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**Video Proceedings**

## **Advances in Agile Manufacturing**

Roger D. Quinn and Greg C. Causey Department of Mechanical and Aerospace Engineering  
Frank L. Merat, Nicholas A. Barendt, Wyatt S. Newman, and Virgilio B. Velasco, Jr. Department of  
Electrical Engineering and Applied Physics  
Andy Podgurski, Yoonhwan Kim, Gultekin Ozsoyoglu, and Ju-yeon Jo Department of Computer  
Engineering and Science  
Center for Automation and Intelligent Systems Research (CAISR)  
Case Western Reserve University (CWRU) Cleveland, Ohio 44106 USA  
Corresponding author: Roger D. Quinn Fax: (216) 368-3222 E-mail: rdq@po.cwrw.edu

### **Abstract**

An agile workcell has been developed for light mechanical assembly in collaboration with industrial sponsors. The workcell includes multiple Adept robots, a Bosch conveyor system, multiple flexible parts feeders at each robot's workstation, CCD cameras for parts feeding and hardware registration, and a dual VMEbus control system. Our flexible parts feeder design uses multiple conveyors to singulate the parts and machine vision to locate them. Specialized hardware is encapsulated on modular grippers and modular worktables which can be quickly interchanged for assembly of different products. Object-oriented software (C++) running in the real-time operating system, VxWorks, is used for workcell control. An agile software architecture was developed for rapid introduction of new assemblies through code re-use. A simulation of the workcell was developed so that controller software could be written and tested off-line, enabling the rapid introduction of new products.

# Advances Agile Manufacturing

**Yijin Wang**



## **Advances Agile Manufacturing:**

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