

Widespread use of high-temperature superconductors on horizon

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From improvements in cellular base stations to the development of more efficient electric transmission lines and energy storage systems, high-temperature superconductors (HTS) are nearing their commercial viability.

Two-time University of Houston graduate, Venkat Selvamanickam, will present a special seminar – "Second-generation HTS Conductors" – from 3 to 4 p.m., Monday, May 2, in room 102 of the Houston Science Center at UH. Part of the Texas Center for Superconductivity and Advanced Materials (TcSAM) Special Seminar series, the event is free and open to the public.

Promising to meet the price-performance characteristics needed for widespread use of HTS, second-generation HTS conductors will have applications not only in space-age transit but also in advanced MRIs and better transmission lines. Selvamanickam, who received his doctorate from UH in materials engineering and master's degree from UH in mechanical engineering, will discuss the latest developments in the scaleup R&D of second-generation HTS conductors, as well as detail the remaining challenges for successful use of HTS in commercial applications.

The discovery of high-temperature superconductors that can operate using inexpensive liquid nitrogen as a coolant has opened doors to applying superconductivity to electric power devices. These HTS devices offer both performance advantages and environmental benefits.



Selvamanickam, currently a program manager of materials technology at SuperPower Inc. in Schenectady, New York, recently was named "Superconductor Industry Person of the Year 2004." Awarded by Superconductor Week, the leading publication in superconductor business and technology, this honor is the industry's most prestigious international distinction in the development and commercialization of superconductors. Given to only two recipients each year, Selvamanickam was recognized for his leadership, quality R&D and advocacy in the field.

SuperPower Inc., a wholly owned subsidiary of Intermagnetics General Corporation, uses core capabilities in materials, cryogenics and magnetics to develop electric power components such as underground transmission and distribution cables, transformers and fault current limiters, utilizing state-of-the-art second-generation HTS technology.

Source: University of Houston

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