

VEF Achievements and Activities

*Bridging the U.S. and Vietnam
through Educational Exchanges
in Science and Technology*

2003 – 2008

(January 2009 revised edition)

Preface

*As the Executive Director of the Vietnam Education Foundation (VEF), I am extremely proud to present to you our premier summary of the first five years of the accomplishments of VEF from 2003 through 2008, entitled **VEF Achievements and Activities: Bridging the U.S. and Vietnam through Educational Exchanges in Science and Technology: 2003 – 2008.***

Our success is the result of the significant contributions of many individuals and organizations in both Vietnam and the United States in the private, public, and governmental sectors. I wish to express our deepest gratitude to these friends of VEF for the precious support that they have given over the years. Importantly, I would like to express my sincere thanks to the Board of Directors of VEF for their positive and dynamic support. In particular, I wish to thank the VEF staff both in the United States and in Vietnam for their extraordinary commitment to VEF and for their constant attention to quality, accuracy, and thoroughness as shown in this outstanding document.

For those of you new to VEF, I am confident that you will find this summary report an impressive statement about building the relationship between the United States and Vietnam through educational exchanges. We are extremely pleased with our remarkable achievements in such a short time.

I hope you enjoy reading about the Vietnam Education Foundation. Please feel free to contact us at any time.

Sincerely,

A handwritten signature in blue ink, appearing to read 'VVT', with a horizontal line underneath.

*Vo Van Toi, Ph.D.
VEF Executive Director*

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Introduction

The Vietnam Education Foundation (VEF) was established by the U.S. Congress subsequent to the announcement of the bilateral agreement on scientific and technological cooperation, signed by former U.S. President Bill Clinton during his historical visit to Vietnam in 2000. According to the Vietnam Education Foundation Act of 2000, the annual budget for VEF is U.S. \$5 million, beginning in fiscal year 2001 and continuing through 2018. VEF began operations in 2003 and has enjoyed a high level of success in its many activities over the last five years. This summary document, entitled *VEF Achievements and Activities: Bridging the U.S. and Vietnam through Educational Exchanges in Science and Technology: 2003 – 2008*, briefly traces the history of VEF and describes VEF’s mission, organizational structure, activities, and visions for the future.

History

The following events highlight milestones in the history of VEF (Table 1).

Date	Event
December 2000	The Vietnam Education Foundation Act of 2000 (U.S. Public Law 106-554) was amended and passed by Congress.
April 2002	The first Board of Directors was elected. Mr. Herbert Allison (Chairman, President, and Chief Executive Officer of TIAA-CREF) was elected Chairman of the VEF Board of Directors in December 2002.
March 2003	The first Executive Director, Mr. Pham Duc Trung Kien, was appointed. VEF opened its headquarters in Arlington, Virginia.
Fall term 2003	The first cohort of 19 VEF Fellows began graduate studies in leading U.S. research universities.
November 2003	The VEF overseas field office opened in Hanoi, Vietnam, staffed by Vietnamese contract employees.
April 2004	Dr. Phillip Griffiths of the Institute for Advanced Study in Princeton, N.J., was one of the first U.S. scientists sponsored by VEF to present a seminar in Vietnam, which was entitled <i>Building Science and Technology Capacity in Vietnam</i> , while also discussing during his visit the creation of Centers of Excellence in Vietnam.
February 2005	The U.S. Department of State authorized VEF as a designated sponsor of an Exchange Visitor Program.
June 2005	An official operating permit (license) from the Vietnamese Ministry of Education and Training (MOET) was provided to VEF for its representative office in Vietnam.
June 2005	During the historical visit of Prime Minister Phan Van Khai to the U.S. to meet with President George W. Bush, VEF was specifically named as a means to encourage cultural and educational exchange between the U.S. and Vietnam.

Date	Event
July 2005	Over 100 top U.S. universities joined the VEF Alliance in a cost-sharing arrangement to host VEF Fellows for graduate study.
August 2006	The first research report sponsored by VEF, entitled <i>Observations on Undergraduate Education in Computer Science, Electrical Engineering, and Physics at Select Universities in Vietnam</i> , was completed.
November/December 2006	VEF organized study tours at MOET's request for a MOET delegation, led by now Deputy Prime Minister Nguyen Thien Nhan, to visit Germany and the U.S. to observe top-level universities in their efforts to be world-class universities.
January 2007	The second research report sponsored by VEF, entitled <i>Observations on the Current Status of Education in the Agricultural Sciences in Vietnam</i> , was completed.
February 2007	Dr. Vo Van Toi was appointed as the second Executive Director of VEF.
March 2007	MOET began emulating VEF's application and selection process for its 322 Program (Vietnamese Government Overseas Scholarship Program), culminating in candidate interviews in August 2007, organized by VEF.
April 2007	Dr. Nguyen Thi Thanh Phuong was appointed as the first Country Director of the VEF overseas field office in Hanoi.
May 2007	The first cohort of 12 Visiting Scholars was selected to pursue post-doctoral professional development programs at U.S. universities for up to 12 months.
June 2007	The first meeting in Hanoi between the Prime Minister of Vietnam, Nguyen Tan Dung, and the senior leadership of VEF was a significant indication of the importance of the relationship between VEF and Vietnamese government.
April 2008	VEF received a new operating permit from the Vietnamese government that provides VEF with tax-free Non-Return Official Development Assistance (ODA) status.
April 2008	The first cohort of 4 U.S. professors was selected for the VEF U.S. Faculty Scholar Grants Program to teach in Vietnamese universities either on-site or via videoconferencing during the 2008-09 academic year.
August 2008	U.S. professors interviewed VEF Fellowship candidates for the 2009 cohort in Hanoi and in Ho Chi Minh City, marking the fifth year of interviews. U.S. scientists/professors have helped to select nominees for cohorts 2003 – 2009.
December 2008	First VEF Alumni Conference, was held in Hanoi, Vietnam, hosting VEF Fellows and Visiting Scholars, who had returned to Vietnam.

Table 1. Milestones in the History of VEF

Mission

Serving as an independent U.S. federal government agency, VEF is unique in comparison with other international funding agencies because it reports directly to the President of the United States. The VEF mission, as indicated in the *Vietnam Education Foundation Act of 2000*, is to further the process of reconciliation and to build the bilateral relationship between the United States and Vietnam, thus serving the interests of both countries through education in the sciences (natural, physical, and environmental), mathematics, medicine, and technology (including information technology).

VEF concentrates on two main activities: (1) scholarships and grants for Vietnamese and U.S. nationals; and (2) capacity building in Vietnam. The former is conceived as a transformative and cost effective model that fits with VEF's mandate to develop highly skilled talent and leadership in science and technology for Vietnam. The latter is conceived as a means to partner with Vietnamese institutions and organizations as they work to upgrade their performance and capabilities in a way that builds a welcoming foundation for the return of VEF Fellows to Vietnam

The **VEF Scholarships and Grants Program** consists of three key activities:

1. **Fellowship Program**, bringing outstanding Vietnamese nationals to study in graduate programs at top-level U.S. universities with the goal of the Fellows becoming leaders and pioneers in their fields.
2. **Visiting Scholar Program**, bringing exceptional Vietnamese post-doctoral educators and researchers to renowned U.S. universities for self-designed professional development programs of up to twelve months, thereby giving a boost to their research and leadership in science and technology.
3. **U.S. Faculty Scholar Grants Program**, offering U.S. university professors with opportunities to teach at Vietnamese universities by videoconferencing or on site in Vietnam on topics in the fields supported by VEF and, thus, to develop sustainable educational and research programs in Vietnam as well as meaningful partnerships between U.S. and Vietnamese institutions.

The **Capacity Building Program** consists of joint projects between the scientific and academic communities of Vietnam and the United States in order to share knowledge, skills, and resources to best effect change.

Because of its flexible infrastructure, effective and efficient management, quality operations, and highly capable staff, VEF has been able to respond quickly and successfully to develop various program and project models, suitable for the academic, cultural, and socio-economic context of Vietnam. VEF develops these models, tests their effectiveness, and fine-tunes the details with the expectation of transferring successful outcomes to interested Vietnamese government entities, academicians, and scientists, who would then apply the models on a larger scale. Hence, quality

and effectiveness remain top priorities for VEF in planning, implementing, and monitoring its programs and activities.

Organization

VEF is governed by a **Board of Directors** consisting of thirteen members, including three U.S. Cabinet members, two U.S. Senators, two U.S. Representatives, and six presidential appointees. Current members are:

- **Cabinet members:** Secretary of Education, Margaret Spellings; Secretary of State, Dr. Condoleezza Rice; and Secretary of Treasury, Henry Paulson
- **Legislative members:** Senators David Vitter and Jim Webb; Representatives Earl Blumenauer and Joseph R. Pitts
- **Presidential appointees:**
 - Dr. Marilyn Pattillo, Associate Professor in Clinical Nursing, University of Texas at Austin, and Interim Chairman of the VEF Board
 - Mr. Viet D. Dinh, Founder and Principal of Bancroft Associates PLLC
 - Ms. Elizabeth Dugan, Vice President for Programs of International Republican Institute (IRI)
 - Mr. Christopher J. Fussner, Owner, Founder of Trans Technology Pte Ltd.
 - Mr. Frank Jao, President and CEO of Bridgecreek
 - Dr. Stephen F. Maxner, Director of the Vietnam Center of Texas Tech University

The **VEF Executive Director** is appointed by the Board of Directors and carries out the functions of the Foundation subject to the supervision and direction of the Board.

