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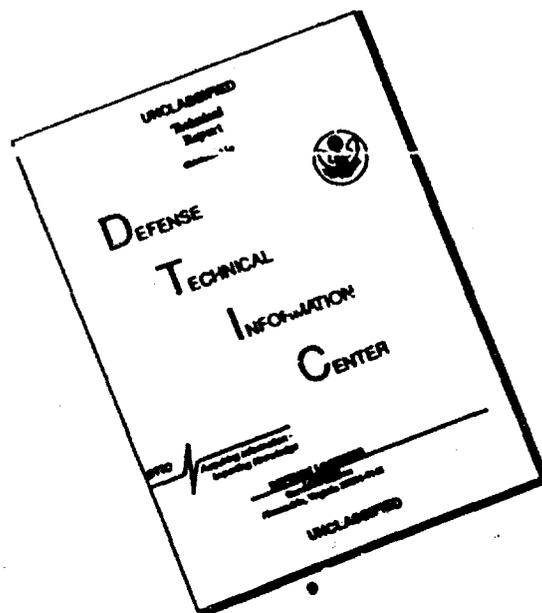


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13. ABSTRACT (Maximum 200 words) The Office of Naval Research awarded grant N00014-90-J-1778 to the American Society for Engineering Education in fiscal year 1990. Under the terms of the grant, ASEE administers ONR's Graduate Fellowship Program. The attached report describes the program for fiscal year 1993. ASEE printed and distributed an announcement of the program to 13,000 individuals and ran full-page advertisements in four journals. It received 955 applications for the 1993 competition. It convened a panel of experts to review the applications and ONR gave fellowships to 40 applicants in 11 different disciplines. The fellowships last 36 months. ASEE maintains the files of all the participants and disburses their stipends and tuition. It also has a fellowship oversight committee. Students attend graduate school full time during the academic year and are encouraged to conduct research at Navy R&D centers during the summer. ASEE headquarters keeps track of the fellows' activities after they complete the fellowship and it gives general guidance concerning income tax. It also reports on minority recruitment, evaluation, selection and performance.			
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AMERICAN SOCIETY FOR ENGINEERING EDUCATION

ONR GRADUATE FELLOWSHIP PROGRAM

GRANT N00014-90-J-1778

GRANT PERIOD: 1 APRIL 1990 - 31 MAY 1994

THIS REPORT PERIOD: 1 OCTOBER 1992 - 30 SEPTEMBER 1993

TWELFTH ANNUAL MANAGEMENT REPORT

Prepared and Submitted by:

Jeffrey P. Jarosz

Program Manager, Projects Department

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## TABLE OF CONTENTS

Title Page	i
Table of Contents	ii
<b><u>Text</u></b>	
1. Introduction	1
2. Promotion, Publicity and Applications for 1993	2
3. Award and Post-Award Administration	4
4. ASEE Program Oversight Committee	6
5. Summer Research Participation at Navy R&D Centers	6
6. Financial Management and Reporting	7
7. Minority Participation	8
8. Tracking of Ex-Fellows	8
9. Banking	10
10. Taxation	10
<b><u>Attachments</u></b>	
A. 1993 program announcement	
B. Research Profiles	
C. History of fellowship program applications	
D. List of 1993 review panelists	
E. Overnight letter to fellowship winners and response form	
F. Detailed appointment letter	
G. Report on applicants who declined the fellowship	
H. Letter to unsuccessful applicants	
I. Letter to department chairmen	
J. Chairman's institutional certification form	
K. Fellows' administration control form	
L. Fellows' summer plan form	
M. Adviser's certification of fellow's progress	
N. Degree plan (required of fellows completing second year)	
O. Memorandum for bursars	
P. List of names of 1993 fellows	
Q. List of names of all fellows funded by ONR in FY93	
R. Minutes of ONR committee meeting	
S. List of members of ONR advisory committee	
T. Report on fellows conducting summer research at Navy laboratories	
U. Letters promoting summer lab program	
V. 1993 financial statements	
W. Report on minority recruitment, evaluation, selection and performance	
X. Letters and forms to ex-fellows	
Y. Data compiled on ex-fellows	
Z. Farewell letter to fellows completing tenure	
AA. Memorandum and form concerning direct deposit of stipends	
BB. Memorandum concerning income tax	

# ASEE



## American Society for Engineering Education

ONR Graduate Fellowship Program

Grant N00014-90-J-1778

Grant period: 1 April 1990 - 31 May 1994

This report period: 1 October 1992 - 30 September 1993

Twelfth Annual Management Report

Submitted and prepared by: Jeffrey P. Jarosz, Program Manager,  
Projects Department

### 1. Introduction

Grant N00014-82-G-0035, as subsequently amended, provided \$3,541,000 for the support of this program from December 1, 1981 through January 31, 1985. Grant N00014-85-J-1084 effective November 1, 1984 through June 30, 1990 provided \$19,865,336.81 for the program. The current grant, N00014-90-J-1778, provides \$20,445,760 for the period 1 April 1990 through 31 May 1994.

This report serves as ASEE's twelfth annual management report as well as the final report for the 1993 program.

The first through the eleventh annual reports covered:

- a) the original program proposal grant award and program preparation
- b) promotion, publicity and applications, and changes made in the second through eleventh years
- c) awards and post-award administration for each of the eleven years
- d) fiscal management and reporting for the entire grant period
- e) progress reports on fellows who completed the program
- f) evaluations and recommendations.

This twelfth annual management report is being submitted as the fourth report under grant N00014-90-J-1778 and the final report for the 1993 program. Based on the information contained in previous reports, it will compare all twelve years of the program and provide more detailed information concerning the following:

- a) promotion, publicity and applications for the twelfth class of fellows
- b) awards and post-award administration for the twelfth class of fellows
- c) evaluation and recommendations
- d) analysis of the minority applications.

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Supplementary documentation is attached as follows:

- A. 1993 program announcement
- B. Magazine article concerning fellows
- C. History of fellowship program applications
- D. List of 1993 review panelists
- E. Overnight letter to fellowship winners and response form
- F. Detailed appointment letter
- G. Report on applicants who declined
- H. Letter to unsuccessful applicants
- I. Letter to department chairmen
- J. Chairman's institutional certification form
- K. Administrative control form
- L. Fellows' summer plan form
- M. Adviser's certification of fellow's progress
- N. Degree plan (required of fellows completing second year)
- O. Memorandum to bursars
- P. List of names of 1993 fellows
- Q. Names of all fellows funded by ONR in FY93
- R. Minutes of ONR committee meeting
- S. ONR advisory committee member appointment letter
- T. Report on fellows conducting summer research at Navy laboratories
- U. Letters promoting summer lab program
- V. 1993 financial statement
- W. Report on minority recruitment, evaluation, selection and performance
- X. Letters and forms to ex-fellows
- Y. Data compiled on ex-fellows
- Z. Farewell letter to fellows completing tenure
- AA. Memorandum and form concerning direct deposit of stipends
- BB. Income tax memorandum

2. Promotion, publicity and applications for the twelfth class of ONR fellows

A 22" X 17" blue, white and gold poster, similar to the one used from 1982 through 1992, was printed in November 1992 and bulk mailed to members of the American Society for Engineering Education (9,335 addresses) and to the members of the American Society for Oceanography and Limnology (2,691 addresses), for a total of 12,026 posters sent by bulk mail.

The 1993 poster had a more solid, centered look than the posters used from 1982 through 1992. It was printed on heavier stock with larger type. The words "United States Navy" were centered and larger, and the two logos were moved up to border those words. The year 1993 was larger and was put in front of the words "Graduate Fellowship Program" rather than the lower left corner.

ASEE received more than 5,000 requests for information and application materials.

Application forms did not change from 1992 to 1993. The three Department of Defense fellowships (NDSEG, ONR, and Air Force Laboratory) co-produced a standard application form. Battelle printed the standard application forms for itself, for ASEE, and for Southeastern Center for Electrical Engineering Education (administrator of the AF Lab Fellowship).

The 17" X 22" ONR program announcement is attachment A.

Full-page, black and white advertisements were placed in the following journals (circulation figures to the right):

ASEE Prism 11,000  
 Black Collegian 100,000  
 MS/PhD 19,000  
 Sea Technology 20,000

The advertisements appeared in the September or October issues. Black Collegian was selected because of its African American readership. Sea Technology was selected because of the Navy's special interest in oceanography, naval architecture, and ocean engineering. Prism was selected because of its pedagogical appeal and its interdisciplinary audience.

In order to avoid duplication of effort, and in order to reduce costs, the administrators of the three DoD fellowships coordinated their 1993 magazine advertisements. Each contractor advertised in four or five journals; and each contractor mentioned the other two programs in its ads.

Advertisements for the ONR Fellowship (with a brief mention of AF Lab and NDSEG) appeared in the four journals listed above.

In addition to the standard one-page advertisements listed above, ASEE submitted a "research profile" to MS/PhD magazine to run opposite the one-page ad. The full-page research profile appeared in the autumn issue and featured four ex-fellows, and the ad was run in color. MS/PhD provided 500 free reprints.

ASEE's announcement of the 1993 program in its own magazine, Prism, consisted of a research profile featuring four ex-fellows (different from the four described in Ms/PhD) opposite an original graphic design. The design and the research profile on the opposite page were united by the words "Study + Research + ONR Fellowship = Success!" Prism also provided reprints.

The additional announcements from MS/PhD and Prism are attachment B.

Applications were received in fields of study as follows:

Electrical engineering	167
Aerospace/mechanical engineering	158
Computer science	103
Biological/biomedical sciences	92
Mathematics	86
Physics	87
Materials science	68
Chemistry	64
Oceanography	62
Cognitive and neural sciences	44
Naval architecture and ocean engineering	24
TOTAL	955

Applicants for the 1993 program included 272 women and 119 representatives of under-represented minorities:

African American	59
Hispanic	45
Pacific Islander	9
American Indian	6

A chart supplying the number of applicants in each discipline and the number of applicants from each minority group from 1982 through 1993 is attachment C.

### 3. Awards and post-award administration

The application review panel for the 1993 program convened at the Dupont Plaza Hotel on February 25, 1993. Attachment D lists the panel members. Out of 88 panelists, 19 were African Americans, five were Orientals, fourteen were women, and three were Hispanic. Twelve panelists were members of the faculties of HBCs, and twelve were ex-ONR fellows. Five panelists travelled from the West Coast in order to participate.

There were 11 evaluation teams, one for each discipline. Each team had a chairperson to report the findings at the end of the day to the ASEE program manager. Each team had one representative from ONR headquarters.

Teams provided a minimum of three independent reviews for each application. Applicants were rated in order of merit based on undergraduate transcripts, three letters of recommendation, goals statement, research experience essay, and GRE scores. ASEE submitted the teams' rankings to ONR for consideration. From these ratings, ONR selected fellows whom ASEE then notified. From 1982 through 1993, ONR has followed the recommendations of the review panels approximately 95% of the time.

The large number of applications was a challenge to the review panels, which were expected to complete their assignment in one day. Three of the panels were required to evaluate more than 100 applications each. In order to facilitate their task, ASEE staff removed the ineligible applications from those three groups. The ONR oversight committee, at its annual meeting the day before the review panel, checked the applications which were judged ineligible by ASEE administrative staff and confirmed their ineligibility. ASEE also provided personal computers and operators to the three large panels in order to expedite the recording of scores.

ASEE notified the winners on March 30, 1993 by overnight letter. The winners were required to accept by telephone and in writing (letter and response form are attachment E). ASEE then mailed each new fellow a detailed appointment letter on April 15, 1993 (attachment F).

Nine out of 40 students declined the fellowship. The only sponsors preferred to ONR were the National Science Foundation and the Howard Hughes Medical Institute. Students supplied three reasons for preferring other fellowships:

1. Prestige. Several good fellowships offer support exclusively in the medical field. They are better known in the medical profession than ONR.
  2. Flexibility. The NSF fellowship is tenable in more disciplines, and some programs permit students to defer.
  3. Finances. Some programs offer support for four or five years.
- A report on the students who declined is attachment G.

Letters notifying the 906 unsuccessful applicants that they were not selected for the fellowship were mailed on March 4, 1993 (attachment H).

To establish an administrative file for each fellow, ASEE sent a letter to the chairman of the department in which the fellow would study. This letter outlined the benefits to the department as well as its obligations (attachment I). The department chairman was requested to complete and return an institutional certification (attachment J).

ASEE acquired the information necessary to insure prompt payment of monthly stipends by sending each fellow an administrative control form (attachment K).

In order to secure fellowship support for the second and third years, students were required to complete a progress form and summer plan (attachment L), and a faculty adviser was asked to certify the student's progress (attachment M). Second-year fellows were also required to submit a degree plan (attachment N).

New fellows were requested to forward a "memorandum to bursar's office" (attachment O) to the appropriate billing office of their institutions. The memorandum authorized the bursar to bill ASEE directly for the student's tuition.

Attachment P lists the 40 fellows appointed by ONR in spring 1993 along with their undergraduate institutions, disciplines, subdisciplines and research interests. Attachment Q lists all 341 graduate fellows funded by ONR in FY93 sorted by university and discipline.

#### 4. ASEE Program Oversight Committee

In accordance with established policy, the chairman of the projects board of ASEE appointed a committee to provide oversight for the ONR fellowship program. Its responsibility is to ensure that ASEE discharge its obligations to ONR, the fellows and their host institutions as specified in the grant and that the program serve the interests of science and engineering in increasing the pool of PhD credentialed professionals.

The committee met on February 24, 1993, the day before the panel review. The meeting was chaired by Professor Alvin Strauss. The minutes of the February 1993 meeting are attachment R.

Committee members now include an African American and a woman.

A list of current committee members constitutes attachment S.

#### 5. Summer research at Navy centers

Fellows are encouraged to spend their summers at Navy laboratories. The number of fellows conducting research during the summer since the beginning of the program is:

1982	-	0
1983	-	10
1984	-	14
1985	-	4
1986	-	16
1987	-	17
1988	-	18
1989	-	22
1990	-	11
1991	-	14
1992	-	18
1993	-	13

In 1993, thirteen fellows conducted research at eight different Navy laboratories. Attachment T provides the names of the 1993 summer researchers, the host laboratories, and the length of

their stay. All levels of the program were represented, from those who just completed their final year of study to those who were just selected in 1993 and had not even entered graduate school yet. The length of summer research averaged 12 weeks. Of the 13 summer participants, two were women, two were African Americans, and one was Hispanic. One fellow participated in lab research for the fourth time.

In order to draw attention to the monetary and professional advantages of the summer lab experience, ASEE headquarters mailed each fellow a list of Navy R&D centers with their current research interests and contact persons; and also mailed each R&D center a database listing all the fellows with their addresses, phone numbers, universities, advisers' names, and detailed descriptions of their research interests. Thus, laboratories were encouraged to contact the fellows, and the fellows were encouraged to contact the laboratories. The letter to the labs and the letter to the fellows are attachment U.

The monetary incentives to participate in summer research at Navy labs were:

1. a higher monthly stipend
2. a subsistence allowance given to each student who needed to relocate
3. travel reimbursement for one round trip, based on actual expenditure with no ceiling
4. the policy of not counting laboratory sojourns as part of the 36 months of tenure to which all ONR fellows are entitled (thus, a fellow may receive 36 months of stipend and tuition at his/her university in addition to four summers at a Navy lab).

#### 6. Financial management and reporting

A grant was awarded to conduct the program from April 1, 1990 through May 31, 1994. ASEE periodically submitted vouchers for advance payment of student support and administrative expenses. These costs, including stipends, tuition and fees, department allowances and participant travel totalled \$5,473,692.64 for the period October 1, 1992 through September 30, 1993. For the total grant period, i.e., April 1, 1990 through September 30, 1993, costs totalled \$16,858,800.54.

By effectively distributing the ASEE headquarters' efforts among all administered projects, ASEE was able to realize effective gains that benefitted all projects. This is reflected in the fact that administrative expenses are substantially below budget.

The number of students on tenure in the autumn of 1992 was 156.

The financial statements for fiscal year 1993 are attachment V.

## 7. Minority participation

ASEE is committed to increasing the participation of under-represented minorities in the engineering profession.

Minority recruitment for the 1982-1984 programs was limited to a special mailing to the presidents and federal liaison officers of the 100 historically black colleges. From 1985 through 1991 ASEE awarded subgrants to minority associations for more active and direct recruitment of qualified African Americans. In 1985 and 1986 the subgrant was awarded to the National Association for Equal Opportunity in Higher Education (NAFEO). In 1987 two subgrants were awarded: one to the Moton Institute and one to the National Association of Minority Engineering Program Administrators (NAMEPA). In 1988 minority recruitment was handled by ONR headquarters' HBC task force headed by Dr. Robert Hailes with support services provided by ASEE. In 1989 and again in 1990 the minority recruitment subgrant was awarded to Mr. Amos Otis of Sobran Inc. In 1991, Dr. William Gambel joined ASEE headquarters staff with the specific mission of recruiting minority participants to the ONR fellowship and other programs.

In order to reach qualified minority applicants to the 1993 fellowship program, ASEE placed full-page advertisements in the September issue of Black Collegian and the autumn issue of MS/PhD. The research profile which ASEE published in MS/PhD opposite its two-color fellowship ad described the careers of four successful fellows: Clara Chan (Oriental), Hugh Crenshaw, Brian Kelley (African American), and Jose Rivero (Hispanic). The research profile included their photographs.

In order to insure fair evaluation of black applicants, the review panel which convened on February 25, 1993 included many black reviewers. Nineteen of the 88 reviewers (21%) were African Americans, and twelve reviewers were members of the faculties of historically black colleges. In addition, the review panels were required to provide written comments on all black and Hispanic applicants receiving a priority rating lower than five. The comments were to explain why the applicants did not receive higher ratings.

In 1993, fifty-nine of the 955 applications (6%) were from black students. An ONR fellowship was offered to one black student.

Attachment W is an analysis of minority recruitment, evaluation, selection and performance.

## 8. Tracking of ex-fellows

ASEE is keenly interested in the careers of those fellows who have successfully completed the ONR fellowship program, although

keeping track of fellows who no longer report to ASEE is a difficult task. The first group of ONR fellows entered on tenure in autumn 1982 and finished in autumn 1986. ASEE has attempted to keep tabs on the ex-fellows since late 1986.

ASEE mails letters to ex-fellows requesting them to complete forms and return them in self-addressed, stamped envelopes. The letter and form are attachment X. ASEE has been able to maintain contact with 90% of the ex-fellows.

As of February 17, 1994, ONR made a total of 548 fellowship appointments under this program: only 62 have withdrawn, 153 are on tenure currently, and 333 have completed it successfully. Two hundred twenty-one (221) have PhDs in hand, and another 22 are expected by the end of calendar year 1994.

Of the 221 PhDs which have already been awarded, 36 are in materials science, 34 are in electrical engineering, and 31 each are in computer science and physics. MIT awarded 37 PhDs, Stanford awarded 27, and the University of Illinois at Urbana-Champaign awarded 12. The largest number of individuals with PhDs have entered private industry (70), but many are faculty members (35) and several are conducting full-time research on postdoctoral fellowships (20).

Attachment Y gives the results of ASEE's tracking effort, a list of the fellows' impressive achievements, and some of their comments concerning the program. Although they reported that they would have entered graduate school even without the ONR fellowship and would have earned the PhD anyway, the financial independence enabled them to reach a much higher professional level.

Fellows who completed the program in FY 1993 received a farewell letter and a form requesting their mailing address, telephone number and short-range plans. The letter encouraged them to keep ASEE informed of their whereabouts. ASEE membership materials were mailed along with the farewell letter, which is attachment Z. ONR headquarters has requested that ASEE inform it of each termination so that its program staff and professional staff can also continue contact.

Fellowship tenure is 36 months, which can be spread out over a 5-year period. Most fellows stay on tenure 12 months a year and complete the program in three calendar years. Some go off tenure for the summer and complete the program in four calendar years. With rare exceptions, the fellows are unable to earn a master's degree and a PhD before ONR funding ends. The form which the students receive at the conclusion of the program asks whether they plan to continue their pursuit of the PhD full time, study part time and work part time, or abandon their pursuit of the PhD. Ninety-three percent of those responding planned to

continue working on their doctorates full time. Only 2.5% planned to study part time and work part time; and 4.5% percent indicated that they would abandon their studies, at least for the time being.

#### 9. Banking

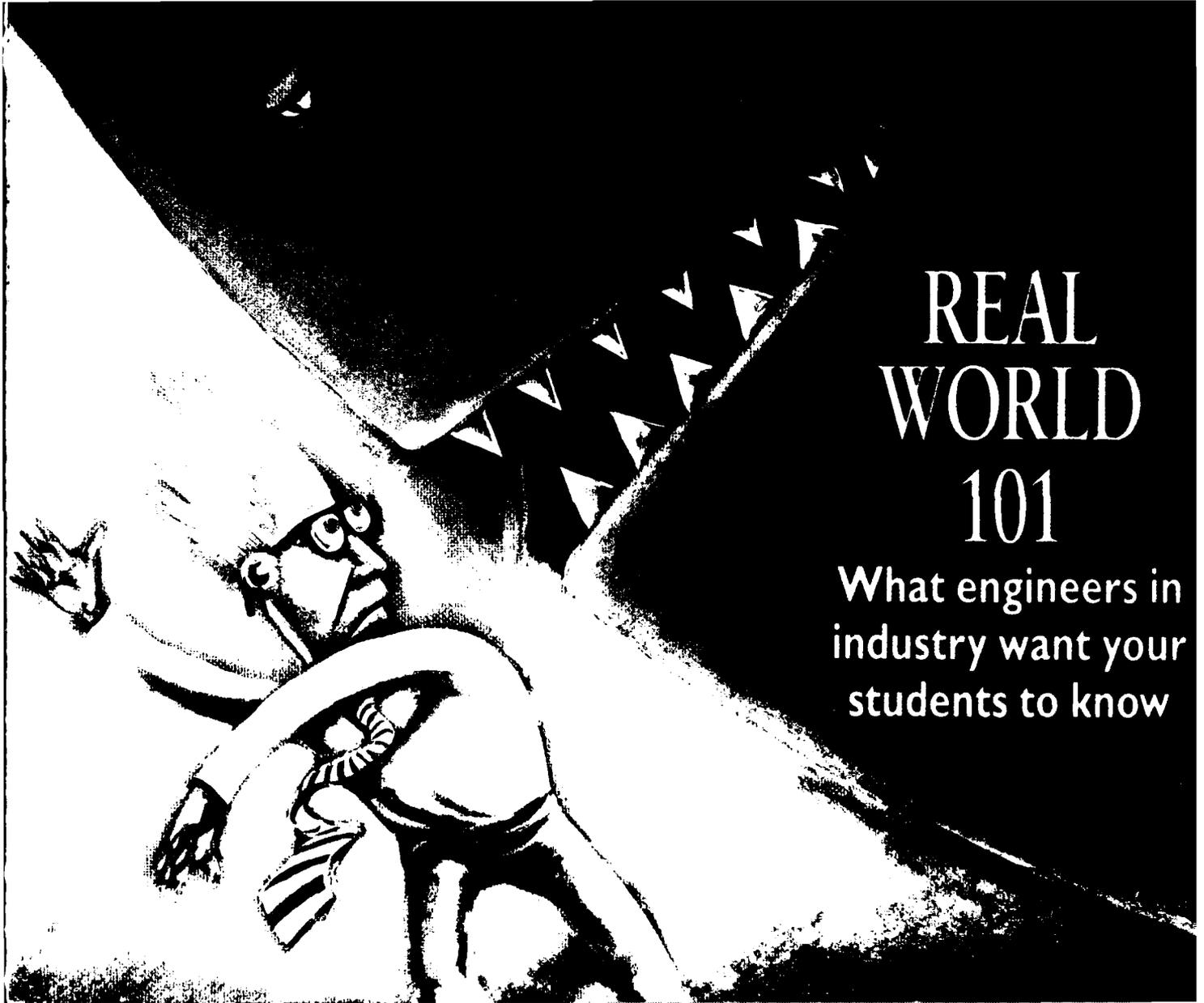
Since September 1990, stipends have been deposited electronically into fellows' bank accounts. Fellows can elect to have stipends deposited into checking or savings accounts. They do not have the option of receiving "live checks". Feedback from the fellows concerning the direct deposit service is uniformly positive. Funds are available to fellows by the first working day of the month, or even the last working day of the previous month. The memorandum mailed to fellows concerning direct deposit and the required authorization agreement are attachment AA.

