

Newsletter

Vol. 19 No. 2 NEWSLETTER OF THE NATIONAL ASSOCIATION FOR RESEARCH IN SCIENCE TEACHING May 1977

The President's Page

Our Fiftieth Anniversary Meeting is now history, and the National Association for Research in Science Teaching enters its second fifty years. I hope that each of us as members is able to carry forward the fine work which has been so much a part of our Association's history. Those of you who were fortunate enough to be at the Anniversary Luncheon in Cincinnati, know, through the thoughtful and stirring message from Professor Willard Jacobson, how much our organization has depended upon the hard work and contributions of its members and leadership over the past fifty years. Our future will depend upon the same commitment and dedication. As your new President, I shall do my best to see to it that the aims and objectives of our Association continue to be met. The other members of our leadership team share that desire. While many of you are formally involved in these efforts, each of you can contribute.

President-elect Jim Okey and his Program Committee are already at work on next years program. Included in this Newsletter is the first call for papers. Let us know what you would like to have as a part of that program, what you are willing to do, and consider submitting a proposal yourself.

This years committee assignments are pretty much in place and the committees working on their respective charges. Elsewhere in this Newsletter you will find the complete roster of Committees and their charges. I endeavored to involve everyone who spoke or wrote to me (or others on the Board) about their willingness to become more actively a part of NARST's activities. A few of you have asked what you can do after the appointments had been made and confirmed. You're not forgotten, and your willingness to be involved will be passed on to President-elect Okey, as in not too many months, thought will be given to the formation of next year's working teams.

I, and other members of the Board and its committees, solicit your ideas, your suggestions, your comments and criticisms. But especially, we ask for your commitment and willingness to be an active part of our Association. Together, we begin the second fifty years of NARST and together we will help shape what NARST will become. I wonder what they will say at the 100th Anniversary meeting?

Roger G. Olstad
President

NATIONAL ASSOCIATION FOR RESEARCH
IN SCIENCE TEACHING

1977-78

Officers and Committee Members

<u>Executive Board</u>		<u>Term Ends</u>
President	Roger G. Olstad University of Washington Seattle, Washington 98195	(1978)
President-elect	James R. Okey University of Georgia Athens, Georgia 30602	(1978)
Past President	O. Roger Anderson Teachers College-Columbia University New York, New York 10027	(1978)
Research Coordinator	Arthur White Ohio State University Columbus, Ohio 43210	(1980)
Member-at-large	Glenn D. Berkheimer Michigan State University East Lansing, Michigan 48824	(1978)
Member-at-large	James J. Gallagher Michigan State University East Lansing, Michigan 48824	(1978)
Member-at-large	J. W. George Ivany Memorial University St. Johns, Newfoundland, Canada	(1979)
Member-at-large	Ronald J. Raven State University of New York Amherst, New York 14260	(1979)
Member-at-large	Rita Peterson California State University Hayward, California 94542	(1980)
Member-at-large	Carl Berger University of Michigan Ann Arbor, Michigan	(1980)
NSTA President	John M. Akey Wm. Mitchell High School Colorado Springs, Colorado 80909	(1978)

Executive Board (cont.)

(Ex-Officio)	Executive Secretary	Paul Joslin Drake University Des Moines, Iowa 50311	(Dec. 1980)
(Ex-Officio)	JRST Editor	David P. Butts University of Georgia Athens, Georgia 30602	(Dec. 1979)
(Ex-Officio)	Chairperson of the Standing Committees not otherwise members of the Executive Board		

Standing Committees

<u>Policy Advisory Committee</u>		<u>Term Ends</u>
Chairperson (Past Pres.)	O. Roger Anderson Teachers College Columbia University New York, New York 10027	(1978)
	Mary Budd Rowe University of Florida Gainesville, Florida 32601	(1978)
	Richard L. Sagness University of South Dakota Vermillion, South Dakota 57069	(1979)
(Ex-Officio) Pres. elect	James Okey University of Georgia Athens, Georgia 30602	(1978)
 <u>Financial Advisory Committee</u>		
Chairperson	Glenn D. Berkeimer Michigan State University East Lansing, Michigan 48824	(1978)
	Arthur White Ohio State University Columbus, Ohio 43210	(1978)
	Kenneth George University of Pennsylvania Philadelphia, Pennsylvania 19174	(1979)
	Wayne W. Welch University of Minnesota Minneapolis, Minnesota 55455	(1980)
(Ex-Officio) Executive Secretary	Paul Joslin Drake University Des Moines, Iowa 50311	(1980)

