RECOGNITION AWARD

Presented to

GREENFIELD COALITION

Headquarters:
Wayne State University
Detroit, MI, USA

For Innovations and Accomplishments in Catalyzing Broad Improvements in Global Engineering Education

by

International Advisory Board
iNEER

October 18, 2004
Gainesville, Florida, USA

Nomination of Greenfield Coalition
For INEER Leadership Award

(A) Nominator's name, title, affiliation, address, e-mail address, and telephone number.

P.K. Raju
Professor Mechanical Engineering
Director Laboratory for Innovative Technology and Engineering Education
333 Ross Hall
Auburn University, AL 36849-5341
(334) 844-3301
pkraju@eng.auburn.edu

Additional information about LITEE
http://www.auburn.edu/research/litee/index.html
Additional information about Professor Raju
http://www.eng.auburn.edu/department/me/faculty/raju/profile.htm

John D. Carpinelli
Associate Professor Electrical and Computer Engineering
New Jersey Institute of Technology
University Heights
Newark, NJ 07102-1982
(973) 596-3536
carpinelli@njit.edu

B.1 Nominee's (proposed award recipient's) name, title, affiliation, address, e-mail address, and telephone number.

Nominee: *The Greenfield Coalition*

Contact:
Donald Falkenburg, Director
Professor of Industrial and Manufacturing Engineering
Wayne State University
5050 Anthony Wayne Dr.
Detroit, MI 48202
313-577-5473
dfalken@wayne.edu

B.2 Category of award (Leadership; Achievements; or Recognition).

Leadership

B.4 Summary of Accomplishments of Nominee (Reasons for Nomination).

The Greenfield Coalition was funded under the Engineering Education Coalitions Initiative by the National Science Foundation. It was established to create a new paradigm in manufacturing engineering education that integrates actual manufacturing experiences into the academic program, and supports learning with web-based resources. The academic partners of the Greenfield Coalition are: *Wayne State University (Lead)*, Lawrence Technological University, Lehigh University, Michigan State University, University of Detroit Mercy. Affiliates: include: *The Engineering Research Center for Reconfigurable Machining Systems* at the University of Michigan, Ohio State University and Walsh College of Business.

A Focus on Minority Education

Creating equal opportunity for under-prepared minority students is a challenge of significant proportion. The Greenfield Coalition in partnership with Focus: HOPE –a Detroit-based human and civil rights organization— has brought together new approaches to integrate innovative academic programs with strong programs of financial support, mentoring, and experiential education to address this issue. Under the aegis of the Greenfield Coalition, the candidates at the Focus: HOPE Center for Advanced Technologies are receiving university degrees awarded by Lawrence Technological University, The University of Detroit Mercy, and Wayne State University. As a group, these Greenfield students at the Center for Advanced Technologies represent the largest cohort of minority students in the United States studying manufacturing engineering.

Strong Industry Partnership

One of the key strategies of the Greenfield Coalition has been a strong partnership with industry. Key members of the Greenfield community include: Cincinnati Machine, DaimlerChrysler, Detroit Diesel, Electronic Data Systems, Focus:HOPE, Ford Motor Company, General Motors Corporation, and the Society of Manufacturing Engineers. For Greenfield, partnership with industry has meant more than asking for support or sitting on committees. Since one of the key beliefs of the Greenfield Coalition has been that learning should be linked with the practice of engineering, the role of industry in the coalition has been key. Every academic course developed by Greenfield has included an industry representative, not just as a reviewer, but also as a key member of the development team. Using this approach, Greenfield insures courseware represents the real needs and approaches of industry, integrating theory with practice.

Web-enabled Learning Materials and Case Studies

Greenfield has developed an environment to support the creation of web-based sharable learning activities. Components of the Greenfield learning

system are stored as objects in a database. Using a web-based interface, teams of faculty, instructional designers, graphic artists, application programmers, and industry partners collaborate in course creation. The environment is data-driven, providing ease of design, implementation, and maintenance of learning objects. Each of the Greenfield Courses has been designed using modern principles of adult learning. Key strategies include *active* and *cooperative* learning. The suite of Greenfield learning resources includes 20 case studies. Each Greenfield Case is framed as a real-world engineering issue, requiring and engineering decision. A situation is described in broad brush terms and on-line resources are provided which provide data to frame a statement of a problem. Each team of students must define a problem, explore the web-based resources, consider the potential root causes, explore possible solutions, and propose a solution.

