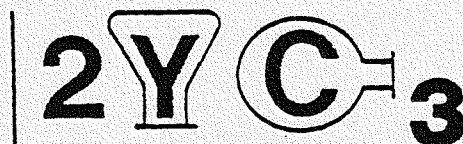


THE 85TH CONFERENCE

FROM THE ELEMENTS TO THE COMPOUNDS



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

San Diego City College

San Diego, California

October 19 and 20, 1984

2YC₃ Executive Committee

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

John Clevenger, Treasurer
Truckee Meadows Community College
7000 Dandini Boulevard
Reno, NV 89512
(702) 673-7221

Jay Bardole, Chair-elect
Vincennes University
Vincennes, IN 47591
(812) 885-4372

Mike Knoll, Membership
Vincennes University
Vincennes, IN 47591
(812) 885-4529

Uni Susskind, Immediate Past Chair
Oakland Community College
2900 Featherstone Road
Auburn Hills, MI 48057
(313) 853-4325

Elliot Greenberg, Industrial Sponsors
Prairie State College
P.O. Box 487
Chicago Heights, IL 60411
(312) 756-3110

Ethelreda Laughlin, Editor
Cuyahoga Community College
1100 Pleasant Valley Road
Parma, OH 44130
(216) 845-4000

Jim Bradford, ACS Liaison*
American Chemical Society
1155 Sixteenth Street, N.W.
Washington, DC 20036
(202) 872-4587

*not a member of the committee

Past Chairs

William T. Mooney, Jr.
Ethelreda Laughlin
Cecil Hammonds
Douglas J. Bauer
Curtis Dhonau

William W. Griffin
John P. Mitchell
Paul J. Santiago
Katherine E. Weissmann
Douglas Bond

COMMITTEE ON CHEMISTRY IN THE TWO-YEAR COLLEGE
Division of Chemical Education - American Chemical Society
85th Conference - October 19-20, 1984
San Diego City College
San Diego, California 92100

CONFERENCE THEME: "CHEMISTRY: FROM THE ELEMENTS TO THE COMPOUNDS"

PROGRAM CHAIR: VICTOR BERNER, New Mexico Junior College, Lovington Highway
Hobbs, NM 88240; (505)392-4510; (H)(505)392-4978

ARRANGEMENTS
CHAIR: JIM BURTON, San Diego City College, 1313 12th Avenue
San Diego, CA 92100, (619)230-2643

INDUSTRIAL
SPONSORS: HAROLD KANE, San Diego City College, 1313 12th Avenue
San Diego, CA 92100

FRIDAY, OCTOBER 19, 1984

FRIDAY MORNING

09:00 - 10:30 Committee on Chemistry in the Two-Year College
This meeting is open to all interested persons.

10:00 - 12:45 Registration and exhibits

FRIDAY AFTERNOON

12:45 - 01:00 Opening and welcome
Dr. Allen Repashy, President San Diego City College

01:00 - 01:30 "MICROCOMPUTER TEACHING: STATUS AND FUTURE"
Stanley Smith, University of Illinois, Urbana, IL 61801

01:30 - 02:00 "COMPUTER ANXIETY: WHO CAN USE COMPUTERS?"
Arlene A. Russell, U. of California, Los Angeles; Los Angeles, CA 90024

02:00 - 02:30 "SEARCHING THE CHEMICAL LITERATURE WITH DIALOG"
Clay M. Sharts, San Diego State University, San Diego, CA 92182

02:30 - 03:00 Coffee Break and Exhibits

03:00 - 03:30 "THE USE OF THE NESTAR-APPLE NETWORK IN CHEMISTRY"
William R. Bornhorst, Grossmont College, El Cajon, CA 92020

03:30 - 04:00 "A COMPUTER-BASED PRE-LABORATORY QUIZ FOR ORGANIC CHEMISTRY"
Ronald Starkey, U. of Wisconsin-Green Bay, Green Bay, WI 54302

FRIDAY EVENING

05:00 - 06:00 Social Hour - Location to be announced

06:30 - 08:30 Buffet style Banquet at San Diego City College, Guest Speaker
Paul Saltman, U. of California, San Diego, La Jolla, CA 92093



SATURDAY, OCTOBER 20, 1984



SATURDAY MORNING

- 08:30 - 12:30 Computer Instrument Interfacing - A hands on symposium open to the first twenty who enroll.
The symposium will be given by G. Scott Owen of Georgia State University. It will be at Southwestern College. Participants will meet at San Diego City College and leave there at 8:00 AM for Southwestern.
- 08:00 - 08:45 Registration and Exhibits
- 08:45 - 09:00 Announcements
- 09:00 - 09:30 "CONSUMER CHEMISTRY: A CLASS FOR CONCERNED CITIZENS"
Carol Anderson, U. of Connecticut at Avery Point, Groton, CT 06340
- 09:30 - 10:00 "IMPROVING STUDENTS' PROBLEM-SOLVING SKILLS"
Julien Gendell, Oakland University, Rochester, MI 48063
- 10:00 - 10:30 "TECHNICAL WRITING IN THE UNDERGRADUATE CURRICULUM"
Allan R. Burkett, Dillard University, New Orleans, LA 70122
- 10:30 - 11:00 Coffee Break and Exhibits
- 11:00 - 11:30 "QUESTIONING STRATEGIES IN THE CLASSROOM"
Mary Ann Grams, San Antonio College, San Antonio, TX 78284
- 11:30 - 12:00 "CHEMISTRY FROM OUTSIDE THE CLASSROOM"
Alan Kruse, Pima Community College, Tucson, AZ 85709

SATURDAY AFTERNOON

- 12:00 - 01:00 Lunch and Exhibits
- 01:00 - 01:30 J. A. Campbell, Harvey Mudd College, Claremont, CA 91711
- 01:30 - 02:00 "REAL WORLD EXAMPLES IN CHEMISTRY"
John D. Hostettler, San Jose State University, San Jose, CA 95100
- 02:00 - 02:30 "IMPROVING UNDERGRADUATE EXPERIMENTS WITH ON-LINE MICROCOMPUTERS"
Stanley L. Burden, Taylor University, Upland, IN 46989
- 02:30 - 03:00 "AN INNERDISCIPLINARY APPROACH TO UNDERGRADUATE RESEARCH IN THE COMMUNITY COLLEGE"
Ed Heath, Southwest Texas Junior College, Uvalde, TX 78801
- 03:00 - 03:30 "ESTABLISHING A CHEM TECH PROGRAM"
Harry G. Hajian, Community College of Rhode Island, Warwick, RI 02886
- 03:30 - 03:45 Closing Remarks

D BUILDING, ROOM 102

AGENDA

Committee Meeting
Friday, October 19, 1984
9:00 AM
San Diego City College

I. Introduction

(Tab 1) II. Approval of Minutes, Storrs Committee Meeting (Tab 1)

III. Reports

(Tab 2) A. Chair

(Tab 3) B. Storrs Meeting Wrap-up - Uni Susskind

(Tab 4) C. Storrs Booth Wrap-up - Elliott Greenburg

D. San Diego Meeting Report - Vic Berner

(Tab 5) E. Miami Meeting Plans - Wendell Massey
Larry Bray

F. Wakesha Meeting Plans - Len Grotz

(Tab 6) G. Membership - Mike Knoll

(Tab 7) H. Treasurer - John Clevenger

I. College Sponsors - John Clevenger

(Tab 8) J. Industrial Sponsors - Elliott Greenberg

K. Policies and Procedures - John Mitchell

L. Publication - Ethel Laughlin

M. Meeting Sites - Jay Bardole

(Tab 9) N. Office of College Chemistry - Jim Bradford

O. Program - Len Grotz

(Tab 10) P. Teaching Standards - Uni Susskind

(Tab 11) Q. Workshops - Sam Crawford

R. Silver Anniversary - Jay Bardole

IV. Old Business

V. New Business

(Tab 12) VI. Information Items

MINUTES OF THE EXECUTIVE COMMITTEE MEETING
COMMITTEE ON CHEMISTRY IN THE TWO-YEAR COLLEGE
August 6, 1984
Storrs, Connecticut

PERSONS PRESENT

Marian Baker, Jay Bardole, Janet Boese, Jim Bradford, Ralph Burns, John Clevenger, Pat Flath, Onofrio Gaglione, and Elliot Greenburg

Marion announced that Janet Boese has replaced Bob Ridgway as the manager of the Office of College Chemistry. Jim Bradford has been appointed as the project coordinator of the Office of Two-Year Colleges. Jim has agreed to compile and distribute an agenda for the San Diego meeting as an experiment. Marian requested that all reports for the San Diego meeting be to her by September 1, 1984.