#### 10. Taxation

Tax laws changed significantly in 1986. Fellowships awarded prior to August 1986 were tax exempt, but fellowships awarded after August 1986 are taxable. The payment of taxes is the responsibility of each fellow.

In January 1993 ASEE mailed each ONR fellow a 1099 form, which recorded the amount of money it disbursed to him/her in 1992. It mailed the same information to IRS.

ASEE can give only general guidance to fellows concerning taxation. However, ASEE staff did some research on the subject and mailed each fellow a memorandum with some information pertinent to the award. The tax memorandum sent to each fellow is attachment BB.



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## THE FORMULA FOR SUCCESS = United States Navy, Office of Naval Research—ONR

A 1993 ONR fellowship can add up to professional success. Since 1982, the Office of Naval Research has awarded 505 fellowships in 11 disciplines. So far, 257 of these fellows have completed Ph.D. programs and are working for private industry, academic institutions or government research laboratories.

ONR fellowships support study and research leading to doctoral degrees in specified engineering and science disciplines. The goal of this program is to increase the supply of U.S. citizens trained in disciplines critical to the U.S. Navy's mission. This year ONR will award as many as fifty 36-month fellowships for study and research at U.S. institutions offering doc-

toral degrees in designated fields.

Participants must be U.S. citizens who have not attended graduate school in science or engineering since receiving their baccalaureate degree. Fellows selected in 1993 will receive \$15,000 for the first year of their tenure, \$16,000 for the second year, and \$17,000 for the third year. ONR will pay the institution full tuition and fees and provide \$2,000 to the fellow's department. The fellowship lasts up to 36 months if the fellow's academic progress is satisfactory.

An ONR fellowship has been a springboard to success for the four achievers profiled here—Bruce Carroll, Philip Scott Coakley, Steven Den-Baars and Monnett Hanvey-Soldo. The next ONR success story could be yours.



## THE ROAD TO SUCCESS

You, too, can give your career a successful head start with a 1993 ONR fellowship. Join the more than 250 ONR fellows who have begun exciting, promising careers in private industry, academic institutions or government research labs.

For application forms and information contact:

### ONR GRADUATE FELLOWSHIP PROGRAM

American Society for  
Engineering Education  
11 Dupont Circle, Suite 200  
Washington, D.C. 20036  
(202) 986-8525

The application deadline is January 15, 1993 and offers of appointment are made April 15, 1993. ONR and ASEE are equal opportunity employers. GRE scores are required (general test only).

# ONR fellowship =

## BRUCE F. CARROLL



Bruce Carroll

The ONR fellowship Bruce was awarded in 1983 helped him successfully complete a Ph.D. in aerospace engineering in 1988. Bruce now is an assistant professor at the University of Florida.

Bruce displayed his potential as a researcher while still an undergraduate. He was a research technician at the Texas A&M Turbomachinery Lab in 1981, numerically solved boundary layers on curved surfaces at the Von Karman Institute for Fluid Dynamics in Belgium in 1982, and developed a design optimization procedure for vapor recovery systems. Since receiving his Ph.D., Bruce has maintained contact with ONR and ASEE. He participated in the Navy-ASEE Summer Faculty Program at the Naval Surface Warfare Center and has served as a review panelist evaluating applications for the ONR fellowship program. Bruce also is the faculty adviser for a current ONR fellow.

After receiving his Ph.D. Bruce wrote: "I give my enthusiastic endorsement of the ONR fellowship. My participation in the program greatly enhanced my graduate school experience."

## STEVEN P. DEN-BAARS



Steve Den-Baars

An ONR fellowship in materials science helped Steven prepare for a successful career in academia. As an undergraduate, Steven had ranked first among 125 seniors at the University of Arizona College of Mines with a cumulative average of 3.99/4.00. As an ONR fellow, Steven spent a summer at the Naval Command, Control and Ocean Surveillance Center in San Diego before graduating with a Ph.D. from the University of Southern California. Steven is now an assistant professor of materials at the University of California at Santa Barbara.

Steven's mentor at NCCOSC reported that "He accomplished an impressive amount of work and operated sophisticated equipment. He felt challenged and enjoyed his experience here. The techniques he developed have been applied to various Navy-sponsored projects. The professionalism with which he conducted himself is well beyond that which we have previously seen in persons of his age and educational level."

Steven has published 12 articles in scientific journals and made half a dozen conference presentations.

## PHILIP SCOTT COAKLEY



Scott Coakley

An ONR fellowship enabled Scott to conduct summer research at what is now the Naval Surface Warfare Center before he received a Ph.D. in naval architecture in spring 1992. Practical experience was an asset when Scott applied for a fellowship in one of ONR's favorite disciplines, naval architecture and ocean engineering. In addition to a 3.8 grade point average at the University of California-Berkeley and out-

standing letters of recommendation, he had worked as a mechanic, electrician, and air conditioning service technician; managed a small business; and optimized containership stowage for Ship Research, Inc.

When his fellowship ended Scott wrote to ONR and ASEE: "Your help has enabled me to devote full time to my studies and kept me in school during a time when financial considerations might otherwise have prompted me to quit school and seek employment. The summer research at David Taylor Naval Ship R&D Center was a valuable and stimulating experience which enriched my graduate career."

## MONNETT HANVEY-SOLDO



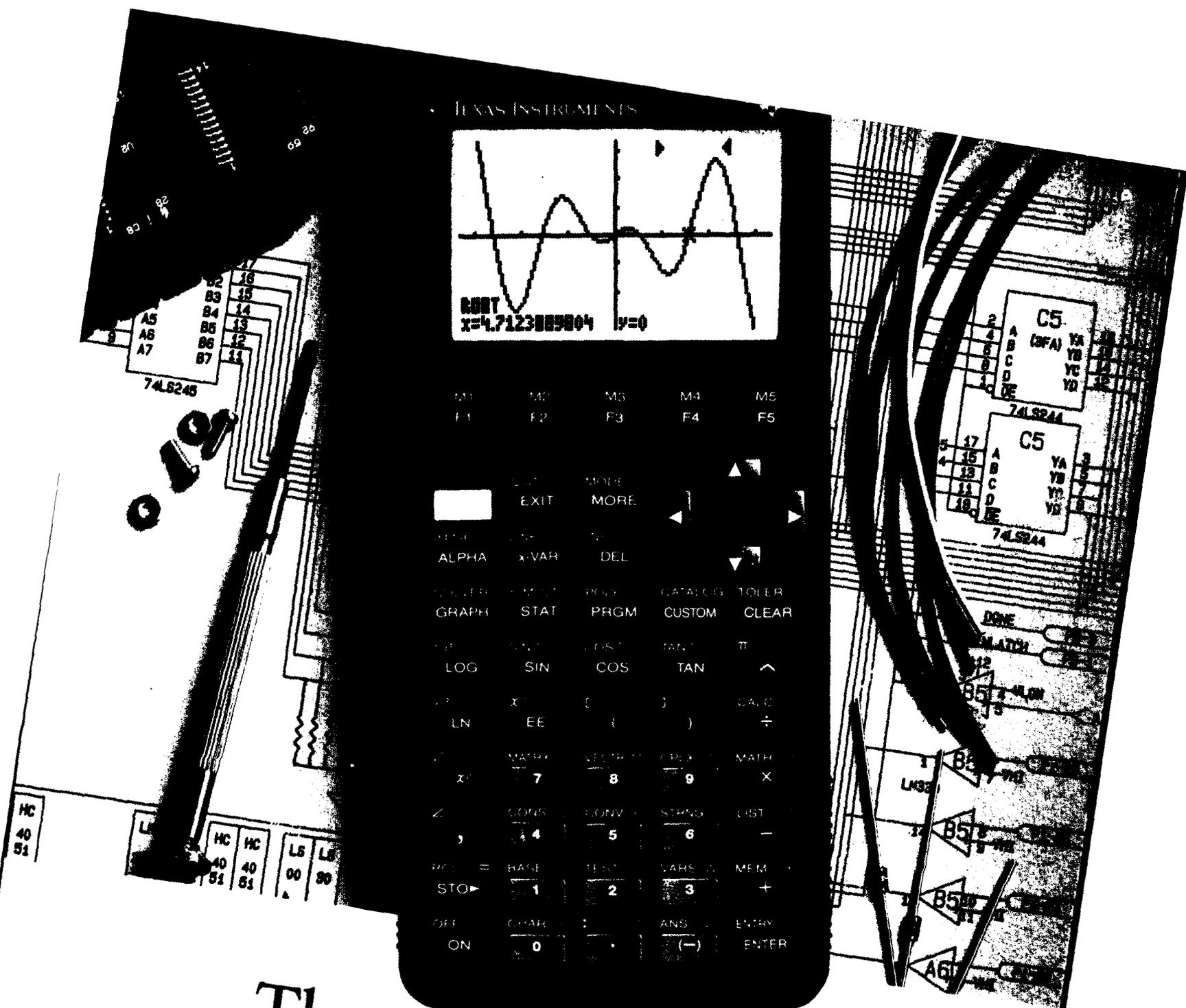
Monnett Hanvey

An ONR fellowship gave Monnett the opportunity to conduct summer research at the Naval Air Warfare Center in Warminster, Pennsylvania, where she worked on the BIRD - Bird's eye Intelligent Reconnaissance Demonstrator. She wrote: "I discovered that I was very interested in some of the work being done at NAWC and that I would enjoy being involved somehow in those projects. My professors were thrilled that I spent the summer there. They felt that my visit might establish an ongoing relationship between NAWC and our whole department."

Monnett's stellar undergraduate performance at Columbia University included a 3.71 grade point average, GRE scores of 700/780/800, and a research project for computing protein conformations that involved a complex interdisciplinary background in math, computer science and molecular biology. She received a Ph.D. in artificial intelligence and robotics. Monnett is currently employed by Advanced Decision Systems in Mountain View, California.

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 **TEXAS INSTRUMENTS**

# OFFICE OF NAVAL RESEARCH

Since 1982, the Office of Naval Research has awarded 505 fellowships in eleven disciplines. So far, 257 fellows have completed PhD programs and are now

working for private industry, academic institutions or government research laboratories. Clara Chan, Hugh Crenshaw, Brian Kelley and José Rivero are successful ONR fellows.

## Focus on Achievement

### Clara S. Chan



Clara S. Chan majored in mathematics at Harvard University. One of her summer projects required her to apply her math skills to devise an algorithm to evaluate a patient's neurological condition based on brainwave responses. The success of that project, plus her grade point average of 3.71 and her Graduate Record Examination scores of 710/800/800 earned her an ONR fellowship in 1987. Between 1987 and 1990 Clara completed a master's degree at the University of Chicago and began PhD research in discrete math at Massachusetts Institute of Technology. "Due to the generous support I received during my first two years at MIT," Clara wrote, "I was able to devote full time to research and submitted my first paper for publication last year. The paper, 'Plane Trees and H-vectors of Shellable Cubical Complexes,' will appear in a journal this autumn. The annual \$2,000 departmental allowance enabled me to travel to professional conferences, including one in Japan. I sincerely appreciate the generous support as well as the program's flexibility." Clara spent the summer of 1991 teaching the linear algebra course at MIT, and received her PhD in June 1992.

### Brian T. Kelley



Brian T. Kelley attended the Baltimore Polytechnic Institute and then majored in electrical engineering at Cornell University, where he maintained a high GPA and served as a math and physics tutor. During the summers he built network analyzers and a micron diffraction grating. He was active in the Cornell chapter of the National Society of Black Engineers, and was inducted into two engineering honor societies. His dean described him as "outstanding" and in 1987 he received the ONR fellowship. Several years of playing chess with an electronic set led Brian to focus on artificial intelligence. "I was fascinated by programs that can consider vast amounts of information, select the applicable data, and combine them. I believe it is possible to design programs which can actually exhibit judgment." Brian entered the Georgia Institute of Technology graduate school in September 1987, earned his master's degree, and began work on his PhD. He anticipates receiving his PhD in December 1992. His thesis title is "Application-specific Integrated Circuits for Seismic Signal Processing." For recreation, Brian enjoys tennis and cycling - and of course, chess.

### Hugh Crenshaw



Hugh Crenshaw was an experienced researcher even before he entered graduate school. As a Thomas J. Watson Fellow in tropical marine and coral reef ecology, he travelled and studied for a year in Australia, the Philippines, and Guam. Using SCUBA and underwater photography Hugh analyzed a nearshore zooplankton community and studied the ecological roles of microzooplankton in reef communities. The research he conducted led to the publication of several papers, and his high-speed films were purchased by the British Broadcasting Company for a program called "The Planet Earth." As an ONR fellow, Hugh enrolled in the zoology department of Duke University, earning a master's degree and a PhD. During his five years as a graduate student he developed a machine to track the motion of free-swimming microorganisms, discovered a single cell orientation mechanism, and wrote four papers for scientific journals. At the conclusion of his tenure he wrote: "All of my accomplishments of the past five years were made possible by my ONR fellowship." Hugh is currently an assistant professor of zoology at Duke University, and ONR is funding his postdoctoral research there on mammalian tissue cells.

### José Rivero



José Rivero has lived most of his life outside the United States - eight years in Puerto Rico, seven years in Guatemala, and one year in Chile. However, he was born in Miami and plans to live in the United States. As a mechanical engineering major at MIT, José was active in the Association of Hispanic Engineers, Society of Manufacturing Engineers, Tau Beta Pi, and Pi Tau Sigma. During the academic year he worked in the Artificial Intelligence Laboratory designing parts for robot assembly. "Robots will play a crucial role in increasing the productivity of our country in order to maintain a competitive position," José wrote, and he spent his summers in the advanced manufacturing technology department of a digital equipment firm where he designed and built a servo-positioner for a robot. He managed to be ranked in the top 4% of his class, and also found time for skiing, hunting, tennis, golf, and varsity squash. José took his ONR fellowship to the production and operations department of Harvard University and received his PhD in autumn 1992. His thesis title was: "A Structured Approach to the Development and Implementation of Advanced Manufacturing Technologies."

special interest in oceanography, naval architecture, and ocean engineering. Prism was selected because of its pedagogical appeal and its interdisciplinary audience.

In order to avoid duplication of effort, and in order to reduce costs, the administrators of the three DoD fellowships coordinated their 1993 magazine advertisements. Each contractor advertised in four or five journals; and each contractor mentioned the other two programs in its ads.

Advertisements for the ONR Fellowship (with a brief mention of AF Lab and NDSEG) appeared in the four journals listed above.

In addition to the standard one-page advertisements listed above, ASEE submitted a "research profile" to MS/PhD magazine to run opposite the one-page ad. The full-page research profile appeared in the autumn issue and featured four ex-fellows, and the ad was run in color. MS/PhD provided 500 free reprints.

ASEE's announcement of the 1993 program in its own magazine, Prism, consisted of a research profile featuring four ex-fellows (different from the four described in Ms/PhD) opposite an original graphic design. The design and the research profile on the opposite page were united by the words "Study + Research + ONR Fellowship = Success!" Prism also provided reprints.

The additional announcements from MS/PhD and Prism are attachment B.

B



UNITED STATES NAVY

Office of Naval Research

GRADUATE FELLOWSHIP PROGRAM

1993



A



**UNIT**

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**UNITED STATES NAVY**

©

# IPR

NAVY



**Office of Naval Research  
Graduate Fellowship  
Program Starting  
In the Academic Year  
1993-1994**

As one means of increasing the supply of U.S. citizens trained in disciplines of science and engineering critical to the U.S. Navy, the Office of Naval Research (ONR) plans to award as many as 50 new three-year fellowships to recent outstanding graduates to support study and research leading to doctoral degrees in specified disciplines.

Twenty-two ONR Graduate Fellowships awarded in 1993 will be for study and research in the eleven major disciplines listed. Disciplines of particular importance to current and future naval technology are listed under the eleven major disciplines. Preference will be given to applicants who indicate an intention to pursue continuous study and research leading to a doctoral degree in, or closely related to, one of these specialties.

**Electrical Engineering**

Integrated Circuit Design and Fabrication  
Communications  
Solid State Devices  
Electromagnetics  
Signal Processing  
Quantum Electronics

**Mathematics**

Applied Mathematics  
Mathematical Statistics  
Discrete Mathematics  
Computational Mathematics

**Physics**

Laser Physics and Quantum Optics  
Surface Physics  
Physical Acoustics  
Underwater Acoustics  
Opto-Electronics  
Atomic and Molecular Physics  
Plasma Physics

**Chemistry**

Polymer Chemistry  
Solid State Chemistry  
Surface Chemistry  
Organic/Organometallic Chemistry  
Electrochemistry

**Computer Science**

Systems

Artificial Intelligence  
Algorithms and Software  
Architecture  
Robotics  
Manufacturing

**Materials Science**

Processing Science  
Composites and Fibrous Materials  
Optical, Electrical, and Magnetic Materials  
Corrosion and Interfacial Science  
Welding and Adhesion  
Energetic Materials Synthesis  
Mechanical Behavior of Advanced Materials

**Aerospace/Mechanical Engineering**

Fluid Dynamics  
Computational Mechanics  
Energy Conversion  
Solid Mechanics  
Manufacturing Engineering  
Structural Mechanics  
Structural Acoustics  
Precision Engineering

**Biological/Biomedical Sciences**

Bionomers, Biomaterials  
Molecular Biology  
Cell Biology  
Sensory Systems

**Cognitive and Sciences**

Computational Cognitive Science  
Human Engineering

**Naval Architecture and Ocean Engineering**

Ship Structures  
Off-shore Platform  
Off-shore Engineering  
Marine Structures

**Secretary of Fellowships Oceanography**

Acoustic Oceanography  
Marine Mammals  
Oceanic Atmosphere  
Oceanic Geology  
Fisheries

To highlight the Secretary of Fellowships Oceanography graduate education in this field, the fellowships are administered by the Secretary of Fellowships Oceanography and administered by the Secretary of Fellowships Oceanography and the ONR.

# 1993 GRADUA

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**Eligibility**

ONR Graduate Fellowships are limited to citizens of the United States. Eligibility is further limited to those individuals who have not attended graduate school in science or engineering since receiving their baccalaureate degree.

**Applications**

**Location of Work**

ONR Graduate Fellowships are available at United States institutions of higher education of bona fide research in the field of science and engineering disciplines.

**Tenure**

The tenure of an ONR Fellowship is 24 months over five calendar years with the following arrangement: ten-

ure must begin no later than nine months after Fellowship award date unless other bona fide support for academic tenure (e.g., Fulbright Scholarship) is available for the first academic year following graduation. In that case, the ONR Fellowship must begin directly following the alternative one-year support. In no other case may fellowship support begin later than nine months after award date.

Subsequent fellowship support in both cases (immediate or delayed entry to the ONR program) will be available within the four-year period following the first year of fellowship support. Students are encouraged, however, to pursue Ph.D.'s during 36 months of consecutive study. Fellows who remain on tenure during the summer and attend institutions having no formal summer sessions must make institutionally approved arrangements for supervised study or research toward their doctoral degree during that period.

ONR Graduate Fellows are encouraged to continue their studies in the summer in Navy laboratories. The Office of Na-

val Research will work with the Fellows and their advisors to facilitate these arrangements which are described below.

The continuing availability of a 36-month award is contingent upon certification to ONR by the institution that satisfactory progress toward a doctoral degree is being made by the Fellow. Fellows must be eligible to accept both tuition and the full stipend.

**Stipends and Education Expenses**

ONR Graduate Fellows selected in 1993 will receive stipends as follows: \$15,000 for the first 12 months of tenure; \$16,000 for the next 12 months; \$17,000 for the final 12 months. There are no dependency or travel allowances (except those travel allowances for summer studies at Navy laboratories as described below).

In addition to stipends, ONR will pay the Fellow's institution full tuition and required fees (not to include room and board) and provide \$2,000 per year to the Fellow's department.

Additional allowances for

handicapped  
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quired education

**Summers at Laboratories**

ONR Fellows are encouraged to continue and research in Navy laboratories. Unique opportunities are available to participate in dynamic R&D environments. ONR will raise monthly stipends during the summer at Navy laboratories. ONR will pay the cost of travel to the laboratory and allowance should a move be necessary. ONR will pay for three-day visits by the Fellow's family. ONR will pay for the cost of the summer of the current year of the current opportunities and allowances for research in Navy laboratories.

**Evaluation**

ONR Graduate Fellows are awarded a stipend for their ability. The ev-

# GRADUATE FELLOWSHIP

**Society for Engineering Education for the Office of Naval Research**  
**Application Deadline: 20 January 1993**

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**Education**

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quired educational expenses

**Summers at Navy Laboratories**

ONR Fellows are encour-  
aged to continue their studies  
and research in the summer at a  
Navy laboratory. This affords a  
unique opportunity not only to  
view but to participate in a dy-  
namic R&D environment. For  
students who elect this option  
ONR will raise the Fellow's  
monthly stipend to \$2,000 dur-  
ing the summer while at a Navy  
laboratory. ONR will also pay  
the cost of travel to and from the  
laboratory and a subsistence al-  
lowance should a geographic  
move be necessary. In addition,  
ONR will pay the cost of a  
three day visit to the laboratory  
by the Fellow's faculty advisor.  
Fellows will be notified each  
year of the current summer op-  
portunities and special allow-  
ances for research at Navy  
laboratories.

**Evaluation and Selection**

ONR Graduate Fellowships  
are awarded on the basis of  
ability. The evaluation of appli-

cants will be based on all avail-  
able evidence of ability, includ-  
ing academic records, the  
Graduate Record Examination,  
and recommendations regard-  
ing each applicant's qualifica-  
tions.

Each applicant's qualifica-  
tions will be reviewed by panels  
of scientists and engineers se-  
lected by ONR and the Ameri-  
can Society for Engineering  
Education, which administers  
the program. Final selection of  
awardees will be made by  
ONR. Bestowal of these fellow-  
ships is contingent upon admis-  
sion to a suitable course of  
graduate study.

**Conditions of Appointment**

Fellows will be required to  
enroll in full time programs  
leading to doctoral degrees in  
the selected fields. Such a pro-  
gram may include a reasonable  
amount of teaching or similar  
activities as are, in the advisor's  
opinion, contributory to the  
Fellow's academic progress.  
Scholarly development of Fel-  
lows' service to affiliated in-  
stitutions will govern the assign-  
ment of these activities.

After an award is made, a  
major change in course study or  
institution by a Fellow requires  
prior ONR approval.

Fellows will be required to  
furnish complete information to  
the awarding agency regarding  
any invention first conceived or  
reduced to practice and for  
which a patent application may  
be filed.

**Application Materials**

Application materials may  
be obtained from the American  
Society for Engineering Educa-  
tion (ASEE), 11 Dupont Circle,  
Suite 200, Washington, DC  
20036. Telephone: (202) 986-  
8525 or (202) 986-8500.

**Applications and Award Dates**

The deadline for filing appli-  
cations for ONR Graduate Fel-  
lowships with the ASEE is Janu-  
ary 20, 1993. All inquiries  
concerning applications should  
be directed to ASEE at the ad-  
dress or telephone numbers  
shown.

All applicants will be notified  
by letter, at their reported per-  
manent address, of the outcome  
of their applications about April  
15, 1993.