<u>Publications Advisory Committee</u>		<u>Term Ends</u>
Chairperson	Elaine Anderson Pennsylvania State University University Park, Pennsylvania 16802	(1978)
	Rodney Doran State University of New York Buffalo, New York 14214	(1978)
	Marjorie Muehlke University of Pittsburgh Pittsburgh, Pennsylvania 15213	(1979)
	David R. Stronck Washington State University Pullman, Washington	(1980)
(Ex-Officio) Editor	David P. Butts University of Georgia Athens, Georgia 30602	(1979)
 <u>Program Committee</u>		
Chairperson (Pres-elect)	James R. Okey University of Georgia Athens, Georgia 30602	(1978)
	John Koran University of Florida Gainesville, Florida 32601	(1978)
	Laura Trout Indiana University Bloomington, Indiana	(1978)
	Patricia E. Blosser Ohio State University Columbus, Ohio	(1979)
	William G. Holliday University of Calgary Calgary, Alberta, Canada	(1979)
(Ex-Officio) Research Coordinator	Arthur White Ohio State University Columbus, Ohio 43210	(1980)

Research CommitteeTerm Ends

Chairperson (Research Coordinator)	Arthur White Ohio State University Columbus, Ohio 43210	(1980)
	Edward Smith Michigan State University East Lansing, Michigan 48824	(1978)
	Gary C. Bates Teachers College Columbia University New York, New York 10027	(1979)
	Russell H. Yeany University of Georgia Athens, Georgia 30602	(1980)

Election Committee

Chairperson (Past. Pres.)	O. Roger Anderson Teachers College Columbia University New York, New York 10027	(1978)
	Betsy Ann Balzano State University of New York Brockport, New York	(1978)
	Stanley L. Helgeson Ohio State University Columbus, Ohio 43210	(1978)

Special CommitteesJRST Award Committee

	<u>First Appointed</u>
Donald E. Riechard - Chairperson Emory University Atlanta, Georgia 30322	1977-8 as Chair
Ronald J. Raven State University of New York Amherst, New York 14260	1976-7
Gene Hall University of Texas at Austin Austin, Texas 78712	1976-7
John P. Smith University of Washington Seattle, Washington 98195	1977-8
James L. Neujahr City University of New York New York, New York 10031	1976-7
Robert G. Bridgham Michigan State University East Lansing, Michigan 48823	1977-8

Patron Award CommitteeFirst Appointed

John T. Wilson - Chairperson University of Iowa Iowa City, Iowa 52242	1975-6
Pinchas Tamir Hewbrew University Jerusalem, Israel	1976-7
Joseph Novak Cornell University Ithaca, New York 14853	1976-7
Arlan R. Gullickson National Science Foundation Washington, D.C. 20550	1977-8
H. Craig Sipe State University of New York at Albany Albany, New York 10027	1977-8
Jean Beard San Jose State University San Jose, California 95192	1977-8
William S. Lashier University of Kansas Lawrence, Kansas	1977-8

International CommitteeFirst Appointed

J. W. George Ivany - Chairperson Memorial University St. Johns, Newfoundland, Canada	1976-7
O. Roger Anderson Teachers College - Columbia University New York, New York 10027	1977-8
Pinchas Tamir Hebrew University Jerusalem, Israel	1976-7
Michael J. Padilla University of Victoria Victoria, B. C., Canada	1977-8
Paul C. Beisenherz Louisiana State University New Orleans, Louisiana 70126	1977-8
Willard J. Jacobson Teachers College Columbia University New York, New York 10027	1976-7

Membership CommitteeFirst Appointed

Robert E. Yager - Chairperson University of Iowa Iowa City, Iowa 52242	1977-8 as Chair
Marvin Druger Syracuse University Syracuse, New York 13210	1976-7
Leon J. Zalewski Governors State University Park Forest South, Illinois 60466	1976-7
William B. McIlwaine Millersville State College Millersville, Pennsylvania 17551	1977-8
Glen Clark Memorial University St. Johns, Newfoundland, Canada	1977-8
Charlotte M. Boener Indiana State University Terre Haute, Indiana	1977-8