Marian reported that she had written letters to all committee members who have not yet paid their 1984 dues. All have now paid, except one who will be contacted by phone to see if he wishes to continue his position on the committee.

Judy Jones has resigned as program chair for the Miami meeting. She had three papers arranged, and Marian has another six for this conference. A new program chair will soon be appointed.

The minutes of the executive committee meeting in St. Louis were approved.

Plans for the San Diego meeting are all in order.

A final form of the Planning and Strategy Document is now ready and has been mailed to executive committee members for approval.

The meeting scheduled for Des Moines must be reconsidered because of the death of Bob Burham, the local arrangements contact for the meeting. There was discussion about having the Chicago meeting begin our silver anniversary during the spring of 1986.

Marian reported that more than 70 two-year college teachers are registered at the Eighth Biennial Conference. The possibility of 2YC3 participation in the Ninth Biennial was discussed. It was agreed that we should participate in the same manner that we have in Storrs. Since we will have four other conferences in that year, it was decided that we would not have a committee meeting at the Ninth Biennial. We will plan to budget an extra \$500 for travel for the chair of 2YC3 during that year.

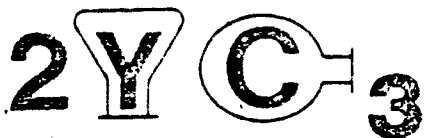
Ralph Burns reported that the St. Louis meeting was very successful. There were 108 participants, most from Missouri, Illinois, and Indiana; but there were 29 states represented. Ralph reported that the main strength of the meeting was the diversity of the speakers' topics.

The survey that we conducted indicated an interest in CAI, CMI, and lecture-discussion techniques. Respondents were willing to attend on Thursday or Saturday, and to pay a \$25 fee.

Elliot Greenburg reported that last year (ending June 30) we had 39 industrial sponsors. There are now 22 renewals and one new sponsor. Elliot indicated that the \$100 fee has been no problem.

John Clevenger circulated the treasurer's report (attached). John reported that as old CDs mature, they are being transferred into a bank in Reno, NV. He will invest them in time intervals so that they will mature at different times. Dick Gaglione's name will appear on these new CDs. The interest from the CDs is being deposited into the checking account.

John reported that there were 114 current college sponsors, each paying \$25 per year. As a college becomes a sponsor, John is establishing a definite contact person at the college.



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

July 31, 1984

FINANCIAL REPORT FOR COCTYC

From: 4/2/84 To: 7/31/84

Credits

Balance forward	\$ 3656.24
Individual memberships	360.00
Industrial sponsors	75.00
College sponsors	650.00
Membership to DIVCHED	90.00
DIVCHED	2000.00
Interest of checking	104.70
Meetings & misc.	<u>1202.58</u>

\$ 8138.52

Debits

Travel	\$ 2099.10
Phone	71.70
Membership to DIVCHED	90.00
Office supplies	9.65
Printing	18.69
Meetings & misc.	<u>1221.41</u>

\$ 3510.55

Balance

\$4627.97

John V. Clevenger, Treasurer

MINUTES OF THE OPEN MEETING
COMMITTEE ON CHEMISTRY IN THE TWO-YEAR COLLEGE
August 6, 1984
Storrs, Connecticut

PERSONS PRESENT

Gilbert Albelo, Ellen Anderson, Marian Baker, Jay Bardole, Edith Bartley, Janet Boese, Jim Bradford, Bob Burge, Ralph Burns, John Clevenger, Carolyn Collins, Barbara Di Lorenzi, Barbara Eaton, Warren Eidsness, Barbara Enagonio, Donald Feaser, John Feldsine, Pat Flath, Onofrio Gaglione, Elliot Greenburg, Gordon Harrach, Marion Johnson, Rudolph Jones, Cecilia Jorgenson, H. Eric Jorgenson, David Katz, Betty Klapper, Leo Kling, Jeanette Madea, Wendell Massey, George Page, Lucy Pryde, Barbara Rainard, Margot Schumm, Frank Slezak, Vince Sollimo, Uni Susskind, and Uri Toller

Uni reported that everything was going well at the Storrs meeting. The consensus of the committee was that our involvement in the meeting was good and should be repeated for the Ninth Biennial Conference in Bozeman. Our high visibility in the chemistry community is good.

There are vacant committee positions from the eastern and western regions, and anyone willing to work and serve a three-year term should contact Marian Baker.

Jim Bradford was introduced as the ACS staff person in the Office of Two-Year Colleges. He explained the various aspects of his job, including publishing the Distillate, promoting membership in 2YC3, ACS, and DIVCHED, administering the College Chemistry Consultants Service, organizing the Invitational Education Conferences, working with the SOCED Task Force on ACS Involvement in the Two-Year Colleges, and soliciting funds for the consultants' visits and the invitational conferences.

Jim also announced that SOCED has requested that the 1985 Invitational Conference be directed toward chemistry in the two-year colleges. This conference will be planned and staged by the SOCED Task Force and will be held in late 1985. Jim said that funding for the conference was being sought from several sources, and that all but a small amount has been located. There was discussion from the group and it was suggested that we should support this effort in every way possible. Our support could include some financial support and perhaps a list of concerns that we see existing in the two-year colleges.

Uni reported that the SOCED Task Force was revising the 1970 Guidelines for Chemistry Programs in Two-Year Colleges and that it has completed its first writing conference.

Elliot reported on the Storrs exhibit. He displayed buttons, stickers, hats, jewelry, and some items to be raffled. Arrangements were made to set up the booth and to have it staffed during the exhibiting times.

The silver anniversary of 2YC3 was discussed. Current plans are to hold the first meeting in a year-long celebration at William Rainey Harper College in the spring of 1986. One activity planned is a panel of persons, who have provided leadership to 2YC3 over the years, discussing where chemical education has come from, where it is now, and where it is going. Perhaps this panel could lead off a symposium on chemistry in the two-year colleges at a national ACS meeting. Other ideas include some sort of medallion, a process of goal setting, and a membership drive. Additional ideas for this special year are welcome. It was suggested that we need a historian.

2YC3 membership was discussed. The use of regional committee members to increase membership in each region was suggested. Another suggestion was that we mail our newsletter to all chemistry teachers. When we mail to colleges, we need to make an extra effort to get the newsletter to a certain person in a department. We need to be better known in some areas, and our activities and accomplishments need to be more visible.

There was a suggestion that the two-year colleges might be able to help the teachers in high schools and/or grade schools to update and improve their science and chemistry teaching skills. Since two-year colleges cannot grant graduate credit for courses, it was suggested that we might offer Continuing Education Units (CEU's). Similar projects are at the Learning Research and Development Center and the University of Pittsburgh.



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

August 22, 1984

Marjorie Gardner, Chair
Division of Chemical Education
Chemistry Department
University of Maryland
College Park, Maryland 20742

Dear Marjorie,

Thank you so much for allowing 2YC3 to co-sponsor the wonderfully successful 8th Biennial. We will always treasure our experiences there. I have written to Ken Emerson asking that we be allowed to co-sponsor the 9th Biennial also. Perhaps I should have asked someone else. I'm enclosing a copy of my letter to him. Will you please see that this request gets on whatever agenda it needs to be on?

The Committee and I recommend the following appointments. The appointments are through 1987.

David Katz, Community College of Philadelphia
1700 Spring Garden Street, Philadelphia PA 19130
[Eastern Region]

Dr. Gilbert Albelo, Mt. Hood Community College
Gresham, OR 97030 [Western Region]

Dr. Robert Burge, Suffolk County Community College
533 College Road, Selden, NY 11784 [Eastern Region]

Muriel Kanter, Roxbury Community College
625 Huntington Avenue, Boston, MA 02115
[Eastern Region]

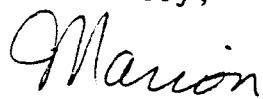
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It is my understanding that you will notify these people of their appointment.

