN, LHB Corp where he is a Principal, Senior Mechanical Engineer and Sustainability Specialist. Some of the highlights of David’s career include developed a concept for K-12 schools in northern climates to use Thermal Displacement Ventilation along with distributed air handling equipment and low temperature (140-100F) hot water serving radiant floors to improve thermal comfort and reduce heating energy use by over 50% from business-as-usual. Additionally he was involved in developing ground source heat pump loop field concepts that the MN Department of Health agreed were not under their jurisdiction, allowing more flexibility in installation in large commercial systems.

Herb Zien ’73, Management

Herb Zien (Sloan SM ’73) cofounded a firm that became the largest owner and operator of District Energy Systems in the US, with 21 Central Utility Plants serving 11 cities including Boston. The business was sold to Veolia Energy for $800 million and Herb is now Vice Chair of LiquidCool Solutions, which holds 63 patents on rack-based immersion data center cooling technology. In addition, recognizing that District Energy Systems that sell steam and hot water are inefficient and incompatible with decarbonization initiatives, he is developing geothermal heating and cooling systems for commercial buildings and micro districts.

Tunca Alikaya, ’24 E-MBA, Sloan

A Geo@MIT team member and MACA partner. Employee Nov. 2011 – present of Schlumberger/Celsius Energy, 1 Hampshire Street, Cambridge MA *“The world’s leading technology provider for reservoir characterization, drilling, production, and processing to the oil and gas industry.”*
Director of Drilling Operations and Business Development
Cambridge MA, USA | October 2021 – Present
Commercial Traction & Drilling Operations Management

Expanding Celsius Energy, a Schlumberger New Energy start-up that provides geo-energy technology for zero-carbon heating and cooling of buildings, to the US market. Working with a prestigious East Coast University while contributing to the global decarbonization. Steering shallow geothermal drilling operations to its next level in US.