Patron Activities Committee

Paul D. Hurd - Chairperson Stanford University Palo Alto, California	1977-8
Ralph W. Lefler Purdue University West Lafayette, Indiana 47901	1975-6
Clarence H. Boeck University of Minnesota Minneapolis, Minnesota 55455	1977-8
Thomas P. Fraser Morgan State College Baltimore, Maryland	1977-8
Frank X. Sutman Temple University Philadelphia, Pennsylvania 19122	1977-8

Placement Services CommitteeFirst Appointed

Alan M. Voelker - Placement Coordinator and Chairman Northern Illinois University DeKalb, Illinois 60115	1975-6
Donna L. Siemro Governors State University Park Forest South, Illinois 60466	1977-8
Jal S. Parakh Western Washington State College Bellingham, Washington 98225	1976-7
Kenneth D. Moore University of Tulsa Tulsa, Oklahoma 74104	1977-8
F. David Boulanger University of Illinois-Chicago Circle Chicago, Illinois	1977-8
Thaddeus W. Fowler University of Cincinnati Cincinnati, Ohio 45221	1976-7
John E. Penick University of Iowa Iowa City, Iowa 52242	1977-8

<u>NARST/NSTA Program Committee</u> <u>1978 NSTA Convention</u>	<u>Term Ends</u>
Roger G. Olstad - Chairperson University of Washington Seattle, Washington 98195	(1978)
John F. Schaff University of Toledo Toledo, Ohio 43606	(1977)
Ellen S. Simmons 4315 Martha Avenue New York, New York 10470	(1977)
Anton E. Lawson University of California Berkeley, California 94720	(1977)
<u>NARST/NSTA Program Committee</u> <u>1979 NSTA Convention</u>	
James R. Okey - Chairperson University of Georgia Athens, Georgia 30602	(1979)
Barbara Strawitz Louisiana State University Baton Rouge, Louisiana	(1978)
Michael J. Padilla University of Victoria Victoria, B. C., Canada	(1978)
Martin L. Goodson Alabama A & M University Normal, Alabama 35811	(1978)

Special Appointees

<u>Representatives to AAAS</u>	<u>Term Ends</u>
F. James Rutherford New York University New York, New York 10003	(1978)
Herbert A. Smith Colorado State University Fort Collins, Colorado 80523	(1978)
 <u>Representatives to ICASE</u>	
J. David Lockard University of Maryland College Park, Maryland 20742	(1978)
O. Roger Anderson Teachers College Columbia University New York, New York 10027	(1978)
 <u>Newsletter Editor</u>	
Robert J. Vanden Branden Drake University Des Moines, Iowa 50311	(1978)
 <u>Convention Evaluator</u>	
James R. Okey (Program Chairman) University of Georgia Athens, Georgia 30602	(1978)
 <u>ERIC/SMEAC Liason</u>	
Arthur White Ohio State University Columbus, Ohio 43210	(1978)

Representatives to Advisory Board
for "Investigations in Science Education"

Term Ends

Kenneth G. Jacknicke
University of Alberta
Edmonton, Alberta, Canada

(1978)

Robert E. Collagan
Morgan State College
Baltimore, Maryland 21212

(1979)

Frances Lawrenz
National Science Foundation
Washington, D.C. 20550

(1980)

Placement Coordinator

Alan M. Voelker
Northern Illinois University
DeKalb, Illinois 60115

(1978)

Convention Arrangments -- Cincinnati

Thaddeus W. Fowler - Co-Chairman
University of Cincinnati
Cincinnati, Ohio

(1977)

Glenn C. Markle - Co-Chairman
University of Cincinnati
Cincinnati, Ohio

(1977)

NARST Representatives on 1977 NSTA Area Convention Planning Committees

Gerald L. Abegg
Boston University
Boston, Massachusetts

(1977)

Rita W. Peterson
California State University
Hayward, California 94542

(1977)

Martin L. Goodson
Alabama A & M University
Normal, Alabama 35762

(1977)

Duties of NARST Committees and Special Appointees

Policy Advisory Committee

- 1) Recommend new directions, activities, and functions for the organization. Identify new missions and new programs that the Executive Board might consider.
- 2) Review standing policies and procedures of the organization. Identify traditions and policies that the Board might consider altering.
- 3) Continue preparation for establishing a permanent Executive Secretary. Recommend guidelines to govern our moves in this direction.
- 4) Review minutes of last meeting of Board for other policies or specific points referred to the committee.