New Programs

The Greenfield Coalition has launched several new degree programs to support its activites at the Focus:HOPE Center for Advanced Technologies. These include an Associates Degree in Manufacturing Engineering and Technology (Lawrence Technological University}, the Bachelor of Manufacturing Engineering (University of Detroit Mercy) and the Bachelor of Science in Manufacturing Engineering Technology (Wayne State University). These degree programs are distinguished by an unprecedented cooperation among the Greenfield partners in delivering the programs with many courses shared among degree programs. In addition, the University of Detroit Mercy has adapted the degree offered at Focus:HOPE for a cohort of more traditional students studying at the home campus. Wayne State has initiated a new minor in its Industrial Engineering Program entitled the Production Management and Leadership Program; this program is open to traditional students on campus as well as candidates from the Center for Advanced Technologies.

B.5 Suggested citation for the award (maximum length: 15 words).

For its dedication to the education of minority students and innovation in computer enhanced learning.

B.6 Two letters of support must accompany each nomination. Maximum length: 1 page. Preferably, letters of support should come from individuals who are not affiliated with the same institution as the nominee.

See attached.

B.7 Statement by nominator as to whether, to his/her knowledge, nominee will be present at the iNEER event in person to receive the award if it is awarded to him/her.

Dr. Falkenburg will accept the award at the ICEE banquet on October 18, 2004.

B.8 Please attach a copy of the nominee's resume.

N/A

October 7, 2004

iNEER Awards Committee
C/o Dr. John Carpinelli
Electrical and Computer Engineering
New Jersey Institute of Technology
University Heights
Newark, NJ 07102-1982

Dear Members of the iNEER Awards Committee:

I am writing this letter in support of the Greenfield Coalition's nomination for an iNEER Leadership Award. Through my work with the Gateway Engineering Education Coalition, I have become familiar with the work of the other EECs, including Greenfield. I believe that Greenfield's contributions to engineering education merit receipt of this award.

Greenfield is somewhat unique among the coalitions in that it focuses on manufacturing engineering. Its academic partners include Wayne State University, Lawrence Technological University, Lehigh University, Michigan State University, and University of Detroit Mercy. Unlike the other Coalitions, it also includes several industrial partners, including Cincinnati Machine, DaimlerChrysler, Detroit Diesel, Electronic Data Systems, Focus:HOPE, Ford Motor Company, General Motors Corporation, and the Society of Manufacturing Engineers. By incorporating manufacturing experiences and the use of web-based tools into the engineering program, Greenfield has had a major impact on manufacturing engineering, both within and outside of the United States. The director of the Greenfield Coalition, Don Falkenburg, has been a strong advocate for change in manufacturing engineering, and has participated in a panel on Engineering Education Coalitions at ICEE 2002. He is also participating at another such panel at this year's ICEE Conference. The Coalition maintains an active web site (www.greenfield-coalition.org) at which they make much material available for use by faculty members at other universities worldwide.

The Greenfield Coalition has had a positive effect on engineering education worldwide, and I am pleased to support their nomination for an iNEER Leadership Award.

Sincerely,

Angelo J. Perna, Ph. D.
Professor of Chemical Engineering
New Jersey Institute of Technology

NJIT
New Jersey Institute of Technology

A Public
Research University

DEPARTMENT OF ELECTRICAL AND
COMPUTER ENGINEERING

October 7, 2004

iNEER Awards Committee
C/o Dr. John Carpinelli
Electrical and Computer Engineering
New Jersey Institute of Technology
University Heights
Newark, NJ 07102-1982

Dear Members of the iNEER Awards Committee:

It gives me great pleasure to submit this letter in support of the nomination of the Greenfield Engineering Education Coalition for an iNEER Leadership Award. Through NJIT's work with the Gateway Coalition, I have become familiar with the work of Greenfield and the other Coalitions. I know that their efforts have positively impacted engineering education on a global scale.

As I understand it, Greenfield is somewhat different than the other engineering education coalitions. It focuses on manufacturing and has several industrial partners, in addition to some universities. Such a model of industry-university cooperation and collaboration is commendable and a model that can be followed in all countries. Greenfield has been active in manufacturing engineering education and has produced materials and given workshops for faculty members from non-partner universities, both from the United States and abroad.

The Greenfield Coalition has made a unique and important contribution to engineering education worldwide, and I am pleased to support their nomination for an iNEER Leadership Award.

Sincerely,

Sotirios G. Ziavras, Ph. D.
Professor of Electrical and Computer Engineering
New Jersey Institute of Technology

UNIVERSITY HEIGHTS
NEWARK, NJ 07102-1982
973, 596, 3512, 3510