Sincerely,



Marion H. Baker
Chair, 2YC3

MHB/mc

cc: Jim Bradford

Enclosure



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

August 22, 1984

Dr. Kenneth Emerson
Chemistry Department
Montana State University
Bozeman, Montana 59717

Dear Ken,

The 2YC3 committee met on Monday, August 6, 1984 and voted un-animously to participate in and co-sponsor the 9th Biennial Conference in Chemical Education if you and the organizing committee would allow us to do so. We would like to supply you with our membership list [in the form of mailing labels] so that you could send advance publicity and final information to our membership. Please write to Mike Knoll, Vincennes University, Vincennes, Indiana 47591, telephone, 812-885-4259 for these labels.

We also would like an afternoon session of our own scheduled so that it conflicts with as little of the program as possible. Dick Gaglione, New York City Technical College, 300 Jay Street, Brooklyn, NY 11201, telephone 212-643-8242, will be 2YC3 Chair in 1986 and he will appoint a program chair to arrange the program.

We enjoyed our booth that was given us free of charge at Storrs and feel that it enabled us to meet and greet our colleagues, giving us some visibility and credibility that we very much need. We would appreciate the same opportunity at the Bozeman meeting.

Thank you very much for your consideration. I'm enclosing a copy of a logo for you to use in your promotional materials if you feel it is appropriate.

Sincerely,

Marion
Marion H. Baker
Chair 2YC3

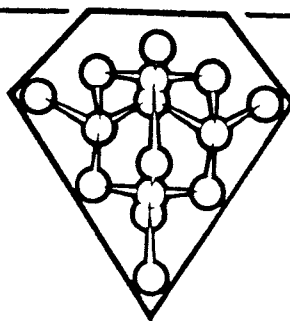
MHB/mc

Enclosure

AUGUST 5-10 1984

Eighth Biennial Conference on Chemical Education

at
The University of Connecticut
Storrs, Connecticut



Reply to:
Dr. Gary A. Epling
Local Arrangements Chairman
Department of Chemistry, U-60
University of Connecticut
Storrs, Connecticut 06268

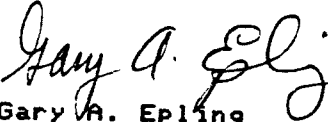
August 29, 1984

Dr. Marion Baker
Chair
Two-Year College Chemistry Conference
Central Piedmont Comm. College, POB 35009
Charlotte, NC 28235

Dear Dr. Baker:

In the aftermath of the conference I wanted to take this opportunity to thank you for your participation as an exhibitor. We have received a great many compliments about the conference, some of which have been directed towards the interesting exhibit area. I was most impressed with the variety of the exhibits, the quality of the displays, and the friendliness and stamina of the exhibitors. I greatly appreciate your contribution to making this conference a success.

Sincerely,


Gary A. Epling

CHEMISTRY
a gem of a science

ATTENDANCE AT THE STORRS, CONNECTICUT MEETING

NAME	SCHOOL	ADDRESS
Edith Bartley	Tarrant Co. Jr. Col.	Ft. Worth, Texas
Marion Baker	Central Piedmont C. C.	Box 35009 Charlotte, NC 28235
Dorma Gottlieb	Miami-Dade Community College	11011 SW 104th St. Miami, FL 33176
Muriel Ranesden	Union Comm. College	Cranford, NJ 07016
Jianette Madea	Broward Comm. College	Pompano Beach, FL
John Clevenger	Truckee Meadows C. C.	700 Dandini Blvd. Reno, NV 89512
Uri Zoller	Div. of Chem. Studies Haifa University ORANIM	P.O., KCRYAT TIVON 36910, Israel
Leo Kling, III	Tri-County Tech. Col.	Pendleton, SC 29670
Cheryl Hallowell	Brevard College	Brevard, NC 28712
Gordon Harrach	Nebraska Western Col.	Scottsbluff, NE
Jirme Finka	Elmira College	Elmira, NY 14901
Hiroko Karan	Medgar Evers College	Brooklyn, NY 11225
Gilbert Albelo	Mt. Hood Comm. College	Gresham, OR 97030
Barbara DeLorenzi	John Abbott College	P. O. Box 2000 St. Anne de Bellevu H9X369 Canada
Bill Nickels	Schoolcraft College	Livonia, MI 48151
Ellen Anderson	Hartford College for Women, Hartford, CT	34 Clark Hill Rd. Hampton, CT 06424
Allen Bedrisian	VW Centers Marinette Campus	Bay Shore Drive Maunette, WIS.
Onofrio Gaglione	NYC Technical College	Brookly, NY

Page 2

Thomas W. Aanerud	Riverton High School	2000 W. Sunset Rd. Riverton, WY 82501.
L. Leaton		Rt. 1 Box 218 Arardeare, MO 63701
Bob Rudd	Northwestern Michigan College	Traverse City, MI 49684
Rubard Jarosch	Univ. of Wis.-Sheboygan	One University Dr. Sheboygan, WI 53081
Alice B. Frappier	Community College of Rhode Island	Lincoln, RI 02865
M. G. McKron	Connecticut College	New London, CT
Elizabeth Singleton	Houston Community Col- lege/Tech. Ed. Division	4310 Dunlavy Houston, TX 77006
John Flowers	Medgar Evers College	Brooklyn, NY 11225
Gary G. Giachino	Connecticut College	New London, CT
Martha Jones	Union County College	Cranford, NJ 07016
Jolene Appleman	Union County College	Cranford, NJ 07016
Barbara Enagonio	Montgomery College	Rockville, MD 20850
Margot K. Schumm	Montgomery College	Rockville, MD 20850
Betty Klapper	Columbia Tech. Inst.	Columbus, Ohio
Paul Loconto	Dutchess Comm. College	Poughkeepsie, NY
Muriel W. Kanter	Roxbury Comm. College	Boston, MA 02115
Robert Burge	Suffolk County Com.Col.	Selden, NY 11784
Harry Hajian	Community College of Rhode Island	Warwick, RI 02886
Dwight Springer	Department of Chemistry U. S. Military Academy	West Point, NY 10996-1785
William E. Adams	Salem State College	Salem, MA 01970
John F. Ziemba	Bay de Noc Community College	Escanaba, MI 49829

William J. McVeagh	Community College of Allegheny County	808 Ridge Avenue Pittsburg, PA 15212
Barbara Rainard	Community College of Allegheny County	808 Ridge Avenue Pittsburg, PA 15212
Robert Dreyfuss	Mercy College	Dobbs Ferry, NY
H. Holzschuh	Tulsa Junior College Northeast Campus	Tulsa, Oklahoma
Lucy T. Pryde	Southwestern College	Chula Vista, CA
Patricia C. Flath	Paul Smith's College	Paul Smith's NY
Alvin Greenbury	Paul Smith's College	Paul Smith's NY
Robert Coley	Montgomery College Germantown Campus	Germantown, MD 20874
Stephen F. Day	Eastern New Mexico University-Roswell	Roswell, NM 88201
John Feldsine	Brooms Community Col.	Binghamton, NY
Alvin Weinstein	Malcom X College	Chicago, Illinois
Rudolph B. Jones	Essex County College	Newark, NJ 07102
Howard L. White		10 Lansdowne Rd. Warwick, RI 02888
Ralph A. Burns	St. Louis Com. College at Meramec	St. Louis, MO 63122
Chester A. Giza	Department of Chemistry Wheeling College	Wheeling West Virginia
Rarnk Sharne	FIT-NYC	New York, NY 10001

MHB/mc

October
August 31, 1984

REPORT ON STORRS EXHIBIT

I am happy to report that our exhibit at storrs was very successful both with regard to public relations and finances. The table below summarizes our expenses and income from the booth.

Summary of Finances for Storrs Exhibit

	<u>Amount Budgeted</u>	<u>Amount Spent</u>	<u>Received from Sales</u>	<u>Stock Remaining To Be Sold</u>
1) Necklaces	\$175.00	\$168.20	\$380.00 + 195.00	\$265.00 80.00
2) Stick-on labels	62.00	80.61		
3) Wall Banner & table cover	25.00	28.65		
4) 2YC ₃ Caps & jacket	175.00	175.00	104.50 + 90.00	125.00 + Jacket 35.00 + " "
5) Balloons	10.00	11.50		
6) Photographs	15.00	25.00		
7) Paper for Membership flyers		9.65		
8) Miscellaneous		9.50		
		\$508.11	\$484.50 \$ 769.50	\$390.00 + Jacket \$ 115.00 + " "

(Forgot to count samples)

We have recovered all but \$23.61 of our expenses and still have over \$400 in saleable merchandise that we expect to sell at 2YC₃ meetings in the coming academic year.

