

### **Distinguished University Professorship, Yoram Koren**

Widely considered the father of reconfigurable manufacturing systems, Yoram Koren has transformed the teaching and practice of manufacturing. His vision and innovations have helped establish the university as a premier institution for advanced manufacturing and robotics research.

In the 1990s Koren, James J. Duderstadt Distinguished University Professor of Manufacturing and Paul G. Goebel Professor of Mechanical Engineering, CoE, conceived of and developed reconfigurable manufacturing systems, which have changed factories from fixed, static facilities to dynamic, changeable production systems that can respond swiftly to market demand.

In the early 1970s Koren developed the first computerized real-time adaptive controller for a milling machine long before computers were used commonly in industrial applications. In the area of robotics, he directed development of several novel systems, including autonomous obstacle avoidance for mobile robots, a mechanical snake and robots with inflatable arms for use in hostile and confined spaces.

As founding director of the National Science Foundation-sponsored Engineering Research Center for Reconfigurable Manufacturing Systems, Koren recruited top researchers to the University. Tools created by the center's multidisciplinary teams are used on factory floors around the world.

Koren also has provided leadership as a member of the CoE Executive Committee and as director of the Integrated-Design and Manufacturing Division of the Center for Robotics and Integrated Manufacturing.

Koren's scholarly record includes more than 270 articles, four textbooks and 14 U.S. patents that have been cited more than 9,000 times, according to Google Scholar. His award-winning textbook "Computer Control of Manufacturing Systems" is the most widely cited reference in the field. It and his Robotics for Engineers have been translated into several foreign languages. His recent book, "The Global Manufacturing Revolution," also is generating great interest.

Koren has advised or co-advised more than 30 doctoral students. He has served as chair and vice chair of the Scientific Technical Committee of The International Academy of Production Engineering and on editorial boards of several manufacturing journals.

He has been awarded the Society of Manufacturing Engineering Gold Medal, William T. Ennor Manufacturing Technology Award, M. Eugene Merchant Manufacturing Medal, and CoE's Research Excellence Award and Stephen Attwood Award. He was elected to the National Academy of Engineering, the highest honor in the engineering discipline, in 2004.



*Koren. Photo by Alina Koren.*