

WHAT SHOULD WE TEACH?

2YC₃
TWO YEAR COLLEGE CHEMISTRY CONFERENCE
DIVISION OF CHEMICAL EDUCATION
AMERICAN CHEMICAL SOCIETY

November 13 and 14, 1987

Florida Community College

Jacksonville, Florida

1987 EXECUTIVE COMMITTEE

CHAIRMAN	IMMEDIATE PAST CHAIR	CHAIR-ELECT	TREASURER/ COLLEGE SPONSOR
Edith Bartley Tarrant Co. Junior College 5301 Campus Dr. Ft. Worth, TX 76119 (817)531-4754 Home (817) 498-2177	Onofrio Gaglione New York City Technical Coll. 300 Jay Street Brooklyn, NY 11201 (718)643-3488 Home (718) 331-5780	Ralph Burns St. Louis Comm. College-Meramec 11333 Big Bend Blvd. St. Louis, MO 63122 (314)966-7718 Home (314) 225-9253	John Clevenger Truckee Meadows Comm. College 7000 Dandini Blvd. Reno, NV 89512 (702)673-7221
MEMBERSHIP CHAIR	INDUSTRIAL SPONSORS CHAIR	PAST CHAIRS	
Mike Knoll Vincennes University Jr. College Vincennes, IN 47591-9986	Elliott Greenberg Prairie State College P. O. Box 487 Chicago Heights, IL 60466	Jay Bardole Marian Baker Tamar Susskind Douglas Bond Katherine Weissmann Paul Santiago John Mitchell	

ACS Liaison

Jim Bradford
American Chemical Society
1155 Sixteenth Street
Washington, DC 20036
(202) 872-4587

AGENDA

Committee on Chemistry in the Two-Year Colleges

Friday, November 13, 1987

General Meeting, Florida Community College

- I. Introductions
- II. Approval of the minutes from the Lincoln meeting
Executive meeting minutes, page 1
Open meeting minutes, page 4
- III. Reports
 - A. Chair--Edith Bartley
 - B. Lincoln meeting--John Kenkel (Edith Bartley)
 - C. Jacksonville meeting--Wendell Massey
 - D. Toronto meeting--Murray Morello (Edith Bartley)
 - E. Membership--Mike Knoll, page 7
 - F. Treasurer--John Clevenger, page 8
 - G. College Sponsors--John Clevenger, page 9
 - H. Industrial Sponsors--Elliott Greenberg, page 11
 - I. Meeting sites--Ralph Burns, page 12
 - J. Committee Roster, page 15
 - K. ACS Two-Year Colleges Program--Jim Bradford, page 15
- IV. Old business
- V. New business

2YC₃ EXECUTIVE COMMITTEE MEETING
97th CONFERENCE

Villager Motor Inn, Lincoln, NE
Thursday, October 15, 1987

Members present: Edith Bartley, Dick Gaglione, Ralph Burns, John Clevenger, Elliott Greenberg.

Guests present: John Kenkel, Leo Kling, III.

OPENING: Edith Bartley, Chair, called the meeting to order at 7:50 p.m. and distributed updated copies of the detailed agenda.

MINUTES: Minutes of the Executive Committee for the 96th Conference (Rockville, MD) were approved as printed in the Agenda Book pages 1-2.

CONFERENCE REPORTS:

The 97th 2YC₃, Southeast Community College, Lincoln, NE:

John Kenkel, Program Chair, reported that 61 persons had pre-registered and 12 industrial sponsors plan to have exhibits at the conference. Committee members expressed appreciation to John for planning an excellent conference.

The Newfoundland C₃ meeting was held in early June and was attended by Edith who reported that all persons attending the 100th Conference at Toronto should be 2YC₃ members to avoid an additional C₃ membership charge. The registration fee is to be about \$25.00 or \$30.00 Canadian dollars. American companies must contact the Industrial Sponsors Chair to avoid extra charges.

FUTURE MEETING SITES:

Ralph distributed lists of future meeting sites and personnel with recent changes and additions underscored. This list is on pages 12-14 of the 97th Conference Program Book, and is summarized here with changes underscored:

100th Conference: Toronto Date 06/02-04/88 in conjunction with Natl. ACS Mtg. 06/05-11/88. The 2YC₃ Program Co-Chair is Mark Amman, SUNY Ag and Tech. College, Alfred, NY 14802 (607) 587-3690.

101st Conference: Purdue Univ., W. Lafayette, IN. (Held in conjunction with 10th Biennial Chem. Educ. Conference.) Program Chairs, Doris Kolb, Bradley Univ., and Tamar Susskind, Oakland C.C. Auburn Hills Campus (303) 853-4325.

102nd Conference: Pittsburgh, PA Date 10/14-15/88, Community College of Allegheny, 808 Ridge Ave., Pittsburgh, PA 15212, Program Chair is Barbara Rainard (same address).

103rd Conference: Kansas City, KS Date 11/18-19/1988 Program Chair is David W. Klein, Kansas City Kansas C.C., Local Arr. Chair is Sam Crawford, Johnson County C.C., College Blvd. at Quivira Rd., Overland Park, KS 66210, Office (913)-469-8500.

104th Conference: Irving, TX Date 04/07-08/89 (Held in conjunction with National ACS Mtg. 04/09-14/1989.) No changes.

105th Conference: Cerritos Community College, Date 5/19-20/89 11110 E. Alondra Blvd., Norwalk, CA 90650-9973, Office (213) 860-2451, Program Chair is Christine (Chris) Romer, Local Arr. Chair is James R. Peter, Cerritos C. C.

- 106th Conference: Jefferson Community Coll., Date 10/13-14/89, P.O. Box 1036, Louisville, KY 40222, Local Arrangements: Mrs. Patricia McCoy Brown, Office (502) 584-0181 Ext. 277, Home (502) 425-7606, Local Industrial Sponsors Chair: John Gibson.
- 107th Conference: Late Nov. 1989, Mississippi Gulf Coast Junior College-Jefferson Davis Campus, Switzer Road Gulfport, MS 39507
Program Chair: James M. Knight, Office (601) 896-3355.
- 108th Conference: April 20-21, 1990, Roxbury Community College (tentative), 625 Huntington Ave., Boston, MA 62115. Program Chair (tentative): Dotty Stumpf, Middlesex Comm. Coll., Local Arrangements (tentative): Muriel Kanter, Roxbury C.C.
- 109th Conference: May or early June, 1990 jointly with C3, Capilano College, 2055 Purcell Way, North Vancouver, B. C., V7T 3H5 Contact persons: Penny LeCouteur, Capilano College, (604) 986-1911 and William Wasserman, Seattle Central C. C., Seattle, WA 98122, (206) 587-4080.

TREASURER/COLLEGE SPONSORS REPORT:

John Clevenger, Treasurer, reported that the current balance is \$14,699.73, as shown in the Agenda Book, page 6. We have 101 College Sponsors for 1987.

MEMBERSHIP REPORT:

Mike Knoll was not able to attend, but as of Sept 24, 1987, we have 439 membership renewals plus 168 new memberships, making a total of 607 members.

INDUSTRIAL SPONSORS REPORT:

Elliott Greenberg distributed a list showing 19 renewals plus 2 new sponsors to give a total of 21 fully paid industrial sponsors. Ten have not responded.

POLICIES AND PROCEDURES:

For the Treasurer/College Sponsors position, applications have been received from the following four persons: Ann Cartwright, Cullen Johnson, Duane Sell, and Bill Wasserman. This position is for four years, including one year to complete an unexpired term in addition to the usual three-year term. Ballots will be opened at the Jacksonville meeting. If a runoff is required, the additional balloting will be handled by mail.

Applications of Chair-Elect candidates are to be reviewed later.

ACS OFFICE OF THE TWO-YEAR COLLEGE REPORT:

Dr. James Bradford was unable to be present to give this report, but Edith Bartley announced that effective immediately, NSF grants previously open to only four-year colleges are now open for all two-year colleges. The deadline for grants this year is November 20.