In addition, as a direct result of the booth, we have signed up eight new members and two new Industrial Sponsors. There is still a possibility of one or two more Industrial Sponsors as well as some College Sponsors that may be signed up.

October 31, 1984

*Profit = \$261.39; Stock = 115 + Jacket
+ Donation 1.00
262.39*

These individuals received a letter like the one attached.

Ms. Jeanette Madea
Broward Community College
Pompano Beach, Florida 33064

Howard Kanare
1400 West Elmdale
Chicago, Illinois 60660

Jerry Gurst
Chemistry Department
University of West Florida
Pensacola, Florida 32514-0101

Sylvia Ware
American Chemical Society
1155 Sixteenth St. NW
Washington, DC 20036

David Katz
Community College of Philadelphia
1700 Spring Garden Street
Philadelphia, PA 19130

Nancy Konigsburg
Chemistry Department
University of Michigan
Ann Arbor, Michigan 48109

Carl Trindle
Chemistry Department
University of Virginia
Charlottesville, VA 22901

Bill Halpern
Chemistry Department
University of West Florida
Pensacola, FL 32514-0101

Dr. Baird Lloyd
Mercer University - Atlanta
3001 Mercer University Drive
Atlanta, Georgia 30341



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

August 9, 1984

Nancy Konigsburg
Chemistry Department
University of Michigan
Ann Arbor, Michigan 48109

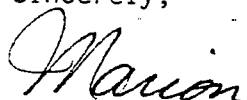
Dear Nancy,

Thanks so much for your interest in making a presentation at the 86th Two-Year College Chemistry Conference at Miami-Dade Community College on Friday and Saturday, April 26 and 27, 1985. Wendell Massey, of Florida Junior College, North Campus, Jacksonville, Florida 32218, has agreed to serve as program chair for this meeting and he will be contacting you in January or February concerning audio-visual needs and your position on the program. We hope that presenters will be able to attend the entire meeting, which will start late Friday morning and end early Saturday afternoon, so that there will be ample opportunity for interaction between the presenters and the other participants.

I hope I remembered to explain to you that 2YC3 pays neither honoraria nor expenses to presenters. Our dues and registration fees are kept very low. We must depend on your institutions or publishers to pay the bills for your part at our meetings. We can only reward you with a stimulating professional experience.

Please contact me [704-373-6462] or Wendell Massey [904-757-6441] if you have questions between now and February.

Sincerely,


Marion H. Baker
2YC₃ Chair

MHB/mc

cc: Wendell Massey

TO: Jim Bradford
FROM: Mike Knoll
SUBJECT: 2YC₃ Individual Memberships
DATE: August 30, 1984

Attached is a copy of the letter sent to those people who stopped at our exhibit in Storrs, but are not 2YC₃ members.

The membership data for 2YC₃ is below.

Renewals from 1983	353
New Members in 1984	<u>135</u>
Total Membership	<u><u>488</u></u>



TWO YEAR COLLEGE CHEMISTRY CONFERENCE

DIVISION OF CHEMICAL EDUCATION

AMERICAN CHEMICAL SOCIETY

J O I N 2 Y C 3

Thank you for stopping by our booth at Storrs! We would like to take this opportunity to invite you to join our organization.

The Division of Chemical Education (DivChed) is a part of the American Chemical Society (ACS) and is concerned with maintaining and improving the quality of chemical education at all levels. One of the committees of DivChed is COCTYC, which is specifically devoted to maintaining communication between chemistry faculty at the junior and community college level. The primary activity of COCTYC is holding 4 regional conferences of the 2YC₃. The goal of each conference is to promote an exchange of information regarding teaching methods and ideas which have been found to be helpful to other faculty. Membership in 2YC₃ is open to any and all interested persons devoted to improving the quality of chemical education. Attendance at any of the conferences is free to any current member of 2YC₃ (normal registration is \$6.00 which includes an automatic membership for the remainder of that year). Conference dates are planned and announced at least 1 year in advance and a complete program listing of activities is provided in a newsletter mailed approximately 4-6 weeks prior to the conference. In addition, COCTYC also publishes THE DISTILLATE, a short newsletter describing prior conferences as well as indicating highlights of earlier conferences and providing any other news items which would be of interest to chemistry teachers.

Your attendance at the 2YC₃ exhibit at Storrs indicates that **you** would be interested in becoming a member of our organization! We invite your participation. If you are interested, please fill out the enclosed application and mail it, together with the \$6.00 membership fee (dues are for 1985) to: Michael Knoll Membership Chair Vincennes University McCormick Science Center Vincennes IN 47591.

T H A N K Y O U F O R Y O U R I N T E R E S T



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

August 31, 1984

FINANCIAL REPORT FOR COCTYC

From: 7/31/84 To: 8/31/84

Credits

Balance forward	\$ 4627.97
Industrial sponsors	2825.00
Interest	33.59
Meetings & misc.	<u>526.50</u>
	\$ 8013.06

Debits

Travel	\$ 606.93
Meetings & misc	<u>252.50</u>
	\$ 859.43

Balance \$7153.63

All the cash flow connected with the booth in Storrs is shown under "Meetings & misc."

COLLEGE SPONSORS

We have a total of 116 college sponsors. I will have a list with me at the meeting. This fall I will be sending out renewal notices for next year.

John V. Clevenger, Treasurer

August 31, 1984

INDUSTRIAL SPONSORS

At the close of the 1983-84 academic year we had 39 Industrial Sponsors. Since that time we have signed up three new Sponsors, and 26 companies have renewed their Sponsorship for the coming year. The 13 Sponsors that have not yet responded have all been sent a second billing, and, where necessary, phone calls will be made to effect additional renewals. An updated report will be given at the meeting.

2YC₃ INDUSTRIAL SPONSORS

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American Chemical Society

The 1985 Invitational Education Conference
Issues in Two-Year College Chemistry

A Proposal Submitted

To: The The Two-Year College Chemistry Conference
By: The Society Committee on Education Task Force
on ACS Involvement in the Two-Year Colleges

Staff Contact

E. James Bradford
Education Division
(202) 872-4587

October 1984

Abstract

The Invitational Education Conferences have been held under the auspices of the Society Committee on Education or its precursor committees for a number of years. These biennial conferences address a crucial and timely issue in chemistry education, and their product is a published and widely distributed report with recommendations for action.

This proposal requests funds in the amount of \$1,200 from the Two-Year College Chemistry Conference for partial support of the 1985 Invitational Education Conference. The proposed title of this conference is "Issues in Two-Year College Chemistry." The three-day conference will enable the 25 participants to identify the most pressing problems facing two-year chemistry programs, as well as to develop plans for subsequent workshops, each addressing a specific issue and to be funded by non-Society sources.

Need for the Project

More than half the students enrolled as freshmen or sophomores in post-secondary institutions are enrolled in the two-year colleges. In the past 10 years, this component of American education has become a tremendous public asset, providing quality education at a reasonable cost. The chemistry departments of these two-year colleges prepare students for transfer to four-year schools as well as for immediate careers as chemical technicians. Because of these roles, the two-year colleges form vital links among four-year schools, the chemical industry, and the public.

Two-year colleges and their chemistry programs are presently facing some special problems. These include open-door admissions policies that challenge teachers with inadequately prepared students, professional isolation resulting from very small departments and meager travel budgets, a lack of modern equipment for teaching purposes, and many others.

The American Chemical Society appreciates the importance and special needs of chemistry educators in two-year colleges. In 1984, after recognizing the success of a pilot program conducted during the previous year, the Society established the Office of Two-Year College Chemistry within the Department of Educational Services, Education Division.

In cooperation with the Society Committee on Education Task Force on ACS Involvement in the Two-Year Colleges, this new office is seeking ways to maximize its immediate effects upon the two-year college chemistry community. An efficient and economical way to do this is to provide a

forum that brings together experts on relevant issues who can plan strategies for ACS action. The Invitational Education Conferences of SOCED are ideally suited for this purpose. These conferences are designed to produce valuable insights into crucial and timely issues in chemistry education. Some past conference titles have been "The Cross-Fertilization of Chemistry and Chemical Engineering Curricula" and "Chemistry in the Kindergarten-through-Ninth-Grade Curricula."

