

CONCRETE SUSTAINABILITY HUB

The mission of the Concrete Sustainability Hub (CSH) (<http://cshub.mit.edu>) is to advance the technology transfer from concrete science into engineering practice, by translating the synergy of three fields of study into a powerful hub for concrete sustainability studies relevant to industry and decision makers. CSH fosters a close alliance among academia, industry, and government to facilitate the transfer of knowledge by aligning world-leading research with end-user needs.

More concrete is produced than any other synthetic material on Earth. In the foreseeable future there is no other material that can replace it to meet our societies' legitimate needs for housing, shelter, schools, infrastructure, etc. But concrete faces an uncertain future due to a non-negligible ecological footprint that amounts to 5–10% of worldwide CO₂ production.

Emerging breakthroughs in concrete science and engineering hold the promise that concrete can be part of the solution of contributing to sustainable infrastructure development that enables economic growth, and social progress while minimizing the ecological footprint. This requires a holistic approach in which progress in concrete science seamlessly feeds into innovative structural concrete engineering applications, ranging from concrete pavement solutions to wall systems, whose impact on sustainable development are evaluated with advanced environmental-econometric impact studies. An interdisciplinary team of faculty from several MIT departments participates in the CSH.

CSH offers opportunities for undergraduates to get involved in research through the Undergraduate Research Opportunities Program. Opportunities for graduate and postdoctoral research are also offered. Email the CSH (CSHub@mit.edu) for more information.