# SHIP PROGRAM

for the Office of Naval Research

93





## American Society for Engineering Education

11 Dupont Circle, Suite 200 • Washington, D.C. • 20036-1207 • Tele: (202) 986-8500 • Fax: (202) 265-8504

### ONR FELLOWSHIP REVIEW PANEL FEBRUARY 25, 1993

DUPONT PLAZA HOTEL, WASHINGTON, D.C.

#### Electrical Engineering - Embassy A

Winser Alexander, North Carolina State University\*  
Gijs Bosman, University of Florida  
Chi Chen, University of Massachusetts-Dartmouth  
Eugene Chenette, University of Florida  
Charles Close, Rensselaer Polytechnic Institute  
Tepper Gill, Howard University  
Gary Harris, Howard University  
Micha Hohenberger, Temple University  
William Hornfeck, Lafayette College  
Shieh Hsieh, Tulane University  
Noe López-Benítez, Louisiana Tech University  
Brian Sauk, Carnegie Group  
Geoffrey Silberman, Johns Hopkins University  
Valerie Taylor, Northwestern University  
ONR Representative - *GEORGE WRIGHT*

#### Aerospace/Mechanical Engineering - Dupont III

Leland Carlson, Texas A&M University  
Bruce Carroll, University of Florida  
Ephraim García, Vanderbilt University  
Emmanuel Glapke, Howard University  
Billy Koen, University of Texas-Austin\*  
Mark Lewis, University of Maryland  
Reginald Mitchiner, Virginia Polytechnic Institute  
Dean Mook, Virginia Polytechnic Institute  
Thomas Mueller, University of Notre Dame  
Paul Parker, University of Illinois at Urbana  
Robert Steidel, University of California-Berkeley  
Lewis Thigpen, Howard University  
Bev Watford, Virginia Polytechnic Institute  
ONR Representative - *NOSHDY BARSDUW*

#### Computer Science - Capital Room

Ambrose Goicoechea, Statcom  
Robert Goldberg, Queens College  
Monnett Hanvey-Soldo, Advanced Decision Systems  
Herman Hughes, Michigan State University  
Mitchell Marcus, University of Pennsylvania  
Hans Oser, National Research Council  
Alvin Strauss, Vanderbilt University\*  
Nellouise Watkins, Bennett College  
ONR Representative - *GARY KOOB*

Biological/Biomedical Sciences - Dupont I

Carolyn Cousin, University of the District of Columbia  
Vito DelVecchio, University of Scranton  
Richard Frisque, Pennsylvania State University\*  
Betty Jones, Morris Brown College  
Pierre Morrell, University of North Carolina  
Tracy Romano, University of Rochester  
George Royal, Howard University  
Milton Stetsin, University of Delaware  
ONR Representative - *DAK COSTA*

Mathematics - Executive Room

Gerald Chachere, Howard University  
Carole Goodson, University of Houston  
Charles Haines, Rochester Institute of Technology  
Stacy Hill, Johns Hopkins University  
Richard Palais, Brandeis University  
John Schmeelk, Virginia Commonwealth University\*  
Robert Sidman, University of Southwestern Louisiana  
ONR Representative - *NEIL GERL*

Physics - Dupont II

Agda Cohen, National Nuclear Data Center  
John Gruber, San Jose State University  
Larry Halliburton, West Virginia University  
William Lehmann, University of New Mexico\*  
Arlene Maclin, Hampton University  
Larry Mattix, Norfolk State University  
Herbert Uberall, Catholic University  
ONR Representative - *RICHARD BRANOT*

Materials Science - Board Room

James Clum, University of New York at Binghamton\*  
Brian Damkroger, Sandia National Laboratories  
Chrysanthe Demetry-Terwilliger, Massachusetts Institute of Technology  
Ronald Gordon, Virginia Polytechnic Institute  
Ellice Luh, W. R. Grace & Company  
ONR Representative - *ROBERT POMANKA*

Chemistry - Plaza Room

Walter Drost-Hansen, University of Miami  
Billy Joe Evans, University of Michigan  
Jeffrey Fitzgerald, United States Naval Academy  
Robert Langley, Lincoln University\*  
Lou Massa, Hunter College  
ONR Representative - *RONALD DEMARCO*

Oceanography - Plaza Room

Arthur Nowell, University of Washington

Lawrence Peirson, Woods Hole Oceanographic Institution\*

Glen Shen, University of Washington

Mark Stevenson, Naval Command, Control and Ocean Surveillance Center

Dong-ping Wang, State University of New York at Stony Brook

ONR Representative - LOU CODISPOLI

Cognitive and Neural Sciences - Parlor Suite 418

Maureen Brennan, Lafayette Psychiatric Center

Robert Jensen, Southern Illinois University\*

Lawrence Lewandowski, Syracuse University

ONR Representative - JOEL DAMS

Naval Architecture and Ocean Engineering - Lounge

Scott Coakley, University of California-Berkeley\*

Michele McCollum, Naval Research Laboratory

ONR Representative - THOMAS SWEAN

Chairman - will return applications and decisions to Embassy A at 5:00 PM.



## American Society for Engineering Education

11 Dupont Circle, Suite 200 • Washington, D.C. • 20036-1207 • Tele: (202) 986-8500 • Fax: (202) 265-8504

March 30, 1993

Dear Fellowship Applicant:

Congratulations! You have been selected to receive an Office of Naval Research Graduate Fellowship. The competition was intense - although 953 individuals applied to the program, only 41 awards will be made.

I encourage you to accept this fine opportunity, and I am available to answer any questions you may have about it. You may call me collect at 202-986-8516 between 7:30 AM and 4:00 PM, Eastern Standard Time. If you do not wish to accept, please call me at once so that your slot can be offered to another deserving applicant.

The duration of the fellowship is 36 months. ONR will pay you a stipend of \$15,000 for the first twelve months, \$16,000 for the next twelve months, and \$17,000 for the final twelve months. In addition, it will pay your full tuition and mandatory fees at any US institution offering a doctoral degree in your discipline, and a \$2,000 allowance to your department each year. The opportunity to work at a Navy laboratory during the summer, although optional, is an excellent opportunity to establish research contacts for the future. See the enclosed poster for details. The fellowship does NOT incur a military obligation, or any obligation to work for ONR.

If you wish to accept, you must notify me by telephone on or before Tuesday, April 6, 1993. You must also fill out the enclosed response form and mail it to me in the self-addressed envelope. I must receive the response form on or before Tuesday, April 13, 1993. If you fail to respond by phone and in writing prior to the deadlines, your slot will be offered to an alternate. Try not to wait until the last minute - again, I am standing by to answer your questions.

If you wish to decline, I would appreciate hearing from you by telephone as soon as possible so that I can contact the next person on the list. It would also be helpful if you would fill out the response form and mail it to me in the self-addressed envelope. Your specific reasons for declining the offer will be constructive feedback to ONR and ASEE.

Yours truly,

Jeffrey P. Jarosz  
Program Manager  
Grants and Contracts

enclosures

cc: D. Hughes, ONR

**AMERICAN SOCIETY FOR ENGINEERING EDUCATION**

**ONR GRADUATE FELLOWSHIP**

**RESPONSE FORM**

1. I, \_\_\_\_\_, hereby accept your offer of an Office of Naval Research Graduate Fellowship.

2 I, \_\_\_\_\_, hereby decline your offer of an Office of Naval Research Graduate Fellowship because:

I have decided not to attend graduate school.

I have accepted another fellowship.

Name of other fellowship: \_\_\_\_\_

Reason(s) for selecting other fellowship:

More advantageous financially.

More flexibility.

More prestige.

Notified earlier.

Other, please specify. \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

SIGNATURE: \_\_\_\_\_

DATE: \_\_\_\_\_

DAYTIME TELEPHONE NUMBER: \_\_\_\_\_

Please return this form to Jeff Jarosz, ONR program manager.

ASEE  
1818 N Street NW, Suite 600  
Washington DC 20036

PHONE (202) 331-3525

FAX (202) 265-8504



## American Society for Engineering Education

11 Dupont Circle, Suite 200 • Washington, D.C. • 20036-1207 • Tele: (202) 986-8500 • Fax: (202) 265-8504

April 15, 1993

Mr. Douglas Nowacek  
2289 Stillman Rd.  
Cleveland Heights, OH 44118-3550

Dear Douglas:

Congratulations on your selection as an ONR Graduate Fellow. Your selection was made in the face of heavy competition. You were one of 953 well qualified applicants to receive one of the 40 fellowships awarded.

The American Society for Engineering Education (ASEE) has been charged by ONR with administrative responsibility for this graduate fellowship program. ASEE, founded in 1893, is a non-profit educational association of engineering schools, engineering teachers, and industry and government representatives. The Grants and Contracts Department of ASEE will handle most of the administrative aspects of your fellowship. The administrative burden on you will be very light, but be sure to respond promptly to all administrative requirements. Stipends, tuitions and allowances will be withheld if administrative requirements are not met.

Your fellowship file will be maintained in this office. Always take care to notify ASEE promptly of any changes in your address. Your stipend payments will begin the month you start attending classes and will be paid only for a full month of full-time, degree-related study. The stipend will be transferred electronically to your bank on the first working day of each month. If you begin classes at the end of September, your first stipend will be disbursed at the beginning of October. It would be very advisable, therefore, to report to graduate school with some alternative funds to see you through the first few weeks. If you maintain academic progress and full-time enrollment, you will receive twelve monthly stipends of \$1,250.00, twelve stipends of \$1,333.33, and twelve stipends of \$1,416.66. See the enclosed page titled "Stipends and Banks" for more information concerning your stipends.

Pending receipt of certification that you have been admitted to a graduate program and will begin your tenure under this fellowship on a specified date before January 15, 1994, ASEE will pay your tuition and mandatory fees directly to the institution at which you will study. An allowance of \$2,000 will be given to the department in which you will study, to be used at the discretion of the department chairperson. The allowance will be paid at the end of the academic year, provided you have made satisfactory progress toward your degree, and after three documents have been submitted - a transcript/grade report for the academic year, an adviser's certification form, and a fellow's summer plan form.

The enclosed administrative control form asks for the name and address of your department chairman, to whom an appropriate certification form will be sent for completion and return to

**ASEE.** It may be advisable to check with your department chairperson in order to make certain that he/she has filled out the certification form and returned it to ASEE. No stipends or tuitions will be paid if your chairperson has not certified your enrollment.

Because of its commitment to your professional development, the Navy has offered you research opportunities in its R&D centers for this summer. If you would like to take advantage of this opportunity please contact the laboratory directly in order to arrange a placement. Questions concerning travel reimbursement to/from Navy labs for summer research can be directed to me. A list of some Navy labs with research interests and contact persons is enclosed. Take a good look at this opportunity - it is optional, but I recommend it highly.

The fellowship department of ASEE has a direct telephone number of 202-986-8516. If it is busy you can also dial 202-986-8525.

I would like to know the name of your faculty adviser as soon as you have been assigned to one. If you already have an adviser or know who your adviser will be, please enter this information on the enclosed administrative control form. If you do not yet know who your adviser will be, send me the control form anyway and give me a call when you do know.

I would appreciate the return of the enclosed administrative control form as soon as possible. Please include photographs for use in publicity related to your award. (If photographs are not available right away, do not delay sending back your administrative control form. Photographs may be mailed separately later.)

Also enclosed are a memorandum for registrars and two posters. One poster is for you to read and retain for future reference. The memorandum and second poster should be delivered or mailed by you to the registrar/bursar of your graduate school. This will authorize the registrar or bursar to bill ASEE for your tuition and mandatory fees. Retain a copy of the bursar's memo for your own files, because it will not be sent each year.

You are entitled to 36 months of support (tuition plus stipend) within a five-year period beginning now. It is your responsibility to keep the billing agency of your university informed of your funding status. For example, if you go off ONR tenure during the summer months, you must inform your bursar as well as ASEE. Similarly, if you ever take a leave of absence from the program, you must notify your bursar and ASEE. ASEE will be glad to confirm your funding status by telephone if you or your institution need clarification, but it will not send funding guarantees to your university each semester.

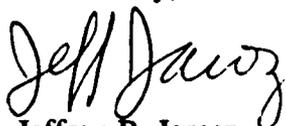
All amounts provided by a fellowship which are used for living expenses or travel must be reported as income. Since the grantor of a fellowship does not withhold tax, fellows must make estimated tax payments. Estimated tax payments can be made annually or quarterly. Consult IRS publication 520 for details.

Also enclosed are two copies of a memorandum concerning patents and inventions. Read the memorandum and retain one copy for future reference. Please sign, date, and return the other copy to me prior to starting your graduate program. At the end of your tenure as an ONR

fellow you will be required to report any inventions to ASEE on the form provided; but for now, sign and return a copy of the memorandum, not the report form.

Douglas, I look forward to making your fellowship tenure a rewarding experience. Most students selected for the ONR program have their choice of several prestigious fellowships. I believe that in accepting ONR's offer, you have made the right choice. A survey of ONR fellows who completed the program which you are now starting revealed an extremely impressive list of publications in archival journals, patents, grants, conference presentations, and other accomplishments. One fellow remarked: "I would have completed a PhD without the ONR fellowship but would not have reached the same professional level if I were faced with the restrictions and constant struggles for funds. It is one of the best sources of graduate funding available. I am proud to have been an ONR fellow."

Yours truly,



Jeffrey P. Jarosz  
Program Manager  
Grants and Contracts

enclosures: Fellowship Administrative Control Form  
Memorandum for Registrar or Bursar  
"Stipends & Banks"  
Authorization Agreement for Direct Deposit  
List of Navy R&D Centers  
Patent Memorandum (2)  
Patent Report Form  
17" X 22" Program Posters (2)

cc: D. Hughes, ONR



## American Society for Engineering Education

11 Dupont Circle, Suite 200 • Washington, D.C. • 20036-1207 • Tele: (202) 986-8500 • Fax: (202) 265-8504

July 15, 1993

Ms. Debbie Hughes  
Code 11D4  
Office of Naval Research  
800 North Quincy Street  
Arlington, Virginia 22217

Dear Debbie:

The following students declined the ONR fellowship in 1993:

Electrical engineering - Douglas Brungart and Donald Sawdai  
Aerospace/mechanical engineering - none  
Computer science - none  
Biological/biomedical sciences - David Chand  
Mathematics - none  
Physics - Peter Kramer  
Materials science - none  
Chemistry - Becky Ficek  
Oceanography - Eli Meir  
Cognitive and neural sciences - Micah Siegel and Nathaniel Urban  
Naval architecture and ocean engineering - Paul Gallagher

Four of the eleven disciplines had 100% acceptance rates. Five of them had one decline apiece. Only two of the disciplines experienced more than one decline: electrical engineering and cognitive/neural sciences (two students declined each discipline).

The percentage of students who decline the ONR fellowship is always under 20%. This year's rate was 19%. Although this year's was slightly higher than last year's (14%), it is consistent with the three years preceding (18% in 1989, 19% in 1990, and 18% in 1991).

Students who declined ONR's offer were requested to supply their candid reasons for choosing a different program. ASEE provided them with a form and a stamped, self-addressed envelope. Two of the eight students chose the National Science Foundation fellowship and two chose the Howard Hughes Medical Institute fellowship. Reasons for choosing other fellowships included: more prestige (four students), more flexibility (three students), and more advantageous financially (three students).

The disciplines which did not obtain 100% of their first choices were EE, biology, physics, chemistry, oceanography, neuroscience, and naval architecture.

Electrical engineering: Over 150 students applied to EE. Douglas Brungart was ONR's first selection but declined with the explanation: "A response was required too soon to properly evaluate all possible options and make a decision." In fact, awards were announced on March 30 and students were required to answer by phone on April 6 and in writing by April 13; thus, they had two weeks to make a decision.

Since all graduate schools require fellows' answers and funding arrangements by April 15, one could speculate that Mr. Brungart was anticipating a lucrative job offer from the private sector. In any case, ASEE cannot hold slots open indefinitely while there are deserving alternates. ONR's second choice in EE, Donald Sawdai, opted for the NSF fellowship, giving the reason "more prestige".

Biological/biomedical science: David Chand received the Whitaker Fellowship for Graduate Studies in Biomedical Engineering. He cited the reasons "more prestige" and "notified earlier".

Physics: Peter Kramer expressed gratitude for ONR's offer ("I was very pleasantly surprised."). However, he chose the Hertz Foundation fellowship, explaining that it would support him for four years @\$16,000. ONR's program is for three years. He also checked the reason "more prestige".

Chemistry: Becky Ficek accepted an NSF fellowship, giving the reason "more prestige".

Oceanography: Oceanography students never decline the ONR fellowship, because there is no corresponding private sector. Therefore, Eli Meir's declination is surprising. However, he did accept the fellowship initially. The problem was that he was interested in marine biology and neurobiology, and decided that he was more interested in the neurobiological side. He asked if his award could be used for neurobiological research. Although the ONR fellowship is tenable in both oceanography and cognitive/neural sciences, ONR's priorities are not the same for the two disciplines. Furthermore, he competed in oceanography and was not evaluated by neuroscientists. Thus, his award in oceanography was not transferrable to cognitive/neural sciences.

Cognitive and neural sciences: Micah Siegel was grateful for ONR's offer, but wanted to defer it. His reason for deferral was NOT the Fulbright or Churchill Scholarships. He therefore took his other option, the Howard Hughes Medical Institute Fellowship, checking the reasons "more advantageous financially - five years" and "more flexibility - could be deferred". The same two reasons were supplied by Nathaniel Urban, who also chose the Howard Hughes fellowship.

Naval architecture and ocean engineering: Only two applicants were selected for fellowships in this discipline, and the number one choice turned it down. Paul Gallagher accepted the MIT Leaders for Manufacturing fellowship. He wrote: "MIT fellowship is program-specific: PhD track not required".

**SUMMARY:** The ONR fellowship has always enjoyed a very high acceptance rate. The percentage of students who declined in 1993 is consistent with that of previous years. ONR's program is so attractive that one might expect even fewer than 19% to decline, but the nationwide competition is so keen that the top applicants in each discipline have their choice of several lucrative fellowships, as well as job offers. Furthermore, the journey toward a master's degree and PhD is arduous, requiring five full calendar years at a minimum, such that some applicants are unwilling to embark on it immediately after college graduation. ONR cannot grant them permission to defer, but certain foundations can.

This year, ONR's only serious competitors in the fellowship business were NSF and the Howard Hughes Medical Institute. There are three reasons why some applicants chose other programs over ONR's:

(1) Prestige. There are several good fellowships which offer support exclusively in the medical field: such programs are naturally better known and more prestigious in the medical profession. Likewise, NSF's fellowship is older and makes more awards in a wide variety of disciplines: therefore, it is also better known and more prestigious. NSF's refusal to pay full tuition does not affect the individual fellow, because he/she is not expected to make up the difference. Also, ONR's military association may diminish its prestige in university circles.

(2) Flexibility. Some programs permit students to defer. Others offer a wider range of eligible

disciplines and subdisciplines.

(3) Finances. ONR's stipends are high, but some other programs last four to five years.

The naval architecture/ocean engineering field is so small that there was no suitable alternate to take the place of Paul Gallagher, who declined. In the other seven cases, however, there were very deserving alternates who were thrilled to accept ONR's offer.

Yours truly,

A handwritten signature in black ink, appearing to read "Jeff", written in a cursive style.

Jeffrey P. Jarosz  
Program Manager  
Projects Department

# ASEE



## American Society for Engineering Education

March 4, 1993

Dear ONR Fellowship Applicant:

I am sorry for this impersonal notification of the outcome of your application for an ONR Graduate Fellowship. I am not unmindful of the effort you put into meeting the applicaiton requiriements, but because the 955 well qualified students who responded are anxiously awaiting the results of our selection process, I am resorting to this form letter.

A review panel of 88 experts drawn from universities, Navy laboratories and ONR technical staff convened in Washington, DC on Thursday, February 25, 1993. At least three panelists reviewed and rated each applicaiton. Their ratings were reported to the Office of Naval Research, which then selected the candidates to whom appointments were offered.

The fact that your application was not selected should not discourage you. The competition attracted nothing but outstanding applicants, all well qualified to pursue doctoral studies. Unfortunately, funds are available for only 40 fellowships; therefore, only 4% of the applicants received awards. I hope that you will find other support for graduate school, and that you will persist in your ambition to attain the doctorate.

Sincerely,

Jeffrey P. Jarosz  
Program Manager  
Projects Department

cc: D. Hughes, ONR

1818 N Street, N.W.  
Suite 600  
Washington, D.C. 20036  
Main (202) 331-3500  
Fax (202) 265-8504



## American Society for Engineering Education

11 Dupont Circle, Suite 200 • Washington, D.C. • 20036-1207 • Tele: (202) 986-8500 • Fax: (202) 265-8504

June 15, 1993

Mr. Nathaniel J. Fisch, Chairman  
Department of Astrophysical Sciences  
Princeton University  
Princeton, NJ 08543

Dear Mr. Fisch:

Mr. Bryan H. Fong has been awarded an Office of Naval Research (ONR) Fellowship. According to information supplied by him, he has been admitted to graduate study in your department.

Under the terms of the fellowship, the institution in which the fellow is enrolled for full-time graduate studies is entitled to full tuition payable by ASEE to the institution at the beginning of each semester or quarter. In return for this payment, the institution is expected not to invoice the student for tuition and fees normally charged to students of similar academic standing. In addition, \$2,000 will be paid to the department in which the student is pursuing his/her degree payable at the end of the academic year, provided the student has made satisfactory academic progress.

Enclosed is a brief certification which should be returned as soon as possible so that the stipends, tuition, and institutional allowance can be paid.

Your attention is called to the enclosed program announcement, particularly the provisions pertaining to tenure and conditions of appointment.

Questions concerning this program may be addressed to me at this special telephone number: 202-986-8516.

Sincerely,

Jeffrey P. Jarosz  
Program Manager  
Projects Department

enclosures

cc: D. Hughes, ONR

**AMERICAN SOCIETY FOR ENGINEERING EDUCATION  
DOD GRADUATE FELLOWSHIP  
INSTITUTIONAL CERTIFICATION**

This is to certify that (Name of DOD Fellow) \_\_\_\_\_  
has been admitted to graduate study in (Department) \_\_\_\_\_  
and will begin, or has begun, his/her studies on (Date) \_\_\_\_\_

Department Chairman Signature: \_\_\_\_\_

Information about academic progress of the DOD Fellow will be provided upon request by:

NAME: \_\_\_\_\_

DEPARTMENT: \_\_\_\_\_

TELEPHONE NUMBER: \_\_\_\_\_

The institutional allowance should be made payable to: \_\_\_\_\_

The institutional allowance should be mailed to: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**NOTE: Please return this form to Jeff Jarosz, DOD program manager.**

**ASEE  
1818 N Street NW, Suite 600  
WASHINGTON DC 20036**

**PHONE (202) 331-3525  
FAX (202) 265-8504**

**AMERICAN SOCIETY FOR ENGINEERING EDUCATION  
DEPARTMENT OF DEFENSE GRADUATE FELLOWSHIP  
FELLOW'S ADMINISTRATIVE CONTROL FORM**

**NAME OF FELLOW:** \_\_\_\_\_

**FELLOWSHIP INSTITUTION:** \_\_\_\_\_

**DEPARTMENT:** \_\_\_\_\_

**DEPARTMENT CHAIRMAN:** \_\_\_\_\_

**DEPARTMENT ADDRESS:** \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

**FACULTY ADVISOR:** \_\_\_\_\_

**ADVISOR'S ADDRESS:** \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

**ADDRESS TO WHICH MONTHLY STIPEND STATEMENTS SHOULD BE SENT:**

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**NOTE:** Please return with this form or separately four glossy, black and white, head and shoulders photographs, preferably not smaller than 3x5 to Jeff Jarosz, DOD program manager.