The title of the proposed 1985 Invitational Education Conference will be "Issues in Two-Year College Chemistry." The objectives of this three-day conference will be to 1) identify the most pressing problems impinging upon two-year college chemistry programs, 2) rank the problems in the order in which they may best be confronted, and 3) develop plans for subsequent workshops that will treat each problem. The proposed conference will be attended by up to 25 persons, representing the chemical industry and the academic community. The conferees will be invited by the Task Force on ACS Involvement in the Two-Year Colleges on the basis of their comprehensive knowledge of chemistry education, geographic location, and affiliation with an organization directly affected by two-year chemistry education.

Once funded, the conference will be administered by the ACS Office of Two-Year College Chemistry. The project coordinator of this office will provide liaison services to the Task Force throughout the planning and staging of the conference as well as during the production and distribution of the conference report. This report will contain specific recommendations and plans for action.

The subsequent workshops will be funded primarily by non-Society sources. It is anticipated that each of the problems identified will be of interest to a special group that may be willing to provide support for a workshop that addresses its particular interests. For example, minorities make up a disproportionately large fraction of the group of inadequately prepared students at the two-year college level. Furthermore, the various minority groups are not well represented as professionals in science and engineering. It is probable that organizations such as the Rockefeller Foundation (see attachment A) would be willing to fund a workshop on so relevant an issue.

Need for Financial Support

The 1984 Invitational Education Conference was postponed until 1985 because of expenditure reduction measures applied to all ACS member dues-supported programs. In 1985, similar budget constraints will be in effect. For this reason, funds are being sought from other sources to supplement the ACS budgeted support for this activity. This most valuable conference cannot take place in the absence of external support.

The proposed budgets for both conference expenses and anticipated support follow.

Expenditures

Travel--transportation for 25 persons @ \$400/person	\$10,000
--per diem for 25 persons @ \$80/person/day	6,000
Publication and distribution of conference report	4,200
Meeting room and related expenses	<u>2,000</u>
Total costs of conference	<u><u>\$22,200</u></u>

Solicited Support

ACS Education Division dues--supported Budget #2003	\$10,000
Society Committee on Education Discretionary Fund grant*	5,000
Two-Year College Chemistry Conference grant	1,200
ACS Corporation Associates grant*	<u>6,000</u>
Total anticipated support	<u><u>\$22,200</u></u>

*Proposals submitted at the Philadelphia Meeting

Concluding Remarks

Providing the requested funds will enable the Two-Year College Chemistry Conference to make significant additional contributions to improving the quality of education in the United States. This collaborative financial effort will enable the funding organizations to have a positive effect on two-year college chemistry education that is much greater than the value of the immediate grant. Because of the wide distribution of a distinctive report, it is respectfully suggested that funding this project will further enhance the image and scope of the Two-Year College Chemistry Conference. Additionally, by supporting this conference, 2YC3 will have a tremendous opportunity to educate the public about the special role of the two-year colleges in modern chemical education.

The Minority Student Challenge

Although yesterday's demagogues no longer bar the schoolhouse doors, the retreat from the crudest forms of educational discrimination has not automatically brought expected gains for minority students.

Nowhere are problems of access and opportunity more persistently acute than in graduate and professional study in science and technology. Blacks, Hispanics, and Native Americans make up 19 percent of the U.S. population but receive only 8 percent of doctoral degrees annually. Moreover, according to a 1983 survey supported by the Rockefeller Foundation,* the disciplines "in which the four minorities [Blacks, Hispanics, and Asian and Native Americans] are most severely underrepresented are engineering, biological science, and physical science and mathematics." The same investigation found that Blacks are proportionately in the shortest supply across the entire spectrum of quantitative degree curricula.

In the 1981-82 academic year, for example, 606 Blacks nationwide received doctorates in education, but only 20 took Ph.D.'s in engineering, 29 in the physical sciences, 6 in mathematics, and 1 in computer science. In the same year, Hispanics earned 132 doctorates in arts and humanities and 136 in the social sciences but only 33 in the physical sciences and 6 in mathematics.

The shocking numbers make it hard to avoid a dispiriting conclusion: that in graduate and professional education, as in so many other areas of American life, the facade of progress that has been erected in recent years actually masks the reality of sluggish change. Particularly as the United States confronts the challenging uncertainties of a high-tech future, minorities urgently need to increase their numbers on the national roster of scientists and professionals.

What can educators and policy-makers do to help? At a minimum, a two-pronged strategy is indicated.

First, for minorities already enrolled as undergraduates, we need energetic, well-organized programs to stimulate interest in professional schools and doctoral study in science, mathematics, and technology. Whenever necessary, such efforts must include programs to rectify high school deficiencies or gaps in the academic prerequisites for entry into these fields. Effective tutoring and developmental components will also ensure that less well-prepared students will be able to compete without harsh disadvantage and to meet rigorous standards without special dispensation.

Second, for younger minorities—those currently in elementary or the early years of secondary school—we need to discourage the frequent practice of routinely counseling many minority youths into vocational and trade curricula, as if they were unfit for more rigorous college choices. We also must interdict the "cycle of avoidance," in which lack of preparation in basic science and mathematics leads to a lack of interest, anxiety, and ultimately nonenrollment in those fields at the college level. Indeed, high schools and colleges must cooperate to develop academic and career paths in science and technology for promising minority students. To do that, we have to interest these youths during their early secondary years in high-demand professional and technical fields and to provide both special study options and financial incentives to take advantage of them.

Less than a year ago, Lieutenant Colonel Guy S. Bluford, Jr., became the first minority American to travel into space. Colonel Bluford's achievement appeared to affirm that minorities have entered the national mainstream—that their needs and priorities have climbed on the country's agenda even as the aptly named Challenger climbed into the sky.

But it is a long way from the back of the bus to the cockpit of a space shuttle. Until minorities close the "grad school gap" in scientific and professional education, the real challenge to the nation will remain unanswered.—CLIFTON R. WHARTON, JR., *chairman of the board, Rockefeller Foundation, and chancellor, State University of New York, Albany 12246*

*National Research Council, "Survey of earned doctorates" (Washington, D.C., 1983).

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TWO-YEAR COLLEGES

Budget 2173

OBJECTIVES

- o To gather and distribute information about two-year colleges and chemical technician education to the academic community and industry
- o To present symposia, conferences, and workshops designed to assist two-year college faculty in meeting the distinctive challenges of two-year education
- o To make two-year college faculty aware of the benefits of society membership
- o To serve as a mechanism for implementing society activities related to two-year colleges
- o To foster communication between two- and four-year colleges

PROGRAM DESCRIPTION

The Office of Two-Year Colleges was established in 1984 to help meet the special needs of chemistry faculty members in the two-year colleges. These colleges now educate more than half the students enrolled as freshmen or sophomores in postsecondary education.

The 2YC Distillate is published three times a year and distributed to more than 3,000 persons in the academic community and in the chemical industry. The newsletter provides information of special interest to two-year college chemistry faculty. Articles range from teaching strategies to state-of-the-art chemical research.

The Office of Two-Year Colleges works with the Task Force on ACS Involvement in the Two-Year Colleges in revising the 1970 "Guidelines for Chemistry Programs in Two-Year Colleges." These guidelines will be used to establish criteria for chemistry programs seeking ACS approval.

Beginning in 1985, this Office will publish and distribute at cost a directory that emphasizes chemical technology and chemical-related technology programs. This directory will be of value to those chemical industries employing graduates of these programs.

1985 ACTION PLAN

- o To publish and widely distribute three issues of the 2YC Distillate
- o To prepare and distribute at cost a directory of two-year colleges, emphasizing those with chemical technology programs
- o To foster communications between two and four-year colleges that will help minimize articulation problems for transferring students
- o To conduct a major recruitment effort to encourage two-year faculty membership in the Society
- o To use the existing mechanism of the two-year college conferences to further promote Society activities in this area

STAFF

E. James Bradford, Project Coordinator
Katherine E. Green, Secretary

log 120,1
word 2173

PROGRESS REPORT

Task Force on ACS Involvement in the Two-Year Colleges
William T. Mooney, Jr., Chair

Initial Task Force Meeting

The Task Force first met as a group on 8 April 1984 in St. Louis. During this meeting, the Task Force:

- 1) reviewed its charge from the Society Committee on Education.
- 2) developed a calendar for subsequent activities.
- 3) received a report from Task Force representatives on a meeting with representatives from the Committee on Professional Training.
- 4) reviewed and discussed the 1970 Guidelines for Chemistry Programs in Two-Year Colleges and the 1983 CPT Guidelines for Chemistry in the Four-Year Colleges.
- 5) received reports on the accreditation of chemical engineering technology programs by the Accreditation Board for Engineering and Technology (ABET) and on the accreditation of four-year programs by CPT.
- 6) developed assignments for each Task Force member for revising specific sections of both the CPT Guidelines and the 1970 Two-Year Guidelines.
- 7) began collecting and systematically cataloging documents from organizations involved in preparation of standards for science-related programs, or the evaluation and approval of these programs. Copies of more than 25 documents have been distributed to Task Force members and have been reviewed for content and format. Information from these documents has been incorporated into the Task Force's first draft of revisions.

