

## **AC 2010-1606: FULBRIGHT SCHOLAR PROGRAM PROPOSAL**

### **Lester Gerhardt, Rensselaer Polytechnic Institute**

After 10 years with Bell Aerospace Corporation where he was Director of Avionics Research, Dr. Gerhardt joined Rensselaer in 1970. He was promoted to Full Professor in 1974, and was selected as Chairman of the newly merged Electrical, Computer, and Systems Engineering Department in 1975, a position he held through 1986. The ECSE Department growth and development during these years was nationally recognized in a National Academy of Science report receiving the top rating in the most improved program category, as well as being rated in the top 10 percent in other categories. In 1986, he was appointed Director of Computer Integrated Manufacturing, which subsequently won the worldwide SME/CASA LEAD Award for Excellence in CIM. Since the early 90s, he has been Associate Dean of Engineering, responsible for research and graduate programs in the School of Engineering, now at a reported annual expenditure level above million. He also served as Founding Director of the Center for Manufacturing Productivity and Director of the Center for Industrial Innovation. Dr. Gerhardt was also named AVP for Research Administration and Finance by special appointment of the President of Rensselaer, Shirley Ann Jackson.

### **Andy Riess, Council for International Exchange of Scholars**

A native of Texas, Andy Riess earned his B.A. from Baylor University (history, political science, philosophy, Latin) and his M.A. and Ph.D. from Indiana University (Russian history, Inner Asia, Eastern Europe, Ottoman Empire). A veteran of the United States Army Security Agency, he has also studied at the Frei Universität - Berlin, Moscow State University, and the Graduate School of Business, New York University. Dr. Riess has worked in the worlds of academia, for-profit, and not-for-profit in the United States and abroad. For 18 years, he was in charge of Fulbright Scholar programs in the Former Soviet Union, Western Europe, and Asia for Council for International Exchange of Scholars in Washington, D.C. He was named, early in 2008, to head recruitment efforts for American scholars for the Fulbright Scholar Program at CIES.

## **Title: Fulbright Scholar Awards: A World of Opportunities for Faculty and Professionals**

### Abstract:

Every leader in history has recognized that the future of the country lies in the proper education of its youth. Today's world mandates that we develop and educate a global citizen, and a global engineer and scientist, among other disciplines, for the good of the individual, the country, and the people of this planet. U.S. colleges and universities must prepare U.S. students to be competitive in this increasingly global marketplace. Fulbright scholars are tremendously effective in advancing this important goal. They serve as models of international collaboration to students, colleagues, and professional organizations, and bring their Fulbright experience to bear in many meaningful ways. This paper first describes the current situation regarding the globalization of education, emphasizing engineering and STEM fields in the United States. The second portion of the paper describes how the Fulbright Scholar Program can be used to further the internationalization of U.S. faculty, institutions and students.

### Body of the Paper:

#### The Globalization of Education: Engineering and the STEM Fields

Today's reality is that we have a technologically borderless planet, a globally interactive economy, numerous multinational companies, a distributed educational system, an educational system that is trending towards homogeneity while the product desire is heterogeneous, and we have the need to balance cooperation and competition in business including the business of education as well. All that notwithstanding, citizens of the United States do not fully recognize the importance of the fact that 96% of the world's population lies outside the United States. In 2009, only 262,416 U.S. students studied abroad<sup>1</sup> while 671,616 international students studied in the United States.<sup>2</sup>

Outgoing American students went dominantly to Europe (56%),<sup>3</sup> and only 11% of them were graduate students. Their major fields of study were social sciences, business/management, humanities and the arts, and their language preparation was generally limited.<sup>4</sup> Women accounted for 65% of outgoing students.<sup>5</sup>

On the other hand, the incoming international students were over 40% graduates students,<sup>6</sup> and their countries of origin were China, India, South Korea (these three alone accounting for 41%), among others.<sup>7</sup> Regarding their fields of study, over 41% were in the STEM fields.<sup>8</sup> Were this to be the 'balance sheet' for a company, eyebrows would be raised in concern for the future.

With over 3000 colleges and universities in the United States, it is noteworthy that 10 states hosted 61% of the incoming international students. They are California, New York, Texas, Massachusetts, Florida, Illinois, Pennsylvania, Michigan, Ohio, and Indiana.<sup>9</sup> The top 25 universities (18 public and 7 private) hosted 19% of all incoming students.<sup>10</sup> Although the United States still remains the major host country, we have seen a drop of 25% (from 28% to 21%) in the last 7 years alone, while China has risen from a negligible amount to now hosting 6% of international students.<sup>11</sup>

In summary, the numbers of U.S. students who include studying abroad as part of their education is grossly inconsistent with the global nature of the world today. This is especially true in the STEM fields and engineering in particular. Simply put, we as a country, as educators, and as individuals need to do more to properly educate the next generation by incorporating a global experience as part of the educational process. The Fulbright Program offers just such a bi-directional opportunity for a highly diversified group of people in different stages of their career development.