**ASEE  
1818 N Street NW, Suite 600  
WASHINGTON DC 20036**

**PHONE (202) 331-3525  
FAX (202) 265-8504**



# American Society for Engineering Education

11 Dupont Circle, Suite 200 • Washington, D.C. • 20036-1207 • Tele: (202) 986-8500 • Fax: (202) 265-8504

May 1, 1993

## MEMORANDUM

**TO:** ONR-ASEE Fellows  
ONR-NDSEG Fellows  
DARPA-NDSEG Fellows

**FROM:** Jeff Jarosz, Program Manager, Contracts and Grants

**SUBJECT:** Summer Plans/Certification of Progress

The Department of Defense requires evidence that you are making satisfactory progress in your pursuit of a PhD. Therefore, please arrange for me to receive an official grade report or transcript for academic year 1992-1993.

In addition, I must know what your plans are for this summer. You will recall that stipend payments will continue during the summer only if you are engaged in full-time, degree-related study/research. Kindly complete and return the enclosed form dealing with summer plans.

Please be prompt in providing the information requested. A form will be mailed to your adviser asking him/her to certify your progress. You should check with your adviser to be sure that his/her certification form is returned to ASEE promptly, also. Summer stipends, tuitions and your department's \$2,000 allowance will be withheld pending receipt of these three documents (summer plan form, grade report/transcript, adviser's form).

All three documents are due on June 1, 1993.

In case forms are lost or misplaced, duplicates may be requested. Duplicates will be sent by first class mail only (no faxes).

enclosure

cc: D. Hughes, ONR  
B. Wilcox, DARPA



# American Society for Engineering Education

11 Dupont Circle, Suite 200 • Washington, D.C. • 20036-1207 • Tele: (202) 986-8500 • Fax: (202) 265-8504

## ONR-ASEE FELLOWSHIP ONR-NDSEG FELLOWSHIP DARPA-NDSEG FELLOWSHIP

{ } I do not plan to continue my studies during the summer; therefore, please discontinue my stipend payments during that three-month period.

{ } I plan to remain at the university and continue my studies. The following courses/studies are anticipated:

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{ } I plan to continue my studies at one of the Navy R&D centers and have requested that the program coordinator of the center notify you in writing of my starting and ending dates.

Name of R&D center \_\_\_\_\_

NAME \_\_\_\_\_

SIGNATURE \_\_\_\_\_

DATE \_\_\_\_\_

Kindly return this form to Jeff Jarosz by June 1.

NOTE: If you are flying to a Navy R&D center for summer research, you must purchase the ticket from the Connections travel agency.



M

# American Society for Engineering Education

11 Dupont Circle, Suite 200 • Washington, D.C. • 20036-1207 • Tele: (202) 986-8500 • Fax: (202) 265-8504

May 1, 1993

## MEMORANDUM

To: Advisers of Graduate Fellows Funded by the Department of Defense

From: Jeff Jarosz, Program Manager, Contracts and Grants

Subject: Certification of Progress

Your name has been given to this office as the academic adviser to the PhD candidate identified on the attached form. The Department of Defense has asked that you verify the satisfactory progress of the candidate and indicate the prognosis for future success.

Kindly complete the attached form. This will enable ASEE as the administrator of the fellowship to fulfill its obligations to the fellows and to the Department of Defense.

Thank you in advance for your prompt cooperation (the fellow's June 1 stipend and the department's \$2,000 allowance will be withheld pending receipt of the certification).

enclosure

cc: D. Hughes, ONR  
B. Wilcox, DARPA

# ASEE



## American Society for Engineering Education

### DEPARTMENT OF DEFENSE FELLOWSHIP PROGRAM

#### Adviser's Certification of Progress

1. The above noted PhD candidate is:

progressing behind schedule.

progressing on schedule.

progressing ahead of schedule.

2. The candidate has informed me and I support his/her plans this summer to:

continue his/her full-time, degree-related study/research at this institution.

discontinue his/her study during the summer.

continue his/her study at the following Navy laboratory:  
\_\_\_\_\_

I do NOT support the candidate's summer plans.

3. Comments about the candidate

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NAME \_\_\_\_\_

SIGNATURE \_\_\_\_\_

DATE \_\_\_\_\_

Kindly return this form to Jeff Jarosz by May 18. This once-a-year academic report is required for renewal of the candidate's fellowship.

1818 N Street, N.W.  
Suite 600  
Washington, D.C. 20036  
Main (202) 331-3500  
Fax (202) 265-8504

**AMERICAN SOCIETY FOR ENGINEERING EDUCATION**  
**ONR GRADUATE FELLOWSHIP**  
**DEGREE PLAN**

**THESIS TITLE:** \_\_\_\_\_

**ANTICIPATED COMPLETION DATE FOR ALL DEGREE REQUIREMENTS:** \_\_\_\_\_

**PLEASE OUTLINE THE SCHEDULED COURSES, PAPERS, AND RESEARCH REQUIRED TO COMPLETE YOUR PH.D.**

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**NAME:** \_\_\_\_\_

**SIGNATURE:** \_\_\_\_\_

**DATE:** \_\_\_\_\_

**NOTE: Please return this form to Jeff Jarosz, ONR program manager, within one month.**

**ASEE**  
**1818 N Street NW, Suite 600**  
**WASHINGTON DC 20036**

**PHONE (202) 331-3525**  
**FAX (202) 265-8504**



## American Society for Engineering Education

11 Dupont Circle, Suite 200 • Washington, D.C. • 20036-1207 • Tele: (202) 986-8500 • Fax: (202) 265-8504

April 15, 1993

### MEMORANDUM

**To:** Bursar's Office

**From:** Jeffrey P. Jarosz, Program Manager, Projects Department

**Subject:** Office of Naval Research Fellowship

The person noted below is the recipient of an Office of Naval Research (ONR) Fellowship and has selected your school at which to study for the PhD. The award includes full tuition and mandatory fees normally charged to other graduate students in the same department. Payment of these expenses will be made by the American Society for Engineering Education (ASEE) directly to your institution, provided the fellow is enrolled for full-time, degree-related graduate study or research and maintains satisfactory academic progress.

Please invoice ASEE each semester/quarter/summer rather than for an entire year. A poster, which stipulates the conditions of the fellowship, is attached for your information. Please retain this memorandum in your files - notices will not be sent each semester.

The duration of the fellowship is 36 months. It is the fellow's responsibility to keep track of his/her funding and to keep your office informed of his/her status.

**ONR Fellowship Recipient:**  
Mr. Douglas Nowacek  
2289 Stillman Rd.  
Cleveland Heights, OH 44118-3550

## 1993 ONR FELLOWS

Mr. Robert Irie  
107 Mather Mail Center  
Harvard College  
Cambridge, MA 02138-6175  
617-493-4595

Harvard College

EE: computer and systems engineering. Mobile robot control, space exploration. Developing a four-link, two-finger planar manipulator.

Mr. Andy Lee  
2404 Fulton Avenue #204  
Berkeley, CA 94704  
510-549-1968  
UC Berkeley

EE: solid state devices. Reliability of integrated circuits due to the electromigration of metallic interconnects.

Mr. David Lee  
518 Nesslin Crescent  
Saskatoon, SK  
S7J 4V5  
Canada  
306-373-9081

University of Saskatchewan

EE: digital and optical signal processing. Optical devices used in optical computing: optical switches, lenses, lasers and optical memory disks.

Mr. David August  
2002 Cadwell  
RPI  
Troy, NY 12180-3590  
518-276-4675  
RPI

EE: computer architecture. Neural networks, fault tolerance, operating systems and computer networks. Real-time image processing.

Mr. Mark Stremler  
Box 1274  
5500 Wabash Avenue  
Terre Haute, IN 47803  
812-877-8706  
Rose-Hulman

ME: fluid mechanics. Computational methods and turbulence, thermophysics and heat transfer. Stability of one-dimensional fluid flow in a loop subject to heat flux.

Ms. Cathy Norton  
605 Lehigh Road #A-11  
Newark, DE 19711  
302-368-1739  
University of Delaware

**ME: bioengineering.** Development of artificial organs. Flow configurations under the influence of moving boundary conditions.

**Mr. Matthew Schroeder**  
212 Pencader F  
Newark, DE 19717-7807  
302-837-1269  
University of Delaware

**ME: materials.** Toxic gas removal from enclosed atmospheres. Ignition characteristics of nitrocellulose. Fabrication of advanced thermoplastic composites.

**Ms. Ann Carrithers**  
1200 Hunt Club Road #4300C  
Blacksburg, VA 24060  
703-552-7037  
VPI

**ME.** Robot vision systems. Kinematics and dynamics of machinery. Increasing the capabilities of industrial robots.

**Mr. Jon Kleinberg**  
114 Summit Avenue #25  
Ithaca, NY 14850  
607-273-0945  
Cornell

**Computer science: geometric algorithms.** Robotics and shape resemblance. Asymptotic analysis of algorithms.

**Mr. Robert Bosch**  
290 Massachusetts Avenue  
Cambridge, MA 02139  
617-225-9822  
MIT

**Computer science: architecture.** Creation of practical parallel computer architectures. Computer simulation of fluids.

**Mr. Eugene Hodges**  
11 Friendly Drive  
Box 414  
Raleigh, NC 27607  
919-821-5828  
University of North Carolina

**Computer science: architecture/systems.** Graphical user interfaces. Semiconductors. Cluster tools for single wafer processing.

**Mr. Brian Lent**  
4161 Vivian Court  
Reno, NV 89502  
702-825-4636  
University of Nevada

**Computer science: artificial intelligence, image processing, software systems, parallel computation.**

Computerized target recognition.

Ms. Jennifer Smith  
12 Burton Street  
Arlington, MA 02174  
617-258-5198

Amherst College

Biology: molecular, cellular and developmental biology. Genetic and physical mapping tools in mice. Tumorigenesis in mice.

Mr. Mark Kaplan  
163 Mather Mail Center  
Harvard College  
Cambridge, MA 02138-6175  
617-493-4624

Harvard

Biology: biophysics. Structural determination of cystic fibrosis transmembrane conductance regulator. Structures of macromolecules.

Mr. Daniel Knopf  
3326 West Verona Court  
Milwaukee, WI 53215-4231  
414-672-6005

University of Wisconsin

Math: applied math, differential geometry. Real and complex analysis, algebraic topology, homology theory.

Mr. Kevin Wald  
Mather Mail Center 114  
Harvard University  
Cambridge, MA 02138  
617-493-4590

Harvard

Math: logic. Recursion theory, crossed-product algebra, graphs, discrete probability, random structures, ring theory.

Mr. Thomas Scanlon  
5454 South Shore Drive #732  
Chicago, IL 60615  
312-702-4721

University of Chicago

Math: logic. Recursion theory, model theory, representation theory, definability, set theory. Pointwise ergodic theorem

Mr. Seth Padowitz  
POB 3607  
Brown University  
Providence, RI 02912  
401-863-4347

Brown

Math: algebra. Lie algebras, representation theory, number theory, algebraic topology, elliptic curves.  
Graphics routines to manipulate satellite images.

Mr. Raphael Lehrer  
POB 5808  
Yale Station  
New Haven, CT 06520-5808  
203-436-2930  
Yale

Physics. Nonlinear dynamics on absolute value maps. Signal from galactic supernova: measuring tau neutrino mass.

Ms. Nicole Morgan  
5454 South Shore Drive #615  
Chicago, IL 60615  
312-702-4681  
University of Chicago

Physics: surface physics. High-pressure phase transitions in methane with diamond anvil cell. Pattern selection relating to fractal growth phenomena.

Mr. Kenneth Ricci  
500 Memorial Drive 515  
Cambridge, MA 02139  
617-225-8865  
MIT

Physics: electron beams/plasma. Condensed matter research involving computationally intense modeling. Plasma astrophysics.

Mr. Bryan Fong  
POB 3314  
Yale Station  
New Haven, CT 06520-3314  
203-436-0433  
Yale

Physics: astrophysics, plasma physics. Linear accelerators. G-factor corrections for bound single-electron systems.

Ms. Valerie Benezra  
521 Walnut #9  
Ann Arbor, MI 48104  
313-994-8799  
University of Michigan

Materials science: processing science. Water treatment plants, ion-exchange columns. Salicylate electrodes.

Mr. William Bailey  
173 Lloyd Avenue  
Providence, RI 02906  
302-368-0768  
Brown

**Materials science: electronic materials. High-performance semiconductor devices. Penetration-resistant alloys.**

**Ms. Alice Man  
259 Saint Paul Street  
Brookline, MA 02146  
617-734-9211  
MIT**

**Materials science: polymer processing. Relation between the molecular structures and physical properties of polymers.**

**Ms. Sara Rosenberg  
9 Sunset Road  
Somerville, MA 02144  
617-629-9736  
Tufts**

**Materials science: optical materials used for telecommunication and advanced imaging processes. Models to analyze engine part life and modes of failure.**

**Mr. Richard Ruzczyk  
65 Prospect  
Princeton, NJ 08540  
609-497-0761  
Princeton**

**Chemistry. Scanning tunneling microscopy. Isoprene chemistry. Geometric formulaion of thermodynamics.**

**Mr. Thomas Keating  
449 Kirkland Mail Center  
Cambridge, MA 02138-5912  
617-493-2497  
Harvard**

**Chemistry: organic chemistry. Synthesis and characterization of disulfied cross-linked oligonucleotides. Large-scale synthesis of a convertible nucleoside.**

**Ms. Pamela Mooney  
319 East 17th Avenue #B  
Columbus, OH 43201  
614-299-4237  
Ohio State**

**Chemistry. Synthesis of oxygen-containing ionophore of unusual structural type. Methods for spectral analysis of organic compounds.**

**Mr. Jeremy Myers  
POB 14155  
Stanford, CA 94309  
415-497-2655  
Stanford**

**Chemistry: electrochemical engineering. Energy storage and conversion technology, transport phenomena, reaction kinetics.**

Mr. James Girton  
Swarthmore College  
500 College Avenue  
Swarthmore, PA 19081-1397  
415-457-2647  
Swarthmore

Oceanography: physical oceanography. Analysis of optical beam-transmissometer data from Hawaii Ocean Time-series program.

Ms. Carol Ladd  
4051 Dawn Court  
Boulder, CO 80304  
303-447-0780  
University of Colorado

Oceanography. The role played by the ocean in climate change. Boundary layer turbulence data. Numerical modelling approaches to understanding the ocean.

Ms. Claudia Benitez  
5312 Keystone Place North  
Seattle, Washington 98103  
206-547-4952  
University of Washington

Oceanography: chemical oceanography. Paleological study of radionuclides. Chemical cycling of world's oceans.

Ms. Kirsten Laarkamp  
110 Irvin Hall  
University Park, PA 16802  
814-862-7650  
Penn State

Oceanography: geochemistry. Carbon and nutrient cycling in oceans. Resuspension and remineralization at sediment-water interface.

Mr. Douglas Nowacek  
2289 Stillman Road  
Cleveland Heights, OH 44118-3550  
216-321-4636  
Ohio Wesleyan

Oceanography: biological oceanography. Impact of feral horse migration on soft bottom infaunal community structure.

Lt. Emil Petruncio  
3095 Marina Drive #50  
Marina, CA 93933  
408-384-2838  
USNA

Oceanography. Meteorology and dynamical oceanography. Tidal currents in Monterey Bay. Physical processes affecting coastal circulation.

Mr. Gregory Horwitz  
Box 157  
Mather Mail Center  
Harvard College  
Cambridge, MA 02138  
617-493-4338  
Harvard

Neuroscience: computational neuroscience. Functioning of human brain. Laterality differences in visual mental image generation.

Mr. David Nix  
12 Los Pueblos  
Los Alamos, NM 87544  
505-662-7459  
Stanford

Neuroscience: computer science, artificial intelligence. Language acquisition. Connectionist and hybrid approaches to language parsing.

Mr. Albert Hsia  
84 Oxford Street #2  
Somerville, MA 02143  
617-623-3713  
Harvard

Neuroscience: vision. Oscillations in visual cortex, active vision, AI, cutaneous receptors, adaptive filtering.

Ms. Patricia Kim  
4002 Oaklawn  
Bryan, TX 77801  
409-846-4142  
TXAM

Naval architecture: marine and coastal engineering. Sediment transport, wave mechanics, preventing coastal erosion.

**ONR-FUNDED GRADUATE FELLOWS**  
01/08/93

<b>University</b>	<b>Discipline</b>	<b>Name</b>
-----	-----	-----
Arizona State	ME	Mr. Mark S. Reibert
Boston Univ	industrial engrg	Ms. Mariett Matsushima
Brandeis	math	Ms. Marguerite Eisenstein
Caltech	chemistry	Mr. Bassil I. Dahiyat
Caltech	chemistry	Mr. Pedro J. Pizarro
Caltech	chemistry	Ms. Mary Shepard
Caltech	cognitive/neural	Mr. Thomas M. Annau
Caltech	cognitive/neural	Mr. Michael Harville
Caltech	cognitive/neural	Mr. Gary Holt
Caltech	cognitive/neural	Ms. Emily P. Huang
Caltech	cognitive/neural	Mr. David T. Kewley
Caltech	cognitive/neural	Mr. Michael Wehr
Caltech	EE	Mr. Geoffrey W. Burr
Caltech	EE	Mr. Anthony S. Kewitsch
Caltech	materials sci	Mr. Tab A. Stephens
Caltech	ME	Mr. Eric B. Cummings
Caltech	ME	Mr. Scott D. Kelly
Caltech	ME	Mr. Aaron I. Packman
Caltech	ME	Mr. Shaun Sharif
Carnegie Mellon	cognitive/neural	Ms. Yuko Munakata
Carnegie Mellon	cognitive/neural	Mr. Randall C. O'Reilly
Carnegie Mellon	computer science	Mr. Terry D. Allen
Carnegie Mellon	computer science	Mr. Justin A. Boyan
Carnegie Mellon	computer science	Mr. Andrew K. Lang
Carnegie Mellon	EE	Mr. Frederick M. Seiler
Carnegie Mellon	EE	Mr. Richard M. Voyles
Case Western Reserve	EE	Ms. Shirpual McLaughlin
Columbia	oceanography	Ms. Karen E. Kohfeld
Cornell	chemistry	Ms. Shelly Burnside
Cornell	computer science	Mr. James W. Durkin
Cornell	computer science	Mr. Edward M. Fischer
Cornell	computer science	Ms. Amy R. Greenwald
Cornell	EE	Mr. Duane B. Barber
Cornell	EE	Mr. Joseph C. Jacob
Cornell	industrial engrg	Ms. Lisa Fleischer
Cornell	industrial engrg	Ms. Beth L. Nyerges
Cornell	industrial engrg	Mr. Scott Smedira
Cornell	materials sci	Mr. William B. Mattingly
Cornell	materials sci	Mr. Oliver K. Tse
Cornell	materials sci	Mr. Richard A. Vaia
Cornell	math	Ms. Debra L. Boutin
Cornell	math	Mr. Richard A. Levine
Cornell	physics	Mr. Scott A. Miller
Cornell	math	Mr. Geoffrey M. Davis
Courant Institute	bio	Ms. Margaret G. Eason
Duke	bio	Ms. Christine L. Hughes
Duke	physics	Mr. David A. Egolf
Duke	EE	Ms. Maria D. Mazzara
Florida Institute of Technology	industrial engrg	Ms. Ann M. Bisantz
Georgia Tech	industrial engrg	Ms. Suzanne J. Dilley
Georgia Tech	industrial engrg	Ms. Jennifer Robinson
Georgia Tech	ME	Mr. James Paul Hubner
Harvard	bio	Mr. James Falvo
Harvard	bio	Mr. Gabriel Fenteany
Harvard	bio	Mr. James W. Glasheen
Harvard	bio	Mr. Keith E. Robison
Harvard	chemistry	Mr. Richard Goodman
Harvard	chemistry	Mr. Cameron F. Logan
Harvard	chemistry	Mr. Jeffrey R. Long
Harvard	chemistry	Mr. Andrew M. Ratz
Harvard	chemistry	Mr. Andrew Stevens

**ONR-FUNDED GRADUATE FELLOWS**  
01/08/93

<b>University</b>	<b>Discipline</b>	<b>Name</b>
Harvard	cognitive/neural	Mr. Russell Epstein
Harvard	cognitive/neural	Mr. Robert McPeck
Harvard	computer science	Mr. Reginald Young
Harvard	materials sci	Mr. Glen D. Wilk
Harvard	math	Mr. Keith Conrad
Harvard	math	Dr. Daniel Dynin
Harvard	math	Mr. Tad J. Wieczorek
Harvard	oceanography	Mr. Michael E. Lipman
Harvard	physics	Mr. Charles T. Black
Harvard	physics	Mr. Jonathan D. Edwards
Harvard	physics	Mr. Jordan A. Katine
Iowa State	materials sci	Mr. Jeff Jensen
Johns Hopkins	bio	Ms. Laura J. Hernandez
Johns Hopkins	industrial engrg	Mr. John C. Marchelya
Mich Tech Univ	materials sci	Ms. Mary A. Bouwhuis
MIT	bio	Ms. Sangeeta N. Bhatia
MIT	bio	Mr. Zohar Z. Karu
MIT	bio	Ms. Kimiko Suzue-Pan
MIT	chemistry	Ms. Katherine L. Lee
MIT	cognitive/neural	Mr. Aaron Sodickson
MIT	cognitive/neural	Mr. Karl Zipser
MIT	computer science	Mr. Eric A. Brewer
MIT	computer science	Mr. Frederic T. Chong
MIT	computer science	Mr. Ira Haimowitz
MIT	computer science	Mr. James Hoe
MIT	computer science	Mr. Waldemar P. Horwat
MIT	computer science	Mr. Eric Jordan
MIT	computer science	Mr. Arthur F. Lent
MIT	computer science	Ms. Gina-Anne Levow
MIT	computer science	Mr. Philip N. Sabes
MIT	computer science	Mr. Bradford T. Spiers
MIT	computer science	Mr. Brian D. Taylor
MIT	computer science	Ms. Deborah A. Wallach
MIT	EE	Mr. Jonathan Baker
MIT	EE	Ms. Lori-Ann Belcastro
MIT	EE	Ms. Monica H. Choi
MIT	EE	Mr. Lawrence Hsu
MIT	EE	Mr. Nathan P. Judish
MIT	EE	Ms. Lynn E. Nelson
MIT	EE	Mr. Stephen D. Patek
MIT	EE	Mr. Christ D. Richmond
MIT	EE	Mr. Todd M. Rider
MIT	EE	Mr. Mark Somerville
MIT	materials sci	Mr. Matthew M. DiPippo
MIT	materials sci	Ms. Donna S. McCoy-Chuang
MIT	materials sci	Ms. Ann M. Redsten
MIT	materials sci	Ms. Naomi Super-Fried
MIT	math	Ms. Elaine Chew
MIT	math	Mr. Brooke E. Shipley
MIT	math	Mr. Tom Svrcek
MIT	math	Mr. David B. Wilson
MIT	math	Mr. Christopher T. Woodward
MIT	ME	Mr. Steven Cimaszewski
MIT	ME	Mr. Roger M. Glaese
MIT	ME	Mr. Kenneth E. Goodson
MIT	ME	Mr Hugh M. Herr
MIT	ME	Mr. Ashok B. Patel
MIT	ME	Ms. Lily H. Shu
MIT	ME	Mr. Scott Stephenson
MIT	naval arch.	Mr. Scott Black
MIT	naval arch.	Mr. Frank P. Blakemore