The headquarters of VEF is located in Arlington, Virginia, U.S.A., with its field office in Hanoi, Vietnam. The following diagram, entitled VEF Organizational Chart, shows the organization of VEF and its current staff (Fig. 1).

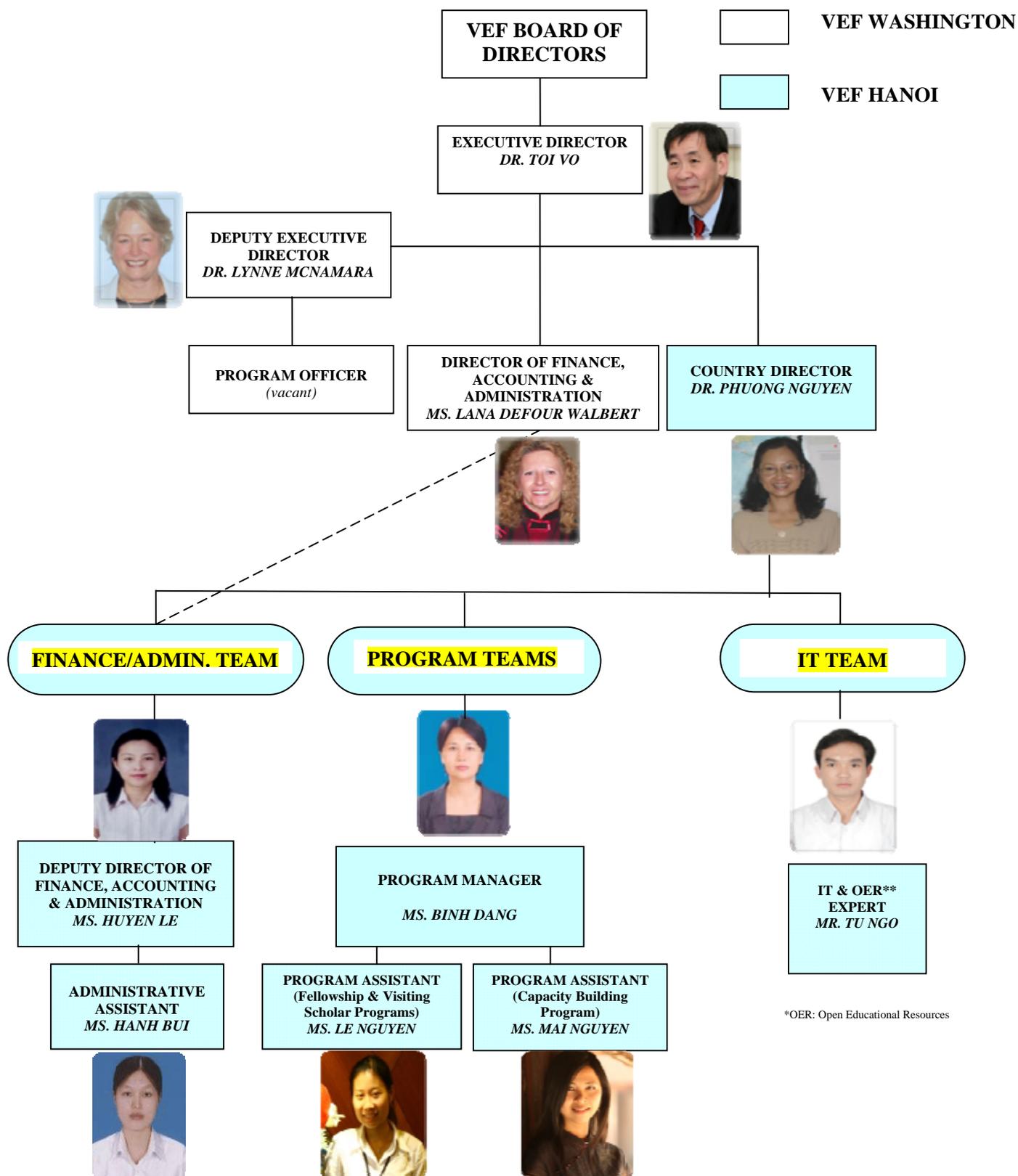


Figure 1. VEF Organizational Chart

Scholarships and Grants

Fellowship Program

As the flagship activity of VEF, having been in effect longer than other programs, the VEF Fellowship Program creates opportunities for talented young Vietnamese to become pioneers and leaders in their fields. To this end, VEF has designed a rigorous application and selection process in order to identify outstanding candidates, and then VEF helps the final nominees understand how to apply to top-level U.S. universities. Fellows are chosen based on individual merit, including academic performance and the potential for scientific contributions to education and research in their field. To facilitate relationships with U.S. universities, VEF established the VEF Alliance, a cost-sharing arrangement with over 100 top U.S. research institutions. With accompanying supportive data, the following sections summarize the multiple aspects of the VEF Fellowship program.

Application and Selection Process

The VEF Fellowship Program is not envisioned as a simple funding mechanism for graduate study in the U.S. On the contrary, it aims to support talented and ambitious Vietnamese, who desire to contribute not only to the scientific and technological progress of Vietnam, but also to the VEF mission. To attract the best and brightest candidates, VEF has designed an open, competitive, and transparent application and selection process that assures U.S. universities of the highest quality of applicants from Vietnam and that helps to build Vietnam's reputation in science, mathematics, medicine, engineering, and technology. Hence, the candidates must have an excellent academic record and significant professional and/or research experience; they must demonstrate a strong commitment to the development of science, mathematics, medicine, engineering, and technology in Vietnam; and they are expected to receive admission to a top U.S. research university, which is highly recognized in the applicant's field.

One can obtain a VEF Fellowship by applying through either Process A or Process B. In Process A, after having succeeded in acquiring minimum required scores on standardized exams, specifically the Test of English as a Foreign Language (TOEFL) and the Graduate Record Exam (GRE), an applicant must demonstrate an ability to excel in the U.S. academic environment through a highly competitive oral exam and interview conducted in English by renowned U.S. professors invited by VEF to Vietnam with the assistance of the U.S. National Academies. The two U.S. professors, serving on each subject area review panel, provide an individualized letter of recommendation for each candidate recommended for a VEF Fellowship to be used in applying to U.S. universities.

After having passed the oral exam/interview, the candidate, with support from VEF, applies to leading U.S. universities chosen by the candidate and confirmed or recommended by the U.S. professors during the interviews. These U.S. universities must belong to the VEF Alliance or else

be willing to accept VEF's financial terms. After the candidate receives admission to one or more American universities, the National Academies assists VEF to determine the best university for the candidate to attend, while taking into consideration the interests of the individual. The list of nominees is presented to the VEF Board of Directors, which approves the final list of Fellowship recipients, who have applied through Process A and Process B.

In Process B, the applicant must have already been admitted to a U.S. university. Then, after passing a review and interview conducted by the VEF staff and the National Academies, the successful candidates are recommended to the VEF Board of Directors to receive a VEF Fellowship award.

The VEF Fellowship program is highly competitive. For example, in the 2008 cohort Fellowship competition of Process A, out of 1,638 initial registrants, 330 met the minimum requirements to continue to the next round. After completion of the GRE exam, 108 candidates met the requirements to be invited to the final stage of the competition—the oral exam/interview—to compete for a total of 40 Fellowships. During the 2008 cohort competition for Process B, out of 86 initial registrants, 27 met the minimum requirements to continue to the next round, and in the end, 2 were accepted as VEF Fellows. Thus, for the 2008 competition, a qualified individual had a 12% chance of receiving a Fellowship (40/330) through Process A and a 7% chance of receiving a Fellowship (2/27) through Process B.

To prepare Fellows for their new environment and to train Fellows in leadership and team-building, VEF organizes a Pre-Departure Orientation in June for the newly selected Fellows, before their departure to the U.S. The purpose of the orientation is to hone their skills for academic success, to ensure a smooth transition to the U.S., and to begin their integration into the VEF family.

Recognizing the success of the VEF Fellowship Program, Vietnam's Ministry of Education and Training (MOET) is adopting the VEF application and selection process for its own scholarship program, known as the 322 Program or the Vietnam International Education Development (VIED) program. In a collaborative effort, VEF has been helping to train MOET staff on how to set up their own application and selection process, how to develop and use online electronic forms and files, and how to manage systems and processes related to an overseas study program.

VEF Alliance and Funding Arrangements

VEF has established an Alliance with over 100 leading U.S. research universities through a Memorandum of Understanding, outlining the agreement. Members of the VEF Alliance agree to provide a share of the educational funding in exchange for the opportunity to consider accepting highly qualified Vietnamese talent for graduate programs and to have support from VEF to identify academic institutions and government entities in Vietnam of interest to the particular U.S. University. VEF benefits from this relationship in many ways, including the cost effective financial arrangement, which contributes to the efficiency of VEF program operations.

To explain the specific cost-sharing arrangement, VEF provides an annual grant to the U.S. University of U.S. \$27,000 per Fellow for the first two years of graduate study. The university manages and supplements the grant funds to cover all required tuition, fees, health/medical insurance, books and equipment, and a monthly stipend for 12 months, which must be equivalent to what a graduate student in the designated department would receive. Through a graduate assistantship or other means, the university is expected to fully support a VEF doctoral Fellow from the third year forward. Once the Fellow is fully supported by the university, VEF provides a professional development grant of U.S. \$3,000 per year directly to each Fellow for a total of three years, by which time the Fellow is expected to graduate.