Edith pointed out the DivChed Election results: A. Truman Schwartz, Chair-Elect; Mary Virginia Orna, Treasurer; Kenneth E. Kolb, Councilor, Adrienne Kozlowski, Alternate Councilor. By a By-Laws change, the Director of Examinations will become an Executive Committee member.

NEW BUSINESS:

Edith announced that John Mitchell has submitted a letter of resignation as a 2YC3 Task Force member to pursue other personal activities. The position will be discussed at the Jacksonville meeting.

There was considerable discussion regarding conference planning. This might be one person or a committee, possibly composed of past program chairs. All written suggestions and materials for the preparation of a conference planning manual are to be submitted at the Jacksonville meeting.

Edith distributed new copies of "Chemical Demonstrations at Meetings" which were developed as minimum guidelines by the DivChed. These guidelines are to be followed at all meetings.

It was agreed that workshops on proposal writing would be quite worthwhile.

ADJOURNMENT: The executive committee was adjourned at 10:30 p.m.

Respectfully submitted,

Ralph A. Burns

Ralph A. Burns
Chair-Elect

COMMITTEE ON CHEMISTRY IN THE TWO-YEAR COLLEGE
97th CONFERENCE
Southeast Community College, Lincoln, NE
Friday, October 16, 1987

Attendance: Thirty-one persons attended the open committee meeting, including Edith Bartley, Ralph Burns, Lavoisier Banks, Norman Peterson, David Klein, Sr. Anne-Maria Coverdell, Onofrio Gaglione, John Clevenger, Robert Eddy, Herman Kalberer, Thomas Bowman, Carol White, Janet Van Doren, Dr. Helen Bell, Gonca Yurteri, Joy McMillan, Jerry Forney, Dale Buck, George Williams, Duane Sell, Cliff Fullingim, Thomas Mines, Darcy Williams, Leo Kling, George Farrant, Eugene Jack, Elliott Greenberg, Robert Resz, Allan Carlson, Cullen Johnson, Sharon Kapica.

OPENING: Edith Bartley, Chair, called the open meeting to order at 10:00 a.m. and passed around a listing of two-year college chemistry faculty to be checked for changes. She introduced members of the Executive Committee and introduced John Kenkel, Southeast Comm. Coll. who made local introductions.

MINUTES: Minutes of the 96th Conference (Rockville, MD) were approved as printed in the Agenda Book pages 1-2.

CONFERENCE REPORTS:

The 97th 2YC₃, Southeast Community College, Lincoln, NE:

John Kenkel, Program Chair, thanked local persons for their assistance.

The 98th 2YC₃, will be at Florida Comm. Coll. of Jacksonville, North Campus.

Wendell Massey of Jacksonville and Larry Bray of Miami Dade are Program Chairs.

Edith Bartley, Chair, stated that the theme of the Biennial Conference (with 101st 2YC₃) is "Teaching Chemistry, A Problem We Can Solve."

MEMBERSHIP REPORT:

Mike Knoll was not able to attend, but as of Sept 24, 1987, we have 439 membership renewals plus 168 new memberships, making a total of 607 members. Persons who have not paid 1988 dues were urged to do so at this meeting.

TREASURER/COLLEGE SPONSORS REPORT:

John Clevenger, Treasurer, reported that the current balance is \$14,699.73, as shown in the Agenda Book, page 6. We now have a total of 101 College Sponsors for 1987.

INDUSTRIAL SPONSORS REPORT:

Elliott Greenberg stated that we have 21 fully paid industrial sponsors. All members were urged to help sign up industrial sponsors.

FUTURE MEETING SITES:

Ralph distributed printed copies of future meeting sites and personnel. All changes and additions were underscored. This list is on pages 12-14 of the 97th Conference Program Book, and is summarized here with changes underscored:

- 98th Conference: Jacksonville, FL. 11/13-14/87 L. Bray and W. Massey, Program Chairs
- 99th Conference: Sacramento, CA. 03/11-12/88 R. Lungstrom, Program Chair.
- 100th Conference: Toronto 06/02-04/88 in conjunction with National ACS Mtg. 06/05-11/88. 2YC₃ Program Co-Chair is Mark Amman.
- 101st Conference: Purdue Univ., West Lafayette, IN. (With 10th Biennial Chem. Educ. Conf.) Doris Kolb and Tamar Susskind, Program Chairs.

- 102nd Conference: Pittsburgh, PA 10/14-15/88 Barbara Rainard, Program Chair.
103rd Conference: Kansas City, KS 11/18-19/88 David W. Klein, Program Chair.
104th Conference: Irving, TX 04/07-08/89 (Held in conjunction with National ACS Mtg. 04/09-14/89.) Weldon Burnham, Program Chair.
105th Conference: Norwalk, CA, Cerritos C.C. 5/19-20/89 Christine Romer, Program Chair; James Peter, Local Arrangements.
106th Conference: Louisville, KY, Jefferson C.C. 10/13-14/89 Patricia McCoy Brown, Local Arrangements; John Gibson, Indust. Sponsors. Ch.
107th Conference: Gulfport, MS, Miss. Gulf Coast J. C., Jefferson Davis Campus, 11/17-18/89, James M. Knight, Program Chair.
108th Conference: Boston, MA 4/20-21/90 (With Natl. ACS Mtg.) Dotty Stumpf, Prog. Chair (tentative); Muriel Kanter, Local Arr. (tentative)
109th Conference: Capilano College, North Vancouver, BC May or early June 1990 with C3. Penny LeCouteur, Capilano Coll. and William Wasserman, Seattle Central C.C., Contact Persons.

ACS OFFICE OF THE TWO-YEAR COLLEGE REPORT:

Edith Bartley, Chair, reported that Dr. James Bradford was unable to be present to give this report. She was pleased to announce that effective immediately, NSF grants previously open to only four-year colleges are now open for all two-year colleges. The deadline for grants this year is November 20.

NEW BUSINESS:

Edith distributed new copies of "Chemical Demonstrations at Meetings" which were developed as minimum guidelines by the DivChed. These guidelines are to be followed at all meetings.

Both John Clevenger and Ralph Burns emphasized the openness of the Committee to ideas regarding meeting sites, program personnel, and other programming ideas. We are seeking to increase the involvement of our membership and to provide programs that meet the needs and interests of more individuals.

INDIVIDUAL INTRODUCTIONS:

Edith Bartley, Chair, asked that all persons in attendance stand and introduce themselves.

ADJOURNMENT: The committee meeting was adjourned at 10:50 a.m.

Respectfully submitted,

Ralph A. Burns

Ralph A. Burns
Chair-Elect

MEMBERSHIP REPORT

October 23, 1987

Renewals	440
<u>New Memberships</u>	<u>215</u>
Total	655

38 new members registered in Lincoln

October 23, 1987
FINANCIAL REPORT FOR COCTYC
 From: 1/1/87 To: 10/23/87

Balance forward from 1986 \$ 11203.06

Income

College Sponsors		475.00
Indust. Sponsors		2225.00
Individual Membership		1584.00
DivChed		2000.00
Interest		1097.93
C.D.'s	652.76	
Checking	445.17	
Meetings & Misc.		2903.50
Bozeman booth	93.50	
Denver	1132.00	
Rockville	886.00	
Lincoln	792.00	

\$ 10285.43

Expenses

Travel		4516.22
Chair	1763.47	
Past-chair	850.00	
Chair-elect	405.24	
Treasurer	722.78	
Member. Chair	494.73	
Task Force Rep.	280.00	
Newsletter		917.30
Postage		884.31
Phone		188.46
Office Supplies		140.30
Meetings & Misc.		1719.48
Denver	487.50	
Rockville	886.00	
North York, Can.	145.98	
Jacksonville	200.00	

\$ 8366.07

Balance \$ 13122.42

COLLEGE SPONSORS

We had 101 College Sponsors for 1987. Renewals for 1988 have been mailed.