### Overview of the Fulbright Scholar Program

The Fulbright Program is the flagship international educational exchange program sponsored by the U.S. government and is designed to “increase mutual understanding between the people of the United States and the people of other countries.” With this goal as a starting point, the Fulbright Program has provided almost 300,000 participants—chosen for their academic merit and leadership potential — with the opportunity to study, teach and conduct research, exchange ideas and contribute to finding solutions to shared international concerns.

### Benefits of Participation in the Fulbright Scholar Program

U.S. colleges and universities must prepare U.S. students to be competitive in an increasingly global marketplace. Fulbright scholars are tremendously effective in advancing this important goal. They serve as models of international collaboration to students, colleagues, and professional organizations, and bring their Fulbright experience to bear in many meaningful ways.

Faculty encouragement is critical to student participation in study abroad. Although just 43 percent of U.S. faculty believe that study abroad is important for students,<sup>12</sup> more than 80 percent of returned Fulbright scholars say they have recommended that students or colleagues participate in an international exchange program.<sup>13</sup>

After they return to their U.S. campuses, almost all Fulbright Scholars continue to maintain their connections to their colleagues and host institutions abroad. Three-quarters of returned Fulbright Scholars continue collaborating on specific projects with colleagues from their host institution or country.<sup>14</sup> Approximately one-quarter of returned Fulbright scholars initiated at least one institution-to-institution exchange program between their home and host institutions.<sup>15</sup> These exchanges typically include student and faculty,

professional training, or even joint degree programs. This ongoing international collaboration also helps U.S. campuses attract scholars and students from overseas.

#### Opportunities for U.S. faculty and professionals

Opportunities available to U.S. faculty and professionals through the Fulbright U.S. Scholar Program include the core Fulbright Scholar Program, which sends 800 U.S. faculty and professionals abroad each year. Grantees teach and conduct research in a wide variety of academic and professional fields, including engineering and the sciences. The Fulbright Distinguished Chairs Program comprises approximately thirty distinguished teaching, distinguished research and distinguished teaching/research awards ranging from three to 12 months. Candidates should be eminent scholars and have a significant publication and teaching record. American and visiting scholars can also participate in the New Century Scholars Program, which serves as a platform for scholars to engage in debate and dialogue on the many challenges of the 21st century.

Besides these long-term grant opportunities, faculty and professionals interested in short-term grants should consider the Fulbright Specialists Program, International Education Administrators Program and German Studies Seminar. The Fulbright Specialists Program (FSP) promotes linkages between U.S. academics and professionals and their counterparts at universities abroad. The program is designed to award grants to qualified U.S. faculty and professionals, in select disciplines, to engage in short-term collaborative two to six week projects at higher education institutions in over 100 countries worldwide. The Fulbright International Education Administrators Program is designed to introduce participants to the society, culture and higher education systems of these countries through campus visits, meetings with foreign colleagues and government officials, attendance at cultural events and briefings on education. The German Studies Seminar is an annual two-week seminar which covers wide areas of contemporary Germany with program portions in Berlin and other cities in eastern and western Germany. Each year the seminar is dedicated to a special topic.

#### Opportunities for U.S. Institutions and Visiting Scholars

The Fulbright Visiting Scholar Program brings more than 800 foreign faculty and professionals from more than 100 countries to the U.S. each year. U.S. institutions interested in hosting Fulbright Visiting Scholars should consider the core Fulbright Visiting Scholar Program, the Scholar-in-Residence Program and the Occasional Lecturer Fund. The core Fulbright Visiting Scholar Program brings 800 faculty and professionals from around the world to the United States for advanced research and university teaching. The Fulbright Scholar-in-Residence (SIR) Program assists institutions historically underrepresented in international academic exchange and allows scholars outside the United States to gain experience in U.S. higher education. The Occasional Lecturer Fund enables Fulbright Visiting Scholars who are currently in the U.S. to accept guest lecturing invitations at colleges and universities, with a special focus on institutions historically underrepresented in international academic exchange.

## ENDNOTES

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<sup>1</sup> R. Bhandari and P. Chow, *Open Doors 2009: Report on International Educational Exchange*. New York: Institute of International Education 2009, p. 18.

<sup>2</sup> *Open Doors 2009*, p. 2.

<sup>3</sup> *Open Doors 2009*, p. 19.

<sup>4</sup> *Open Doors 2009*, p. 21.

<sup>5</sup> *Open Doors 2009*, p. 48.

<sup>6</sup> *Open Doors 2009*, p. 6.

<sup>7</sup> *Open Doors 2009*, p. 5.

<sup>8</sup> *Open Doors 2009*, p. 14.

<sup>9</sup> *Open Doors 2009*, p. 8.

<sup>10</sup> *Open Doors 2009*, p. 12.

<sup>11</sup> *Open Doors 2009*, p. 45.

<sup>12</sup> Faculty Survey of Student Engagement Results 2008, published in *Promoting Engagement for All Students: The Imperative to Look Within, National Survey of Student Engagement 2008 Results*, p. 21. [Online report accessed 1/27/2009, as revised 11/14/2008.]

<sup>13</sup> SRI and *Report on U.S. Fulbright Scholar Follow-Up Study*, submitted to Council for International Exchange of Scholars by ORC MACRO, August 2005 (MACRO), p. 52.

<sup>14</sup> SRI, p. 36.

<sup>15</sup> SRI: p. 39.