Additional Support

Further financial support is provided by VEF directly to Fellows through a limited number of competitive conference and travel grants. To promote professional development, Professional Conference Grants are for Fellows, whose presentations have been accepted at a professional conference in their field. Travel Grants enable Fellows to work, conduct research, and/or teach in Vietnam in their field of interest, thereby keeping VEF Fellows connected to, and actively interested in, scientific and technical developments in Vietnam.

In order to encourage networking, VEF organizes an Annual Conference as a forum to share opinions, knowledge, and experience among the Fellows and Visiting Scholars and with other scientists and U.S. experts. Through these activities, VEF continues to build a spirit of community, solidarity, and professionalism among its Fellows and Visiting Scholars in order to help them sustain professional and personal support systems while in the United States and when they return to Vietnam. Typically, guest speakers give motivational presentations on such topics as leadership, emerging technologies, and the relationship between research, education, and entrepreneurship. VEF Fellows and Visiting Scholars also have opportunities to present their scientific research results at the VEF Annual Conference.

As an example of VEF's efforts to facilitate the Fellows' return to Vietnam, the 2008 Annual Conference was organized in January 2008 around the theme of *All the Ways Home*. The discussions and activities were designed to stimulate proactive thinking among VEF Fellows and Visiting Scholars concerning ways to better serve Vietnam upon their return, and most importantly, to create positive communication between VEF Fellows and Visiting Scholars and Vietnamese leaders and guests on this topic. The presentations and debates were made publicly accessible through a webcast so that viewers in Vietnam and elsewhere could participate. To promote professional opportunities in academia, an Academic Job Fair highlighted 19 Vietnamese universities, research institutions, and governmental units, who presented their plans to recruit outstanding VEF Fellows for teaching and research. These Vietnamese delegations also indicated their interest in establishing relationships with U.S. universities through associations with VEF Fellows and Visiting Scholars.

VEF is committed to helping Fellows and Visiting Scholars to return to Vietnam to contribute to their country. One further example is VEF efforts to establish a VEF Alumni Association and to hold a VEF Alumni Conference in Vietnam in December 2008.

Program Statistics

The tables and charts below provide summary data on all VEF Fellows as of early Fall 2008, addressing the following topics: numbers in each cohort; university location; U.S. universities enrolling VEF Fellows; academic performance of VEF Fellows; fields represented in VEF Fellows' graduate degree studies as well as specialties in engineering; gender; degrees sought (master's or doctorate); age; origin in Vietnam; and numbers of publications per year. In addition, an analysis is presented of VEF Fellows, who have graduated, including the employment status of returnees to Vietnam and the employment situations and positions of Fellows, who are pursuing Academic Training before returning to Vietnam.

Numbers in Each Cohort

From March 2003 through the fall term 2008, 267 VEF Fellows, consisting of 6 separate cohorts, have been placed in graduate programs at 68 top-tier U.S. research universities, which are listed further below. A cohort is defined as a group of Fellows, who will begin graduate studies together in the same year, and is named according to the fall term that they enter graduate schools in the United States. The numbers in the VEF Fellowship cohorts are summarized in Table 2. This total number of 267 consists of Fellows, who have completed a degree with VEF or who are continuing in their academic program; it does not include any resignations. For the record, only one Fellow has ever resigned: a Fellow in the 2004 cohort resigned after two terms due to personal reasons.

Cohort Year	Number of VEF Fellows
2003	19
2004	82
2005	51
2006	37
2007	40
2008	38
TOTAL	267

Table 2. Numbers of VEF Fellows in Each Cohort

U.S. University Location

VEF Fellows are studying at American universities located across the United States. The majority of VEF Fellows (49%) are studying at universities located in the mid-section of the country, followed by schools located in the east (35%), while fewer schools (16%) are located in the west (Fig. 2).

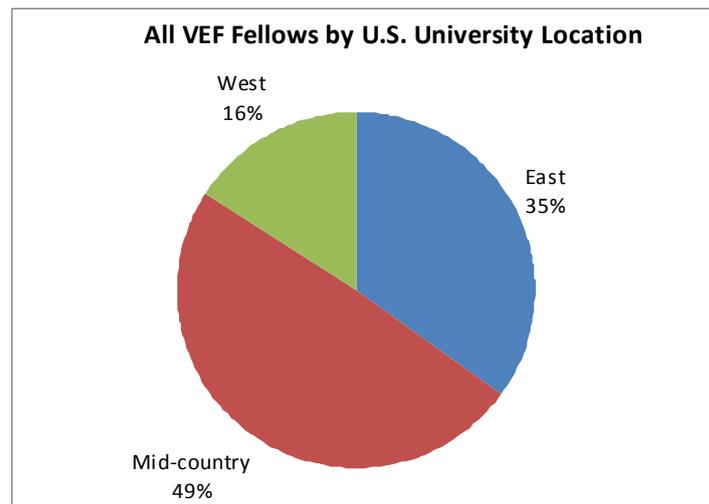


Figure 2. All VEF Fellows by U.S. University Location

U.S. Universities Enrolling VEF Fellows

VEF Fellows apply on their own to U.S. universities while VEF provides financial support for up to five recommended schools. VEF pays for review of each Fellow's statement of purpose for the university application; GRE Subject Tests, if required by the university; submissions to the universities of standardized test score results; and application fees, if required by non-Alliance universities. To date, 68 American universities have enrolled VEF Fellows since 2003 (Table 3).

1	Arizona State University	35	Tufts University
2	Auburn University	36	University at Buffalo, the State University of New York
3	Boston University	37	University of Arkansas at Fayetteville
4	Bradley University	38	University of California at Berkeley
5	Brown University	39	University of California at Davis
6	California Institute of Technology	40	University of California at Los Angeles
7	Carnegie Mellon University	41	University of California at San Diego
8	Case Western Reserve University	42	University of Chicago
9	Clark University	43	University of Colorado at Denver Health Science Center
10	Clemson University	44	University of Florida
11	Columbia University	45	University of Georgia
12	Cornell University	46	University of Hawaii at Manoa
13	Duke University	47	University of Houston
14	Emory University	48	University of Illinois at Chicago
15	Georgia Institute of Technology	49	University of Illinois at Urbana - Champaign
16	Indiana University	50	University of Iowa
17	Iowa State University	51	University of Maryland at College Park
18	Johns Hopkins University	52	University of Massachusetts Amherst
19	Massachusetts Institute of Technology	53	University of Michigan at Ann Arbor
20	Memorial Sloan-Kettering Cancer Center	54	University of Minnesota
21	Michigan State University	55	University of Missouri at Columbia
22	New York University	56	University of North Carolina at Chapel Hill
23	Northeastern University	57	University of Oklahoma
24	Ohio University	58	University of Pennsylvania
25	Oklahoma State University	59	University of South Florida
26	Pennsylvania State University	60	University of Southern California
27	Princeton University	61	University of Texas at Austin
28	Purdue University	62	University of Texas at Houston
29	Rensselaer Polytechnic Institute	63	University of Utah
30	Rice University	64	University of Virginia
31	Rutgers University	65	University of Washington
32	Stanford University	66	Virginia Polytechnic Institute and State University
33	State University of New York at New Paltz	67	Washington State University
34	Texas A&M University	68	Yale University

Table 3. U.S. Universities Enrolling VEF Fellows

Academic Performance

The effectiveness of VEF's rigorous selection process and the quality of VEF Fellows are reflected in their academic performance (Fig. 3). As of the end of the spring term 2008, a majority of the Fellows enrolled (92%) had a cumulative Grade Point Average (GPA) of B+ or better.

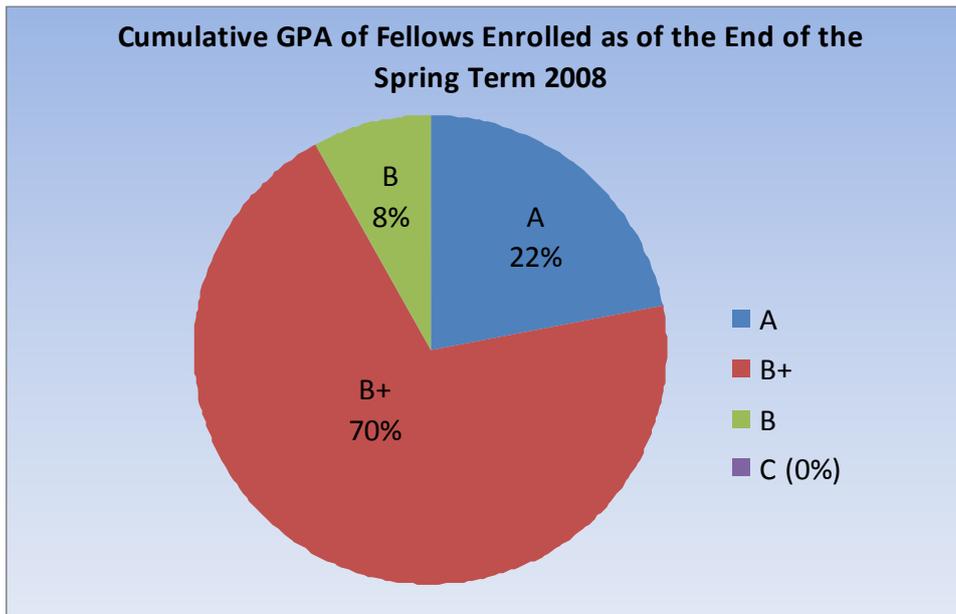


Figure 3. Cumulative GPA of Fellows Enrolled as of the End of the Spring Term 2008

Fields Represented

Engineering, averaging 39% of VEF Fellows across all cohorts, and computer sciences, averaging 22% across all cohorts, have continuously been the primary fields of study of VEF Fellows (Fig. 4). Interestingly, the number of Fellows studying in the broad field of biological and life sciences has more than doubled from 5% of the 2003 cohort to 13% of the 2008 cohort while the field of public health has held at around 10% of VEF Fellows in recent years.