**ONR-FUNDED GRADUATE FELLOWS**  
01/08/93

Page: 3

<u>University</u>	<u>Discipline</u>	<u>Name</u>
MIT	naval arch.	Ms. Elizabeth A. Horwich
MIT	naval arch.	Ms. Karen M. Lebie dzinski
MIT	naval arch.	Mr. William Milewski
MIT	naval arch.	Mr. Todd E. Taylor
MIT	naval arch.	Mr. Matthew P. Tedesco
MIT	naval arch.	Mr. Peter A. Traykovski
MIT	oceanography	Mr. Chris E. Forest
MIT	physics	Mr. Dale Fried
MIT	physics	Mr. Lawrence K. Saul
MIT-WHOI	oceanography	Ms. Katherine Barbeau
MIT-WHOI	oceanography	Ms. Henrietta N. Edmonds
MIT-WHOI	oceanography	Ms. Carolyn Harris
MIT-WHOI	oceanography	Mr. Stefan Hussenroeder
MIT-WHOI	oceanography	Mr. Craig V. Lewis
MIT-WHOI	oceanography	Mr. James Pringle
MIT-WHOI	oceanography	Mr. Julian P. Sachs
MIT-WHOI	oceanography	Mr. Randall A. Villeneuve
MIT-WHOI	oceanography	Ms. Nathalie Weicker
Naval Postgrad School	oceanography	Lt. John C. Church
Naval Postgraduate School	oceanography	LCdr. Arthur Parsons
NCSU	cognitive/neural	Ms. Kimberly D. Bane
NCSU	EE	Mr. David Honea
NCSU	naval arch.	Ms. Dena Firebaugh
NCSU	physics	Mr. Steven C. Thedford
Northwestern	chemistry	Ms. Tina Hoover
Northwestern	chemistry	Mr. Glenn C. Rawsky
Northwestern	industrial engrg	Mr. Michael J. Nystrom
Northwestern	materials sci	Mr. Paul G. Sanders
Ohio State	materials sci	Mr. Jack E. Kessler
Ohio State	ME	Mr. Thomas J. Royston
Old Dominion	oceanography	Mr. Bruce L. Lipphardt, Jr.
Oregon State	naval arch.	Ms. Cynthia M. Bowline
Oregon State	naval arch.	Ms. Diane L. Foster
Oregon State	naval arch.	Ms. Cynthia Lowe
Oregon State	oceanography	Ms. Cara Wilson
Penn State	industrial engrg	Mr. Roger C. Grinde
Penn State	oceanography	Mr. John Wozniak
Princeton	cognitive/neural	Mr. Joshua W. Fost
Princeton	EE	Mr. Howard C. Huang
Princeton	industrial engrg	Mr. Adam J. Berger
Princeton	math	Mr. David G. Caraballo
Princeton	math	Mr. Francis Fung
Princeton	math	Ms. Linda E. Green
Princeton	math	Ms. Margaret J. Holen
Princeton	math	Mr. Markus R. Keel
Purdue	materials sci	Mr. Michael D. Grah
Research Inst. of Scripps Clinic	chemistry	Mr. Rodney K. Guy
Rice	chemistry	Ms. Mary J. Patterson
Rutgers	math	Ms. Concetta DePaolo
Scripps	oceanography	Ms. Stacey Beaulieu
Stanford	bio	Mr. Carl Friddle
Stanford	bio	Ms. Susan V. Pena
Stanford	cognitive/neural	Mr. Carlos L. Benitez
Stanford	cognitive/neural	Mr. Michael K. Fleming
Stanford	cognitive/neural	Mr. Derek J. Koehler
Stanford	computer science	Mr. Charles E. Batey, Jr.
Stanford	computer science	Mr. Alan J. Hu
Stanford	computer science	Mr. Alex D. Poon
Stanford	computer science	Mr. Donald C. Ramsey, Jr.
Stanford	EE	Mr. Herman C. Chui
Stanford	EE	Mr. Michael J. Gormish

**ONR-FUNDED GRADUATE FELLOWS**  
01/08/93

<b>University</b> -----	<b>Discipline</b> -----	<b>Name</b> -----
Stanford	EE	Ms. Amanda A. Heaton
Stanford	EE	Mr. Mark E. Ladd
Stanford	EE	Mr. Daniel R. Lewis
Stanford	EE	Mr. Jeffry S. Powell
Stanford	EE	Mr. John A. Trezza
Stanford	industrial engrg	Mr. John Kietzman
Stanford	industrial engrg	Mr. David Selkirk Wilson
Stanford	materials sci	Mr. Robert Gleixner
Stanford	materials sci	Mr. Michael C. Kautzky
Stanford	materials sci	Mr. Paul Kitabjian
Stanford	materials sci	Ms. Samantha Lee
Stanford	materials sci	Mr. Glenn F. Simenson
Stanford	math	Ms. Urmi Bhattacharya
Stanford	math	Mr. Dennis T. Palmer
Stanford	math	Ms. Anke Richter
Stanford	math	Mr. Eric Swanson
Stanford	math	Ms. Lauren A. Wang
Stanford	ME	Mr. Grant Cook
Stanford	ME	Ms. Lorna A. Kocian
Stanford	ME	Ms. Borjana Mikic
Stanford	ME	Mr. Jeffrey S. Russakow
Stanford	ME	Mr. William E. Singhose
Stanford	naval arch.	Mr. John Crimaldi
Stanford	naval arch.	Ms. Nicole M. Ellis
Stanford	naval arch.	Mr. James Lemoine
Stanford	oceanography	Ms. Dawn I. Burgess
Stanford	oceanography	Mr. Chris R. Rehmann
Stanford	physics	Mr. David B. Ephron
Stanford	physics	Mr. Robert C. Liu
Stanford	physics	Mr. Todd C. Merrill
SUNY @ Stony Brook	math	Ms. Erica Klarreich
TXAM	EE	Mr. James C. McCleary
TXAM	ME	Mr. David Mott
TXAM	naval arch.	Mr. Bryan Hubbard
TXAM	oceanography	Mr. Charlie N. Barron
TXAM	oceanography	Lt. Don T. Conlee
TXAM	oceanography	Mr. Thomas H. Orsi
TXAM	oceanography	Ms. Anne K. Rutledge
UC Berkeley	bio	Mr. Lars Chapsky
UC Berkeley	bio	Ms. Lara Crawford
UC Berkeley	bio	Mr. Manuel Cruz
UC Berkeley	bio	Mr. Rudolph J. Rico
UC Berkeley	cognitive/neural	Mr. David S. Cohen
UC Berkeley	computer science	Mr. David T. Blackston
UC Berkeley	computer science	Mr. David Librik
UC Berkeley	computer science	Mr. Michael D. Mitzenmacher
UC Berkeley	computer science	Ms. Eunice E. Santos
UC Berkeley	EE	Mr. Stanley E. Callis
UC Berkeley	EE	Mr. David Cutrer
UC Berkeley	EE	Ms. Lisa M. Guerra
UC Berkeley	EE	Mr. Jose L. Pino
UC Berkeley	EE	Mr. Marco Zuniga
UC Berkeley	industrial engrg	Ms. Jennifer B. Adams
UC Berkeley	industrial engrg	Mr. Stephen Chick
UC Berkeley	materials sci	Ms. Marni Goldman
UC Berkeley	materials sci	Ms. Sabrina K. Kwong
UC Berkeley	math	Mr. James H. Akao
UC Berkeley	math	Mr. Jeremy D. Avigad
UC Berkeley	math	Mr. Douglas S. Barnum
UC Berkeley	math	Mr. Bjorn M. Poonen
UC Berkeley	physics	Mr. Eugene Dantsker

**ONR-FUNDED GRADUATE FELLOWS**  
01/08/93

Page: 5

<b>University</b>	<b>Discipline</b>	<b>Name</b>
UC Berkeley	physics	Mr. Leonardo Hsu
UC Davis	physics	Mr. Todd Ditmire
UC San Francisco	chemistry	Mr. Michael Bower
UC Santa Barbara	EE	Mr. Archie L. Holmes
UC Santa Barbara	materials sci	Mr. Don M. Lipkin
UC Santa Barbara	physics	Mr. Kenneth Campman
UC Santa Barbara	physics	Mr. Michael B. Dennin
UC Santa Cruz	oceanography	Mr. Gabriel M. Filipelli
UC Santa Cruz	oceanography	Ms. Suzanne Kohin
UCLA	computer science	Mr. Charles J. Alpert
UCLA	EE	Mr. Mark J. Ross
UCLA	ME	Ms. Monique C. Willard
UCSD	cognitive/neural	Mr. Michael P. Casey
UCSD	oceanography	Mr. Randall E. Bolick
UCSD	oceanography	Ms. Michelle G. Pruitt
UCSD	oceanography	Ms. Britt Raubenheimer
UCSD	physics	Ms. Kimberly Jo Allen
UCSD	physics	Mr. Marcos R. Betancourt
Univ of Alabama-Birmingham	bio	Ms. Alexis Brooks
Univ of Alabama-Birmingham	bio	Ms. Ellen S. Caldwell
Univ of Arizona	computer science	Mr. Peter A. Bigot
Univ of Arizona	ME	Mr. Michael R. Descour
Univ of Chicago	math	Mr. Mark C. Haase
Univ of Chicago	math	Mr. Matthew C. Wiener
Univ of Chicago	physics	Ms. Kristin Abkemeier
Univ of Colorado @ Boulder	EE	Mr. Jonathan Dixon
Univ of Delaware	naval arch.	Mr. Mark Hancock
Univ of Delaware	naval arch.	Mr. James M. Kaihatu
Univ of Florida	naval arch.	Mr. Mark S. Gosselin
Univ of Florida	oceanography	Ms. Joan C. Herrera
Univ of Georgia	chemistry	Mr. Craig Marsh
Univ of Illinois @ Urbana	EE	Mr. Gregory M. Chiasson
Univ of Illinois @ Urbana	materials sci	Mr. Cameron G. Cofer
Univ of Illinois @ Urbana	materials sci	Mr. Brian Reardon
Univ of Illinois @ Urbana	ME	Mr. Andrew Cary
Univ of Illinois @ Urbana	ME	Mr. Joseph H. Robichaux
Univ of Illinois @ Urbana	ME	Mr. Kyle K. Wetzel
Univ of Kansas	naval arch.	Mr. Scott G. Beaven
Univ of Kentucky	bio	Mr. Kenneth Hensley
Univ of Maryland @ Balto.	bio	Ms. Vicki L. Pierson
Univ of Massachusetts	EE	Mr. David A. Loeber
Univ of Michigan	computer science	Ms. Jennifer Rexford
Univ of Michigan	EE	Ms. Carron Odokara
Univ of Michigan	math	Ms. Elizabeth T. HulbertShearon
Univ of Michigan	ME	Ms. Grenmarie Agresar
Univ of Michigan	ME	Ms. Diana M. Rincon
Univ of Michigan	naval arch.	Mr. Timothy A. Barnard
Univ of Michigan	oceanography	Mr. Amid M. Ansari
Univ of New Mexico	physics	Mr. Harold S. Gingrich
Univ of Oregon	cognitive/neural	Mr. Daniel Levitin
Univ of Pennsylvania	cognitive/neural	Mr. Paul Sajda
Univ of Pennsylvania	computer science	Mr. David Yarowsky
Univ of Pittsburgh	bio	Ms. Marisa Pedulla
Univ of Rhode Island	oceanography	Mr. Christopher Meinen
Univ of Rhode Island	oceanography	Mr. John P. Ryan
Univ of Rochester	physics	Mr. Julie L. Bentley
Univ of South Florida	EE	Mr. Nathaniel R. Beauchamp
Univ of Southern California	EE	Mr. Peter J. Pacini
Univ of Southern Mississippi	chemistry	Mr. Michael J. Stewart
Univ of Texas @ Austin	computer science	Mr. Jeffrey A. Thomas
Univ of Texas @ Austin	EE	Mr. Darren D. Cofer

**ONR-FUNDED GRADUATE FELLOWS**  
**01/08/93**

**University**

**Discipline**

**Name**

<b>University</b>	<b>Discipline</b>	<b>Name</b>
Univ of Texas @ Austin	EE	Mr. Adrian Holmes
Univ of Texas @ Austin	ME	Mr. Theodore J. Kim
Univ of Texas @ Austin	physics	Mr. Kirk Madison
Univ of Virginia	physics	Mr. Eric McDaniel
Univ of Washington	computer science	Mr. Neal Lesh
Univ of Washington	math	Ms. Jennifer E. McLean
Univ of Washington	naval arch.	Mr. Frederick R. Stahr
Univ of Washington	oceanography	Ms. Amy E. Abbot
Univ of Washington	oceanography	Mr. Jay A. Brandes
Univ of Washington	oceanography	Ms. Holly S. Brown
Univ of Washington	oceanography	Mr. Anthony P. Craig
Univ of Washington	oceanography	Ms. Cynthia N. Cudaback
Univ of Washington	oceanography	Ms. Mary E. Culver
Univ of Washington	oceanography	Ms. Elizabeth Dobbins
Univ of Washington	oceanography	Ms. Wendi Ann Eastman
Univ of Washington	oceanography	Mr. Nathan C. Franzen
Univ of Washington	oceanography	Mr. Robert W. Hallberg
Univ of Washington	oceanography	Mr. Peter J. Hernes
Univ of Washington	oceanography	Ms. Alexis N. Howell-Kubler
Univ of Washington	oceanography	Ms. Rhonda M. Kelly
Univ of Washington	oceanography	Mr. Peter Kessler
Univ of Washington	oceanography	Ms. Deborah A. LeBel
Univ of Washington	oceanography	Ms. Carol Lee
Univ of Washington	oceanography	Mr. Karl D. Newyear
Univ of Washington	oceanography	Mr. Rolf E. Sonnerup
Univ of Washington	oceanography	Mr. Matthew T. Trunnell
Univ of Washington	oceanography	Mr. Brian West
Univ of Wasington	oceanography	Ms. Andea S. Ogston
Univ of Wisconsin-Madison	chemistry	Ms. Laurie Christianson
Univ of Wisconsin-Madison	materials sci	Mr. Donald R. Allen
Univ of Wisconsin-Madison	math	Mr. Michael S. Neergaard
Univ of Wisconsin-Madison	physics	Mr. Kenneth L. Menningen
Univ of Wisconsin-Madison	physics	Mr. Michael Sadd
Va Tech	ME	Mr. Cheettoor G. Namboodri
Va Tech	ME	Mr. Harold L. Neal
Yale	oceanography	Ms. Stephanie A. Dunkle



**American Society for  
Engineering Education**

Eleven Dupont Circle, Suite 200  
Washington, D.C. 20036-1207

**ONR-ASEE GRADUATE FELLOWSHIP PROGRAM**

**Advisory Committee Meeting Minutes**

**WEDNESDAY, FEBRUARY 24, 1993**

**1:00 PM - 5:00 PM**

**Dupont Plaza Hotel**

**Washington, DC**

Tele: (202) 293-7080

Fax: (202) 265-8504

**ATTENDANCE**

**Committee Members:**

Winsor Alexander, North Carolina State University  
James Clum, State University of New York at Binghamton  
Carole Goodson, University of Houston  
Hans Oser, National Research Council  
John Schmeelk, Virginia Commonwealth University  
Robert Steidel, Jr., University of California-Berkeley  
Alvin Strauss, Vanderbilt University (chairman)

**Absent:**

Chester Spencer, VPI & State University

**ONR Staff:**

Debra Hughes

**ASEE Staff:**

Jeff Jarosz  
Woodrow Leake  
George Lynch  
Andrew Scherer  
Tim Turner

I. Professor Alvin Strauss of Vanderbilt University called the meeting to order at 1:05 PM. Committee members and staff members introduced themselves.

II. The minutes of the last meeting, held on February 25, 1992, were approved as submitted. Committee members were given copies of "Recommendations of the ONR Fellowship Advisory Committee", which were signed by Dr. Strauss on behalf of the advisory committee and submitted to ONR headquarters on April 24, 1992. The "Recommendations" summarized the advisory committee's discussion concerning duplication of effort in the administration of the three DoD fellowship programs.

**III. Reports.**

**A. ASEE Report**

1. Jeff Jarosz reported that only six out of 41 students declined the ONR fellowship in 1992, constituting the lowest percentage of declines in recent years. Two students chose the Whitaker Fellowship for Graduate Studies and Biomedical Engineering and two chose the Hertz Foundation fellowship, giving as their reason the longer tenure. No students chose the NSF fellowship over the ONR

award.

Thirty five fellows conducted research at 11 different Navy laboratories in the summer of 1992, compared to 14 the previous summer. The dramatic increase was due in large part to ONR's decision to allow its NDSEG fellows to participate.

Publicity for the 1993 program included the bulk mailing of over 12,000 posters, full-page advertisements in four magazines, and research profiles with colored photographs of eight ex-fellows in two magazines. ASEE received 955 applications for the 1993 program with increases in biological/biomedical sciences and chemistry. There were also increases in applications from Hispanics, American Indians, Pacific Islanders, and active military personnel.

ONR has made 505 fellowship appointments to date. Ten percent of the fellows withdrew early, 193 fellows are on tenure currently, and 260 fellows completed the program successfully. At least 188 students have PhDs in hand, and another 24 are expected in calendar year 1993. The largest number of PhDs was awarded in materials science (33). MIT has awarded the most PhDs (30), and the largest percentage of ex-fellows have entered private industry. A list of the 260 fellows who completed the program successfully and a list of fellows' accomplishments and quotations were distributed. Committee members requested that data be added to these two lists: the year of appointment to the list of the fellows who successfully completed the program, and the year of PhD award to the "accomplishments and quotations" list.

2. Tim Turner distributed a financial report for FY90, FY91 and FY92. Total direct administrative cost of the fellowship grant through 9/30/92 was \$442,967. Total participant expense was \$10,728,738. The total program expense through 9/30/92 was \$11,407,117.

#### B. ONR Comments

Debbie Hughes expressed her gratitude to ASEE for its flexible administration of the program in a complex society, citing the specific example of taxation. She reported that ONR is conferring with other fellowship programs and is concerned about the differences in fellowship payment: specifically, ONR pays 100% of fellows' tuition while the NSF program pays a limited amount. ONR is afraid that it is actually subsidizing other federal fellowship programs.

Duplication of effort in the administration of the three DoD fellowships is still a concern, and there is a possibility that DoD will publish an RFP for one contractor to administer all three DoD fellowship programs.

#### IV. Discussion of evaluation procedures for 1993 applications.

Debbie Hughes requested that each of the 11 groups submit a priority list of its best 15 applicants, and specific comments on each minority applicant. Jeff Jarosz reported that computer services would be available for the three largest review groups: EE, ME, and computer science. The computers would not be located in the review groups' meeting rooms, but at ASEE headquarters. A messenger would take the evaluation scoresheets from the reviewers to the computer operators, and return with lists of applicants in descending order. Ineligible applications to EE, ME, and computer science were removed in order to expedite the review process for the three large groups.

The list of the 88 reviewers was distributed. Eleven reviewers came from ONR technical staff. The 77 reviewers invited by ASEE included 20 African Americans, 14 women, 13 ex-fellows, 12 members of the faculties of HBCs, 7 representatives of West Coast institutions, 5 Orientals, and three Hispanics.

#### V. Examination of ineligible applications.

ASEE headquarters prefers not to eliminate any application from consideration by the review panels. However, it receives a large number of ineligible and incomplete applications, which makes it difficult for the large review groups to complete their tasks in one day. In order to strike a balance between expediting the review panels' tasks on evaluation day and giving each applicant maximum consideration, ASEE headquarters staff screened applications to the three large groups (EE, ME, computer science) only. Forty-two clearly ineligible and woefully incomplete folders were removed from the applicant pool.

The advisory committee examined the 42 folders and either upheld the decision to remove them from competition or resubmitted them for consideration. Committee members returned two borderline cases for consideration on review day; they initialed the other 40 folders and agreed that they were ineligible.

VI. Professor Strauss adjourned the meeting at 4:05 PM.

## 1992/93 GRADUATE FELLOWSHIP PROGRAM COMMITTEE

**Professor James A. Clum (93)**  
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Industrial Engineering  
Watson School of Engineering  
**State University of New York**  
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(607) 777-4860x4747  
FAX (607) 777-4822

**Dr. Alvin Strauss (93)**  
Chairman, Mechanical & Materials  
Engineering Department  
**Vanderbilt University**  
Box 1612, Station B  
Nashville, TN 37235  
(615) 322-2950  
FAX (615) 343-7951

**Professor Robert R. Steidel (92)**  
Mechanical Engineering Department  
**University of California**  
5138 Etcheverry Hall  
Berkeley, CA 94720  
(510) 642-3458  
FAX (510) 643-5599

**Carole Goodson (92)**  
Technology Department  
**University of Houston**  
Houston, TX 77204-4083  
(713) 743-4040

**Professor John F. Schmeelk (94)**  
Associate Professor of  
Mathematical Sciences  
P.O. Box 2014  
**Virginia Commonwealth University**  
Richmond, VA 23284-2014  
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FAX (804) 367-8782

**Dr. Hans J. Oser (94)**  
Board of Mathematical Sciences  
NAS 312  
**National Research Council**  
2101 Constitution Avenue, NW  
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FAX (202) 334-1597

**Professor Winser Alexander (93)**  
Department of Electrical &  
Computer Engineering  
Box 7911  
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(919) 515-5190



## American Society for Engineering Education

11 Dupont Circle, Suite 200 • Washington, D.C. • 20036-1207 • Tele: (202) 986-8500 • Fax: (202) 265-8504

July 16, 1993

Ms. Debra Hughes  
Code 11D4  
Office of Naval Research  
800 North Quincy Street  
Arlington, Virginia 22217

Dear Debbie:

Fifteen ONR-funded fellows are conducting research this summer at Navy R&D centers.

Naval Air Warfare Center, Aircraft Division:  
Paul Kitabjian, 6 weeks, ONR 92

Naval Command, Control, and Ocean Surveillance Center:  
Ann Bisantz, 7 weeks, NDSEG 90  
Suzanne Kohin, 9 weeks, NDSEG 91

Naval Health Research Center:  
Zoher Karu, 5 weeks, ONR 90  
Lorna Kocian, 12 weeks, NDSEG 91  
Jennifer Robinson, 12 weeks, NDSEG 91

Naval Research Laboratory:  
William Bailey, 14 weeks, ONR 93  
Jonathan Dixon, 7 weeks, ONR 92  
Howard Neal, 13 weeks, ONR 88  
Michael Nystrom, 13 weeks, NDSEG 91  
Christ Richmond, 13 weeks, ONR 90  
Michael Sadd, 11 weeks, NDSEG 92

Naval Surface Warfare Center, Carderock Division:  
Timothy Barnard, 15 weeks, NDSEG 91  
Jeff Jensen, 9 weeks, ONR 92  
Thomas Royston, 14 weeks, NDSEG 90

Naval Surface Warfare Center, Dahlgren Division:  
Steven Thedford, 14 weeks, ONR 89

Naval Surface Warfare Center, Dahlgren Division, Coastal Systems Station:  
Steven Patek, 14 weeks, ONR 91

Naval Training Systems Center:  
Maria Mazzara, 12 weeks, ONR 89

**Naval Undersea Warfare Center:****Steven Cimaszewski, 15 weeks, NDSEG 92****Edward Fisher, 15 weeks, ONR 89****Elizabeth Horwich, 10 weeks, ONR 91****William Milewski, 15 weeks, ONR 92****Navy Personnel R&D Center:****Nicole Ellis, 13 weeks, NDSEG 91****James Lemoine, 12 weeks, NDSEG 92****Anke Richter, 12 weeks, NDSEG 91**

Fellows receive a higher monthly stipend (\$2,000), a subsistence allowance of \$125 per week, and reimbursement of travel to/from the lab. In addition, fellows' advisers are invited to visit them during their research periods at the laboratories. Advisers who take advantage of that opportunity can claim reimbursement for a three-day visit.

Of the 25 participants, there are 8 female researchers (32%), two African Americans (8%), and one Hispanic (4%).

The duration of the fellows' research ranges from Zoher Karu's sojourn of five weeks at NHRC to Tim Barnard's 15-week stint at NSWC-Carderock. The average stay is 12 weeks.

The participants represent all levels, from Bill Bailey, who just started the fellowship this year and has not even entered graduate school, to Harold Neal, who was appointed back in 1988 and finished the fellowship in April of this year. The most represented group is the class of 1991: students who have made it through two years of graduate school. Thirty-six percent of the summer researchers were appointed to the fellowship in spring 1991.