John V. Clevenger

John V. Clevenger
 Treasurer/College Sponsors

COMMITTEE ON CHEMISTRY IN THE TWO-YEAR COLLEGE

Division of Chemical Education, American Chemical Society

APPLICATION FOR COLLEGE SPONSORSHIP

College Name _____ Date _____

Address: (Street) _____

(City) _____ (State) _____ (Zip) _____

Contact Person _____

Dr. Mr. Ms. Miss Mrs.

Title _____

Telephone (Area code) _____ (Number) _____ (Ext) _____

Address (if different from above) _____

All questions and correspondence concerning the 2YC₃ College Sponsorship should be directed to:

John V. Clevenger
Truckee Meadows Community College
7000 Dandini Boulevard
Reno, NV 89512

Phone: (702) 673-7221

Please make check for \$25 payable to:

COMMITTEE ON CHEMISTRY IN THE TWO-YEAR COLLEGE

and return with the completed application to:

JOHN V. CLEVINGER

at the above address.

Thank you for your sponsorship.

We are a tax exempt organization. Our tax I.D. # is 23-7169683

Industrial Sponsors of the
Two-Year College Chemistry Conference

An oral and written report will be presented during the meeting.

TWO-YEAR COLLEGE CHEMISTRY CONFERENCE SITES
Updated October, 1987 by Ralph A. Burns, Chair-Elect

99th CONFERENCE

- Mch. 11-12, 1988 - American River College, 4700 College Oak Dr.
Sacramento, CA 95841 (916) 484-8464
Program Theme: - Chemistry: The Diversified Science
Program Chair: - Richard Lungstrom, American River College, (916) 484-8464
Home: (916) 485-8620
Local Arrangements Chair:
- Dr. Danny White, American River College, (916) 484-8385
Local Industrial Sponsors Coordinator:
- Richard Lungstrom, American River College

100th CONFERENCE WITH 15th C₃

(Plan a vacation for this joint meeting with C₃, College Chemistry Canada.)

- June 2-4, 1988 - Seneca College, 1750 Finch Ave. East, North York, Ontario,
Canada M2J 2X5 (North York is in metropolitan Toronto.)
Program Theme: - Multiple Topics: Polymers, Composites, Health, and Safety
2YC₃-C₃ Liaison Person:
- Shahid Jalil, John Abbot College, P. O. Box 2000
Ste. Anne de Bellevue, PQ, H9X 3L9
2YC₃ Program Chair:
- Mark Amman, SUNY Ag Tech. College, Alfred, NY 14802
College: (607) 587-3690 or 587-3694 Home: (607) 478-8677
Local Arrangements Chair: TBA
Local Industrial Sponsors Coordinator: TBA

- June 5-11, 1988 - 3rd CHEMICAL CONGRESS OF NORTH AMERICA and
195th ACS NATIONAL MEETING., Toronto, Ontario, Canada

101st CONFERENCE

(In conjunction with the 10th Biennial Conference on Chemical Education)

- 7/31 to 8/04/88 - Purdue University, West Lafayette, IN 47907, (317) 494-5465
Program Theme - Teaching Chemistry: A Problem We Can Solve
2YC₃ Program Co-Chairs:
- Doris Kolb, Dept. of Chem., Bradley Univ., Peoria IL 61625
- Tamar Susskind, Oakland Comm. Coll., Auburn Hills Campus
Auburn Hills, MI 48057 313) 853-4325

102nd CONFERENCE

- Oct. 14-15, 1988 - Community College of Allegheny, Allegheny Campus
808 Ridge Ave., Pittsburgh, PA 15212
Program Theme: - Pre-College Education and Developments in Learning Theory
Program Chair: - Barbara Rainard, Community College of Allegheny,
Allegheny Campus, 808 Ridge Ave., Pittsburgh, PA 15212
(412) 237-2649 or (412) 237-2647
Local Arrangements Chair:
- William McVeagh, Community College of Allegheny,
Allegheny Campus, (412) 237-2687
Local Industrial Sponsors Coordinator:
- Joanne McCalip, C. C. of Allegheny, Al. Campus (412) 237-253

* New information is underscored _____

103rd CONFERENCE

Nov. 18-19, 1988 - Kansas City Kansas Community College
7250 State Ave., Kansas City, KS 66112
Program Theme: * - Lecture/Lab Demonstrations: Pro and Con
Program Chair: - David W. Klein, Kansas City Kansas Community College
7250 State Ave., Kansas City, KS 66112 (913) 334-1100
Local Arrangements Chair:
- Sam Crawford, Johnson County Comm. Coll., College Blvd. at
Quivira Rd., Overland Park, KS 66210 (913) 469-8500
Local Industrial Sponsors Coordinator: TBA

104th CONFERENCE

(Preceding the ACS National Meeting, Dallas, April 9-14, 1989)

April 7-8, 1989 - North Lake College, 5001 N. MacArthur Blvd.
Irving, TX 75038
Program Theme: - TBA
Program Chair: - Weldon Burnham, Richland College
(tentative) 12800 Abrams Rd., Dallas, TX 75243
(214) 238-6045
Local Arrangements Chair:
- Floyd King, North Lake College
5001 N. MacArthur Blvd., Irving, TX 75038
(214) 659-5358
Local Industrial Sponsors Coordinator:
- Chuck Gonzalez, North Lake College
5001 N. MacArthur Blvd., Irving, TX 75038
(214) 659-5320

105th CONFERENCE

May 19-20, 1989* - Cerritos Community College, 11110 E. Alondra Blvd.,
Norwalk, CA 90650-9973
Program Theme: - TBA
Program Chair: - Christine (Chris) Romer, Cerritos Community College
11110 E. Alondra Blvd., Norwalk, CA 90650-9973
(213) 860-2451
Local Arrangements Chair:
- James R. Peter, Chairman, Dept. of Chem., Cerritos C. C.
11110 E. Alondra Blvd., Norwalk, CA 90650-9973
Local Industrial Sponsors Chair: TBA

106th CONFERENCE

Oct. 13-14, 1989 - Jefferson Community College, P. O. Box 1036,
Louisville, KY 40202 (502) 584-0181 Ext. 204 (Chem. Office)
Program Theme: - TBA
Program Chair: - open
Local Arrangements Chair:
- Mrs. Patricia McCoy Brown, Jefferson Community College
P. O. Box 1036, Louisville, KY 40202
Office: (502) 584-0181 Ext. 277 Home: (502) 425-7606
Local Industrial Sponsors Chair:
- John Gibson, Jefferson Comm. Coll., (address listed above)
Office: (502) 584-0181 Ext. 263

* New information is underscored _____

107th CONFERENCE

Nov. 17-18, 1989 - Mississippi Gulf Coast Junior College,
Jefferson Davis Campus, Switzer Road
Gulfport, MS 39507 (601) 896-3355

Program Chair: - James M. Knight, Miss. Gulf Coast JC, Jefferson Davis Campus
Office: (601) 896-3355 Home: (601) 875-5884

Local Arrangements Chair: open
Local Industrial Sponsors Chair: open

Comments: Excellent location near beach, motels, restaurants, special rates.
Near Biloxi airport (flights to Atlanta, Memphis); limo. to New Orleans Airport.

108th CONFERENCE

(Preceding the ACS National Meeting, Boston, April 22-27, 1990)

Apr. 20-21, 1990 - Roxbury Community College (Tentative site)
625 Huntington Ave., Boston MA 62115

Program Chair: - (tentative) Dorothy (Dotty) Stumpf, Middlesex Comm. College,
Springs Rd., Bedford, MA 01730, (617) 275-8910 Ext 287

Local Arrangements Chair:
- (tentative) Muriel Kanter, Roxbury Community College
625 Huntington Ave., Boston, MA 62115, (617) 734-1960

Local Industrial Sponsors Chair: open

109th CONFERENCE

Late May or

Early June, 1990 - (Tentative) Capilano College, 2055 Purcell Way
North Vancouver, BC V7T 3H5
(604) 986-1911

Contact Persons: - William Wasserman, Seattle Central Community College
Seattle, WA 98122, (206) 587-4080

- Penny LeCouteur, Capilano College, North Vancouver

Local Arrangements Chair: open
Local Industrial Sponsors Chair: open

* New information is underscored _____

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All 2YC₃ members are urged to make suggestions regarding meeting sites, program personnel, themes, and programming suggestions in writing to Executive Committee members and Program Chairs of the specific conferences. 2YC₃ can function more effectively to serve all community colleges when all persons participate. We welcome your suggestions.