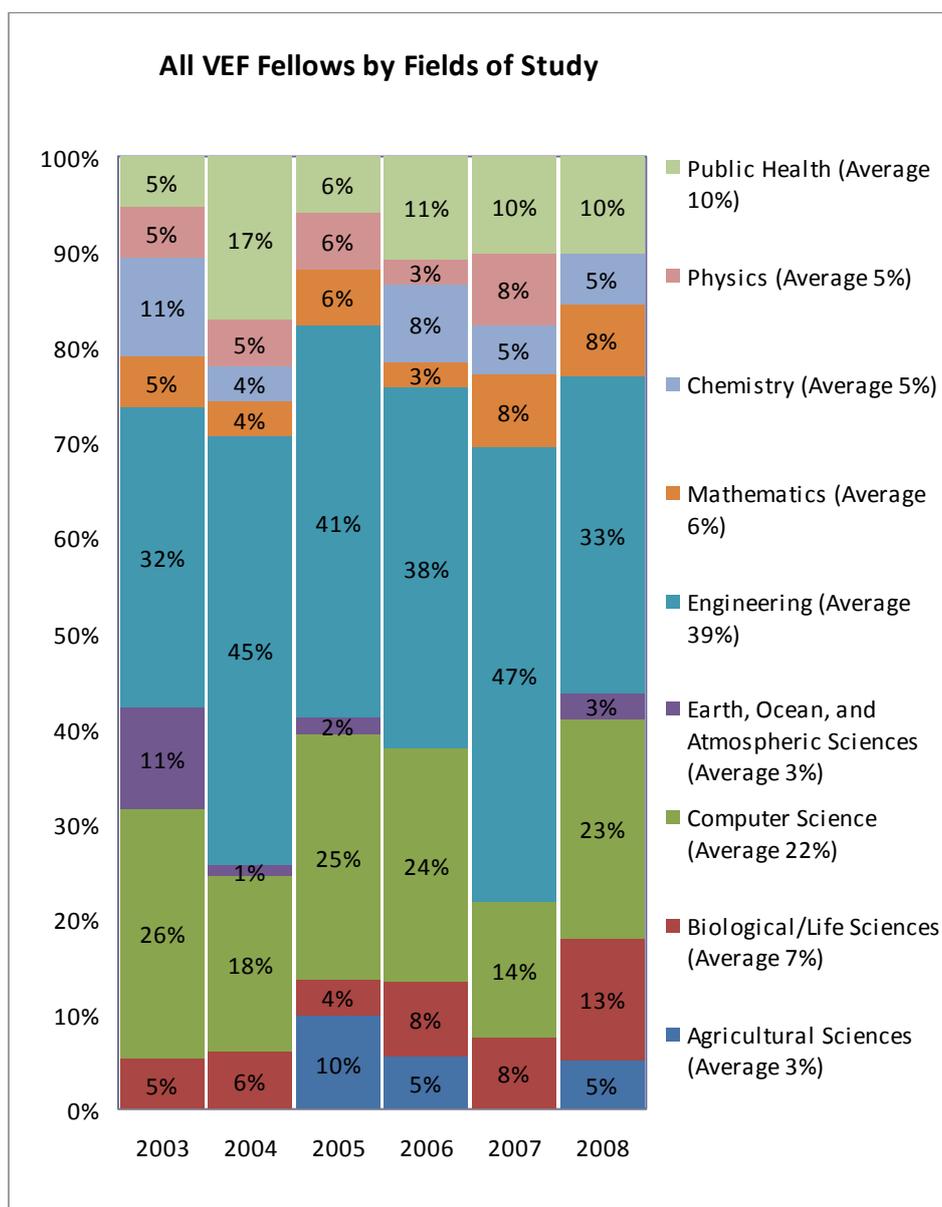


Figure 4. All VEF Fellows by Fields of Study

Specialties in Engineering

Since engineering is the major field of study of VEF Fellows, an analysis of the various specialties is informative. Electrical engineering is the primary specialty among VEF Fellows, averaging 43% of all Fellows, followed by environmental engineering (15%), civil engineering (13%), and mechanical engineering (11%) (Fig. 5).

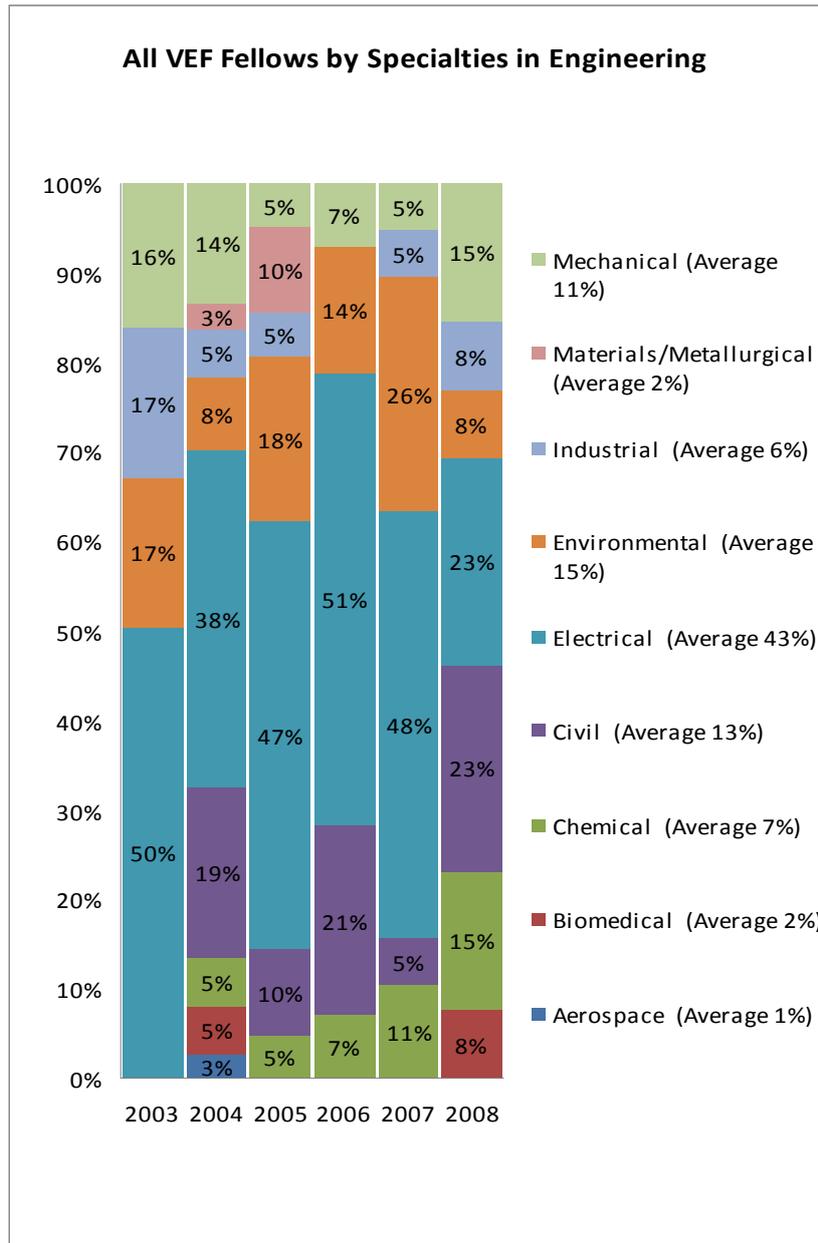


Figure 5. All VEF Fellows by Specialties in Engineering

Gender

On average, the gender of VEF Fellows is 75% male and 25% female while variations exist in each cohort. To be noted, although there are fewer women than men in each VEF Fellowship cohort, the number of female Fellows has increased significantly from 5% of the 2003 cohort to 41% of the 2008 cohort. (Fig. 6)

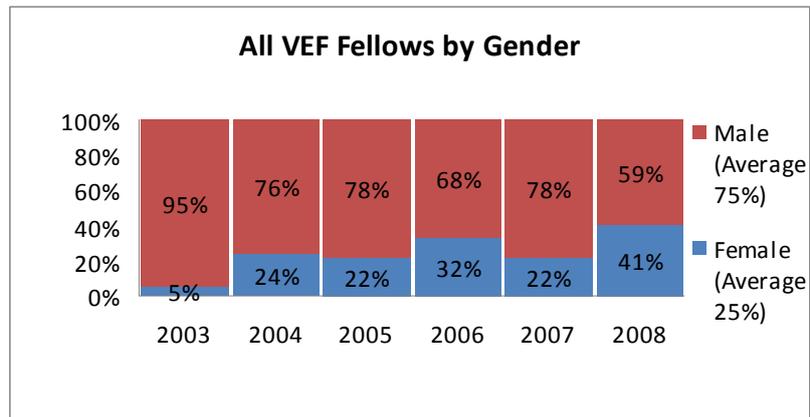


Figure 6. All VEF Fellows by Gender

Degree Sought

The majority of VEF Fellows (87%) pursue a doctoral degree, while 13% pursue a master's degree (Fig. 7).

