



## Making High-definition Television (HDTV) Video Conferencing Affordable for Hospitals, Schools and Businesses

System-on-Chip Technologies Inc., a spinoff from Wilfrid Laurier University, is capitalizing on the growing market demand for high-performance, cost-effective videoconferencing. Founders of the company benefited from access to tools and technologies provided by CMC during the early stages of their research.

*“Access to rapid prototyping technology and a specialized suite of design tools (known as the Integrated Software Environment and Development Kit) were essential to the development of core technology for a new HDTV video conferencing system that small- to medium-sized businesses and public institutions can afford. The global market opportunities for this technology are significant.”*

**Dr. Shaowen Song**  
Associate Professor, Physics and Computer Science  
Wilfrid Laurier University  
Founder, System-on-Chip Technologies Inc.



The founding members of System-on-Chip Technologies Inc.: (left to right) Chad Hartman, Shaun Wigger, Dr. Shaowen Song and Dr. Yaser Kerachian. The team is aiming to make high-end HDTV videoconferencing accessible and affordable for hospitals, schools and small- to medium-sized businesses.

The market for high-definition television (HDTV) is lucrative. According to the report, *HDTV: A Global Analysis* published by Informa Telecoms & Media in 2007, this market will experience rapid growth over the next five years with over 150 million HDTV sets in homes around the world by the end of 2011. A new Canadian startup company—enabled by CMC Microsystems—is exploiting the growing demand for this technology by making high-end HDTV videoconferencing accessible and affordable for hospitals, schools and small- to medium-sized businesses.

System-on-Chip Technologies Inc., a spinoff company from Wilfrid Laurier University, has developed a HDTV-videoconferencing system that can run on Ethernet and Internet Protocol networks for a fraction of the price of existing systems. “Our solution will bridge the gap between the company that wants a high-quality solution, but can’t afford the six-figure price of current systems,” says Shaun Wigger, a Master’s student and university-based collaborator on the project.

Led by Dr. Shaowen Song, Associate Professor of Physics and Computer Science at Wilfrid Laurier University, the engineering team used an FPGA (Field-Programmable Gate Array)-based prototyping kit and software provided by CMC to develop a new real-time compression algorithm that is implemented in hardware. Access to this technology significantly reduced the cost of prototyping, accelerated the application for a patent.

Mr. Wigger says researchers at the university are currently investigating how to further reduce the bandwidth requirements of the initial system, using software tools provide by CMC. The outcomes from this research will be applied to the development of a next-generation system that promises to be even more effective than the initial technology. [cmc](#)