http://www.tmcnet.com/news/2007/08/31/2903174.htm

August 31, 2007

AmberWave Systems Collaborates with Rochester Institute of Technology

By Rahul Prabhakar

AmberWave Systems, a pioneer in the field of research, development, and licensing of advanced technologies for semiconductor manufacturing, recently received a grant from the National Science Foundation (NSF) for a three-year long semiconductor applications research program.

he main objective of the program is to explore the possibility of integrating compound semiconductor devices on silicon by employing Aspect Ratio Trapping (ART), a technique developed by the company. Richard Faubert, president and CEO of AmberWave Systems, said in a statement, “The joint venture between RIT and AmberWave is an example of our interest in cultivating technology from the ground level up.”

“We are extremely enthusiastic about what the partnership will bring to the advancement of semiconductor devices,” Faubert added.

The exploitation of ART technique can help in the creation of chips with enhanced speed and capacity, which in turn, can empower numerous applications, such as, silicon-based photonics and photovoltaic cells.

Integrating compound semiconductor devices on silicon by employing ART technique can enable manufacturers of silicon photonics to create chips that use light pulses to carry data, by combining various differential materials inside a silicon base. This process can ultimately lead to enhanced data transmission speeds.

Even though the III-V electronic materials explored by AmberWave Systems and RIT deliver high-speed performance, optical properties, and/or radiofrequency properties, they have registered little or no success in the electronics market as conventional applications.

The biggest disadvantage of these materials is that they are not cost-efficient and fail to harmonize with other low priced silicon electronics. The employment of ART can remove these bottlenecks, facilitating the incorporation of III-V electronic materials in a wide range of products at relatively low prices.