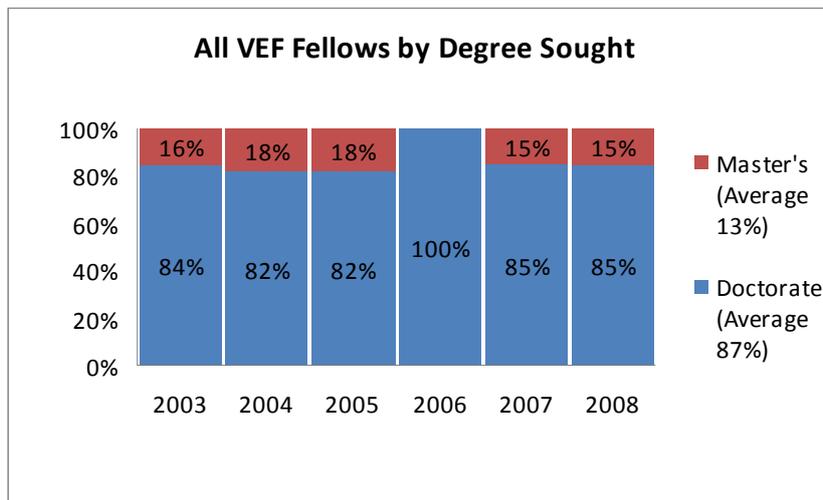


Figure 7. All VEF Fellows by Degree Sought

Age

The majority of Fellows (46%) fall into the youngest age group (23 to 26 years old) while 34% are 27 – 30 years old and 20% are over 30. The youngest age group has increased steadily since 2003 when it was only 5% of the Fellows to become a significant majority of Fellows (80%) in the most recent 2008 cohort. (Fig. 8)

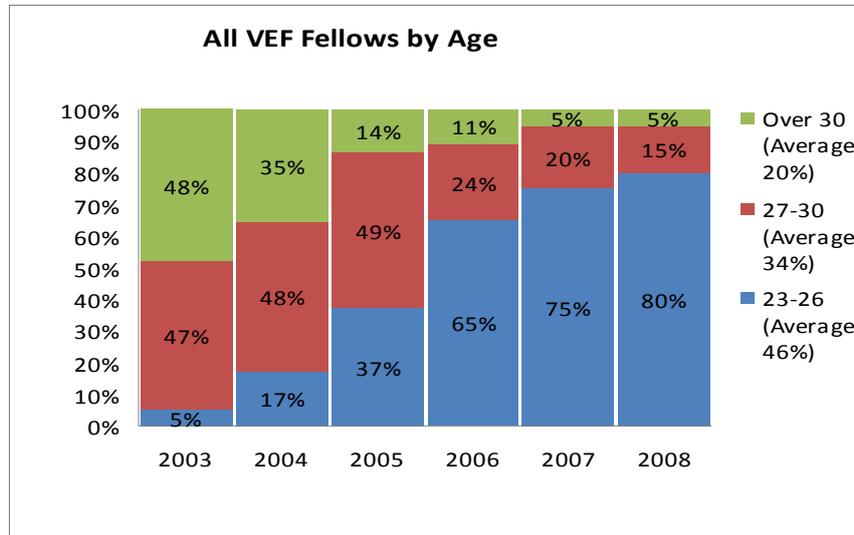


Figure 8. All VEF Fellows by Age

Origin in Vietnam

The various regions in Vietnam can be divided into three basic areas: north, center, and south. To represent the number of Fellows from these areas of Vietnam, an analysis was done of the reported address at the time of an individual's application to the VEF Fellowship, which was defined as their origin. While the distribution has varied from year to year, the overall majority of Fellows (60%) are from the north of Vietnam, followed by 31% from the south and 9% from the central area. However, for the most recent cohort (2008), Fellows from the south of Vietnam comprise the majority (58%) of the 2008 cohort. (Fig. 9)

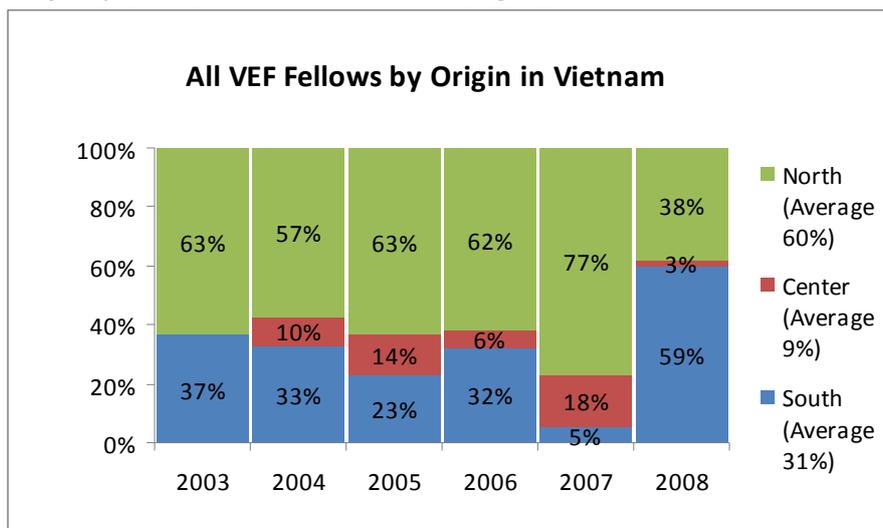


Figure 9. All VEF Fellows by Origin in Vietnam

Number of Publications per Year

VEF Fellows have achieved laudable results in terms of professional publications. While the majority of publications consist of conference proceedings and book chapters, which are labeled as *Other* in Figure 10, publications by VEF Fellows in peer-reviewed journals (*Journals*) have increased significantly from 1 in 2004 to 23 in the first six months of 2008. In general, the first six months of 2008 witnessed a surge in the number of total publications (57), already surpassing the total number of publications (45) for the entire year of 2007. Overall, the number of publications has been increasing steadily each year since 2004. (Fig. 10)

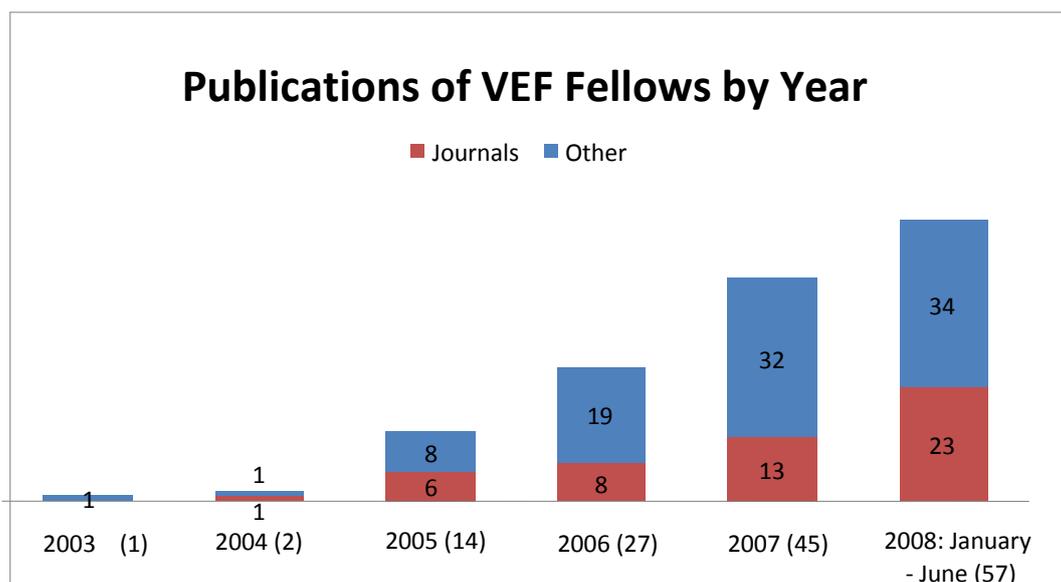


Figure 10. Publications of VEF Fellows by Year

VEF Fellows and Scholars Association

VEF has assisted the Fellows to organize the VEF Fellows and Scholars Association (VEFFA) as an independent entity. VEFFA is a forum for Fellows and Visiting Scholars to communicate and network while developing self-governing skills. A recent VEFFA initiative is the Vietnam Book Drive, a campaign to collect textbooks and research materials donated by professors and students from universities across the United States. Resulting from these efforts is the establishment of a library in Vietnam in December 2007, which is dedicated specifically to the VEFFA collection and is located within the Ta Quang Buu Library of Hanoi University of Technology (HUT). The HUT-VEFFA Library offers free access to students and faculty not only at HUT, but also at other universities and research institutes across Vietnam.

VEF Fellowship Graduates

As of September 2008, 42 Fellows have graduated, which represents 16% of all Fellows (42/267) to date. The degrees obtained are as follows: 11 doctorates, 30 master's degrees, and 1 professional degree. The graduates are pursuing various interests, which can be summarized as follows (Fig. 11):

- 64% (27) have returned to Vietnam.
- 31% (13) are in post-graduate Academic Training (AT) in the U.S.
- 5% (2) have continued on to Ph.D. programs in the U.S. with other funding.