Both ONR fellows and ONR-NDSEG fellows are invited to conduct summer research at the Navy's labs. The two groups participate equally in the summer program: this summer there were 13 ONR fellows and 12 NDSEG fellows.

One of the fellows, Ms. Maria Mazzara, is conducting research at a Navy R&D center for the fourth summer in a row.

Yours truly,



**Jeffrey P. Jarosz**  
**Program Manager**  
**Projects Department**



**American Society for  
Engineering Education**  
Eleven Dupont Circle, Suite 200  
Washington, D.C. 20036

Tele: (202) 293-7080  
Fax: (202) 265-8504

January 15, 1993

MEMORANDUM

To: Navy R&D Center Coordinators

From: Jeff Jarosz, Program Manager, Contracts and Grants

Subject: ONR-Funded Graduate Fellows

Since 1982, the Office of Naval Research has awarded 505 ONR fellowships in eleven disciplines. So far at least 210 ONR fellows have received their PhDs and are currently working in private industry, holding teaching appointments at US universities, or conducting postdoctoral research.

Since 1989, ONR has also awarded 257 NDSEG fellowships in fifteen disciplines (NDSEG = National Defense Science and Engineering Graduate). At least five ONR-NDSEG fellows have earned their PhDs.

The ONR fellowship and the NDSEG fellowship provide funding for outstanding graduate students for 36 months. Students are given a generous stipend (\$15,000-\$17,000 per annum), and their full tuition is paid at the institution of their choice.

One of the most attractive features of the two fellowship programs is the opportunity for fellows to conduct research during the summer at a Navy R&D center (described in the enclosed poster). Approximately one quarter of the fellows take advantage of the opportunity. They receive a higher stipend, a travel allowance, and a living allowance. Feedback from the fellows and the Navy personnel is uniformly positive.

Enclosed is a list of the 342 ONR-funded fellows who are on tenure currently. The list provides each fellow's name, mailing address, telephone number, alternate phone number, university, discipline, adviser, year the fellowship was awarded, and research interests. "Status" is active for all students unless otherwise indicated. I encourage you to contact those fellows whose research interests fit into an ongoing project at your lab, and invite them to conduct research with you during summer 1993. Such a match will not cost your lab anything - stipend, subsistence allowance and travel allowance will be provided by ONR through ASEE. You will be responsible for orientation sessions, procuring ID badges, arranging a work space, and initiating any security clearances your lab might have for temporary researchers. You will also be required to notify me, in writing, that Fellow X will conduct research at your lab from date Y to date Z; preferably I will receive your letter a month before the student reports and the dates will be accurate, give or take one day.

Since funds are not available for a preprogram visit, most fellows will appreciate help in finding housing for the summer.

Next week, all 342 ONR-funded fellows will receive a description of the research activities at your lab. (The write-up will be the same as the one which appears in the 1993 Navy-ASEE summer faculty

research program announcement.) At that time, the fellows will be encouraged to contact you, if they are available, concerning research projects for summer 1993.

If they wish, students can do research for up to 15 weeks. The average stint is 10 weeks. The minimum amount of time for meaningful summer research, especially if the student relocates, is five weeks.

Funds are also available for the fellow's adviser to visit the R&D center for three days during the fellow's research period. The center can use the visit to interest the adviser in its research.

cc: Debbie Hughes, ONR

enclosures



**DEPARTMENT OF THE NAVY  
OFFICE OF NAVAL RESEARCH  
800 NORTH QUINCY STREET  
ARLINGTON, VA 22217-8660**

IN REPLY REFER TO

January 22, 1993

Mr. Jonathan Baker  
143 Albany Street #228A  
Cambridge, Massachusetts 02139

Dear Mr. Baker:

Don't panic! This bundle of paper is designed to give you information about a very special summer opportunity, and to acquaint you with your ONR-funded graduate fellowship peers.

First, you are heartily encouraged to join a research project at a Navy laboratory or R&D Center this summer. Enclosed are descriptions of Navy laboratories and some of the very dynamic R&D in which they're engaged. Your Fellowship peers who have opted for this experience in the past have stated that they wished they'd done so sooner in their Fellowship. One student who comes immediately to mind ended up making arrangements to spend eight months at a particular laboratory because the summer experience revealed state-of-the-art equipment, skilled scientists, and contemporary technical pursuits that fit right in with her dissertation topic. As a matter of fact, her university credited those eight months as university enrollment, and her Navy laboratory mentor served on her defense committee. I urge you to pick up the phone and call the points of contact listed at the end of the five-page enclosure describing the 12 Navy research sites to discuss potential collaborations.

With regard to the business end of this experience: first, we will pay an increased stipend of \$2,000/month, plus provide a \$1,000 subsistence allowance for a minimum eight-week stay (we can work out a pro-rated scheme for fewer than eight weeks), plus reimburse reasonable travel costs if you need to relocate. The American Society for Engineering Education, which administers the Fellowship Program, will also oversee payments during the summer aspect.

While I'm glad to help facilitate any arrangements, the real key to matching your interests with laboratory projects is for you to call the laboratory scientist directly to "talk shop". Then if you find a mutually stimulating project for the summer's experience, let Mr. Jeff Jarosz at ASEE know what's going on so he can ensure that you get paid. Mr. Jarosz will need a letter from the laboratory coordinator giving the dates you intend to start and finish at the lab.

The 12 program coordinators listed at the end of the five-page enclosure received your name and research interests last week.

The second intent of this letter is to provide you with a list of all the ONR-funded graduate fellows (ONR Graduate Fellowship Program and National Defense Science and Engineering Graduate Fellowship Program), their disciplines, and their institutions. There are 341 of you out there at 68 universities across the country. ONR is presently investing an average of \$100,000 in each of you for graduate study during the 36 months of your fellowship. Our investment (and faith!) in your future is not trivial, so we'd like to do everything we can to instill a sense of collegiality with your peers and with us. We have found that when we give you a list of your peers in this program, you discover that a classmate, a research partner, or a dorm-mate is also an ONR-funded graduate fellow. I provide the information to give you a sense of the breadth of the program and to alert you to other fellows with whom comparing notes may be enjoyable.

Please feel free to call me if you have any concerns or comments about the summer opportunity in particular, or about the ONR Graduate Fellowship Program and National Defense Science and Engineering Graduate Program in general. I may be reached at 703-696-4108.

Sincerely,

A handwritten signature in cursive script that reads "Debra T. Hughes".

Debra T. Hughes  
Deputy Director  
Special Programs Office

enclosures

## AMERICAN SOCIETY FOR ENGINEERING EDUCATION

INTERIM FINANCIAL REPORT  
10/1/92-3/30/93

GRANT: N00014-90-J-1778  
GRANT PERIOD: 4/1/90-5/31/94  
AMOUNT AUTHORIZED: \$20,445,760  
AMOUNT AVAILABLE: \$18,461,166

ASEE ACCOUNT # PR04

	1st QUARTER 01-Oct-92 31-Dec-92	2nd QUARTER 01-Jan-93 31-Mar-93	3rd QUARTER 01-Apr-93 30-Jun-93	4th QUARTER 01-Jul-93 30-Sep-93	TOTAL 01-Oct-92 30-Sep-93
<b><u>ADMINISTRATIVE EXPENSE:</u></b>					
SALARIES	\$13,488.44	\$16,032.54	\$11,162.74	\$16,367.55	\$57,051.27
TEMPORARY SALARIES	0.00	0.00	0.00	0.00	0.00
BENEFITS @ 38.49%	5,191.70	6,170.92	4,296.54	6,299.87	21,959.03
POSTAGE	801.76	1,326.26	976.71	283.84	3,388.57
POSTAGE (3RD CLASS)	2,000.00	0.00	0.00	4,795.69	6,795.69
EXPRESS/COURIER	86.05	36.80	684.20	58.45	865.50
TELEPHONE	245.98	5.27	138.70	6.78	396.73
TOLL CALLS/FAX	0.00	14.54	0.00	11.64	26.18
ACCOUNTANTS	0.00	135.42	0.00	0.00	135.42
CONSULTANT/HONORARIA	4,541.63	0.00	17,040.00	0.00	21,581.63
OTHER PROF. SERVICES	473.09	822.76	589.45	430.47	2,315.77
SUPPLIES	202.39	96.72	165.95	0.00	465.06
MACHINE MAINT./RENTAL	0.00	0.00	1,239.46	326.03	1,565.49
PRINTING	10,308.20	612.00	190.63	12,848.00	23,958.83
GRAPHIC DESIGN	0.00	0.00	0.00	73.50	73.50
PHOTOCOPYING	0.00	19.60	181.95	9.59	211.14
MAIL HOUSE CHARGES	0.00	800.00	0.00	0.00	800.00
MAILING LABELS	0.00	0.00	0.00	1,355.77	1,355.77
TRAVEL	0.00	148.67	355.58	6.25	510.50
COMMITTEE TRAVEL	0.00	7,062.29	32,195.91	620.12	39,878.32
MEALS/LODGING	0.00	0.00	2,081.58	0.00	2,081.58
FACILITIES	0.00	0.00	525.00	0.00	525.00
CATERING	0.00	0.00	3,036.57	0.00	3,036.57
COMMERCIAL ADS.	6,970.00	0.00	0.00	0.00	6,970.00
TOTAL DIRECT ADMN. COST	44,309.24	33,283.79	74,860.97	43,493.55	195,947.55
INDIRECT @ 57.75%	25,588.59	19,221.39	43,232.21	25,117.52	113,159.71
TOTAL ADMIN. COST	\$69,897.83	\$52,505.19	\$118,093.18	\$68,611.07	\$309,107.26
<b><u>PARTICIPANT EXPENSE:</u></b>					
STIPEND	850,089.95	614,596.69	535,607.24	561,553.42	2,561,847.30
TRAVEL	1,690.20	0.00	(182.00)	3,400.88	4,909.08
MOVING/RELOCATION	8,367.34	1,209.20	1,813.80	14,407.64	25,797.98
TUITION/FEES	428,017.22	71,956.53	1,443,067.71	347,989.56	2,291,031.02
INSTITUTIONAL ALLOWANCE	1,000.00	0.00	282,000.00	(2,000.00)	281,000.00
TOTAL PARTICIPANT EXP.	\$1,289,164.71	\$687,762.42	\$2,262,306.75	\$925,351.50	\$5,164,585.38
TOTAL PROGRAM EXPENSE	\$1,359,062.54	\$740,267.61	\$2,380,399.93	\$993,962.57	\$5,473,692.64

## Attachment V

## AMERICAN SOCIETY FOR ENGINEERING EDUCATION

INTERIM FINANCIAL REPORT  
PERIOD 4/1/90-9/30/93

GRANT: N00014-90-J-1778  
GRANT PERIOD: 4/1/90-5/31/94  
GRANT AMOUNT: \$20,445,760  
AVAILABLE: \$18,461,166

ASEE ACCOUNT # PR04

	FY90 01-Apr-90 30-Sep-90	FY91 01-Oct-90 30-Sep-91	FY92 01-Oct-91 30-Sep-92	FY93 01-Oct-92 30-Sep-93	TOTAL 01-Apr-90 30-Sep-93
<b>ADMINISTRATIVE EXPENSES:</b>					
SALARIES	\$20,231.26	\$52,367.10	\$54,204.69	\$57,051.27	\$183,854.32
TEMPORARY SALARIES	510.00	4,362.20	193.73	0.00	5,065.93
BENEFITS	7,296.55	17,988.10	19,551.63	21,959.03	66,795.31
POSTAL SERVICE	759.98	5,840.13	5,389.88	3,388.57	15,378.56
MAIL HOUSE POSTAGE	0.00	1,925.00	3,100.00	6,795.69	11,820.69
EXPRESS & FREIGHT	198.00	675.76	702.35	865.50	2,441.61
TELEPHONE	666.33	541.15	1,806.87	396.73	3,411.08
TOLLS/FAX	0.00	0.00	0.00	26.16	26.16
ACCOUNTANTS FEES	0.00	10,688.88	6,724.05	135.42	17,548.35
CONSULTANTS	0.00	36,475.59	24,908.54	21,581.63	82,965.76
COMPUTER SERVICE	728.77	7,908.34	2,153.43	0.00	10,790.54
LEGAL/COPYRIGHT	0.00	720.00	100.20	0.00	820.20
OTHER PROF. SERVICES	0.00	0.00	33.33	2,315.77	2,349.10
SUPPLIES	606.61	1,111.20	487.48	465.06	2,670.35
REGISTRATION FEES	41.67	25.00	728.75	0.00	795.42
MACHINE RENTAL/MAINT.	0.00	718.39	0.00	1,565.49	2,283.88
SMALL EQUIPMENT	0.00	0.00	1,500.00	0.00	1,500.00
PRINTING	1,695.00	27,553.20	20,453.86	23,958.83	73,660.89
TYPESETTING/GRAPHIC DESIGN	0.00	308.22	190.00	73.50	571.72
PHOTOCOPYING	191.35	1,129.29	1,188.85	211.14	2,720.63
MAIL HOUSE CHARGE	0.00	0.00	1,393.35	800.00	2,193.35
MAILING LABELS	0.00	3,560.57	834.21	1,355.77	5,750.55
TRAVEL	100.67	5,499.21	2,460.47	510.50	8,570.85
COMMITTEE TRAVEL	1,179.35	21,576.69	19,654.66	39,878.32	82,489.02
MEALS/LODGING	0.00	0.00	0.00	2,081.58	2,081.58
TRANSPORTATION	0.00	0.00	255.70	0.00	255.70
FACILITIES	0.00	4,808.48	0.00	525.00	5,333.48
CATERING	0.00	3,156.73	13.00	3,036.57	6,206.30
RECRUITMENT	0.00	1,278.05	42.79	0.00	1,320.84
COMMERCIAL ADS.	0.00	0.00	0.00	6,970.00	6,970.00
DUES	0.00	48.75	0.00	0.00	48.75
RENT/OCCUPANCY	0.00	9,360.75	0.00	0.00	9,360.75
PROJECT COSTS	750.00	0.00	0.00	0.00	750.00
<b>TOTAL DIRECT ADMN. COST</b>	<b>34,955.54</b>	<b>219,626.78</b>	<b>166,271.82</b>	<b>195,947.55</b>	<b>618,801.69</b>
INDIRECT	15,352.47	99,403.08	97,025.53	113,159.71	324,940.80
SUB GRANTS/CONTRACTS	21,733.80	0.00	0.00	0.00	21,733.80
<b>TOTAL ADMINISTRATIVE COST</b>	<b>\$72,041.81</b>	<b>\$319,029.86</b>	<b>\$265,297.35</b>	<b>\$309,107.26</b>	<b>\$965,476.39</b>
INDIRECT RATE	43.92%	45.20%	57.66%	57.75%	
<b>PARTICIPANT EXPENSES:</b>					
STIPEND	810,901.66	2,244,743.21	2,264,715.10	2,561,847.30	7,882,207.27
TRAVEL	2,278.12	15,827.39	5,282.22	4,909.08	28,296.81
MOVING/RELOCATION	0.00	0.00	16,132.82	25,797.98	41,930.80
TUITION & FEES/INST. ALLOW.	703,647.86	2,234,683.99	2,139,526.80	2,291,031.02	7,368,889.47
INSTITUTIONAL ALLOWANCE	0.00	0.00	291,000.00	281,000.00	572,000.00
<b>TOTAL PARTICIPANT EXPENSE</b>	<b>\$1,516,827.64</b>	<b>\$4,489,254.59</b>	<b>\$4,716,654.92</b>	<b>\$5,164,585.38</b>	<b>\$15,993,324.15</b>
<b>TOTAL PROGRAM EXPENSE</b>	<b>\$1,568,899.55</b>	<b>\$4,814,284.45</b>	<b>\$4,981,953.89</b>	<b>\$5,473,892.64</b>	<b>\$16,958,800.54</b>



## American Society for Engineering Education

### ANALYSIS OF MINORITY RECRUITMENT, EVALUATION, SELECTION AND PERFORMANCE

Prepared and submitted by Jeff Jarosz, program manager, projects department, on November 19, 1993

In 1992, ASEE received 1,101 applications for the ONR fellowship. Sixty-six of the applicants (5%) identified themselves as African Americans.

In 1993, ASEE received 955 applications for the fellowship program. Of those, 59 were from black students (6%).

From 1992 to 1993, the number of black applicants to the ONR fellowship decreased from 66 to 59, but the percentage of black applicants increased from 5% to 6%.

The most popular disciplines for white students were electrical engineering, aerospace/mechanical engineering, and computer science. For black students, the most popular disciplines were mathematics, biological/biomedical sciences, and electrical engineering.

Whereas white applicants displayed more interest in aerospace/mechanical engineering and computer science, black applicants leaned toward mathematics and biological/biomedical sciences.

ONR made 41 awards in 1993. Since there were 955 applicants, only 4% of the general applicant pool was successful.

A fellowship was offered to one black student. Since there were 59 black applicants, 1% of the black applicants was successful.

The 59 black applicants were:

1. Davida Alexander, biology. 3.13, 2-4, GRE 560/540/550.
2. Jamahl Anderson, ME. 3.02, 4-4, GRE 0.
3. Kemafor Anyanwu, computer science. 2.64, 2, GRE 520/700/680.
4. Phinese Barkley, EE. 2.70, 2-3, GRE 320/540/500.
5. Micheal Branham, biology. 4.00, 2-2-2, GRE 420/580/460.
6. Carol Brooks, EE. 3.17, 2-3-3-4, GRE 370/610/500.
7. Arik Brown, EE. 3.20, 3-4-4, GRE 560/700/510.
8. Christopher Brown, materials science. 3.00, 2-3-3, GRE 0.
9. Frederick Butler, chemistry. 3.20, 2, GRE 360/460/530.
10. Tanya Bynum, biology. 3.40, 2-3-4, GRE 360/580/530.
11. Charlie Clay, oceanography. 3.27.

1818 N Street, N.W.  
 Suite 600  
 Washington, D.C. 20036  
 Main (202) 331-3500  
 Fax (202) 261-8008

12. Karen Crosby, materials science. 3.61, 2-2, 500/640/510.
13. Afi Davis, math. 3.62, 2-3, GRE 510/690/730.
14. Kelly Debro, math. 3.07, 2-4, GRE 370/590/640.
15. Ursula Donatto, physics. 3.75, 2-2-2, GRE 420/560/530.
16. Paul Engola, ME. 3.20, 2-4, GRE 620/730/760.
17. Jeffrey Forbes, computer science. 3.59, 3-4, GRE 650/800/770.
18. Felicia Frazier, chemistry. 3.02, 3, GRE 0.
19. Chenita Hampton, math. 3.60, 1-2, GRE 0.
20. Tracy Haywood, math. 3.26, 2-3-4, GRE 410/400/340.
21. Patrick Hill, ME. 3.66, 1-2-2, GRE 480/630/530.
22. Sylvia Howard, math. 3.48, 1-2-2, GRE 0.
23. Tasha Inniss, math. 3.97, 1-2-2, GRE 480/680/590.
24. Fred Jenkins, biology. 3.15, 2-2-3, GRE 400/400/350.
25. Henry Jones, oceanography. 2.68, 4-4-5, GRE 560/570/500.
26. Aszetta Jordan, materials science. 3.40, 3-3-4, GRE 0.
27. Andy Knight, math. 3.46, GRE 390/510/440.
28. Vendetta Knight, EE. 2.93, 3-4, GRE 410/580/450.
29. Jean Laguerre, biology. 3.50, GRE 0.
30. Troy Lavergne, ME. 3.60, 1-1-1, GRE 0.
31. Antonia Lindsey, EE. 3.40, GRE 460/690/550.
32. Alice Livingston, math. 3.28, 2-2-4, GRE 400/560/500.
33. Valerie Manning, ME. 2.95, 2-2-4, GRE 630/730/800.
34. Manyalibo Matthews, physics. 3.21, 3-3-4, GRE 510/750/620.
35. Ronald McGuire, math. 2.85, 3-4-4-5, GRE 360/570/400.
36. Evongeline Melson, biology. 2.98, 2-4-4, GRE 300/440/400.
37. Rhonda Mitchom, math. 3.41, 2-2-3-4, GRE 530/730/650.
38. Debra Murray, biology. 2.20, 1-4-4, GRE 400/330/490.
39. Albert Opher, math. 3.45, 1-2, GRE 390/640/430.
40. Sharvonna Pedersen, biology. 2.20, 2-5, GRE 0.
41. Djuana Pigford, math. 3.50, 3-3, GRE 0.
42. Elijah Porter, EE. 3.69, 1-2-2, GRE 440/520/450.
43. Sonya Roberts, biology. 3.24, 4-4, GRE 480/520/430.
44. Sharon Samuel, biology. 3.21, 2-4, GRE 480/690/510.
45. Torrin Sanders, computer sci. 3.18, 2-2-3, GRE 520/620/570.
46. Malcolm Stanford, ME. 2.70, 5, GRE 490/610/510.
47. Desmond Stephens, math. 3.61, 2-2-2, GRE 520/630/480.
48. Roy Sutton, EE. 3.90, 1-2-2, GRE 0.
49. Ina Swopes, biology. 2.90, 2-3-4, GRE 0.
50. Lisa Taylor, EE. 2.80, 4-4-5, GRE 0.
51. Jeffrey Thomas, EE. 3.86, 1-1, GRE 390/570/540.
52. Dwight Thompson, EE. 3.87, 2-2-3, GRE 540/680/630.
53. Nathaniel Urban, neural. 3.90, 1-1, 740/790/790.
54. Derek Walker, computer science. 3.00, 2, GRE 0.
55. Laurence Ward, EE. 3.20, 3-4-4-5, GRE 620/760/640.
56. Kimberly Weems, math. 3.76, 1-1-2, GRE 520/680/620.
57. Paul White, physics. 3.20, 3-4-4, GRE 610/770/620.
58. Charles Williams, chemistry. 3.81, 1-1, 570/730/540.
59. Pascual Zephirin, materials. 3.22, 2-3-4, GRE 370/610/510.

Of the 59 applicants, six were eliminated from consideration because they had already begun graduate school and were therefore

ineligible: Anyanwu, Barkley, Christopher Brown, Vendetta Knight, Lindsey and Murray.

Of the 53 eligible applicants, eight were quite uncompetitive with GPAs below 3.00: Jones, Manning, McGuire, Melson, Pedersen, Stanford, Swopes and Taylor.

ONR offered a fellowship to Urban, who declined.

Two African American applicants were awarded NDSEG fellowships. Forbes received ONR funding and has entered University of California-Berkeley. Thompson received ARPA funding and has entered Stanford University.

The 42 eligible, competitive black applicants who did not receive offers from ONR were: Alexander, Anderson, Branham, Brooks, Arik Brown, Butler, Bynum, Clay, Crosby, Davis, Debro, Donatto, Engola, Frazier, Hampton, Haywood, Hill, Howard, Inniss, Jenkins, Jordan, Andy Knight, Laguerre, Lavergne, Livingston, Matthews, Mitchom, Opher, Pigford, Porter, Roberts, Samuel, Sanders, Stephens, Sutton, Thomas, Walker, Ward, Weems, White, Williams and Zephirin. Their applications will be analyzed.

1. Naval architecture and ocean engineering: 24 applications, 2 awards, 0 black applicants.

2. Cognitive and neural sciences: 44 applications, 3 awards, 1 black applicant.

ONR offered a fellowship to Urban, but he preferred the Howard Hughes fellowship.

3. Oceanography: 62 applications, 6 awards, 2 black applicants.

Henry Jones' application was uncompetitive.

Charlie Clay had a 3.27 from Jackson State University. His application was incomplete. Not only the GRE scores, but all three letters of recommendation were missing. He is currently an environmental scientist at Sandia National Laboratory in Livermore. His interest and his background are in nuclear waste management rather than oceanography.