COMMITTEE ON CHEMISTRY IN THE TWO YEAR COLLEGE
Division of Chemical Education
American Chemical Society
1987 Roster of Committee Members

Chair Edith Bartley, Tarrant County Junior College, South Campus
 Fort Worth, TX 76119 (817)-531-4537 ext. 4262 (1991)

Immediate Past Chair Unofrio Gaglione, New York City Technical College,
 300 Jay St., Brooklyn, N.Y. 11201 (718)-643-8242 (1990)

Chair-Elec Ralph Burns, St. Louis Community College at Meramec,
 11333 Big Bend St., St. Louis, MO 63122
 (314)-966-7718 (1989)

**Treasurer/
 College Sponsors** John Clevenger, Truckee Meadows Community College,
 700 Dandini Blvd., Reno, NV 89512 (702)-673-7221
 (Second term expires 1988)

General Membership Chair Mike Knoll, Vincennes University Junior College,
 Vincennes, IN 47591 (812)-885-4259
 (Second term expires 1989)

Industrial Sponsors Chair Elliott Greenberg, Prairie State College, P.O. Box 487,
 Chicago Heights, IL 60411 (312)-756-3110 ext. 272
 (Second term expires 1987)

Past Chair Members of Executive Committee Jay Bardole, Vincennes University Junior College,
 Vincennes, IN 47591 (812)-885-4372 (1990)

Marion Baker, Central Piedmont Community College,
 P.O. Box 35009, Charlotte, NC 28235-5009
 (704)-373-6462 (1989)

Tamar Y. Susskind, Oakland Community College,
 2900 Featherstone Rd., Auburn Heights, MI 48507
 (313)-853-4325 (1989)

Douglas Bond, Riverside City College, 4800 Magnolia Ave.,
 Riverside, CA 92506 (714)-684-3240 ext. 358 (1988)

Katherine E. Weissmann, C.S. Mott Community College
 1401 East Court St., Flint MI 48502 (313)-762-0279 (1988)

Paul Santiago, Harford Community College,
 Bel Air, MD 21014 (301)-836-4166 (1987)

John P. Mitchell, Tarrant County Junior College Northeast
 Campus, Hurst, TX 76053 (817)-281-7860 (1987)

Past Chairs William Griffin, Curtis Dhonau, Douglas Bauer (deceased),
 Cecil Hammonds, Ethelreda Laughlin, William F. Mooney Jr.

REGION I - WESTERN STATES : Alaska, Arizona, California, Colorado,
Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Washington, Wyoming

WESTERN REGIONAL PROGRAM CHAIRMAN 1987:

Van Dyke, Martin (1987) Front Range Community College North Campus,
3645 W. 112th Ave., Westminster, CO 80030
(303)-466-8811

Albelo, Gilbert (1987) Mt. Hood Community College, Gresham, OR 97030
(503)-667-6422

Armstrong, Elizabeth (1988) Skyline College, 3300 College Drive,
San Bruno, CA 94066 (415)-355-7000

Berner, Victor (1987) New Mexico Junior College, Lovington Highway,
Hobbs, NM 88240 (505)-392-4510 ext. 261

Collins, Carolyn (1988) Clark County Community College,
3300 East Cheyenne Ave, N. Las Vegas, NV 89030
(702)-456-4109

Chase, Jody (1988) Truckee Meadows Community College,
7000 Dandini Blvd, Reno, NV 89512
(702)-673-7221

Cunningham, Alan (1987) Monterey Peninsula College,
Monterey, CA 93940 (408)-646-4154

Hubbs, Robert (1988) DeAnza College, Cupertino, CA 95014
(408)-996-4774

Hubscher, Arthur (1988) Ricks College, Rexburg, ID 83440
(208)-356-1923

Lungstrum, Richard A. (1989) American River College, Sacramento, CA 95841
(916)-484-8464

Mooney, William T. (1987) El Camino College, Torrance, CA 90506
(213)-532-3670

Sherman, Ruth (1989) Los Angeles City College, 855 N. Vermont Ave.
Los Angeles, CA 90029 (213)-669-4223

Scott, Peter (1989) Linn-Benton Community College,
6500 SW Pacific Blvd, Albany, OR 97321
(503)-928-2361

Wasserman, William (1988) Seattle Central Community College,
1701 Broadway, Seattle, WA 98122
(206)-587-4083

REGION II SOUTHERN STATES: Alabama, Arkansas, Florida, Georgia,
Louisiana, Mississippi, North Carolina, Oklahoma, Puerto Rico,
South Carolina, Tennessee, Texas

SOUTHERN REGIONAL PROGRAM CHAIRMAN 1987:

Massey, Wendell (1989) Florida Junior College, North Campus,
Jacksonville, FL 32218 (904)-757-6441

Ballard, Paula (1989) Jefferson State Junior College,
2601 Carson Rd, Birmingham, AL 35215
(205)-853-1200

Barber, Anne (1989) Manatee Junior College, 5840 26th St. W.,
Bradenton, FL 33506 (813)-755-1511

Bell, Alex (1989) Trident Technical College, P.O. Box 10367,
Charleston, SC 29411 (803)-572-6159

Bell, Helen (1988) Dyersburg State Community College, Lake Road,
Dyersburg, TN 38034 (901)-285-6910

Bray, Larry (1989) Miami-Dade Community College, South Campus,
11011 SW 104th St., Miami, FL 33176
(305)-347-2492

Cheek, William (1988) Central Piedmont Community College,
P.O. Box 35009, Charlotte, NC 28235-5009
(704)-373-6968

Fowler, Art (1989) Hiwassee College, Box 619,
Madisonville, TN 37354 (615)-442-2520 ext 280

Graham, James (1988) J.C. Calhoun Community College,
Decatur, AL 35620 (205)-353-3102

Heath, Ed (1988) Southwest Texas Jun. Col., Garner Field Rd.,
Uvalde, TX 78801 (512)-278-4401

Kling, Leo III (1989) Tri-Counties Technical College
Pendleton, SC 29670 (803)-646-8361

Knight, James M. (1989) MS. Gulf Coast Junior College, Jefferson
Davis Campus, Switzer Rd, Gulfport, MS 39505
(601)-896-3355 Ext. 144

Maier, Thomas L. (1989) Atlanta Junior College, 1630 Stewart Ave. SW,
Atlanta, GA 30310 (404)-656-6365

McGlaun, Garry (1989) Gainesville Junior College, P.O. Box 1358,
Gainesville, GA 30503 (404)-535-6266

Minter, Anne (1989) Roane State Community College,
Harriman, TN 37748 (615)-354-3000

Singleton, Elizabeth (1988) Houston Community College, 4310 Dunlavy,
Houston, TX 77006 (713)-868-0787

REGION III MIDWESTERN STATES: Illinois, Indiana, Iowa, Kansas, Kentucky, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, Wisconsin

MIDWEST REGIONAL PROGRAM CHAIRMAN 1987:

Kenkel, John (1988) Southeast Community College, Lincoln Campus,
Lincoln, NE 68520 (402)-471-3333

Crawford, Sam (1987) Johnson County Community College,
College Blvd at Quivira Rd.
Overland Park, KS 66210 (913)-888-8500

Eidsness, Warren (1989) Normandale Community College,
9700 France Ave S., Bloomington, MN 55431
(612)-830-9300

Grotz, Leonard (1989) University of Wisconsin-Waukesha,
1500 University Drive, Waukesha, WI 53188
(414)-521-5216