Financial Advisory Committee

- 1) Review proposed budget for 1978. Suggest changes and the rationale for them. Identify options for the Board.
- 2) Review policies regarding financing annual meeting. Determine if the meeting is self-supporting and the plans of the Program Committee are sound as to finances. Recommend changes, if any, in financing of the annual meeting.
- 3) Review finances connected with all publications including JRST, the newsletter, and any special publications. Identify the trends, the problems, the issues, and proposed solutions. The options open to the Board should be clearly described.
- 4) Review arrangements concerning audit. Determine if a three-year audit is adequate, if the process is accomplished and if changes are needed.
- 5) Continue preparation of financial plans for establishing a permanent central office with a part-time Executive Secretary. Identify the financial implications of the various alternatives.

Publications Advisory Committee

- 1) Review formal policy regarding all NARST publications. Make recommendations to the Board on any changes needed in these policies.
- 2) Review directions and policies with editor of each publication. Identify problems and issues related to editors and/or their respective boards and advisory committees. Make policy suggestions which the Board should consider for adoption.
- 3) Suggest changes in publication practice and means by which publications be improved. Identify new publication ventures the Board might consider.

JRST Award Committee

- 1) Publicize the program to all members via the Newsletter, announcement in JRST, and/or other means.
- 2) Review criteria for making the annual selection. Recommend changes in criteria and selection policy to the Executive Board.
- 3) Establish working plan for selecting the awardee.
- 4) Notify President and Secretary of the final selection. Assist with preparation of certificate, check, and award arrangements at the annual luncheon.

Patron Award Committee

- 1) Publicize program to assure all members are aware of it.
- 2) Review criteria for making the selection and recommend changes to the Executive Board.
- 3) Establish mechanisms for working with committee in selecting the awardee for the year.
- 4) Notify President and Secretary of the awardee in time for suitable certificate and check to be prepared.
- 5) Assist with award program at the luncheon.
- 6) Make recommendations regarding the research topic for the next year. Be prepared to discuss this and publicize it at the Annual Meeting as a part of the ceremony at the Annual Meeting.

Patrons Activities Committee

- 1) Develop guidelines for categories of Patrons. Recommend policies to the Executive Board regarding such guidelines (categories based on level of individual contribution, corporations, agencies and organizations).
- 2) Establish a plan for attracting patrons for the current year. Outline such a plan for approval and reaction by the Executive Board.
- 3) Proceed with implementing the plan.
- 4) Plan for special letters of appreciation, listing of names in annual program, recognition at the Annual Meeting and other kinds of recognition.
- 5) Develop long-range plans for patron drive, special programs patrons may support, and ways of honoring patrons.

Program Committee

- 1) Establish themes and format for annual meeting.
- 2) Coordinate work with the Secretary-Treasurer to insure that all arrangements with the hotel and distribution of information to the membership are taken care of.
- 3) Organize procedures for evaluation of contributed papers. Determine criteria for paper evaluation and a time schedule.
- 4) Establish format for printed program, its distribution, and the printed collection of abstracts.
- 5) Plan for involvement and use of local members for registration, obtaining equipment and other purposes as needed.

Research Committee

- 1) Prepare yearly research review.
- 2) Work with the ERIC/SMEAC Center. Recommend formal policies regarding NARST and its relationship to the Center.
- 3) Recommend needed research in science education and recommend a means of communicating this information.
- 4) Prepare recommendations for the Board on research symposia and training programs.
- 5) Organize and conduct such research symposia and training programs as are approved by the Board.

Election Committee

- 1) Establish slate of officers for report to the Board. The slate for 1976 should consist of two candidates for president-elect and four candidates for members of the Executive Board. These should be published in the Newsletter in time for the membership to propose additional nominees by petition if they so desire.
- 2) Collect biographical information to accompany the ballots. Assist with actual distribution of ballots to members.
- 3) Tabulate election results.
- 4) Notify all candidates of the election results one month prior to the annual meeting.
- 5) Announce election results at spring meeting of the Executive Board and at a report session for the entire membership at the Annual Meeting.