The lowest ranked white civilian applicant to receive an award in oceanography was Eric Small. He had a 3.98 from Williams College, reference ratings of 1-1-1 (truly exceptional), GRE scores of 640/780/710, and six publications.

4. Chemistry: 64 applications, 4 awards, 3 black applicants.

Frederic Butler had a 3.2 from Prairie View A&M University, a reference rating of 2 (outstanding), GRE scores of 360/460/530 (mediocre), and experience as a summer intern at Oak Ridge National Laboratory. The absence of two references put him at a disadvantage.

Felicia Frazier had a 3.02 from North Carolina State University, a

reference rating of 3 (unusual), and no GRE scores. She had some research experience at the Idaho National Engineering Laboratory. The lack of GRE scores as well as two of the three references undermined her application.

Charles Williams had a 3.81 from Fort Valley State College, reference ratings of 1-1 (truly exceptional), GRE scores of 570/730/540 (high), numerous academic honors, and distinguished Navy service. One letter of recommendation was missing from his application. Furthermore, although he majored in mathematics and his naval experience is disbursement, he chose the discipline "pharmacology". Pharmacology is not one of the eleven specified disciplines, although there is some relation to chemistry. The lowest ranked white applicant to receive a fellowship in chemistry was Jeremy Meyers, who had a 3.71 from Stanford University, reference rating of 1-1-1 (truly exceptional), and GRE scores of 740/800/800.

5. Materials science: 68 applications, 4 awards, 4 black applicants.

Christopher Brown was a graduate student and was therefore ineligible.

Karen Crosby had a 3.61 from Southern University, reference ratings of 2-2 (outstanding), and GRE scores of 500/640/510 (competitive). She listed several academic honors and was active in her chapter of ASME. Her goals statement was short and vague. Her research essay was also short but nicely written. It listed her co-ops at General Motors and General Electric, her visits to R&D labs, and her research on tensile properties of ultra low carbon sheet steels. Although she enumerated her research activities, she did not describe them in any detail.

Aszetta Jordan had a 3.4 from Tuskegee University, reference ratings of 3-3-4 (unusual), and no GRE scores. Her goals statement was short and vague, and she wrote no research essay whatsoever. Only one of her references was a professor, who wrote only a few lines; the other references were her supervisors at Hughes Aircraft Company. She first earned an associate's degree at Austin Community College, then entered Tuskegee. At Austin Community College she took no courses in materials science or mechanical engineering; at Tuskegee, however, she took quite a few.

Pascal Zephirin had a 3.22 from City College of New York, reference ratings of 2-3-4 (unusual), and GRE scores of 370/610/510 (mediocre). His essays were well written and described his work with the Z-scan and degenerative four-wave mixing. His failure to submit a transcript made it impossible for the reviewers to evaluate his coursework or to verify his GPA.

The lowest ranked white applicant to receive a fellowship in materials science was Sara Rosenberg. She had a 3.84 from Tufts University, reference ratings of 1-2-2 (truly exceptional), GRE scores of 540/800/760, and impressive research credentials.

6. Physics: 87 applications, 4 awards, 3 black applicants.

Ursula Donatto had a 3.75 from Grambling State University, reference ratings of 2-2-2 (outstanding), GRE scores of 420/560/530 (competitive), and quite a few academic honors. Her essays were well written and specific. She described impressive summer research at AT&T Bell Laboratories and presented papers at three conferences (Louisiana Academy of Science, NAFEO, and NSF). Her letters of recommendation were enthusiastic. One letter was written by a professor and two were written by AT&T personnel; it may have been preferable the other way around. Two reviewers noted her "low" GRE scores. Indeed, her application listed her earlier scores of 360/490/460, but in the back a separate report sheet revealed her improved scores.

Manyalibo Matthews had a 3.21 from University of California-Davis, reference ratings of 3-3-4 (unusual), and GRE scores of 510/750/620 (high). He was a President's Undergraduate Fellow in 1990 and listed several other academic honors. His biographical essays were quite well written and described substantial research experience at the Lawrence Berkeley Laboratories, UC Davis Medical School, Fermi National Accelerator Lab, and the University of Maine's Laboratory for Surface Science and Technology. He also co-authored a paper which was published in Proceedings of the Materials Research Society. His reviewers were enthusiastic, but one professor wrote: "Mr. Matthews' biggest weakness is that he is a little too energetic and sometimes takes on too many tasks. He can overextend himself. This has shown in his grades sometimes."

Paul White had a 3.20 from MIT, reference ratings of 3-4-4 (unusual) and GRE scores of 610/770/620 (high). His research statement was carefully written and detailed. He conducted summer research at Naval Air Development Center and at the AT&T Bell Laboratories, and co-authored a paper for the International Cosmic Ray Conference in Dublin.

The lowest ranked non-black applicant to receive a fellowship in physics was Bryan Fong. He had a 3.94 from Yale University, reference ratings of 2-2-3 (outstanding), GRE scores of 750/800/800, and impressive research experience.

7. Mathematics: 86 applications, 4 awards, 14 black applicants. Ronald McGuire was not competitive.

Afi Davis had a 3.62 from Spelman College, reference ratings of 2-3 (outstanding), GRE scores of 510/690/730 (high), various academic honors and summer research experience at Goddard SFC. Her essays were detailed, substantive, and well written. One letter of recommendation was missing and the other two were brief.

Kelly Debro had a 3.07 from Spelman College, reference ratings of 2-4 (unusual), GRE scores of 370/590/640 (competitive), and several academic honors. She conducted summer research at Purdue University, won first place in Spelman's science competition, and co-authored a paper for Linear Algebra and its Applications.

Chenita Hampton had a 3.6 from Southern University, reference ratings of 1-2 (truly exceptional), and no GRE scores. She co-authored a paper for the journal Nature. Unfortunately, her folder

lacked several documents: a third letter of recommendation, GRE scores, and a transcript. The reviewers were unable to verify her GPA or evaluate her coursework.

Tracy Haywood had a 3.26 from Howard University, reference ratings of 2-3-4 (unusual), and GRE scores of 410/400/340 (low). Her background essays described public service rather than research experience. Her referees also described her potential rather than research involvement.

Sylvia Howard had a 3.48 from Saint Paul's College, reference ratings of 1-2-2 (truly exceptional), and no GRE scores. She had a number of academic honors. Her goals statement and research statement were brief and unimpressive; she described no research involvement whatsoever. One evaluation was written by the sports director, one by the career counselor, and only one by a professor. The first two were very brief; the third was longer, but again, described no research involvement.

Tasha Inniss had a 3.96 from Xavier University, reference ratings of 1-2-2 (truly exceptional), GRE scores of 480/680/590 (competitive), and several academic honors. She was on the dean's list and took two mathematics courses every semester. Her goals statement was short and ordinary. Her experience essay was well written and described her public service as well as research programs at three different universities in coding theory, information theory, linear programming, game theory, random walks, and irreducible polynomials. Although she enumerated the topics she studied, she did not go into any detail concerning the problems she solved.

Andy Knight had a 3.46 from Oakwood College, GRE scores of 390/510/440 (mediocre), and a few academic honors. There was one letter of recommendation from a summer program manager, but it was rather impersonal, and the other two letters were missing. His biographical statement was brief, with several typographical errors, and displayed a leaning toward marketing and actuary.

Alice Livingston had a 3.28 from Southern University, reference ratings of 2-2-4 (outstanding), and GRE scores of 400/560/500 (mediocre). She earned two math scholarships, and conducted summer research at Bell Communications and Unisys.

Rhonda Mitchom had a 3.41 from Spelman College (double major in math and physics), reference ratings of 2-2-3-4 (outstanding), and GRE scores of 530/730/650 (high). Her biographical statements were detailed and substantive and she conducted summer research at AT&T Bell Labs.

Albert Opher had a 3.45 from Hampton University, reference ratings of 1-2 (truly exceptional), and GRE scores of 390/640/430 (mediocre). His essays described research in geodetic ellipsoids, microbursts, and Buckingham Pi theorem.

Djuana Pigford had a 3.50 from Spelman College (double major in math and EE), reference ratings of 3-3 (unusual) and no GRE scores. She conducted research at Ames Research Center and Dryden Flight Research Center for three consecutive summers and was particularly interested in fractals. Both of her referees were mentors at the

NASA facilities; there were no letters from professors. Desmond Stephens had a 3.61 from Delaware State College, reference ratings of 2-2-2 (outstanding), and GRE scores of 520/630/480 (competitive). Among his achievements was presentation of a paper entitled "Applications of the Monte Carlo Method in Partial Differential Equations" on the annual honors day at his college. He attended University of Maryland, Montgomery College and Delaware State; unfortunately, there was no transcript from Delaware State, which as the degree-awarding institution was the most important of the three.

Kimberly Weems had a 3.76 from Spelman College, reference ratings of 1-1-2 (truly exceptional), and GRE scores of 520/680/620 (high). Her biographical essays were articulate and original. She described research in approximating matrix eigenvalues and capacity expansion methods of telecommunications networks. Her long list of academic honors included a publication: "Bounds for Eigenvalues and the Spread of a Real Symmetric Positive Definite Matrix", which appeared in Proceedings: Sixth National Conference on Undergraduate Research.

The lowest ranked white applicant to receive a fellowship in math was Seth Padowitz. He had a 3.8 from Brown University, reference ratings of 1-1-2 (truly exceptional), GRE scores of 670/800/800, and a National Merit Scholarship.

8. Biological/biomedical sciences: 92 applications, 2 awards, 11 black applicants.

Debra Murray was already in graduate school and was therefore ineligible.

Evongeline Melson, Sharvonna Pederson and Ina Swopes were uncompetitive.

David Alexander had a 3.13 from Norfolk State University, reference ratings of 2-4 (unusual), and GRE scores of 560/540/550 (competitive). Her application did not include a college transcript; therefore, the reviewers could not verify her GPA or evaluate her coursework.

Micheal Branham had a 4.00 from Governors State University, reference ratings of 2-2-2 (outstanding), and GRE scores of 420/580/460 (mediocre). His biographical essays were sketchy and unsophisticated. He has not gotten involved in research. The perfect 4.00 GPA pertains only to two semesters at Governors State. He attended four colleges: City College of San Francisco (GPA 2.29 for 12 semesters), Margrove College (GPA 3.5 for one semester), College of Lake County (GPA 2.89 for four semesters), and Governors State University (GPA 4.0 for two semesters). Thus, his cumulative GPA is about 2.66.

Tanya Bynum had a 3.40 from Dillard University, reference ratings of 2-3-4 (unusual), and GRE scores of 360/580/530 (mediocre). She listed quite a few honors and scholarships. She conducted research in muscle contraction as a MARC scholar and in prosthetics at Princeton University. She proposed to enter biomedical engineering, but as a physics major she took more courses in

physics and mathematics than in biology.

Fred Jenkins had a 3.15 from the University of Maryland-Eastern Shore, reference ratings of 2-2-3 (outstanding), and GRE scores of 400/400/350 (low). His stated goal is to earn a master's degree in aquatic toxicology and a PhD in aquatic science, and he selected the discipline "biosciences: toxicology". His background in marine science is strong, with internships at University of Delaware College of Marine Science in Lewes, Shannon Point Marine Center in Anacortes, and Virginia Institute of Marine Science on Gloucester Point, and one of the internships led to a publication in a refereed journal. He may have had a better chance if he had applied to oceanography rather than biology.

Jean Laguerre claimed a 3.50 from Saint John's University. There were no letters of recommendation, no GRE scores, and no transcript in his file. His biographical essays were sincere but juvenile, and they did not reveal any involvement in research.

Sonya Roberts had a 3.24 from Xavier University, reference ratings of 4-4 (above average), GRE scores of 480/520/430 (mediocre), and a few awards. Her experience essay was unpolished, but she described research on the MARC program, at the University of Minnesota, and at the Upjohn Company. Out of the three required recommendations, one was a brief letter from a program director, one was an enthusiastic letter from the Upjohn Company, and the third letter was absent; thus, there were no recommendations from faculty. The enthusiastic letter described her research in antiparasitic drugs, but stated: "She may need a little time to catch up with students who come from a more advantaged background."

Sharon Samuel had a 3.21 from Knox College, reference ratings of 2-4 (unusual), and GRE scores of 480/690/510 (competitive). She had two scholarships, belonged to two honor societies, participated in an honors biology program, and held an ACM minority summer internship.

Biological/biomedical sciences were the most competitive of all 11 disciplines. Although there were 92 applicants, only two awards were made. The lowest ranked white applicant to receive a fellowship was Mark Kaplan, with a 3.86 from Harvard University, a reference rating of 2 (there were two other reference letters without a numerical score), GRE scores of 680/790/800, and membership in Phi Beta Kappa. His articulate biographical essays displayed familiarity with X-ray crystallography, the cystic fibrosis transmembrane conductance regulator, and molecular dynamic simulations.

9. Computer science: 103 applications, 4 awards, 4 black applicants.

Kemafor Anyanwu was a graduate students and was ruled ineligible. Jeffrey Forbes was awarded an UNR-NDSEG fellowship and matriculated at UC Berkeley.

Torrin Sanders had a 3.18 from Hampton University, reference ratings of 2-2-3 (outstanding), GRE scores of 520/620/570 (competitive), several academic honors, and nicely written personal

essays. He also conducted summer research at Bell Laboratories. Derek Walker had a 3.0 from Xavier University, a reference rating of 2 (outstanding), and no GRE scores. He had several academic honors, did summer internships at IBM, and displayed a familiarity with Virtual Telecommunication Access Method. The 3.0 GPA cannot be verified on his transcript; he had 27 transfer credits from Morehouse College, but his GPA from Xavier University was only 2.80. His goal is to become a teacher in a secondary school; he did not express any interest in PhD research.

The lowest ranked white applicant to receive a fellowship in computer science was Brian Lent. He had a 4.0 from University of Nevada, reference ratings of 1-1-1-2 (truly exceptional), and GRE scores of 500/750/640. He received a Presidential Scholarship and the Herz Gold Medal, and his company's software is marketed worldwide in English and in Chinese.

10. Aerospace/mechanical engineering: 158 applications, 4 awards, 6 black applicants.

Malcolm Stanford was ineligible, and Valerie Manning was uncompetitive.

Jamahl Anderson had a 3.02 from Miami University, reference ratings of 4-4 (above average), and no GRE scores. He had a summer internship in the de-icer division of B. F. Goodrich Aerospace, and held a number of scholarships. Although he claimed a 3.02, his transcript and resume show a slightly lower GPA of 2.99. His application lacked GRE scores and the third letter of recommendation. Of the two letters which were submitted, one was very brief and stated: "He is not an outstanding student."

Paul Engola had a 3.2 from MIT, reference ratings of 2-4 (unusual), and GRE scores of 620/730/760 (very high). His long list of awards included the Hughes Research Lab Award, MIT Minority Academic Achievement, NSF Incentives for Excellence, National Achievement Award, and National Merit Commendation. For three summers he worked as a systems engineer at Hughes Aircraft Company. His biographical essays were properly written but he stated frankly, "My research experience to date has been somewhat limited." One referee wrote: "We frequently had to rein him in to limit the scope of his project."

Patrick Hill had a 3.66 from Tuskegee University, reference ratings of 1-2-2 (truly exceptional), and GRE scores of 480/630/540 (competitive). His biographical essays were brief, as were the letters of recommendation. He did not appear to have gotten involved in much research. Worst of all, he did not submit a transcript; the panelists could not evaluate his coursework or verify his GPA.

Troy Lavergne had a 3.6 from Southern University, reference ratings of 1-1-1 (truly exceptional), and no GRE scores. He listed a few awards and honors, and participated in various extracurricular activities. His research experience was limited to a summer internship at Allen-Bradley Company and NASA's Orbit Targeting Bench Program, which was not related to his career goals. His

stated goal was the master's degree; he did not express any interest in the PhD.

The lowest ranked white applicant to receive a fellowship in aerospace/mechanical engineering was Ann Barnes. She had a 3.92 from Virginia Polytechnic Institute, reference ratings of 1-1-2 (truly exceptional), and GRE scores of 470/800/680. She received scholarships from DuPont, Alcoa and NSF, among others, and also a scholarship to study in Japan. Her essays were long and intricate and displayed impressive experience with robot vision systems.

Electrical engineering: 157 applications, 4 awards, 11 black applicants.

Thomas Barkley, Wendell Knight, and Antonia Lindsey were graduate students and were rated competitive.

John Taylor was competitive. William Thomas was selected by AFPA for an NSEEG award and was a graduate student at Stanford University.

John Anderson had a 3.0 from Lawrence Technological University, reference ratings of 1-1-4 (truly exceptional), and GRE scores of 440/700/600. He participated in a Ford Company Hydrogen Energy Research Program and conducted research at the Stanford Linear Accelerator Center and held a summer internship at IBM. He was also a member of a physics oriented program at the University of Michigan.

John Howard had a 3.0 from MIT, reference ratings of 1-1-2 (truly exceptional), and GRE scores of 440/700/600. He held a summer internship at IBM and conducted research at the University of Michigan. His essays were well organized and he seemed to have a good grasp of the field of mechanical systems and computer systems.

John Porter had a 3.0 from Prairie View A&M, reference ratings of 1-2-2 (truly exceptional), and GRE scores of 440/700/600. He conducted summer research at the MIT Lincoln Lab and also was a Motorola fellow. His goals statement was specific, but his research experience statement was brief.

Ray Sutton had a 3.90 from Prairie View A&M, reference evaluations of 1-2-2 (truly exceptional), and no GRE scores. He was a National Scholar, a Kodak scholar, and a Texas Space Grant recipient. He designed a low power video timing module on a summer program at UC Berkeley. He had hands-on work experience with computers and electrical devices and seemed to have the makings of a good engineer. For example, he designed a low power video timing module during a summer program at UC Berkeley. His biographical statements were flighty and disorganized, however, and his research to date lacks focus.

Jeffrey Thomas had a 3.86 from Norfolk State University, reference ratings of 1-1 (truly exceptional), and GRE scores of 390/570/540 (competitive). He received the DNIMAS scholarship (Dorsett National Institute for Minorities in Applied Sciences), belonged to two honor societies, and held summer internships at Georgia Tech.

Research Institute and MIT Lincoln Laboratory. His essays were organized and articulate.

Laurence Ward had a 3.2 from MIT, reference ratings of 3 4 4 5 (above average), and GRE scores of 620/760/640 (high). He spent six summers at the AT&T Bell Laboratories and specialized in digital design. His essay was articulate and substantive. Two letters of recommendation were from AT&T supervisors. While they both praised his conscientiousness and perseverance, they also wrote: "Our contact with him was limited. His technical assignment was limited in scope and activity. In some cases he would repeat the same mistakes for some of the tasks he was assigned. In terms of intellect, I would guess he might fit in as an average member of the R&D population. He was a little less mature than most students his age."

The lowest ranked white applicant to receive a fellowship in electrical engineering was David August. He had a 4.0 from Rensselaer Polytechnic Institute, reference ratings of 4 4 4 4 (exceptional), and GRE scores of 560/800/700. He was in the engineering honor societies and received the Rensselaer Medal Scholarship.

COMMENTS

In order to attract qualified African American students, applicants ASEE placed a full page advertisement in the August issue of Black Engineering magazine. The ad stated that ASEE was seeking applications for the August issue of MSJEE. The ad also stated that the magazine was published by the National Association of Black Engineers (NABE) and that the magazine was a leading source of information for African American engineers.

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As a result of the advertisement, several African American students applied for the August issue of MSJEE. The ad also stated that the magazine was published by the National Association of Black Engineers (NABE) and that the magazine was a leading source of information for African American engineers. The ad also stated that the magazine was published by the National Association of Black Engineers (NABE) and that the magazine was a leading source of information for African American engineers.

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which would make it difficult to get into graduate school, let alone compete for this fellowship. Five applications were woefully incomplete (Clay, Frazier, Andy Knight, Laguerre, Walker).

A number of black students chose inappropriate disciplines. For example, Tanya Byrum applied to biological/biomedical sciences, but had more courses in math and physics. Charlie Clay's interest was nuclear waste management, but he applied to oceanography. Fred Jenkins had a strong background in marine sciences, the least competitive discipline, but applied to biology, the most competitive discipline. Andy Knight applied to math, but his background was marketing and activity. Charles Williams had a background in mathematics and engineering, but applied to physics, which is not one of the specified disciplines.

Some of the students who applied to the program were not qualified. For example, Thomas and Wayne were good students with no particular talent in the field. The competition was very high. For example, many students applied to the program for the first time.

After the deadline for applications, the committee of the program was able to award the fellowship to a student.

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Octavia Blount received her baccalaureate from Lincoln University. As an ONR fellow she studied in the physics department of Drexel University from 1987 to 1991. She also conducted summer research at Naval Air Warfare Center and Naval Research Laboratory. At NRL she worked on nuclear interactions of high-energy cosmic ray nuclei, radiation protection of astronauts during long-duration future space flights, and deleterious effects of radiation on microelectronic computer components. She was highly thought of at NRL and accompanied NRL personnel to a conference in Italy.

Charles Coleman received his baccalaureate in aeronautics and astronautics in 1987 from MIT. He was an ONR fellow from 1989 to 1992 in the electrical engineering and computer science department of the University of California Berkeley. Currently, he is completing experiments for a research project on voltage controlled motion of paramedium multimicronucleation. He anticipates receiving his Ph.D. in June 1995.

Dakie Doakes received her baccalaureate from Delaware State College and pursued graduate study in the University of Delaware's School of Life and Health Sciences from 1989 through 1992. She received a Master's Degree in 1992. Her thesis title was "Changes in the Outer Membrane of Enterobacter faecalis during recovery from antibiotic chemotherapy."

Robert Kelley received his baccalaureate from Cornell. As an ONR fellow he studied in the electrical engineering department of Cornell University from 1987 to 1990. He also conducted summer research at NRL. He received the Ph.D. in 1993. His thesis title was "Molecular Dynamics of Membranes."

John M. ... received his baccalaureate from Cornell. As an ONR fellow he studied in the electrical engineering department of Cornell University from 1987 to 1990. He also conducted summer research at the Naval Air Warfare Center. He received the Ph.D. in 1993. His thesis title was "Molecular Dynamics of Membranes."

Robert ... received his baccalaureate from Cornell. As an ONR fellow he studied in the electrical engineering department of Cornell University from 1987 to 1990. He also conducted summer research at the Naval Air Warfare Center. He received the Ph.D. in 1993. His thesis title was "Molecular Dynamics of Membranes."

John ... received his baccalaureate from Cornell. As an ONR fellow he studied in the electrical engineering department of Cornell University from 1987 to 1990. He also conducted summer research at the Naval Air Warfare Center. He received the Ph.D. in 1993. His thesis title was "Molecular Dynamics of Membranes."

Film Heterostructure." He received a master's degree and completed his tenure as an ONR fellow in 1993. Unfortunately, he has abandoned his pursuit of the PhD, at least for the time being,

Allen Williams received a BS in biology in 1983 from Jackson State University, and was an ONR fellow from 1988 through 1991. He studied in the department of physiology and cellular biology of University of California at Santa Barbara. His thesis title was "Molecular pharmacology of marine natural products on multidrug resistance in mammalian cells." Mr. Williams anticipates receiving the PhD in December of 1993.

# ASEE



## American Society for Engineering Education

August 31, 1993

Dear Dr. Bay:

About two years ago, you were kind enough to complete and return to me a form supplying your current mailing address and activities. I would like to keep my information current, and plan to touch base with you at least every other year. Could you, therefore, fill out the enclosed questionnaire and return it to me? ASEE's new mailing address is Suite 600, 1818 N Street NW, Washington, DC 20036 2479.

The information which you and other ex fellows supplied was useful. I compiled it and presented it to the ASEE Fellowship Advisory Committee and to ONR headquarters. The program managers at ONR, in turn, presented it to the Chief of Naval Research and members of Congress.