Hammonds, Cecil (1989) Penn Valley Community College,
Kansas City, MO 64111 (816)-932-7659

Johnson, Cullen (1987) Cuyahoga Community College, Western Campus,
Parma, OH 44130 (216)-845-4000

Klein, Dave (1989) Kansas City Kansas Community College,
7250 State Ave, Kansas City, KS 66112
(913)-334-1000

Koch, Frank (1988) Bismarck Junior College, Bismarck, ND 58501
(701)-224-5423

Kolb, Doris (1988) Illinois Central Community College,
East Peoria, IL 61635 (309)-694-5011

Kreiger, Albert (1988) Jackson Community College,
Jackson, MI 49201 (517)-727-0800

Redmore, Fred (1987) Highland Community College,
Freeport, IL 61032 (815)-235-6121 Ext 331

Shaw, David (1988) Madison Area Technical College,
3550 Anderson St., Madison, WI 53704
(608)-246-6656

Sell, Duane (1987) William Rainey Harper College,
Palatine, IL 60067 (312)-397-3000

Winkleman, John (1987) Illinois Valley Community College,
Rural Route, Ugesby, IL 61348
(815)-224-2720

REGION IV EASTERN STATES: Connecticut, Delaware, District of Columbia, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Virginia, Vermont, West Virginia

EASTERN REGIONAL PROGRAM CHAIRMAN 1987:

Schumm, Margot K. (1989) Montgomery College, Rockville, MD 20850
(301)-279-5129

Burge, Robert (1987) Suffolk Community College, 533 College Road,
Selden, NY 11784 (516)-451-4110

Cherim, Stanley (1988) Delaware County Community College,
Media, PA 19063 (215)-353-5400

Lucci, Myron (1987) Monroe Community College,
Rochester, NY 14623 (716)-424-5200

Feldsine, John (1988) Broome Community College,
Binghamton, NY 13902 (607)-771-5000

Flath, Patricia (1989) Paul Smith's College,
Paul Smith, NY 12970 (518)-327-6266

Hajian, Harry (1987) Community College of Rhode Island,
400 East Ave, Warwick, RI 02886
(401)-825-2258

Kanter, Muriel (1987) Roxbury Comm. College, 625 Huntington Ave.,
Boston, MA 02115 (617)-734-1960

Katz, David (1987) Community College of Philadelphia
1700 Spring Garden St.
Philadelphia, PA 19130 (215)-751-8000

Rainard, Barbara (1988) Community College of Allegheny,
Allegheny Campus, 808 Ridge Ave,
Pittsburgh, PA 15212 (412)-237-2525

Romano, Aila (1989) New York City Technical College, 300 Jay St.,
Brooklyn, NY 11201 (718)-643-8242

Sollimo, Vincent (1988) Burlington County College,
Pemberton, NJ 08068 (609)-894-9311

Stumpf, Dorothy (1989) Middlesex Community College, Springs Road,
Bedford, MA 01730 (617)-275-8910 Ext 287

Tobias, John (1989) Westchester Community College,
76 Grasslands Ave, Valhalla, NY 10595
(914)-285-6939

Vlassis, C.G. (1988) Keystone Jr. College, LaPlume, PA 18440
(717)-945-5141

Zoranski, Edmund J. (1989) Atlantic Community College,
Mays Landing, NJ 08330 (609)-625-1111



American Chemical Society

EDUCATION DIVISION

Sylvia A. Ware, Director

1155 SIXTEENTH STREET, N.W.

WASHINGTON, D.C. 20036

Phone (202) 872-4388

October 23, 1987

Dear Colleague:

It has finally happened. The National Science Foundation has opened its programs to two-year colleges. This is a result of several years' work by a number of organizations, including the ACS, the Two-Year College Chemistry Conferences, and the American Association of Community and Junior Colleges.

The most promising programs for two-year colleges are Research Opportunity Awards (ROA), Undergraduate Faculty Enhancement (UFEP), and the Instrumentation and Laboratory Improvement (ILI) programs.

The news is not all good, though. The deadlines for proposals are not very far away. If you have an idea that you would like to propose, you should call for program announcements immediately. The telephone number of NSF's Forms and Publications Unit is (202) 357-7861.

Sincerely,

A handwritten signature in cursive script that reads "Jim Bradford".

E. James Bradford, Ph.D.
Manager, Office of College Chemistry

NATIONAL SCIENCE FOUNDATION
Washington, D.C. 20550

COLLEGE FACULTY

RESEARCH OPPORTUNITY AWARDS

(ROA)

BACKGROUND

Research Opportunity Awards (ROAs) enable faculty members at institutions with limited research opportunities, especially those which emphasize undergraduate education, to work with investigators who already hold or are applying for an NSF research grant. The ROA is intended to increase the visitor's research capability and effectiveness at the home institution, as well as enhance the host principal investigator's (PI) NSF-funded research. The visiting faculty scientist from the undergraduate institution becomes a temporary employee of the grantee (host) institution to which the award is made. Arrangements for support are made within the existing framework of the Foundation's disciplinary programs.

ARRANGING ROA COLLABORATIONS

Individuals interested in becoming ROA visiting researchers make their own contacts with investigators who currently have or are applying for NSF research grants. A PI may also initiate a ROA collaboration. (NSF disciplinary program managers may be able to suggest names of grantees working on specific projects or in particular geographic areas, or may know of potential ROA visiting faculty researchers). The nature of the research responsibility, the duration of the ROA visit, the rate of pay, and other arrangements with respect to employment, are matters to be negotiated between the host institution, the PI, and the prospective visiting scientist.

Arrangements for supplemental ROA support for an existing award should be discussed by telephone with the disciplinary program officer prior to submission of the request letter and accompanying documents.

Formal application must be made by the NSF grantee principal investigator who wishes to employ a faculty member from another institution under an ROA collaboration. There are three ways this may be done:

- (1) as part of a new NSF proposal;
- (2) as a supplement to an ongoing NSF award;
- (3) by rearranging the project budget in an ongoing award, without requesting supplemental funding from NSF.

In the first two cases, the following information is required:

- o DESCRIPTION (brief):
Proposed ROA arrangements; nature of the work to be performed by the ROA visitor; contribution of this work to the NSF research project; impact of the ROA experience upon the visitor's research activity and home institution.
- o NSF BUDGET FORM (1030)

New proposal: ROA total listed under item G-6 (Other) on the summary budget form; cost itemization shown on separate ROA budget form, with budget explanation page, if needed;

Ongoing award supplement: additional expenses of the visiting researcher listed; signed by NSF PI and the institution's authorized organizational representative, with budget explanation page, if needed.

ROA budget: cooperatively developed by PI and prospective ROA visiting researcher.
- o VITAE OF THE PROSPECTIVE ROA VISITING RESEARCHER
- o ANY ADDITIONAL REQUIREMENTS SPECIFIED BY PROGRAM OFFICER

In an ongoing award, where the PI rearranges the original budget to cover the ROA expenses without supplemental funds, and the scope of the project is unchanged, NSF notification is the only requirement, providing the institution's OPAS Committee has approved the ROA arrangements.

ELIGIBLE COSTS AND DURATION

Except for major equipment, any item acceptable for inclusion under a regular grant application (as detailed in Grants for Science and Engineering Research) usually may be included in a ROA budget. Duration of support generally ranges from two to twelve months. Most NSF programs limit support to moderate amounts (\$10,000-15,000). In some disciplines, these awards are limited to summer salary and essential supplies.

DEADLINES

If the request is part of a new proposal to the NSF, target dates or deadlines for the disciplinary program must be observed. There are no deadlines for supplemental funding. However, requests generally should be submitted before March in order to be considered for that summer or the following academic year.

REVIEW AND PROCESSING

Initial Proposals - As with all new proposals, the review process takes six months or more, following the Foundation's standard review procedures (see Grants for Science and Engineering Research).

