Contact: Diana Gonzalez

FACULTY PRESENTATION AT IOWA STATE UNIVERSITY: "ADVANCING MANUFACTURING IN IOWA: THE CENTER FOR e-DESIGN AND DIGITAL LAB FOR MANUFACTURING"

Action Requested: Receive the presentation.

Executive Summary: Janis Terpenny will provide a brief overview of the Center for e-Design, a National Science Foundation Industry University Cooperative Research Center, which she co-founded in 2003 and currently directs; and the Digital Manufacturing and Design Innovation Institute, a university, government, and industry collaborative to foster innovation in digital manufacturing and design. Iowa State University is a Tier 1 partner in the Lab; the University of Iowa and the University of Northern Iowa are also partners in the Institute.

Dr. Terpenny is Joseph Walkup Professor and Chair of the Department of Industrial and Manufacturing Systems Engineering. She holds a bachelor's degree in mathematical sciences from Virginia Commonwealth University, and master's and doctoral degrees in industrial and systems engineering from Virginia Polytechnic Institute and State University. Dr. Terpenny began her career as an information systems analyst at General Electric before returning to Virginia Tech to earn her doctorate in 1996. Prior to joining Iowa State University in 2011, she held faculty and research positions at the University of Massachusetts and Virginia Tech; at Virginia Tech she served as a professor in the departments of engineering education and mechanical engineering.

In 2003, Terpenny co-founded (and is currently director of) the Center for e-Design, a National Science Foundation Industry University Cooperative Research Center. She has also served as program director of the National Science Foundation's Division of Undergraduate Education. Terpenny was named technical lead for the Advanced Manufacturing Enterprise area of the Digital Manufacturing and Design Innovation Institute, a National Network for Manufacturing Innovation (NNMI) Institute.

Terpenny's research and education interests include:

- **Engineering Design Process and Methods –** product and system complexity; representation, capture and reuse of knowledge and information in design; modeling methods for early design and concept generation, design of product families and platforms; methods to predict and plan for obsolescence in products and systems; and product complexity.

- **Engineering Design Education –** effects of project types, industry/community partnerships, and user-centered design on student learning, engagement and retention of students from underrepresented groups; methods to increase ability of students to solve problems that are real, ill-defined and complex, and to work in multi-disciplinary teams; and the preparation of graduate students across disciplines as design educators.

Terpenny is a fellow of the Institute of Industrial Engineers (IIE), and the American Society of Mechanical Engineers (ASME); and is a member of the American Society for Engineering Education (ASEE), Institute for Operations Research and the Management Sciences, Alpha Pi Mu industrial engineering honor society, and Tau Beta Pi engineering honor society. She also serves as an associate editor for the ASME's *Journal of Mechanical Design*, and for the *Engineering Economist* (published jointly by ASEE and IIE).