The committee and ONR were extremely impressed and satisfied with the achievements of the ONK fellows. Although they expected a great deal from the program, they were nonetheless surprised at what the fellows attained in a short period of time. The consensus was that twenty years from now the ONK fellows will be the leaders in their fields and that the funds which were allocated to fellowships are funds well spent.

Nevertheless, Congress is asked to fund many worthwhile programs. ONK needs to be able to report on the long range effects of its fellowship program in order to compete for limited funds. Please keep in touch with us.

Yours truly,

Jeffrey E. Larner  
Program Manager  
Projects Department

cc: J. Hughes

cc: [unclear]

**AMERICAN SOCIETY FOR ENGINEERING EDUCATION**

**DOD GRADUATE FELLOWSHIP**

**TRACKING FORMER FELLOWS**

Today's Date \_\_\_\_\_

Name: \_\_\_\_\_

Mailing Address: \_\_\_\_\_  
\_\_\_\_\_

Phone # \_\_\_\_\_

Date Ph D was Awarded \_\_\_\_\_

Dissertation Title

Current Employer

Title

Other Comments Achievements etc

**NOTE: Please return this form to Jeff Jarosz, DOD Program Manager**

**ASBE**  
1818 N Street NW Suite 600  
Washington DC 20036

**PHONE (202) 331 3525**  
**FAX (202) 265 8504**

## ACCOMPLISHMENTS AND QUOTATIONS

Daniel Abramovitch:

"Terrific. One of the best sources of graduate funding available."  
Papers presented at IEEE Conference on Decision and Control 1987, MILCOM88, American Control Conference 1989, and IEEE Conference on Decision and Control 1989.

Having the ONR fellowship was certainly a large factor in my being able to complete my doctorate."

William Allen:

7 publications.

Brooke Anderson:

Published 3 papers and gave a talk at an international conference.

Dean Anderson:

"Instrumental in my decision to attend grad school. It is paying off for me now."

James Anderson:

"Without this program I would not have pursued graduate degrees. It got me far enough along that I will definitely finish the PhD. I am active in the neural network research field, having published 3 papers and independently developed basic elements of the mean field approach to optimization with neural networks."

Janet Bergschneider:

"I appreciate the opportunity to be in a position to teach in an academic environment."

Stephen Breit:

"I am currently leading BBN's work on the hydrodynamics sub-program of the DARPA Advanced Submarine Technology Program. I have also received funding from the ONR Advanced Research Initiatives, and the BBN Internal Research and Development program. I presented a paper based on the IR&D work at the Symposium on Hydrodynamic Performance Enhancement for Marine Applications (sponsored by NUSC on 30 November 1988). Published in Journal of Fluid Mechanics.

Kenneth Breuer:

2 papers in Journal of Fluid Mechanics.

Kent Budd:

3 patent applications filed.

Bruce Carroll:

"I give my enthusiastic endorsement of the ONR fellowship. It greatly enhanced my grad school experience. I feel especially fortunate to have participated in the summer internship. My experience there helped me to identify a dissertation topic and I was able to secure funding from ONR to help finance the research I am exploring the possibility of working this summer via the Navy-ASEE summer faculty program."

Papers published in Journal of Fluids Engineering and IEEE publication.

AIAA paper presented at the National Fluid Dynamics Congress in Cincinnati in July 1988

Clara Chan

Published in SIAM Journal

Philip Scott Coakley:

"No other scholarship I know of is administered in so personal a manner. Over the last three years both ONR and ASEE have been incredibly helpful on every occasion I have dealt with them. Once again, thank you for your support."

John Coulter:

"At the time of my graduation I had authored 9 professional publications and developed 3 computational software packages. This achievement was influenced by the fact that due to the fellowship I could focus on research full time without worrying about funds. Since coming here I have published papers regularly (3-4 per year), have several patents, and currently lead Lord's research effort in the area of smart materials and structures. The ONR program is responsible for helping me lay the foundation for my success. I am very appreciative to ONR and ASEE."

Hugh Crenshaw:

"The following were all made possible by my ONR fellowship  
Development of a machine to track the motion of microorganisms.  
discovery of a previously undescribed mechanism by which single  
cells orient to stimuli, one paper submitted to Biophysical Journal  
several papers in preparation "  
Awarded an NSF research grant to continue thesis work

Brian Damkroger

"Program is excellent. I would like to serve on the selection committee."

John Deaton

"I had already decided on grad school. Nevertheless, it was a big confidence builder to discover that ONR had faith in my capability. I still keep in touch with the folks I worked with at NRL, DTIC and

NOSC and I have ONR to thank for those contacts. My interest in research will last long past my grad career. I'm hooked!"

Ted Delianides:

"I'm still very thankful ASEE and ONR gave me this great start on my career."

Steven Den-Baars:

Best student paper award at Electronic Materials Conference in Santa Barbara, fall 1987. Outstanding grad student leader award 1988 USC.

3 papers published, 2 papers submitted, 4 conference presentations.

Suzanne Dietrich:

"The fellowship provides a significant degree of encouragement beyond financial support that is essential for the completion of a doctorate. I am glad I did not have to decide between pursuing the degree and getting a job. I am proud to have been an ONR fellow."

Philip Erickson

"Thank the entire staff at both ASEE and ONR for making my tenure so enjoyable. I cannot emphasize enough how much the support has aided me in my studies by giving me ample peace of mind. This allowed me to really concentrate on coursework and helped me find a thesis topic which was right for me without any sense of financial pressure which too many of my fellow graduate students face daily. As a result, my research is well along and my goal of a five-year degree is very possible."

Gerald Feigin

Spending a year at Institut National de Recherche en Informatique et en Automatique in France continuing PhD research.

Henry Edward Fischer:

"I felt very fortunate to receive an ONR fellowship, it greatly helped to smooth my graduate studies."

James Fleming:

Alexander von Humbolt postdoctoral fellow.  
January 1987 through May 1988 at the Hahn-Meitner Institute in West Berlin.

Lance Fortnow:

Written up in Science and New York Times for work in interactive proof systems.

Ronald Glumb.

Senior section head, TRW Space and Technology Group.  
Elected to AIAA Plasmadynamics and Lasers Technical Committee

Robert Goldberg.

Received baccalaureate at age 18.

Timothy Griesser

"My journal and conference papers published under this award during my PhD years. I would never have been able to complete my PhD without this program."

Paul Griffith

Dissertation was presented as a paper at the OSA annual meeting and will soon be submitted as a journal article

Glynn Holt:

"I couldn't have done it without you!"  
8 publications in refereed journals.  
5 invited papers.

Joseph Humphrey:

"I have started a small business conducting research in fluid mechanics and propulsion. It has been quite successful and has strong potential."

Scott Jones:

Principal author of invited review article in Optical Engineering 1989.

Mark Karol:

Associate editor, IEEE Journal of Lightwave Technology.  
8 patents (+ 4 pending)

Fouad Kiamilev:

"Your support has allowed me to make a large number of contributions to the knowledgebase of optoelectronic technology. Under your fellowship I have produced 10 journal papers and 18 conference presentations. It helped me travel to Japan and present an invited talk at Optical Computing 1990 conference in Kobe. Throughout all my publications I have proudly mentioned the support of ONR in my work. I have been encouraging beginning graduate students in our department to apply to your program. Your farewell letter enabled me to secure RA funding from my university until the completion of my PhD. By the way, I would like to request another copy of the application to join ASEE."

Douglas Kindred:

Presented papers at 6 conferences including Italy and Japan.  
3 papers in refereed journals.  
Bill Price Memorial Scholarship in Optical Engineering.

Philip Klein:

"I am grateful to ONR for supporting my first three years of grad school. I finished in one additional year. I expect to have a teaching/research position in a university next fall. Thanks also to ASEE for administration of the program."

Thomas Knoll:

"I founded a company, Knoll Software, to develop advanced image processing software for the Apple Macintosh II personal computer. Our program will bring to this relatively inexpensive platform capabilities previously existing only on systems costing over \$200K each. Running the company has required all of my time and I have not completed my dissertation. The image-processing program (Adobe Photoshop) has been a fantastic success. It has won many industry awards including 1990 Software Product of the Year from MacUser magazine and 1990 Product of the Year from Personal Publishing magazine."

Steven Leeke:

Nominated for Outstanding Young Electrical Engineer in the U.S.

Richard Leighton:

NRC Resident Research Associate 1986-1989  
2 journal publications

Mark Lewis:

Henry Webb Salisbury award from MIT department of aeronautics/astronautics for highest academic achievement.  
GWU Medal for Engineering Excellence. Elmira College Key.  
Five papers published by AIAA and American Physical Society.  
Outstanding Teacher Award by University of Maryland College of Engineering.

Ellice Luh:

8 publications in electronics packaging.  
3 patents filed.

Franklin Miller Maley:

Received baccalaureate at age 16.  
NSF Mathematical Sciences Postdoctoral Research Fellowship.

James Maley:

"The program helped me to get the PhD I would not have otherwise attempted due to financial limitations. My MS thesis was #5 in the National Industrial Engineering Thesis Competition."

Carl Nett:

7 papers published in archival journals.  
1 book (co-authored).  
16 conference presentations.  
2 patents.  
Allen Dumont prize from RPI 1986, GE managerial award 1987.  
Invited to deliver keynote address at 1990 Applications of Multivariable System Techniques conference in Cambridge, England 1990.

Kenneth Ogilvie:

Rackham pre-doctoral fellowship 1987-88.  
Several co-authored papers published by ASME.

Peter Papavaritis:

"Your office always seemed to act with the needs of the fellows in mind. I hope that programs like this don't fall to the budgetary axe; they actually become less expendable with the need to support a shrinking but ever more technically advanced military."

Annette Parent:

Working on the third publication of her graduate work.  
Postdoc fellowships from NIH and American Heart Association.

Thomas Parrill:

Published 6 articles on thesis research.  
3 presentations at technical conferences.  
Submitted 1 IBM confidential technical report.

Randy Pausch:

"The ONR fellowship makes it possible for top students to pursue their interests at smaller schools without fear of discontinuation of funds. It also sends a signal to society that academic achievement is rewarded with tangible results."

Andrew Peterson:

15 articles published in journals.  
3 articles submitted.  
31 conference publications.  
1 patent.  
University of Illinois Bronze Tablet, Jordan Award for Academic Excellence in Electrical Engineering, Edmund James Scholar in Electrical Engineering.  
Principal investigator for NSF grant (National Center for Supercomputing Applications).

David Mark Pierce:

Paper presented at conference on simulating adaptive behavior,  
Paris 1990.

Michael Plesniak:

"Without the ONR fellowship I may not have been able to pursue my  
PhD."

Lesley Polka:

Presented papers at 2 international conferences.

Branko Radosavljevic:

Presented paper at International Symposium on Information Theory,  
Budapest, 1991.

Scott Reynolds:

"Few US students pursue PhDs in science and the reasons are  
mostly financial. Talented students tend to study law, business or  
medicine. University research is increasingly conducted by foreign  
students. Many of my colleagues at Stanford and IBM are not  
Americans. It is unsound to base a technological society on the  
scientific talents of other nations.

I would have attended grad school without the ONR fellowship but I  
may not have stayed the 4+ years required for a PhD. My studies  
were frustrating enough without the financial concerns I would  
have faced. A student who leaves school with a master's in  
engineering has 3 years of seniority over a PhD candidate.  
The unit price of the B-1 bomber will fund 1,000 students for four  
years."

Alfred Riddle:

"The ONR fellowship allowed me to do research in oscillator noise. The techniques developed have been applied to improving Avantek FETs and oscillators. The work brought out many ideas which will produce publications and products for years. I used my dissertation to found a well-received course in noise at Santa Clara University."

Linda Rinaman:

7 papers in journals.  
1 book chapter.

Gordon Roesler:

Discovered anisotropy (crystal orientation dependence).  
Gave contributed talk to American Physical Society 1990.

Tracy Romano:

"I can't begin to express how much of an impact the fellowship has had on my graduate career. One of the most unique opportunities has been carrying our research at NOSC for the past four summers. I have combined my studies at Rochester with what I have learned at NOSC to formulate my thesis project."

Ronald Roy:

"I could not have completed my education without the ONR fellowship. Much of my work has to do with Navy-related activities. It appears that all parties have benefitted from this program."

James Schaffer:

Ralph R. Teeter Educational Award from Society of Automotive Engineers 1989.

Kevin Schultz:

Awarded a patent for a thin-film disk overcoat design.

Hyunjune Sebastian Seung:

7 publications.

Neil Singer:

"Started my own company to market the results of my PhD work, which were patented by MIT. I have received an NSF-SBIR (small business innovation research) grant.

Theoren Smith:

"One of the best programs I have seen. A tremendous benefit to me."

32 publications.

Manager of 5 research groups at IBM.

Scott Sneddon:

"The fellowship was invaluable in helping me reach my goal."

Harlan Spence:

Awarded commendation for the outstanding student paper presented at the American Geophysical Union in 1988.

10 refereed publications.

Lead investigator on CEPPAD/Polar Imaging Proton Spectrometer experimented to be flown by NASA in 1992.

Co-investigator on 2 NASA grants.

Kyle Squires:

Formerly NSF Visiting Research Fellow at Ship Research Institute in Tokyo.

Currently postdoctoral researcher at Center for Turbulence Research at Stanford.

"I cannot emphasize enough that all of the valuable and beneficial experiences during my graduate study were initiated by the graduate fellowship I received from ONR. The cost of graduate study is becoming prohibitive, which makes fellowship programs such as that funded by ONR all the more valuable. Given the cost of tuition and fees at Stanford it would have been simply impossible for me to support myself there. One of my most vivid memories of my stay in Japan was the increased commitment the Japanese government is making to scientific research and development. For the US to remain a leader in areas such as basic research and development graduate fellowship programs such as that supported by ONR are vital. I congratulate you on all your hard work in making the fellowship program a success. I am also glad to see that ASEE and ONR are interested in maintaining contact with past fellowship recipients."

Ken Stewart:

"Gave me the opportunity to pursue my own research interests without the usual pressures on a grad student to pursue his advisor's interests."

Author of 20 scientific publications.

Member of 8 professional societies.

Dan Thoma:

"The fellowship has allowed a unique opportunity for me to pursue research which may have not been possible five years ago. The Nb-Cr systems is only recently being considered for material applications in a high temperature environment. The fellowship funding permitted me an early chance to explore the phase stability in NbCr<sub>2</sub>-based alloys, and as a result I will be able to contribute significant research to the emerging literature. As in the past, I would like to thank ONR for the fellowship."

Frederick Vachss:

"I was able to attend some research conferences during my graduate career at which I did not present papers. The standard rule for grad students is: 'Don't give paper - don't attend conference.' Relaxation of that rule enabled me to maintain a presence among colleagues, and the feedback from researchers in competing groups helped me to refine my thesis topic. The level of support is greater than most other fellowships such as Hertz and NSF. The extra \$100 a month makes a big difference. ONR makes no demands as the Hughes fellowship does. I was able to afford a private apartment and car. It may not seem like much, but having a quiet place to work and sleep increases productivity. I now work for Rockwell Science Center in the applied optics department and was appointed program manager on a project for ONR."

18 joint publications.

PI for programs in signal processing.

David Van Aken:

ONR Young Investigator.  
NSF-PYI.

Barry Van Veen:

"I would have completed a PhD without the ONR fellowship but would not have reached the same professional level if I were faced with the restrictions and constant struggles for funds.

Programs like the ONR fellowship have an impact on more people than the fellows. The ONR funds free up TAs for other qualified students. The advisors also benefit. I worked on a problem in an area in which my advisor had not done research. As a result his research program has broadened."

Tenured at University of Wisconsin.

Recipient of NSF Presidential Young Investigator award (\$125,000).

ARO grant \$233,000.

Published 40 journal and conference papers.

Best paper award (author under 30) from IEEE Signal Processing Society 1990.

Invited book chapter 1992.

Elected to IEEE Signal Processing Society's technical committee.

"I truly believe the ONR award was critical in preparing me for this career."

Frederick Von Preissig:

"If I had been a typical research assistant my choice of an advisor and topic would have been determined by which professor had money available at the beginning of my studies."

2 journal articles published.

Dawn Wooley Burns:

5 journal articles published.

Joseph Yang:

"The three years I held the ONR fellowship were the best of my PhD program. Freed from the burdens of teaching or research assistantships, I was able to study a broad range of fundamental subjects. Later, when my fellowship ran out, I had to spend more time 'earning my keep' and less time on pure academics."

Michael Zoltowski:

Principal investigator for 6 grants from NSF, Purdue, GE & NOSC totalling \$163,000.

1 book contribution.

7 serial journal articles.

23 conference presentations.

5 invited lectures.

2 technical reports.

Up for tenure at Purdue - "full circle".

Stanislaus Zygmunt:

"My completion of the PhD in 4 years is due to ONR support and the resulting freedom for full-time research. I hope to continue in university education and research.

# ASEE



## American Society for Engineering Education

September 30, 1993

Dear Grenmarie:

Your tenure as an Office of Naval Research Graduate Fellow has ended. ONR and ASEE realize that the time required to go from baccalaureate to doctorate is closer to five years than to three. However, by now you have probably earned your master's degree and completed all coursework for the PhD. By this time you should be a valuable asset to any university department as a teaching assistant or research assistant. I hope you can secure such an assistantship for the remaining two years.

I did a little calculation and learned that three years of tuition/fees, stipends, and department allowances at some U.S. institutions amounts to \$131,880. You can see that if ONR is to continue offering fellowships to incoming students, it must limit their duration.

Even though your tenure as an ONR Fellow has ended, ONR and ASEE are very anxious to keep in contact with you. We would appreciate being informed of your whereabouts and your activities. It is quite likely that in the course of your studies and career you will take advantage of other programs sponsored by ONR or ASEE.

Would you mind filling out the enclosed form and returning it to me promptly? It requests your current mailing address and telephone number, and your immediate plans.

I am enclosing two other items which may be of interest. One is the ASEE membership booklet. You may wish to join ASEE, especially if you plan to go into teaching. The other item is a 10-page list of other funding sources. I compiled the list informally over the years and some of the data may not be current.

Best of luck in your studies and career, and keep in touch!

Yours truly,

Jeffrey P. Jarosz  
Program Manager  
Projects Department

PS One other thing -- please be sure to acknowledge ONR's support in your dissertation and other publications.

1818 N Street, N.W.  
Suite 600  
Washington, D.C. 20036  
Main (202) 331-3500  
Fax (202) 265-8504

Today's Date \_\_\_\_\_

Name \_\_\_\_\_

Mailing Address \_\_\_\_\_  
\_\_\_\_\_

Telephone Number \_\_\_\_\_

Please check one of the following three sentences and answer the adjacent questions.

I. I am continuing my pursuit of the Ph.D. full time. \_\_\_\_\_  
Name of institution \_\_\_\_\_  
Anticipated date of completion \_\_\_\_\_

II. I am pursuing my Ph.D. part time and working part time. \_\_\_\_\_  
Name of institution \_\_\_\_\_  
Anticipated date of completion \_\_\_\_\_  
Employer \_\_\_\_\_  
Position \_\_\_\_\_

III. I have abandoned, at least for now, my pursuit of the Ph.D. \_\_\_\_\_  
Employer \_\_\_\_\_  
Position \_\_\_\_\_

# ASEE



## American Society for Engineering Education

### MEMORANDUM

**FROM:** American Society for Engineering Education

**TO:** Participants in the Department of Defense (DoD) Fellowship Program

**SUBJECT:** Stipends and Banks

Your monthly stipend will be transferred electronically to your bank on the first working day of the month. You can choose whether the stipend is transferred to a checking account or a savings account. For either type of deposit you must fill out the enclosed "Authorization Agreement for Direct Deposit" and return it to Jeff Jarosz, DoD program manager. In addition, for deposit into a checking account you must include a voided, blank check; and for deposit into a savings account you must include a blank deposit slip. You do not have the option of splitting your stipend between two accounts, nor of receiving your stipend in the form of a "live check" through the mail.

If you have not yet opened an account near your graduate institution, you can wait until you relocate to your graduate institution, open a bank account, and then furnish ASEE with the form and blank check/deposit slip.

**PLEASE NOTE:** Your first stipend will not be deposited electronically, but will be mailed to you in the form of a "live check". Meanwhile, ASEE's bank will test the information you have provided by attempting to transfer \$0 to your account. If the test is successful, your subsequent stipends will be transferred electronically and ASEE will mail you a non-negotiable monthly statement.

Credit unions often use affiliated banks for electronic transfer services. If you use a credit union, be sure to verify that the 9-digit transit ABA number appearing on your check/deposit slips is the appropriate number for direct deposit transactions.

1818 N Street, N.W.  
Suite 600  
Washington, D.C. 20036  
Main (202) 331-3500  
Fax (202) 265-8504

**AMERICAN SOCIETY FOR ENGINEERING EDUCATION**  
**DOD GRADUATE FELLOWSHIP**  
**AUTHORIZATION AGREEMENT FOR DIRECT DEPOSIT**

I hereby authorize the American Society for Engineering Education, hereinafter called company to initiate credit entries to my checking  savings  account indicated below and the depository named below, hereinafter called depository, to credit the same such account, and, in the event a credit is made to my account in error, I authorize company to make a correcting entry under the condition that I am notified of said adjustment.

ACCOUNT NUMBER: \_\_\_\_\_ CHECKING  SAVINGS

DEPOSITORY: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

BANKING TRANSIT NUMBER: \_\_\_\_\_  
(Always 9 Digits)

This authorization is to remain in full force and effect until company has received written notification from me of its termination in such time and in such manner as to afford company a reasonable opportunity to act on it.

SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_

STUDENT'S NAME: \_\_\_\_\_

**NOTE: Please include a copy of a void check or deposit slip and return this form to Jeff Jarosz, DOD program manager.**

**ASEE**  
**1818 N Street NW, Suite 600**  
**WASHINGTON DC 20036**

**PHONE (202) 331-3525**

**FAX (202) 265-8504**



## American Society for Engineering Education

11 Dupont Circle, Suite 200 • Washington, D.C. • 20036-1207 • Tele: (202) 986-8500 • Fax: (202) 265-8504

January 29, 1993

To: Department of Defense Fellows

From: Jeff Jarosz, Program Manager, Contracts and Grants

Subject: Tax

The 1099 form which I mailed you recently was incorrect. You should discard it or put it aside. I will mail you a corrected 1099 form shortly.

The incorrect 1099 was not sent to IRS.

The corrected 1099 should show the total amount of money disbursed to you by ASEE in tax year 1992 in box three (prizes and awards). Keep in mind that this past autumn ASEE began disbursing your stipend on the last working day of the previous month. For example, your stipend for the period December 1 through December 31 was issued on November 30. The effect of that policy is that your January 1993 stipend was disbursed on December 31, 1992 and will therefore be reported as earnings in tax year 1992. Your 1099 may therefore represent thirteen monthly stipends.

ASEE has consulted with several attorneys, IRS agents and DoD representatives and has found a difference of opinion concerning the taxability of your fellowship. One IRS agent informed me that your stipend amount should be reported on the line for "other income" on form 1040 followed by the letters SCH. In that agent's opinion, your stipend would be subject to federal income tax but not to self-employment tax.

You are welcome to consult with your own attorney, adviser or tax publication 520; or to call your local IRS office. Keep in mind that when IRS states that form 1099 should not be used to report a fellowship grant, it is referring to educational expenses, i.e., the tuition payments which ASEE makes directly to your university on your behalf; it is not referring to living expenses, i.e., your monthly stipend.

(If you use part of your monthly stipend for educational expenses such as books, that portion may be tax exempt. It would be wise to keep records of any educational expenses that you intend to exclude from income.)

Give me a call promptly if you suspect that the second 1099 form you receive is incorrect.

**DISCLAIMER:** Only the Internal Revenue Service can make authoritative statements concerning income tax. ASEE's obligation is to report the amount of money it disbursed to you during tax year 1992. ASEE can give only general guidance concerning income tax.

cc: D. Hughes, ONR  
B. Wilcox, DARPA