Second Task Force Meeting

After working on individual revisions for over two months, the Task Force met from June 29 through July 1 at the ACS Headquarters in Washington, DC. During this writing conference, the Task Force:

- 1) received a report from its chairman on a meeting with the American Association of Physics Teachers (AAPT). AAPT provided input on their experiences with writing and implementing guidelines for physics programs in the two-year colleges, and they expressed an interest in collaborating with this Task Force and the ACS in presenting a united front for physical science education in the two-year colleges. Similar reactions were obtained from the National Association of Biology Teachers and the National Association of Geology Teachers. These groups were contacted during the Triangle Conference in Washington, DC.
- 2) held further discussions with Bonnie Blaser and Cathy Nelson regarding the experiences of CPT with their guidelines.
- 3) collected the individual Task Force members' revision efforts into a first-draft document. This document was assembled in Washington and returned to the Task Force members for further consideration. At present, the members are incorporating further changes and will return the revisions to Washington for compilation. A subsequent draft will then be prepared for distribution to SOCED members and other groups that have special knowledge of two-year chemistry education. The input from these groups will be used to prepare a draft that can be distributed in advance of the Miami Beach meeting.

Representation at the Biennial Conference on Chemical Education

The Task Force was represented by three members at the Biennial Conference on Chemical Education in Storrs, CT. Members discussed the mission and plans of the Task Force with interested persons, and solicited ideas for consideration in the guidelines.

The Task Force was also included in a display that featured the newly formed Office of Two-Year Colleges. This display was designed to solicit input from persons interested in the two-year colleges.

Third Task Force Meeting

The Task Force is next scheduled to meet on Sunday, August 26, in the Four Seasons Hotel in Philadelphia. Present plans for this all-day meeting include:

- a) reviewing the current draft of the guidelines and incorporating the revisions and input from others up to this time.
- b) developing a procedure for circulating the subsequent draft and obtaining reactions to it.
- c) discussing the initial plans for the 1985 Invitational Education Conference.

The 1985 Invitational Education Conference

As requested at the SOCED meeting last spring, we are planning the 1985 Invitational Education Conference. This Committee selected "Issue in Two-Year College Chemistry" as the topic.

Since the dues-supported budget for this component of the Education Division is inadequate for a satisfactory conference, we are submitting proposals for funding to SOCED, the ACS Corporation Associates, and the Two-Year College Chemistry Conference. All of these proposals are being considered at the present time.

The Task Force will be discussing program ideas, participants, sites and dates during the Philadelphia Meeting, any input is welcome. The Task Force will keep the Committee informed of developments in the search for funding and of the progress of the Conference plans.

Respectfully submitted,
Task Force on ACS Involvement in the Two-Year Colleges
William T. Mooney, Jr., Chair

Harry G. Hajian

Donald E. Jones

Robert A. Schunn

Tamar Y. Susskind

Katherine E. Weissmann

E. Jim Bradford, ACS Staff Liaison

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JOHNSON COUNTY COMMUNITY COLLEGE

MEMORANDUM

DATE: August 27, 1984
TO: People Involved in Planning Future 2YC₃ Meetings
FROM: Sam Crawford
SUBJECT: RESULTS OF SURVEY ON WORKSHOPS

The workshop survey completed at Hurst, Texas, and St. Louis, Missouri, indicates that there is interest in including workshops as part of future meetings. I would like to strongly encourage all to consider some workshop activities.

Indicated most popular time was Saturday during meetings.

Cost indicated should not exceed \$25.

Possible topics include anything associated with computers, I.R., NMR, laboratory programs, interfacing of instruments with computers, GC and lecture discussion topics.

I would like to get feedback on success of workshops that are offered in future meetings.

Future Looks Brighter to Chemical Educators

University, college, and high school teachers at conference on education show unity of purpose as science education reform movement takes hold

Ward Worthy, C&EN Chicago

Despite muggy 90° weather, the mood was upbeat at the 8th Biennial Conference on Chemical Education, held last month at the University of Connecticut, Storrs. Not even the rigors of living in non-air-conditioned dormitories could squelch the enthusiasm of the record 700 registrants and 300 "camp followers"—spouses, children, and others—who descended on the campus for five days of talking shop and/or having fun.

Notwithstanding the program's variety, a certain "sense of the meeting" did emerge. For one thing, it was apparent that the barriers that have separated chemistry teachers at different levels of education are breaking down—that there is a new unity of purpose among chemistry teachers, whether they be from big universities, small four-year colleges, two-year community colleges, or high schools.

University of Connecticut chemist John Tanaka, general chairman of the meeting, points out that the eighth conference, like the preceding seven, was sponsored by the ACS Division of Chemical Education. For the first time, however, the conference was cosponsored by the Two Year College Chemistry Conference (2YC₃) and by a regional group, the New England Association of Chemistry Teachers.

"This is not the first and, I hope, not the last of many developments

over the past few years that have brought community, junior, and technical college chemistry instructors together with their counterparts in four-year institutions for the mutual benefit of all," observes Marion H. Baker of Central Piedmont Community College, 2YC₃'s chairman for 1984. In fact, plans call for 2YC₃ to participate in the ninth biennial conference, to be held in 1986 at Montana State University in Bozeman. —H

Ethel L. Schultz of Marblehead (Mass.) High School, the high school chairman for the meeting, notes that high school chemistry teachers did have some separate sessions, to deal with their special problems and interests. But for the most part, the high school program was integrated into the general program—a departure from past practice—and many of the symposia included presentations by both college and high school chemistry teachers.

Schultz detects a new attitude among university chemistry teachers. They've become "less patroniz-

ing and more collegiate," she says. "They're no longer coming to us and saying 'What can we do for you?' Rather, they're saying 'What can we do together?'"

Another "gut feeling" to come out of the meeting was that chemistry teachers are a lot more cheerful and optimistic than at the 1982 conference. Of course, people in general seem to be more cheerful and optimistic than they were two years ago, for various reasons, including better economic conditions. But in the case of chemistry teachers, there's more to it than that.

In a plenary session address, Marjorie H. Gardner, a chemistry professor at the University of Maryland and chairman of the ACS Division of Chemical Education, took note of the improved attitude. "America is on the move," she asserts, and there's a "change in tone." Specifically, the science education reform movement is under way. It's having an impact on state legislatures, on school boards and parent-teacher associations, on sci-



High school teachers attend forum on special interests

entific and educational organizations, and in the classroom. Science teachers are feeling better, Gardner says, because they believe somebody "cares about them."

The chemical community is recognized as the leader of the reform movement, Gardner says. As examples of this leadership, she cites the ACS task force on chemical education, the establishment of *Chem Matters* (a journal for high school chemistry teachers), the development of Chemistry in the Community ("CHEMCOM is the only really large-scale curriculum project currently under way," she notes), and the strong showing by the first U.S. team to enter the International Chemistry Olympiad. Because of these and other efforts, Gardner says, "Other groups are saying to us, 'How do you do it?'"

Furthermore, Gardner continues, there is, potentially, money available to do some of the work. She notes that Congress has allocated \$1 billion for science and mathematics education over the next two fiscal years; some will go to the National Science Foundation, but a large part will go to state departments of education for reallocation.

Gardner cautions, however, that "if we don't do it right this time, we'll have people shooting at us." And there are already some early warning "blips on the screen." Gardner cites, for example, a General Accounting Office study that concluded that there really was no shortage of science and math teachers. "Bodies, no; qualified ones, yes," she comments. The study also concluded that there was no real evidence that in-service teacher training programs were effective. "We know intuitively that that's not true," she says.