Membership Committee

- 1) Prepare copy for a national membership brochure. Seek approval of the content, format, and cost for such a brochure.
- 2) Organize a yearly campaign plan for attracting new members. Seek approval from the Executive Board for implementing such a plan.
- 3) Organize membership drives at our Annual Meeting and as a part of other science education conventions and meetings.
- 4) Consider the establishment of membership contacts in each state and/or at each major University with graduate programs in science education. Recommend advantage and disadvantage of such a formal membership network.

Placement Committee

- 1) Establish process for listing staff vacancies and characteristics of NARST members seeking employment.
- 2) Advise Placement Coordinator on the operation of the Placement program.
- 3) Publicize existence and recommended use of Placement Reports.
- 4) Arrange for suitable space on Annual Meeting program and at Annual Meeting for Placement functions.
- 5) Recommend changes in policies regarding Placement services to Executive Board.

Representatives to Other Organizations

- 1) Represent NARST at meetings.
- 2) Recommend projects that have mutual interest between NARST and other organizations.
- 3) Prepare official reports concerning Board meetings, committee meetings, and other places where NARST is represented for the Executive Board.

Convention Evaluator

- 1) Plan an evaluation of all convention activities in consultation with the Convention Program Chairman.
- 2) Obtain the necessary assistance from selected association members to conduct the evaluation.
- 3) Administer the evaluation.
- 4) Report the results of the evaluation to the Program Committee and the Executive Board.

Editors (JRST, Newsletter, Investigations, and Other Special Publications)

- 1) Execute policies recommended by the Publication Advisory Committee and approved by the Executive Board.
- 2) Establish guidelines and working relationship with advisory committee and editorial boards concerned with a given publication.
- 3) Work with printer concerning actual printing and distribution of the publication.
- 4) Recommend changes to the Publication Advisory Committee and/or the Executive Board.

Editorial Boards

- 1) Assist with forming and executing policy with respect to a given publication (within guidelines approved by the Executive Board).
- 2) Support the Editor in his work.
- 3) Advise editors, Publication Advisory Committee, and the Executive Board concerning policies and problems. Suggest possible changes that will result in improvements.

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FROM THE EXECUTIVE SECRETARY . . .

1. IMPORTANT ANNOUNCEMENT. The 1978 Annual Meeting to be held in Toronto with AERA will be held Friday through Sunday, March 31-April 2 and not on the dates previously announced. Mark your calendars now and plan to attend our first international meeting.
2. ANNUAL DUES. NARST Annual Dues for Regular Membership are \$22.00 payable on January 1st. Dues are for the calendar year and thus correspond to your tax year as well as the journal publisher's year. It also makes it possible to close the financial records prior to the annual meeting and the change of officers.

Apparently many members believe that our fiscal year runs from one annual meeting to the next. Please bring your dues payments up to date. You will receive all issues of Vol. 14 of the journal.

Your 1978 dues notice will be sent out on December 1, 1977. If you can thereafter pay promptly, it will aid us greatly in keeping the membership records both correct and accurate; and will also help in getting newsletters and journals to you on schedule.

1977 FINANCIAL REPORT

Savings Accounts

	<u>1/1/76</u>	<u>Deposits</u>	<u>Interest</u>	<u>12/31/76</u>
Savings Certificates	None	\$1500.00	\$ 70.47	\$1570.47
Passbook Savings	None	430.00	8.62	438.62
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TOTALS	None	\$1930.00	\$ 79.09	\$2009.09

Checking Account

RECEIPTS

Balance forwarded from former Secretary-Treasurer, Paul Bell	\$ 223.06
Dues	16,110.00
Annual Meeting	3,503.00
Royalties	831.60
Bequest	1,500.00
Miscellaneous	296.69

TOTAL RECEIPTS \$22,464.35

DISBURSEMENTS

Journal	\$10,617.40
Newsletter and Mailings	700.10
Annual Meeting	4,475.19
President's Office	229.77
Executive Board	1,640.13
Executive Secretary's Office	470.33
Office Supplies	222.59
Postage	408.00
Computer	322.26
Phone	None
Savings	1,830.00
Miscellaneous	383.17

TOTAL DISBURSEMENTS \$21,298.94

BALANCE ON HAND 12/31/76 1,165.41

TOTAL \$22,464.35

TOTAL ASSETS 12/3/76

Cash on Hand - Checking Accounts	\$ 1,165.41
Cash on Hand - Savings Accounts	2,009.09

TOTAL \$ 3,174.50

BRITISH SCIENCE EDUCATION

Manchester Polytechnic

4 - 15 July 1977

Application Form

This form should be completed and returned as soon as possible to Dr B J Brough, The Secretary, Science Education Workshop, John Dalton Faculty of Technology, Manchester Polytechnic, Chester Street, MANCHESTER M1 5GD, ENGLAND.