Existing Awards - Supplements to existing awards usually require about three months for internal review and processing. Each request is judged on its own merit and is handled on an ad hoc basis by the supervising program manager for the existing award. Consideration is given to the capability of the investigators, the technical soundness of the proposed effort, the contribution of the ROA activity to the ongoing research project, and its potential impact upon the ROA visitor's individual capability and home institution. ROAs are made at the discretion of the program manager whose budget provides the funding.

FURTHER INFORMATION

For general information about ROA, contact the Division of Research Initiation and Improvement, National Science Foundation, 1800 G Street, N.W., Washington, DC 20550 (202/357-7456). Requests for support and specific information about proposals should be directed to the NSF disciplinary program director. A directory of Foundation research programs, with telephone numbers, is included in Grants for Scientific and Engineering Research (NSF 83-57). This publication is available in most institutions of higher education, or may be obtained from NSF's Forms and Publications Unit at the above street address (202/357-7861).

DRII:7/7/86

Undergraduate Faculty Enhancement Program

Undergraduate Faculty Seminars and Conferences

I. INTRODUCTION

The teaching faculty are a key element in undergraduate education. It is important that they be intellectually vigorous and excited about their disciplines, that their knowledge of recent developments in their fields be up-to-date, and that they regard the teaching of undergraduates as an important and rewarding activity. To these ends, the National Science Foundation (NSF) provides leadership and financial assistance to encourage colleges and universities to take a systematic interest in the currency and vitality of the faculty who are primarily involved in undergraduate teaching and to assist them in enhancing their disciplinary capabilities and teaching skills.

This announcement describes the *Undergraduate Faculty Enhancement Program*, which makes grants for Undergraduate Faculty Seminars and Conferences. These provide opportunities for groups of faculty to learn about new techniques and new developments in their fields.

In addition, faculty may submit their own research proposals to the appropriate research programs at NSF, either as regular research proposals or through the *Research in Undergraduate Institutions (RUI)* activity (refer to the RUI announcement, NSF 85-59). They may also associate with an existing or proposed NSF-supported research program through the *Research Opportunity Awards (ROA)* activity (refer also to NSF 85-59).

II. PROGRAM DESCRIPTION

A. Purpose and Scope

The Undergraduate Faculty Seminars and Conferences activity makes grants to conduct regional or national seminars, short courses, workshops, or similar activities for groups of faculty members. Grants will be made for the development and implementation of ways to assist large numbers of faculty to learn new ideas and techniques in their fields, and to use the knowledge and experience to improve their undergraduate teaching abilities.

The purpose of the program is to meet the needs of faculty who teach primarily undergraduate students. These faculty need to be familiar with new experimental techniques and ways of incorporating them into undergraduate laboratories. They need to have experience with new instrumentation and to have the opportunity to evaluate its suitability for use at their home institutions. They need to be familiar with recent theoretical developments in their fields which bear on their undergraduate teaching. They need opportunities to synthesize knowledge which cuts across their own and other disciplines. Finally, they need opportunities to interact intensively with experts in the field and with colleagues who are active scientists and teachers, both during the course of a project and in a continuing way after the end of a project.

Projects must be regional or national in scope, and may include seminars, short courses, workshops, and conferences,

or a series of such activities, but are not limited to these. Actual sessions may vary considerably in length, normally from a few days to a few weeks.

The kinds of activities which are encouraged include projects which

- allow participants to gain experience with recent developments in the field;
- enable participants to work with innovative technologies relevant to their academic responsibilities and which allow them to evaluate the technology;
- permit participants to work with experts who have had a part in originating the ideas which are the subject of the project or who have worked extensively with the ideas or techniques;
- allow participants to work with industrial scientists, mathematicians, and engineers and to learn new industrial applications in the field; *
- permit participants to obtain personal experience working with new ideas and techniques, rather than just hearing about them; *
- encourage participants to develop instructional materials that include new ideas and techniques; *
- explore new methods of delivery of information, such

as the use of computers or teleconferencing, either in work with other participants during the project or in participants' activities after the project;

- encourage sustained interaction among the participants following the project and continued opportunities for learning about the topics of the project;
- encourage the increased participation of underrepresented groups in science, mathematics, and engineering.

Although the kinds of projects and activities described here are expected to include the majority of those supported through the Undergraduate Faculty Enhancement Program, proposals envisioning additional mechanisms for enhancing the vitality of the undergraduate faculty will be considered by NSF.

B. Eligibility Criteria and Limitations

1. Eligible Activities

The aim of the program is to improve the technical capability of experienced faculty members in ways which will enhance their ability to teach up-to-date undergraduate courses and laboratories. Thus activities proposed must be justified explicitly by their capacity to enhance participants' teaching activities for undergraduate students at one or more levels. It is not appropriate to propose activities which will primarily benefit a faculty member's research abilities. On the other hand, projects of a purely pedagogical nature which do not serve to enhance the faculty member's technical capability are not appropriate, either. Activities should be especially designed for experienced teachers and ordinarily should not duplicate parts of courses normally given by graduate departments.

The emphasis of the proposed project must be on the active involvement of the participants in working with the topic of the project and in interaction with scientists, engineers, and mathematicians experienced in the topic and with fellow participants. Thus, for example, in laboratory projects, participants must have access to equipment and facilities and have sufficient time to become familiar with experimental techniques and the experiments which may be done. In theoretical projects, participants must have sufficient opportunity to learn the theory and explore its implications. In all projects, participants must actually work extensively with the substance of the topic and interact with experts. Projects which are primarily lecture courses are therefore not appropriate in most cases.

The Foundation is concerned about the underrepresentation of women, minorities, and disabled persons in careers in science, mathematics, and engineering. Projects involving members of these groups as part of the staff or as target audiences are especially encouraged.

2. Eligible Organizations and Fields

The program will accept proposals from scientists, engineers, and mathematicians representing appropriate organi-

zations, including colleges and universities, national laboratories, professional societies, other non-profit organizations, for-profit industries with the scientific expertise and facilities, and other organizations which can conduct the described activities.

The project should have one director, who is responsible for its operation as well as for its planning and administration. Normally the director will be an authority in the topic of the project and will devote full time to it during its operation. Other senior personnel may be involved if appropriate, but in all cases it is desirable that there be sustained interaction between the project personnel and participants.

Proposals may be submitted for support in the fields of science, engineering, and mathematics ordinarily supported by the Foundation, including the physical and biological sciences, social sciences, mathematics, computer and information sciences, and engineering, or for interdisciplinary projects which deal primarily with these fields. Specifically excluded from support are activities which are addressed to clinical fields associated with the sciences, such as medicine, nursing, clinical psychology, and physical education, as well as activities which primarily involve social work, home economics, business, the arts, and the humanities.

3. Types of Support Available and Cost Sharing

The Foundation will provide support for reasonable direct costs of operating the project, including salaries of senior personnel, clerical support, supplies, the cost of publications, postage and telephone charges, and computer services. The grantee institution is expected to provide facilities and equipment necessary to operate the project, and therefore no permanent equipment or facilities will ordinarily be supported. Indirect costs will be allowed.

Participant costs should be shared between the grant and the participating faculty member's home institution. It is expected that the home institution will bear travel costs; the cost of lodging and meals for participants may be requested from the grant. If there are other participant costs the proposal should describe them and request funds for them. No tuition or other fees may be charged to the participants. Participants may receive a stipend of up to \$250 per week of the project.

Projects may be operated in one or more continuous sessions. Although summer may be most convenient for many directors and participants, it may be appropriate to operate some projects during the academic year. Ordinarily awards will be made for one year, although proposals with sufficient justification for projects which continue over longer period will be considered.

4. Selection of Participants

After awards have been made by NSF, directors should publicize their project's availability widely to the intended audience. Faculty members who wish to participate in particular project will apply directly to the project director. Directors, acting in consultation with a selection committee desired, and within the guidelines established by NSF

this announcement, will be responsible for selecting participants for the project and making arrangements for its operation.