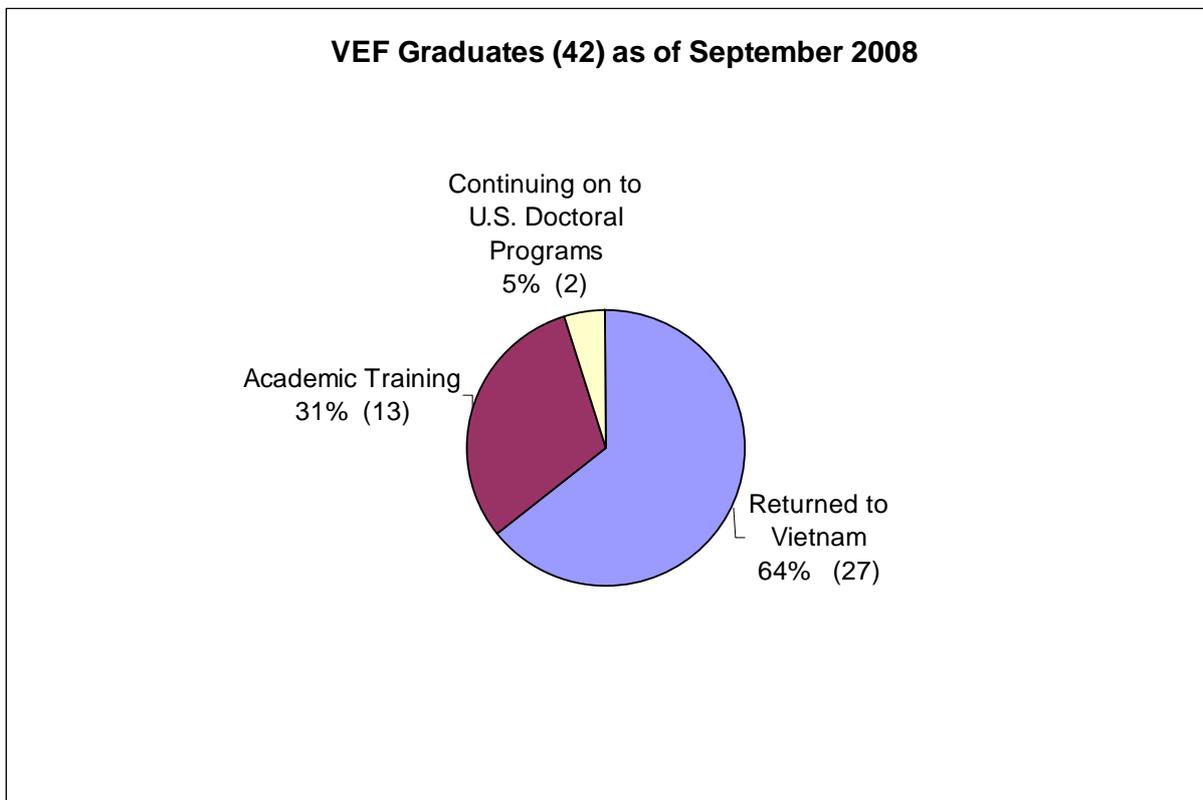


Figure 11. VEF Graduates (42) as of September 2008

The charts and tables below present further data on the Fellowship graduates, which includes the following: fields represented by those who have returned to Vietnam; the types of employment of the returnees, whether in the corporate sector, in the academic sector, or in private enterprise; and the employment and positions of those who are pursuing post-graduate Academic Training.

Fields of VEF Returnees

The two major fields of the 27 VEF Fellows, who have graduated and returned to Vietnam, are computer science and engineering, each comprising 33% of the returnees. Public health ranks next with 19% of the returnees, followed by the comprehensive field of earth, ocean, and atmospheric sciences at 11%, and finally by mathematics at 4% (Fig. 12).

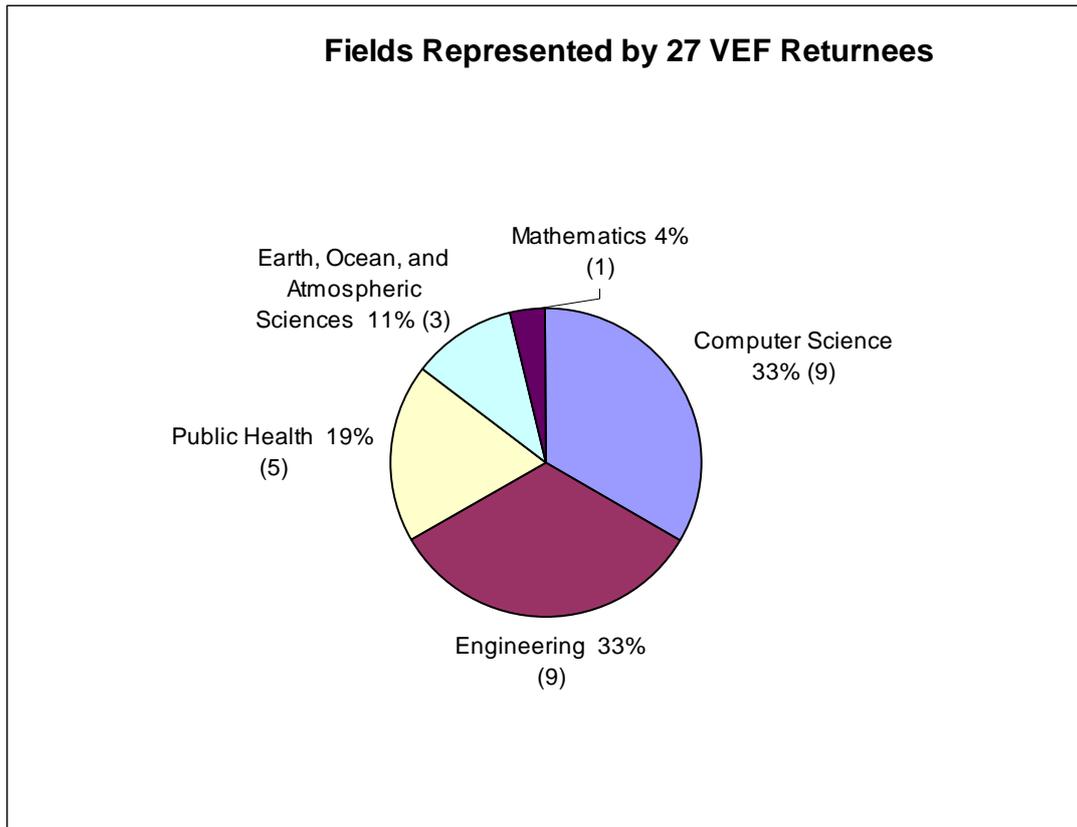


Figure 12. Fields Represented by VEF Returnees

Employment Sectors of Returnees

Three of the 27 returnees have just recently returned to Vietnam and have not yet finalized their employment situation. An analysis of the employment sectors of the remaining 24 shows that the majority of those employed (67%) are working in the corporate sector while 25% are working in academia and 8% are involved in private enterprise (Fig. 13).

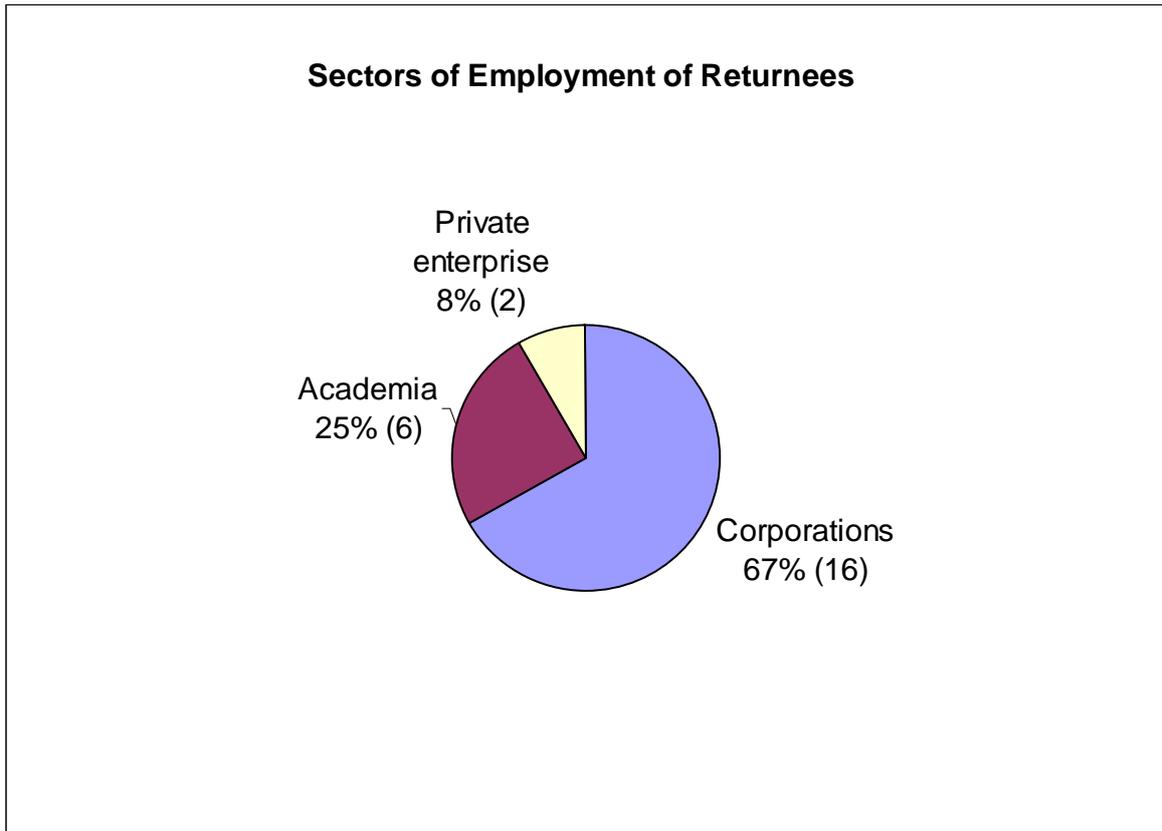


Figure 13. Sectors of Employment of Returnees

The returnees have attained significant positions, as is seen in the tables below, which provide the returnees' affiliations and titles, within three employment sectors: corporate sector, academic sector, and private enterprise. A brief analysis precedes each table to summarize the degrees obtained and the location of employment.