Despite progress, concerns remain. One concern, Gardner says, is that resources will be dissipated on "scattergun projects," when what is needed most is "coherent, high-quality, long-range planning." In particular, there is a need for continuity in science education from kindergarten through at least the first two years of college. "Science should be for everybody," Gardner says, "but we don't have the courses." Chemistry, she adds, hasn't contrib-

Meeting has something for everyone

The official theme of the 8th Biennial Conference on Chemical Education was "Chemistry—A Gem of a Science." In line with that theme, Bell Labs chemist Kurt Nassau gave a lecture on synthetic gems and the chemistry thereof. Also, some 45 synthetic gemstones were awarded to conference participants; the winners were selected by lotteries held during each symposium and plenary session.

Most chemists would agree that chemistry is indeed a gem of a science. However, a more accurately descriptive theme for the meeting might have been "something for everybody" or—as program chairman Conrad L. Stanitski of Randolph-Macon College put it, "an embarrassment of riches." Among the 283 formal and poster presentations there were, of course, several nuts-and-bolts sessions on teaching the various subdisciplines of chemistry. There were sessions on research in chemical education, on computers, on forensic chemistry, on safety and health in chemistry. There were sessions on "issues." There were sessions for special groups, including community college teachers, high school teachers, and women.

The program also included seven optional, extra-cost workshops on such topics as structural inorganic chemistry, computers and software, experiment development, and writing grant proposals. All the originally scheduled work-



Maygar brothers Andrew (left) and John in appropriate attire

shop sessions were sold out; extra sessions were hastily arranged to accommodate the high demand.

In addition, Project SERAPHIM (C&EN, June 25, page 34) made its computer software for chemistry instruction available for the use of participants, and concurrently held the finals for this year's program contest. According to project manager Elizabeth A. Moore, the overall winner (as determined by the votes of the users) was David Whisnant of Wofford College, Spartanburg, S.C., for an entry entitled "Mineral Resources."

uted much to science education in elementary and middle schools.

Science educators also need to become more experimental in designing, organizing, and teaching science courses, she says. For example, in the U.S., the general practice is to teach biology in the 10th grade, chemistry in the 11th, and physics in the 12th. Why? Perhaps there should be a more vertical curriculum, with some of each science taught in each of the years, as is done abroad.

Another major concern is the need for more laboratory experience. U.S. high school students turned in respectable performances at the International Chemistry Olympiad in Frankfurt (C&EN, July 30, page 23), Gardner says. But it was clear, she

adds "that our students aren't sophisticated in the laboratory." Also, essay questions in that contest revealed that "our students need more help in learning to organize and express their thoughts."

One of the "issues" symposia, dealing with the ACS Committee on Professional Training's new guidelines for official approval of college chemistry departments, was subtitled, "Why give a damn?" According to the session chairman, Purdue's Derek A. Davenport, the question should have been, "Who gives a damn?" The answer, he says, is, "The schools who want to be on the same list as the schools that don't give a damn." Presidents and deans don't like to be told by an



Susskind: certify two-year schools

"These somewhat sordid but very practical uses of the CPT guidelines should not, however, detract from their most important function: to ensure that graduating seniors in chemistry receive the best possible undergraduate education. And since liberal arts colleges provide a disproportionate share of entering graduate students, this is a matter of some concern to others besides themselves."

That argument is carried a step farther by Tamar Y. Susskind, of Oakland Community College, Auburn Heights, Mich. Two-year colleges now enroll more first-time freshmen and more undergraduates than any other type of higher educational institution, she says. Four-year colleges and universities are becoming more dependent on transfer students (from these two-year colleges) to fill their upper-division courses. A "significant number" of all chemistry majors are previous graduates of two-year colleges. Often, however, these students face difficulties in transferring credits to the four-year institutions. The "small, struggling" four-year colleges seem to be particularly reluctant to accept chemistry credits from community colleges.

outside source that they need to put more dollars into chemistry—but they do want to be on the same list as, for example, California Institute of Technology.

Jerry A. Bell, of Simmons College, Boston, elaborates on that notion. "The graduate finishing schools and the state-run juggernauts may, should they so choose, largely ignore the CPT strictures," Bell says, "but the small liberal arts college does so at its own peril." The need or desire for accreditation brings leverage, he notes. "Ill-equipped departments can find forceful support in their efforts to buy a new instrument, equip a new laboratory, institute a new course, or even to hire a new colleague.

Susskind quotes the current CPT guidelines for four-year colleges: "The introductory courses in a curriculum are critically important." Yet, she points out, two-year schools have no means of becoming "ACS-certified." CPT has published guidelines for chemistry in two-year



Gardner: America is on the move

colleges. But that was in 1970, and they haven't been revised since. Meanwhile, the four-year guidelines have been revised twice: in 1977 and 1983. That's not so important, however. What's important is that since there's no official ACS approval system for two-year institutions, the guidelines are neither carrot nor stick; they can't be used to persuade school administrations to do right by chemistry.

The four-year colleges can't afford to ignore these community college students and their teachers, Susskind says, nor can ACS. Specifically, she calls on CPT to take steps to develop an accreditation program for chemistry departments in two-year institutions.

Guidelines for the program should outline the content of introductory chemistry courses that would satisfy the requirements for chemistry majors. They should specify minimum standards for these courses, to ensure an equitable policy for transfer of credits. They also should establish standards regarding teaching loads, equipment, safety, hiring qualifications, and other factors affecting the quality of instruction.

CPT also should provide for certifying two-year chemical technology programs, Susskind says. "Perhaps ACS doesn't consider these graduates bona fide chemists," she says. "but there is a place in our society for bench chemists. ACS should acknowledge that. Industry does." ■



Attendees judge computer program in project SERAPHIM'S contest

Int. Cl.: 16

Prior U.S. Cl.: 38

United States Patent and Trademark Office

Reg. No. 1,292,225

Registered Aug. 28, 1984

TRADEMARK
Principal Register



The American Chemical Society (District of
Columbia corporation)
1155 Sixteenth St., NW
Washington, D.C. 20005

For: NEWSLETTER DIRECTED TO COL-
LEGE CHEMISTRY PROFESSORS, in CLASS 16
(U.S. Cl. 38).

First use Aug. 1983; in commerce Aug. 1983.

The mark consists of "2YC Distillate" and glass
retort design.

Ser. No. 443,622, filed Sep. 14, 1983.

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Despite Population Trends, Enrollments Up on Campuses

Despite the decline in the total number of 18-year-olds as the "post-baby-boom" generation attains college age, enrollments are up on American campuses, according to a national survey by a coalition of higher-education groups.

Conducted by the Association Council for Policy Analysis and Research (ACPAR), the survey was designed to give an advance picture of the American student body. Overall, enrollment at colleges and universities is up 1.1 percent, slightly higher than last year, and surprising because demographics indicate that there should be a drop. The rise is primarily due to an increase in part-time enrollment in technical, community and junior colleges. Public and private institutions in this category saw part-time enrollments rise 4.6 percent and 9.8 percent, respectively.

Proprietary schools—which operate for a profit and are mostly technical or business schools—registered the largest gain with a 13.4 percent increase in full-time enrollment. This group also noted an 8.8 percent drop in part-time enrollment. Survey sponsors say the change to

full-time study for this group of students may indicate an increased emphasis on job training and career change.

The study found that the number of students attending college for the first time essentially remained steady. In fall 1982, first-time freshman enrollment declined 3.3 percent. In 1983, it declined .3 percent.

Enrollments in the private schools remained steady after last year's decline in the number of first-time students, with two-year colleges showing the largest increase (1.9%). The public sector, although not showing a decline in the total number of students, registered a 3.6 percent decline in first-time freshmen at four-year colleges and universities. The proprietary sector saw an 18 percent increase in first-time freshmen, but a 28.1 percent decline in freshmen who decided to attend part-time.

A more detailed report—but one ACPAR says will not include breakdowns by areas of study—will be available in January from the American Council on Education, One Dupont Circle, Wash., D.C. 20036.

Engineering Education News (ASEE), January 1984

Why Education?

Explaining why she had enrolled at Alamo Community College District in Texas, 89-year-old Lula Niendorf said, "I didn't want to be one of those old people who sit down, fold their hands, and wait to die. Besides," the 1984 associate of arts degree recipient added, "you almost forget your arthritis when you're studying for exams." (From "1984 Graduation Ceremonies' Vignettes," American Association of Community and Junior Colleges newsletter.)