The program is intended for those whose primary duties lie in undergraduate teaching. Participants should ordinarily have a minimum of three years of undergraduate teaching experience by the beginning of the project. The participants must be drawn from a regional or national audience; where some participants come from the host institution, the grant will not pay participant support costs (see budget line F,

described on page 4) for local participants.

The number of participants in a project will depend on the facilities and equipment available and on the topic of the activity. A project should accommodate enough participants to enable it to have an impact on the teaching of a subject and to allow for diversity in the group of participants; a minimum of 10 participants is suggested. On the other hand, projects should be planned so that the number of participants is not so large that access to equipment and project personnel is unduly restricted.

III. PREPARATION OF PROPOSALS

This announcement sets forth basic information needed for proposal preparation. Proposers must also consult the publication *Grants for Research and Education in Science and Engineering* (GRESE) (NSF 83-57 rev. 1/87) for additional guidance. This publication is available from the Forms and Publications Unit, National Science Foundation, 1800 G Street, N.W., Washington, D.C. 20550. Proposers should use the forms contained in this announcement (pp. 9-23), not those in GRESE.

Except as modified by the guidelines set forth in this announcement, standard NSF guidelines on proposal preparation, submission, evaluation, NSF awards (general information and highlights), declinations and withdrawals contained in GRESE are applicable.

More comprehensive information is contained in the NSF *Grant Policy Manual*, Revised, (NSF 77-47) available for purchase at \$12.00 from the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402. The Grant Policy Manual ordinarily is *not* needed in the process of preparing a proposal.

In the event that the submitting organization has never been the recipient of an NSF award, however, it is recommended that appropriate administrative officials become familiar with the NSF policies and procedures contained in the NSF *Grant Policy Manual*, Revised, which are applicable to most NSF awards. (If a proposal from such a institution is recommended for an award, the NSF Division of Grants and Contracts *will request* certain organizational, management, and financial information. These requirements are contained in Chapter III of the *Manual*.)

A proposal consists of the following parts:

1. Cover Sheet
2. Project Summary Form
3. Table of Contents
4. Narrative
5. Budget
6. Curriculum Vitae

7. Statement of Current and Pending Support
8. Summary of Results of Prior NSF Support
9. Appendices (optional)

1. *Cover Sheet* The first page of the proposal will be the cover sheet prepared in the form found on page 11. This cover sheet form should be duplicated and completed. The cover sheet must bear the signatures of the proposed principal investigator and of an administrative official who is empowered to commit the proposing organization to the conduct and prudent management of the project if NSF agrees to support it.
2. *Project Summary Form* The second page of the proposal will be the project summary form (page 13). The information provided on this form is used by the program staff for a variety of purposes, including the proper assignment of proposals to reviewers. Name of institution and project title must be written exactly as given on the cover sheet. Please enter the data requested in the boxes according to the instructions on the back of the form. The information is requested in the indicated format to facilitate its input into the NSF data collection system.

The *Summary of Proposed Work* should be a concise description of the proposed activity suitable for publication by the Foundation to inform the general public about its awards. The text should not exceed 200 words in length. The summary should be a self-contained description of the activity which would result if the proposal is funded by NSF, not an abstract of the proposal. The summary should include a statement of the objectives of the project, a short description of its operation, and a statement of its significance to undergraduate teachers and their students. It should be written so that a technically literate reader can understand the use of Federal funds in support of the project.

3. *Table of Contents:* The proposal should be paginated continuously, and the beginning of each section noted in the table of contents.

4. *Narrative:* The narrative provides a detailed description of the proposed project, and it contains most of the information used to judge the suitability of the project for funding. Although no particular form is required, the description should cover the following points.

- What scientific, engineering, or mathematical topics will be covered during the project, and in what way? What is the significance of these topics in the field? To what extent will the coverage be experimental or theoretical?
- What are the qualifications of the staff, particularly the director, which make them especially qualified to conduct the project? What is the relationship between the topics and the director's professional activities? If other people are to take part in the operation of the project, what responsibilities will each take, and how do they fit into the overall project?
- What experience does the director or other staff or the organization have with instruction of faculty from other institutions? What provisions does the host institution plan to make that will maintain an intellectual setting that is conducive to learning by a group of mature professionals?
- How will the project be operated? What will be the structure of the project, and what will be required of participants during the project? One of the features to be addressed here will be the arrangements for sustained interaction of the participants with experts and among themselves during the course of the project and after its completion.
- In what ways are the topics particularly suitable for faculty who teach undergraduates? Projects should be designed to appeal to a large number of teachers of undergraduates, either within a single discipline or across several disciplines.
- What is the intended audience for the project? Although projects should not require highly specialized training from the participants, it is reasonable to require some background related to the topics covered. What pre-requisites will there be?
- What information will be requested from applicants? How will participants be selected? Who will be involved in making the selection? What efforts will be made to recruit participants?
- What facilities and equipment are available for the project? This includes meeting rooms, scientific equipment, laboratories, and computers, and also the planned provision for participant housing, meals, and recreation.

• How will the project be evaluated?

Other information needed to provide a complete description of the project may be included. The narrative section should be printed in a way which is easy to read and should not exceed 15 single-spaced or 30 double-spaced pages.

Potential proposers are encouraged to discuss their ideas with the Program Director in advance of submitting a formal proposal. The telephone number is 202-357-7051.

5. *Budget* The budget should be presented on the standard NSF form reproduced on Page 19. The discussion in GRESE, pp 5-7, applies in general. The following considerations apply specifically to this program:

A. *Senior Personnel* There must be a single project director who will be primarily responsible for administration and operation of the project. Other senior personnel may be listed if appropriate, but proposers should keep in mind the desirability of sustained interaction with an expert or experts in the topic to be covered.

B. *Other Personnel* Project directors will need secretarial help in handling applications for the project and assistance in arranging for the project's operation.

C. *Fringe Benefits* Allowable according to institutional policy.

D. *Equipment* Ordinarily not allowed.

E. *Travel* Allowed if necessary for the operation of the project, but not for participant travel to and from the project.

F. *Participant Support Costs* Reasonable costs for subsistence for participants are allowed. Include here also a stipend of up to \$250 per week paid to each participant, pro rata for periods not an integral number of weeks.

G. *Other Direct Costs* Include here costs of supplies, publications, postage and telephone charges, and computer services as necessary. Include also estimated costs of publicizing the availability of the project to the intended audience.

H. *Indirect Costs* Calculated according to the standard procedure outlined in GRESE, p. 7.

6. *Curriculum Vitae* A curriculum vitae should include a record of the director's education and professional experience, honors, and a list of relevant publications, particularly in the previous 5 years. Also include here vitae for other senior personnel who will have a substantial responsibility for the operation of the project.

7. *Statement of Current and Pending Support* All current and pending externally-funded support to the director and other senior personnel must be listed on the form found on page 23.

8. *Results of Prior NSF Support* If the project director has received support from NSF in the past 5 years, the proposal must include a section summarizing the results of that support. It must include

- The NSF award number, amount, period of support, and project title.
- A summary of the results of completed work. (To facilitate review this summary should not exceed three pages.)
- A list of publications and formal presentations acknowledging the award. (Copies of publications should *not* be submitted with the proposal.)

9. *Appendices* Material supplemental to the rest of the proposal may be included as appendices. Appendices should be printed on colored paper to distinguish them from the text. It is important that appendices, if included, be brief and easy to read.

Form 1225, Information about Principal Investigators, which provides data on sex, ethnic origin, and handicap, is found on page 9. Only *one* copy of this form is to be submitted. It should be attached to the signature copy of the proposal cover sheet. While providing the requested data is voluntary, **SUBMITTING THIS FORM IS REQUIRED BY NSF. OMISSION OF THIS FORM WILL CAUSE CONSIDERABLE DELAY IN PROCESSING THE PROPOSAL.** Any individual not wishing to submit the information should check the box provided for this purpose. Data will be treated as confidential, and will be maintained in secure data files in accordance with the Privacy Act of 1974. The information contained in this form will be available only to the NSF staff and will *not* be used in the external peer review process. All analyses conducted on the data will report aggregate statistical findings only and will *not* identify individuals.

