

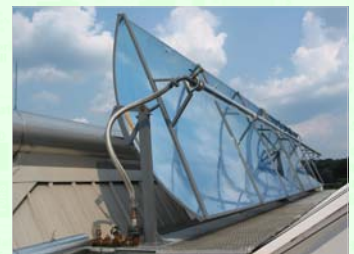
Solar Cooling & Heating System at Purdue

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The solar absorption cooling and heating system (SACH) in Bowen Laboratory at Purdue is the first and the most advanced high temperature SACH system in the world. It primarily uses 100 m² stationary external Compound Parabolic Concentrating collectors and a 23 kW double-effect absorption chiller to provide the cooling and heating demands for a small size commercial building.

The Bowen SACH system is led by Dr. Ming Qu of The School of Civil Engineering. Dr. Qu is a world expert in the field of Solar Cooling and Heating. Her pioneering work is confirmed by international colleagues, and her outstanding ability is acknowledged not only by internationally-circulated, scholarly journals for her highly-recognized articles published in the most notable journals, but also by the reception of prestigious grants from the federal agencies of the National Science Foundation and Department of Energy.

The Bowen SACH system is expected to have great significance for the development of sustainable buildings that are vital to the economic and environmental health of the nation. It will globally demonstrate the forefront research on high temperature solar cooling technology. The products in the system will be demonstrated and broadly known by means of workshops, papers, reports, as well as online tools. Purdue University, The College of Engineering, and The School of Civil Engineering will be acknowledged by international researchers as a global leader in the research of renewable energy and sustainable development. This facility will be a catalyst for synergy by promoting effective international cooperation among various universities, industrial partners, and related organizations. It is expected that 5-10 journal papers will be published and two Ph.D. students will graduate as a result of this research project. The Bowen SACH system will become yet another symbol of Purdue's world renowned leadership in advanced engineering research.



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