

UNITED STATES DEPARTMENT OF ENERGY

**INTEGRATED MANUFACTURING AND PROCESSING
PREDOCTORAL FELLOWSHIPS**

FINAL PERFORMANCE REPORT FOR GRANT DE-FG02-92ER14284

The first and fourth cohorts of U.S. Department of Energy Integrated Manufacturing and Processing Predoctoral Fellows were supported under this grant for up to three years of study leading to a PhD degree in a field related to integrated manufacturing and processing.

The first cohort completed tenure in 1996. Every year each fellow submitted end-of-the year reports outlining progress on his or her research proposal, courses taken, papers written and professional meetings attended. These reports were shared with the Program Officer at the U.S. Department of Energy. The semi-annual stipends for these fellows were paid to their institutions on or about June 1 and December 1 of each year they were in the program in accordance with the policies established for this fellowship program. In September 1996, these fellows presented their research at a Symposium held in Washington, DC.

The fourth cohort of Fellows is presently finishing fellowship tenure. Each year the Fellows have also submitted annual reports. On October 15, 1999, these fellows will present their research at the fourth Integrated Manufacturing and Processing Fellows' Symposium to be held at the National Academy of Sciences building in Washington, DC. Some of the fellows have received their PhDs; others are completing their PhD studies and research.

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BACKGROUND ON THE PROGRAM

In July 1992, the U.S. Department of Energy (DOE), Office of Basic Energy Sciences-Engineering Research Program, initiated a predoctoral fellowship program in integrated manufacturing. Later processing was added to its scope. The program, which awards twelve fellowships annually, is administered by the Fellowship Programs Unit (FPU), Office of Scientific and Engineering Personnel of the National Research Council (NRC) with guidance from the National Academy of Engineering.

The objective of the program is threefold: To create a pool of PhDs trained in the integrated approach to manufacturing and processing, to promote academic interest in the field, and to attract talented professionals to this challenging area of engineering. It is anticipated that the program will result in the creation of new manufacturing and processing methods that will contribute to sustainable development, i.e., to improved energy efficiency, to better utilization of scarce resources, to lessened degradation of the environment, and ultimately, to an improved competitive manufacturing and processing position for the United States. Emphasis in the competition is on integrated systems of manufacturing and processing and the integration of product design with manufacturing processes.

For this program, the Fellowship Programs Unit, under contract with the U.S. Department of Energy,

- * develops program guidelines and materials in consultation with the DOE,
- * announces the annual competition for DOE Predoctoral Fellowships in Integrated Manufacturing and Processing,
- * provides application materials via the Internet and on paper to prospective applicants and answers questions concerning the program,
- * receives and processes applications, consulting with the DOE on matters of eligibility and policy,
- * arranges for the evaluation of applications by a panel of highly qualified engineers and applied scientists,
- * reports to the DOE the results of panel deliberations,
- * makes final decisions on awardees and informs all applicants of award status by letter,
- * announces and administers the awards, and
- * makes arrangements with each awardee and fellowship institution for the appropriate stipend, tenure dates and allowances made available to fellows.

1996 DOE INTEGRATED MANUFACTURING AND PROCESSING FELLOWS

Supported Under Grant DE-FG02-92ER14284

Fellowship Institution

Matthew David Bauer	Georgia Institute of Technology
Kyle David Cattani	Stanford University
Jean-Pei Jeanie Cherng	Massachusetts Institute of Technology
Daniel Matthew Gaines	University of Illinois at Urbana- Champaign
Curtis Jason Harkrider	University of Rochester
Derrick David Hongerholt	Pennsylvania State University
Brad Allen Hunting	Rensselaer Polytechnic Institute
Christopher Harold Lee	Carnegie Mellon University
Stevell Joel Spear	Harvard University
Rajiv Suri	Massachusetts Institute of Technology
Brian Richard Tibbetts	Rensselaer Polytechnic Institute
Garth John Zeglin	Carnegie Mellon University

1993 DOE INTEGRATED MANUFACTURING AND PROCESSING FELLOWS

	<u>Fellowship Institution</u>
Daniel Adelman	Georgia Institute of Technology
Sushil Kumar Birla	University of Michigan
Mitchell H. Burman	Massachusetts Institute of Technology
George Morris Graham	Georgia Institute of Technology
David Douglas Hall	Purdue University
Joseph G. Macro	University of Illinois at Urbana-Champaign
Marlene Elise Mainland (Burr)	Oregon State University
Patrick John McDonnell	Pennsylvania State University
Jeffrey David Nystrom	Massachusetts Institute of Technology
Gokaraju K. Raju	Massachusetts Institute of Technology
Kevin L. Welton	University of Washington
Gregory Allen Yut	Purdue University