CORPORATE SECTOR EMPLOYMENT

Of those returnees in the corporate sector, totaling 16, the majority (15) obtained a master's degree while one received a Ph.D. in the United States. All are working in companies and corporations in Vietnam, which are listed in the table below in alphabetical order (Table 4). The majority of the VEF Alumni (9) employed in the corporate sector are located in Ho Chi Minh City while fewer (7) are located in Hanoi.

COMPANY/CORPORATION	LOCATION	POSITION TITLE
With a master's degree completed under VEF sponsorship:		
ACNielsen company	Ho Chi Minh City	Measurement Science Assistant
Cisco System Vietnam Ltd.	Hanoi	Technical Consultant
DDP Materials Company Ltd.	Hanoi	Vice Managing Director
Golden Bridge Financial Corporation	Hanoi	Senior Manager
HSBC Bank	Ho Chi Minh City	IT Project Manager
Nortel	Hanoi	Information Systems Manager
PetroVietnam General Services Joint Stock Corporation	Ho Chi Minh City	Chemical/Project Engineer
Saigon Post and Telecommunications Services Corporation, International Relations	Ho Chi Minh City	Project Manager
Technology Resources Vietnam	Ho Chi Minh City	Consultant
Total Building System Ltd.	Hanoi	General Director
Viet Phu Co.	Ho Chi Minh City	Senior Software Engineer
Viet Phu Joint Stock company	Ho Chi Minh City	Software Engineer
Vietnam Report Joint Stock Company	Hanoi	Project Manager
Vinagame	Ho Chi Minh City	Product Manager
VNDirect Securities Corporation	Ho Chi Minh City	Analyst
With a doctoral degree completed under VEF sponsorship:		
PetroVietnam Automation and Information Technology Company	Hanoi	Deputy General Director

Table 4. Corporate Sector Employment of VEF Returnees

ACADEMIC SECTOR EMPLOYMENT

Even though a minority of VEF returnees (25%) is working in the academic sector in Vietnam, they hold impressive positions in leading institutions and organizations as depicted in the table below (Table 5). The majority (4) are located in Hanoi, while one is located in Ho Chi Minh City and one is located in Thai Nguyen. The table is organized alphabetically by the name of the academic institution or organization.

ACADEMIC INSTITUTION/ORGANIZATION	LOCATION	POSITION TITLE
With a master's degree completed under VEF sponsorship:		
Center for Environmental Research and Education	Hanoi	Environmental Scientist
MEASURE Evaluation Project, The University of North Carolina at Chapel Hill	Hanoi	Monitoring & Evaluation Technical Advisor for South East Asia
National Institute of Hygiene and Epidemiology (NIHE)	Hanoi	Research Scientist
With a doctoral degree completed under VEF sponsorship:		
Health Policy Project, University of Queensland	Hanoi	Research Fellow
Institute of Hygiene and Public Health	Ho Chi Minh City	Researcher
Thai Nguyen University, University of Economics and Business Administration	Thai Nguyen	Faculty member

Table 5. Academic Sector Employment of VEF Returnees

PRIVATE ENTERPRISE EMPLOYMENT

Only two VEF returnees, comprising 8% of the total number of returnees, are working in private enterprise, having established their own companies, which are depicted in the table below (Table 6). Both are located in Hanoi.

ORGANIZATION	LOCATION	POSITION TITLE
With a master's degree completed under VEF sponsorship:		
EQuest	Hanoi	Director
With a doctoral degree completed under VEF sponsorship:		
Center for Promotion of Advancement of Society	Hanoi	Vice-Director

Table 6. Private Enterprise Employment of VEF Returnees

ACADEMIC TRAINING

VEF encourages Fellows to pursue Academic Training (AT) during and after degree completion. Providing significant professional experience and opportunities, Academic Training helps VEF Fellows to develop their skills beyond their academic studies and assists Fellows to expand ties with U.S. experts in their field, whether in academia or in other sectors, before returning to Vietnam. The maximum time allowed for AT on a J-1 visa is 18 months for an individual in a master's degree program and 36 months for an individual in a doctoral program. VEF Fellows are required to return to Vietnam for at least two years after completing their academic program, which includes completion of degree work and subsequent Academic Training.

The table below provides in alphabetical order the names of the companies, corporations, and institutions hosting the 13 Fellows, who are pursuing post-graduate AT, and provides their position titles as well (Table 7).

COMPANY/CORPORATION/INSTITUTION	POSITION TITLE
Airvana	Software Engineer
Cazoodle	Lead Software Engineer
University of Michigan, Department of Mechanical Engineering	Research Fellow
ESE Consulting Engineers	Structural Engineer
Fabkom	Computer Programmer
Google	Software Quality Assurance Engineer
Innovative Solutions Consulting	IT Consultant
Jax Kneppers Associates	Construction Consultant
Quantum Dynamic s	Electrical Senior Designer
Ricardo Meda Technical Services/ General Motors Research and Development Center	Materials Engineer/Researcher
Secureworks	Quality Assurance Engineer
Smilebuilderz	General Dentist Associate
Sony Electronics	Senior Engineer

Table 7. Organizations Hosting Fellows Pursuing Post-Degree Academic Training (AT)

Visiting Scholar Program

The VEF Visiting Scholar Program was established in 2007 for Vietnamese nationals, who already hold a doctorate in the fields that VEF supports, including science, mathematics, medicine, engineering, and technology. The Visiting Scholar Program invigorates leadership development in education by helping researchers and educators from Vietnamese academic and

research institutions to improve their professional skills and research knowledge in top-notch U.S. universities. The Visiting Scholar pursues a self-designed program for five to twelve months, which may include formal courses, workshops, seminars, laboratory and field research, and other types of professional development activities. Upon returning to Vietnam, the Visiting Scholar must use the knowledge and skills acquired in the U.S. to train others. Thus, this post-doctoral endeavor has a multiplying effect as a training-of-trainers (TOT) program.

Selection of Visiting Scholar (VS) applicants is highly competitive and based on the following criteria:

- ✓ Academic and professional merit of the candidate
- ✓ Quality of the proposed professional development program
- ✓ Expected outcomes
- ✓ Breadth of the proposed TOT activities upon return to Vietnam
- ✓ Potential of future contributions to Vietnam

Support from the U.S. host institution and the applicant's home institution in Vietnam is expected. All qualified candidates are interviewed by a review panel comprised of VEF senior staff and representatives from the National Academies.

As of the fall 2008, VEF has awarded 19 Visiting Scholar grants. The 2007 cohort consists of 12 Visiting Scholars, of whom eleven have completed their post-doctoral training and have already returned to Vietnam. The 2008 cohort consists of 7 Visiting Scholars, who are expected to finish their post-doctoral program in the United States by September 2009.

A quick sketch of the demographics of the 2007 and 2008 cohorts of Visiting Scholars shows that the Visiting Scholars are almost equally divided between males and females, are primarily from the south of Vietnam, and over the age of 34. Here is a brief summary of both cohorts of Visiting Scholars:

- The primary fields of interest are agricultural sciences, biochemistry and microbiology, and physics.
- The majority of Visiting Scholars are male (53%), while 47% are female.
- Their regions of origin in Vietnam are distributed as follows: 53% from the south, 42% from the north, and 5% from the center part of Vietnam.
- 63% of the Visiting Scholars were/are hosted by U.S. universities in the eastern part of the U.S. while 37% were/are hosted by schools in the western part of the United States.
- The ages of Visiting Scholars range from 27 – 53. The majority are over 34 years of age, with most (53%) falling between the ages of 34 – 40 and the second largest group (42%) falling between the ages of 43 - 53. Only one Visiting Scholar is under 30 at the age of 27.

The VEF Visiting Scholars have achieved encouraging results in terms of publications. A summary of their publications by field of study during 2007 and the first six months of 2008 is presented below (Fig. 14), showing that the major field represented is mechanical engineering, followed by mathematics. Besides journals, other publications include conference proceedings and book chapters.