Higher Education and National Affairs, July 2, 1984



At Women Chemists Committee luncheon (above) were director Helen Free, committee chairman Marian Baker, and former ACS Board chairman Mary Good. In photo at right, Alan Nixon (left) received first Henry Hill Award, established by Division of Professional Relations, from ACS president Warren Niederhauser

Chemical & Engineering News, September 10, 1984

* * * * *

The boom in two-year college enrollment is over, at least for now, according to a new report from the American Association of Community and Junior Colleges. The number of students in credit programs at these schools dropped to 4.94 million last fall, an

overall decrease of more than 23,000 students from 1982. While modest, this is the first drop since 1978 when credit enrollments declined by almost 6,000 from the previous year.

The decrease was limited to the 1,064 public two-year colleges, which experienced a drop of about 29,700 nationwide last fall. Enrollments increased by about 7,560 at the 155 private two-year institutions.

Although the total decrease is only .5%, community college officials do not view the decrease as a one-time occurrence. They point to the factors now working against a continuing increase including fewer high school graduates, increasing costs and stiffer competition from proprietary schools which offer similar programs.

* * * * *

Manpower Comments, Scientific Manpower Commission, June 1984

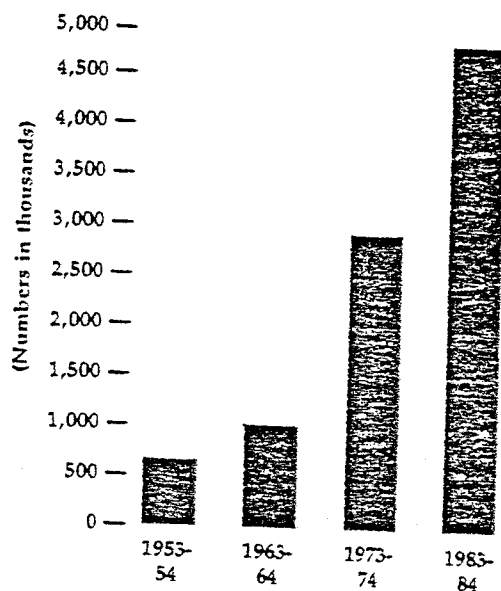
STATISTICS YOU CAN USE

Community Colleges: A Profile

- Community colleges have grown considerably in the last 30 years. Between 1953 and 1983, the number of community, junior, and technical colleges doubled.
- As of fall 1983, there were 1,219 community colleges; 87 percent were public and 13 percent were private.
- Credit enrollment stood at 4.9 million in 1983, a slight decline from the previous year in which enrollment was about 5 million.
- Another 3.5 million students were enrolled in noncredit courses in 1983.
- Women comprised more than half of the total credit enrollment (53 percent) in 1983.
- In 1983, more than three out of five community college students attended classes on a part-time basis (63 percent).
- In academic year 1982-83, more than half of all first-time freshmen attended two-year institutions (1.3 million).
- With the exception of nonresident aliens, minorities were more likely to attend two-year colleges than any other institutional type. In 1982, 56 percent of all Hispanics enrolled in higher education attended two-year institutions. The percentage for other minorities were:
 - 55 percent of American Indians
 - 45 percent of Asians
 - 44 percent of blacks

(This profile was compiled by the Division of Policy Analysis and Research, American Council on Education. For further information, call 202/833-4744.)

Growth in Community College Enrollment



(Sources: American Association of Community and Junior Colleges and National Center for Education Statistics)

September 1984

Higher Education & National Affairs, American Council on Education, 9/10/84

Worker Retraining May Save Jobs

Forty Lockheed Corp. machinists, in danger of losing their jobs to high technology, recently graduated from a retraining program which will help insure them permanent positions with the company, according to the Employment Training Panel (ETP).

ETP, a California retraining and economic development council, is a joint venture of the Los Angeles Community College District and the Los Angeles Business Labor Council. Steve Duscha, the panel's executive director, said the Lockheed graduation marked the "transition from old technology to new and the role of retraining in that transition."

The training, in computerized machining techniques, was conducted in a specially equipped trailer under the auspices of Los Angeles Valley College. The trailer will be moved to General Dynamics in Pomona for two three-month training sessions and from there to Rockwell International in El Segundo and then to Bendix Aerospace in North Hollywood.

The seven-member ETP administers a \$55 million-a-year budget transferred from the unemployment insurance system for the retraining of workers who have been laid off or are in danger of layoff. The retraining also fills the need of business for skilled workers. The panel has been in operation for a year and has authorized 143 training projects to retrain more than 21,000 people in California.

PRELIMINARY PROGRAM
MIAMI-DADE COMMUNITY COLLEGE/SOUTH CAMPUS
APRIL 26-27, 1985

The 86th Two Year College Chemistry Conference will be held on the beautiful South Campus of the largest institution of higher education in the Southeast, Miami-Dade Community College. This conference will immediately precede the Spring ACS National Meeting in Miami. The South Campus chemistry faculty are busily at work on the local arrangements so that your stay will be comfortable, productive and fun in the finest Miami tradition.

Wendell Massey of Florida Junior College in Jacksonville is planning a program that will include the following attractions:

Chemistry in the Toy Store: David Katz, Community College of Philadelphia.
...Dr. Katz uses Silly Putty, Invisible Ink, Slime and other toys to demonstrate chemical principles...

What Are They Thinking About? Barbara Rainard, Comm. College of Allegheny.
...In order to understand student errors, students are asked to talk aloud while solving problems. Analysis reveals mismatches between instruction and student conceptualization...

Chemistry for Kids: Jeanette Madea, Broward Community College, North.
...Chemistry is presented as an interesting, colorful and approachable science. Good public relations is something we all can use...

The Inquiry Alternative in Chemistry Lab: Nancy Konigsberg, Univ. of Mich.
...Evaluations indicate that students learn and enjoy chemistry more when they look for patterns, form theories and design experiments...

Chem Com: Chemistry in the Community: Sylvia Ware, ACS
...Chem Com is a new chemistry curriculum for students who would not normally take chemistry. You may want to use it as a course for general education requirements...

Cognitive Attributes and Chemistry Performance: Baird Lloyd, Mercer Univ.
...Cognitive style tests and Piagetian tasks were correlated with student performance in a five-year study. Implications for instruction are surprising...

* * * A L S O * * *

A Symposium: Modifying the Program Your Cousin Gave You
Bill Halpern of the University of West Florida, will discuss and explain an easy way to customize software to your exact needs.

A Taskforce Report of the ACS Guidelines for Two-Year Colleges
Uni Susskind, of Oakland Community College, our woman on this important Taskforce, will bring us up-to-date.

* * * AND MUCH MORE! * * *

MAKE YOUR PLANS NOW
* * * * *



COMING SOON, MARK YOUR CALENDARS NOW!

April 26-27, 1985--THE 86th CONFERENCE, Miami-Dade Community College, South Campus, 11011 SW 104 St., Miami, FL 33176 in conjunction with the 189th ACS National Meeting, April 28-May 3, 1985. PRELIMINARY PROGRAM IN THIS ISSUE OF THE NEWSLETTER.

Theme - Beyond The Lecture

Program - M. Wendell Massey, Jr., Florida Junior College, North Campus, 4501 Capper Rd., Jacksonville, FL 32218. [904] 757-6441.

Local Arrangements - Larry Bray, Miami-Dade Community College, South Campus, [305] 596-1157.

May 24-25, 1985 -- THE 87th CONFERENCE, University of Wisconsin, Waukesha, 1500 University Dr., Waukesha, WI 53186.

Theme - Challenges In Chemistry

Program - Leonard Grotz, University of Wisconsin, Waukesha [414] 521-5216.

Local Arrangements - Robert Splies, University of Wisconsin, Waukesha, [414] 521-5216.

Industrial Sponsors - Gary Udovich, University of Wisconsin, Waukesha, [414] 521-5216.

Oct. 11-12, 1985 - THE 88th CONFERENCE, State Technical Institute at Memphis, 5983 Macon Cove, Memphis, TN 38134 in conjunction with the the Joint SE/SW Regional ACS Meeting.

Program - Paula Ballard, Jefferson State Junior College, Birmingham, AL; James Graham, J. C. Calhoun Community College, Decatur, AL.

Local Arrangements - George Williams, State Technical Institute at Memphis [901] 377-4111.