IV. REVIEW CRITERIA

NSF evaluates proposals on the basis of four general criteria:

1. *Performance competence*—This criterion relates to the capability of the investigator(s), the technical soundness of the proposed approach, the adequacy of the institutional resources available, and the proposer's recent science, engineering, or mathematics research and education performance.
2. *Intrinsic merit*—This criterion is used to assess the quality, currency, and significance of the scientific and technical content and related instructional activity of the project within the context of undergraduate science, engineering, and mathematics education.
3. *Utility or relevance of the project*—This criterion is used

to assess the impact the project will have on the faculty participants and their undergraduate students.

4. *Effect on the infrastructure of science, mathematics and/or engineering*—This criterion relates to the potential of the proposed project to contribute to better understanding or to improvement of the quality, distribution, or effectiveness of the Nation's scientific/engineering/mathematics research, education, and human resources base.

See page 9 of GRESE for an additional discussion of these criteria.

Grants are awarded on a competitive basis. In selecting proposals to be supported, the Foundation is assisted by peer reviewers, who are scientists, engineers, or mathematicians drawn primarily from the academic community and also from research organizations and professional associations.

V. PROPOSAL SUBMISSION

Proposals for projects which are planned to begin during the summer of 1988 should be received in the Foundation no later than *11 December 1987* in order to allow time for review and evaluation. Proposals for projects to begin after the summer of 1988 which are to be funded in fiscal year 1988 should be received in the Foundation by *4 March 1988*. Proposals received in March 1988 may be for projects which begin during the academic year 1988-89 or during the summer of 1989; submission at this time may allow greater opportunity for planning after the announcement of an award. Proposals received after these target dates will be reviewed, but decisions may be delayed by their late arrival.

Materials required:

- One copy of Information about Principal Investigators, Form 1225
- Fifteen copies of the complete proposal;
- Three *extra* copies of the Cover Sheet;
- Two *extra* copies of the Budget;
- Two *extra* copies of the Project Summary Form.

These materials should be submitted to:

Proposal Processing Unit for
Undergraduate Faculty Enhancement Program
National Science Foundation, Room 223
1800 G Street, N.W.
Washington, D.C. 20550

VI. INQUIRIES

Inquiries about matters not addressed in this publication may be directed to the program staff by contacting:

Undergraduate Faculty Enhancement Program
Office of Undergraduate Science, Engineering, and
Mathematics Education
Directorate for Science and Engineering Education
National Science Foundation
Washington, D.C. 20550
202-357-7051

Other Programs

NSF Guide to Programs (NSF 87-57) briefly describes all Foundation programs. It is available at most institutions or may be obtained at no cost by contacting the Forms and Publications Unit, Room 232, NSF, Washington, DC 20550 (202/357-7861). Some programs of special interest to undergraduate faculty are described below.

- The goal of the *Instrumentation and Laboratory Improvement Program* is to improve the quality of the undergraduate curriculum by supporting projects to develop new or improved instrument-based undergraduate laboratory and/or field courses in science, mathematics or engineering. For additional information request the

program announcement and guidelines, NSF 87-74 or contact the Office of Undergraduate Science, Engineering and Mathematics Education, Room 639, NSF, Washington, D.C. 20550 (202/357-7051).

- *Research Experiences for Undergraduates* (REU) provides an opportunity for college students to gain hands-on experience in science, mathematics or engineering research programs or equivalent projects conducted with the needs of undergraduates in mind. REU provides funds to operate REU Research Participation Sites. Each such site usually will involve several college students. REU also will supplement ongoing NSF *research* awards

CALL FOR PAPERS

"15th C₃/100th 2YC₃ - International '88", co-sponsored by College Chemistry Canada (C₃) and the Two-Year College Chemistry Conference (2YC₃) of the American Chemical Society, will be held June 1 - 4, 1988 at Seneca College in North York (Metropolitan Toronto). The Conference theme is multi-faceted.

Papers are sought in the areas of:

- Materials (polymers, composites, metals and ceramics)
- Chemical health (laboratory safety, environmental and pharmaceuticals)
- Education (high school preparation, college education and industrial needs)

Please submit your abstracts (one page or less) before January 31, 1988 to Dr. Murray A. Morello, Conference Chairperson, Seneca College of Applied Arts and Technology, 1750 Finch Avenue East, North York, Ontario, Canada, M2J 2X5, (416) 491-5050 ext. 2396.

15th C_3 / 100th $2YC_3$
INTERNATIONAL '88
JUNE 1-4

Sponsors:

Collaboration between College Chemistry Canada (C_3) and the Two-Year College Chemistry Conference ($2YC_3$) of the American Chemical Society gives this Conference a special international flavour

Multi-faceted Theme Approach:

- Materials (polymers, composites, metals and ceramics)
- Chemical Health (laboratory safety, environmental, pharmaceuticals)
- Educational (high school preparation, college education and industrial needs)

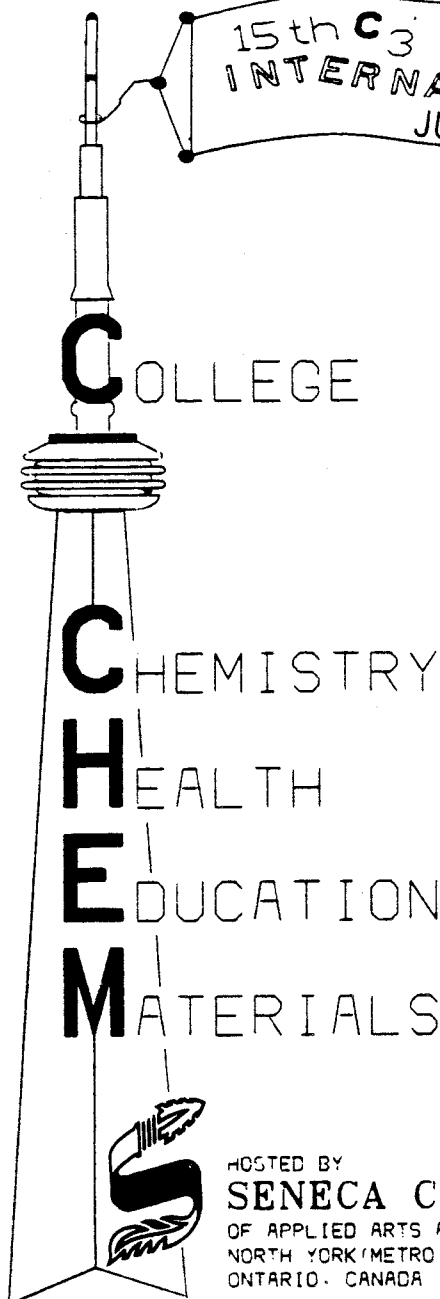
Location:

Seneca College of Applied Arts and Technology is situated in the City of North York which is part of the major urban centre of Metropolitan Toronto. This attractive setting will provide endless opportunities to ensure a full program - technically, socially and recreationally.

Contact:

Mark off June 1 to 4, 1988 on your "chemical calendar" and indicate your interest in **attending** or **presenting a technical paper** (on the themes above) by writing to:

Dr. Murray A. Morello, Conference Chairperson
"15th C_3 /100th $2YC_3$ - International '88"
Seneca College of Applied Arts & Technology
1750 Finch Avenue, East
North York, Ontario, Canada
M2J 2X5, (416) 491-5050 ext. 2396



To ensure that you receive a personal mailing regarding pre-registration, accommodations and preliminary program, complete the following information, tear off this section and mail (to address above)

- Please check: I am planning to attend alone
 I am planning to attend with spouse/family
 I am interested in presenting a paper
(send one-page abstract by January 31, 1988)

Name: _____ Title: _____

Department: _____

Institution/Company: _____

Address: _____

_____ City: _____

Prov./State: _____ Postal/Zip Code: _____

Telephone: Home (____) - _____ Office (____) - _____