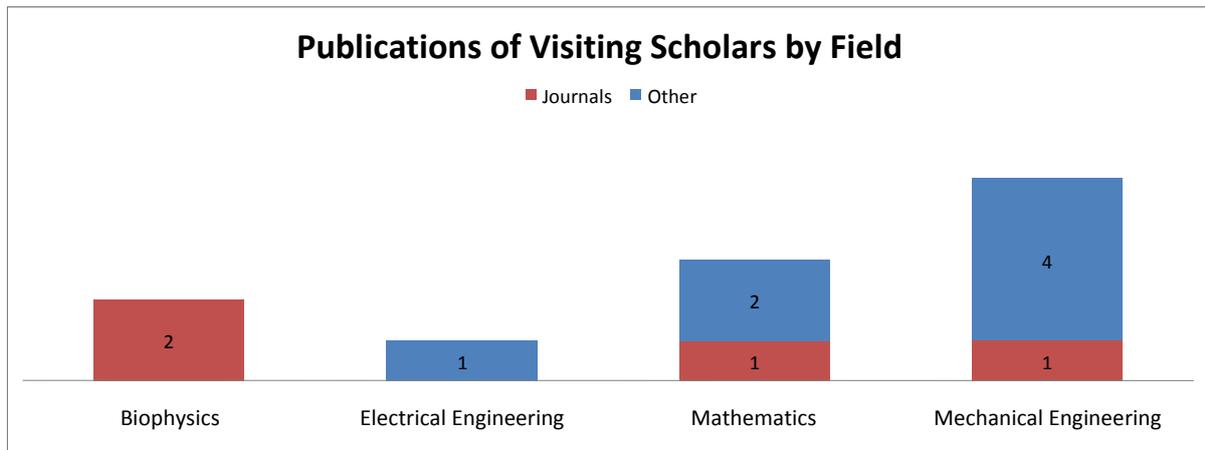


Figure 14. Publications of Visiting Scholars by Field

U.S. Faculty Scholar Grant Program

To meet the requirements of the VEF legislation, the U.S. Faculty Scholar Grant Program was established in late 2007 with three main goals in mind:

1. To help build capacity in Vietnam in science, mathematics, medicine, engineering, and technology through teaching and related research activities.
2. To help Vietnamese institutions address specific educational needs, including curriculum development, integration of research opportunities, identification of student learning outcomes, and evaluation.
3. To build positive relationships between U.S. and Vietnamese higher education institutions and faculty members that may lead to sustainable partnerships.

The U.S. Faculty Scholar teaches courses in English at Vietnamese universities either on site in Vietnam or by interactive, real-time videoconferencing from the U.S. VEF serves as the organizer and co-sponsor for this project, together with the Vietnamese host institutions and the cooperating U.S. institutions. The review and final selection of proposals is conducted by VEF with the assistance of the National Academies and concludes with interviews of the U.S. Faculty Scholar finalists via telephone conference.

The first cohort of U.S. Faculty Scholars, designated as cohort 2008 for the academic year 2008-09, consists of four U.S. professors, each specializing in one of the following fields: Biomedical Engineering; Medicine; Research and Statistics; and Watershed Science, Hydrology, and Erosion. Two of the professors will teach on site in Vietnam and two will teach via videoconferencing. All will conduct their courses during the spring term 2009.

Capacity Building Activities

VEF has developed strategic activities ranging from international conferences, seminars, and workshops to special projects that help build Vietnam's capacity in science, mathematics, medicine, engineering, and technology. As part of the Seminars and Projects Program, VEF has sponsored over 40 scientists, engineers, and experts from more than 35 U.S. institutions to deliver lectures and presentations at over 50 Vietnamese host institutions throughout the country. Each year during the Fellowship interviews in Vietnam, VEF arranges opportunities for the U.S. professors, who are in Vietnam for the reviews, to give lectures in their field at Vietnamese universities.

Furthermore, VEF has been involved in several special projects, including the potential development of Millennium Science Initiative (MSI) Centers of Excellence, the investigation of the prospective establishment of a top-tier university in Vietnam, the development of Vietnam OpenCourseWare (VOCW), and research on the status of higher education in Vietnam. The latter two projects are discussed in more detail below.

Vietnam OpenCourseWare (VOCW)

The Vietnam OpenCourseWare (VOCW) Project was initiated by VEF in December 2005 in cooperation with the Vietnam Ministry of Education and Training (MOET) and the Vietnam Advanced Software Company (VASC). VEF served in the leadership role to develop, and then launch, VOCW for public use in December 2007. The goal is to bring the highest quality, most up-to-date teaching and learning materials from the leading universities in the world to Vietnam for public use via the internet.

VOCW uses the Massachusetts Institute of Technology (MIT) OpenCourseware (OCW) as a framework and Rice University's Connexions software as a development tool. VOCW allows Vietnamese scientists, faculty members, and students to use Open Educational Resources (OER) in their teaching, learning, and research work. In order to promote the adoption of international regulations with regard to authorship, VEF has arranged for the porting of Creative Commons Licenses in Vietnam as an integral part of the VOCW project. Creative Commons is an international organization, whose activities include assistance in establishing ways to protect intellectual property rights of open courseware authors.

Thus far, VEF has installed cache servers at 18 pioneering universities in Vietnam and has set up three data centers in Hanoi, Danang, and Ho Chi Minh City. VEF has worked closely with the Ministry of Science and Technology (MOST), particularly its National Center for Scientific and Technological Information (NACESTI), to use its high speed Internet system, known as VinaREN (Vietnam Research and Education Network), to facilitate quality, efficient internet connections for Vietnamese universities.

To provide well-structured models of courses on VOCW, VEF sponsored three groups of Vietnamese experts to develop teaching materials in the fields of electrical engineering,

computer science, and biotechnology. VEF arranged for U.S. faculty in the specific fields to review the drafts of the materials, providing advice to the Vietnamese course authors before the final product is posted on the VOCW website. VEF also has encouraged VEF Fellows, Visiting Scholars, and U.S. Faculty Scholars to post their work on the VOCW website. Furthermore, VEF organized a public relations campaign to raise the awareness of VOCW in Vietnam by conducting workshops to equip Vietnamese experts with necessary skills and guidelines to design and develop courses for VOCW.

The ultimate goal is for VEF to transfer the knowledge, the model, and the content of the VOCW website to a Vietnamese government or academic entity.

VEF Reports on Higher Education in Vietnam

To contribute to the development of higher education in sciences and technology in Vietnam, VEF sponsored two ground-breaking studies, culminating in the following reports:

1. *Observations on Undergraduate Education in Computer Science, Electrical Engineering, and Physics at Select Universities in Vietnam* (completed in August 2006)
2. *Observations on the Current Status of Education in the Agricultural Sciences in Vietnam* (completed in January 2007)

The reports summarize issues facing higher education in Vietnam and provide extensive recommendations. As a follow-up, VEF organized a workshop in Hanoi in August 2007 to discuss the relevance and feasibility of these recommendations and to identify innovative approaches, pilot projects, and partnerships. As a result, VEF prepared a summary of the outcomes, entitled *Opportunities for Enhancing STEM Education in Vietnam: A Forum for the Discussion of VEF's Reports on Undergraduate and Agricultural Education*. All three reports are available free to the public at the VEF website.

Future Directions

During these first five years of operations from 2003 to 2008, VEF has established an excellent infrastructure as well as effective and efficient procedures for maintaining high-quality operations. With an optimistic future vision, VEF will excel to the next level of operations, focusing on sustainable and high standard activities that will not only serve as a bridge between the U.S. and Vietnamese scientific and educational communities, but will also encompass the corporate and industrial communities of the U.S. and Vietnam.

The goal of VEF, with its small staff and an immense mission, is to leave a profound scientific and technological impact on Vietnam by facilitating partnerships between U.S. and Vietnamese research and educational institutions. VEF will continue to help VEF Fellows and Visiting

Scholars to build their dreams, to transform their dreams into their visions, and finally to bring their visions into action and reality.

VEF will provide ongoing support to the basic sciences, while concentrating on the development of pilot projects, which involve the active participation of VEF Fellows, Visiting Scholars, and researchers and educators in Vietnam. This cooperative effort will demonstrate the necessity and feasibility for Vietnam to develop emerging technologies and sciences, to embrace the concept of interdisciplinary collaboration, and to engage in the indispensable relationship between research, education, and entrepreneurship.

In the future, VEF expects to work not only with MOET to send more Vietnamese nationals to the U.S., but also with MOST to provide incentives for graduates returning to Vietnam. As one step in that direction, VEF is working with MOET's Vietnam International Educational Development (VIED) office, at their request, to transfer to VIED detailed information about the VEF application and selection process and about establishing agreements with U.S. universities. Furthermore, VEF is cooperating with the newly launched Vietnam National Science Foundation (VNSF) on two important initiatives:

- (1) To develop models that will attract returnees to contribute directly to Vietnam in research, education, and entrepreneurship.
- (2) To establish a Think-Tank to help develop visions and strategies to achieve those visions.

VEF will also provide assistance, if requested, in the establishment of a world-class university in Vietnam as VEF has done in the past.

Education is a means to a great end: deeper knowledge, genuine understanding, expanding on the past, and building for the future. VEF Fellows, Visiting Scholars, and Faculty Scholars are contributing enormously to the mutually beneficial relationship between Vietnam and the United States. VEF's efforts, combined with the active involvement of U.S. and Vietnamese scientists, engineers, and experts in the United States and Vietnam, are dynamically building solid connections that bridge the U.S. and Vietnam. These efforts contribute in a very positive way to a bright and productive future for US-Vietnam relations.

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please visit the VEF website: **www.vef.gov**