

Spotlight on Resilient and Sustainable Infrastructure Development



In the face of challenges posed by urbanization, climate change, and aging infrastructure, civil engineers need to develop innovative solutions for sustainable construction and maintenance of existing infrastructure

This ASCE collection of studies spotlights on civil engineering research that aims to make infrastructure sustainable and resilient



Role of civil engineers in combating global warming

<p>6 CLEAN WATER AND SANITATION</p>	<p>Access to clean and safe water is critical to public health and economic prosperity. Civil engineering research can help address our aging water infrastructure and assist utilities in keeping pace with the regulatory requirements needed for compliance with the Safe Drinking Water Act</p>	<p>Some topics discussed:</p> <ul style="list-style-type: none"> Demand forecasting Infrastructure stability and performance Organic and inorganic pollutant monitoring and control Water distribution networks and load management Runoff and wastewater management
<p>7 AFFORDABLE AND CLEAN ENERGY</p>	<p>Finding alternative and renewable energy sources like wind, solar, thermal, and hydro power will help the global community combat climate change</p>	<p>The collection highlights:</p> <ul style="list-style-type: none"> Energy generation, harnessing, storage, conservation, and consumption with an eye to sustainable utilization Economics and consumer dynamics in shaping alternative energy future Infrastructure maintenance and resilience in the face of a changing climate
<p>9 INDUSTRY, INNOVATION AND INFRASTRUCTURE</p>	<p>Safe, sustainable, and lasting infrastructure solutions that meet economic and environmental concerns, build resilience, and ensure the ongoing maintenance of existing structures are critical for society</p>	<p>Infrastructure research showcased here deals with:</p> <ul style="list-style-type: none"> Transportation, including waterways, roadways, and railways Power generation Buildings and bridges
<p>11 SUSTAINABLE CITIES AND COMMUNITIES</p>	<p>Civil engineers are committed to finding ways to ensure the resilience and sustainability of our growing urban infrastructure to make cities safe spaces for our future generations</p>	<p>The articles here explore:</p> <ul style="list-style-type: none"> Smart cities and smart urban living Urban waste and wastelands Urban planning with cognizance of drainage and traffic problems Quality of life of urban communities
<p>13 CLIMATE ACTION</p>	<p>Robust civil engineering research can provide the necessary know-how to build resilient and sustainable infrastructure in the face of global climate change</p>	<p>Research showcased here aims to:</p> <ul style="list-style-type: none"> Find solutions to withstand frequent extreme weather events including sea level rise, hurricanes, flooding, and tornadoes Identify greener alternatives for use in construction and energy production Combat the effects of global warming on living spaces, ecosystems, as well as health and wellbeing

Infrastructure is central to society and these ASCE studies highlight valuable work done by civil engineers to develop more resilient and sustainable infrastructure