Full Name _____

Title _____ (Mr, Ms, Professor, Dr etc)

Mailing address _____

Affiliation (eg name of College) _____

Position held _____

Full Name(s) of accompanying guest(s) _____

(For children, please state age(s)) _____

Charges	\$US	I now remit or will remit
For each participant	270	
For each adult guest	185	
For each child under 12 (Babies sharing parents' room by arrangement)	120	
Overnight 3/4 July	10	
Overnight 15/16 July	10	
Total charge		\$US

Please tick where appropriate:

I have enclosed a deposit of \$25 for each participant and guest.

I have arranged for the deposit(s) to be forwarded.

I have enclosed the full amount for each participant and guest.

I have arranged for the full amount to be forwarded.

Signed _____ Date _____

Optional Days

Name of Participant _____

For the purposes of the day devoted to traditional patterns, 7 July, I wish to attend the session on:

Biology Education, Chemistry Education, Physics Education

(please underline one session as appropriate)

For the purposes of 13 and 14 July, my particular interests in science education will be:

Administration

Environmental Science

Integrated Science

National Curriculum Development Projects (specify separately if wished)

Primary Science

Project Work

Research

Schools Technology

Teacher-controlled Curriculum Development

Teacher Education and Training

Technician Education

Traditional Science Subjects

(Please underline as appropriate)

Other(s), please specify below:

If you are interested in reading a paper at the proposed conference on "Some Aspects of International Science Education" on Saturday, 9 July, please include brief details in your reply.

We would be grateful if you could inform us how you first heard about BRITISH SCIENCE EDUCATION in the space below.



AACTE - ICET INTERNATIONAL EDUCATION PROGRAMS
SUMMER, 1977

The American Association of Colleges for Teacher Education (AACTE) and the International Council on Education for Teaching (ICET) are pleased to announce the following international education programs which will take place during the summer of 1977. The programs have been designed by AACTE and ICET for educators from schools, colleges and universities, professional workers from related fields, their friends and family members.

FOURTH ANNUAL SHIPBOARD CONFERENCE ON INTERNATIONAL ISSUES

JUNE 9-14, 1977

Aboard the S.S. Universe departing from and returning to Baltimore, MD
"IMPERATIVES FOR A GLOBAL AGE"

The conference will explore international/global linkages/networks with special focus on educational, corporate, policy and international imperatives. Plenary speakers and workshop leaders will be chosen from a wide range of universities, as well as national and international organizations representing education, government and business.

Registration Fee (includes conference fee, room and meals aboard ship) \$250.00

ASIAN EDUCATION STUDY PROGRAM

JUNE 28-JULY 18, 1977

Round trip from New York or West Coast to
TOKYO, SEOUL, KYOTO, BANGKOK and HONG KONG

Program Includes:

- **Transportation by economy class air based on GIT (Group Inclusive Tour) rates.
- **Accommodations with American breakfast daily at hotel.
- **Sightseeing and transfers by chartered motorcoach in each country with professional English-speaking guides. All transfers to and from airports.
- **Educational program includes academic tour directors and lecture-seminars in countries visited.

Cost: \$1,549.00 (New York departure)
\$1,299.00 (West Coast departure)

*American Association of Colleges for Teacher Education
International Council on Education for Teaching
One Dupont Circle, Washington, D.C. 20036*

WEST AFRICAN EDUCATION PROGRAM
JULY 23-AUGUST 9, 1977
Round trip from New York to
CASABLANCA, DAKAR, LAGOS, ABIDJAN, MONROVIA

24

Program Includes:

- **Transportation by economy class air based on GIT (Group Inclusive Tour) rates.
- **Accommodations and continental breakfast daily, except in Lagos where no breakfast is included. Three dinners at hotel in Morocco.
- **Full program of sightseeing by private motorcoach with professional English-speaking guides. All transfers to and from airports.
- **Educational program includes academic tour directors and lecture-seminars in countries visited.
- **Opportunity to participate in all activities of the World Assembly of the International Council on Education for Teaching which will be meeting in Lagos, July 30 - August 2. Cost: \$1,358.00

XXIV ICET WORLD ASSEMBLY
JULY 30-AUGUST 2, 1977
LAGOS, NIGERIA

Delegates, observers and other educational leaders from Asia, Africa, Europe, Oceania and the Americas will meet together to focus on the theme:
"EDUCATION FOR DEVELOPMENT: IMPERATIVES FOR TEACHER EDUCATION"

Group discussion and workshop sessions, focusing on case studies written and presented by ICET members will deal with such topics as the formal and nonformal educational aspects of agriculture and rural development, adult and community education, industrial and occupational education and mass media communications.

A unique opportunity for government officials, representatives of higher education and the business community and international agency personnel to examine strategies for orienting teacher education towards the educational development of a country.

Conference Registration Fee: \$40.00

For further information, mail this slip or write:

International Programs
AACTE
One Dupont Circle, Room 610
Washington, D.C. 20036

Name _____

Address _____

City _____ State _____ Zip Code _____

Phone number (include area code) _____

Program(s) in which I am interested: _____

N O T I C E

If you receive a journal subscription bill from Wiley Interscience Journals, ignore it! An error was made in their billing department for which they are most sorry.

Member subscriptions are processed through the NARST office. Any problems can be solved by writing the Executive Secretary at Drake University, Des Moines, IA 50311 (phone - 515-271-3708).

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FULBRIGHT-HAYS AWARDS IN SCIENCES AND MATHEMATICS

About 500 Fulbright-Hays awards will be available in 92 countries for 1978-79, including: biology 28; botany 9; cell science 10; chemistry 15; computer science 4; engineering 26; geology 10; mathematics 17; medical science 19; physics 14.

Those desiring a copy of the 1978-79 announcement of Fulbright-Hays award opportunities for university teaching and advanced research abroad should immediately send name, address, highest degree, specialization and country interest to the Council for International Exchange of Scholars, Eleven Dupont Circle, Washington, D.C. 20036. Applications are due for the American Republics, Australia and New Zealand by June 1, 1977, and for Africa, Asia and Europe by July 1, 1977.

The Council for International Exchange of Scholars is accepting additional applications for the following Fulbright-Hays awards in MATHEMATICS, STATISTICS AND COMPUTER SCIENCE for 1977-78. All awards are for lecturing unless otherwise stated. Nigeria: statistics, computer science or econometrics; Turkey: computer science; U.S.S.R.: possibilities in several republics in mathematics, science, engineering and technology; Zaire: computer science, business management or international finance (French required).

Also in BIOLOGICAL SCIENCES for 1977-78. All awards are for lecturing unless otherwise stated. Argentina: two awards - potentially medicinal plants; ocean engineering; Belgium: younger scholar awards in biological engineering, molecular biology, virus tumors, tropical medicine; Ecuador: oceanography (Spanish required); Israel: biochemical engineering; Nigeria: marine biology; Portugal: photobiology or photochemistry; Sierra Leone: marine biology and/or oceanography; Sri Lanka: two awards - biometry, dairy science, fisheries and oceanography; Turkey: environmental engineering (water and refuse).

INTERNATIONAL CONFERENCE

NETHERLANDS

March-April 1978

Integrated Science Education Worldwide
Achievements and Prospects

Organized by: The International Council of Associations for
Science Education (ICASE)
The Committee on the Teaching of Science of the
International Council of Scientific Unions (ICSU)

Sponsored by: The Association for Science Education in the
Netherlands (NVON)
The Catholic University of Nijmegen and UNESCO

Aims

To study the scientific and educational reasons for the development of integrated science education at various levels in the educational systems of the world.

To review, by case studies, examples of integrated science education developed during the last 10 years - their achievements and problems, content and methodology, teacher education and evaluation.

To consider the future developments in integrated science education especially in relation to environmental science education, technological studies, health, nutrition and agricultural education and social relevance.

To prepare material suitable for publication in the series of UNESCO New Trends in International Science Teaching publications.

Programme

The programme will comprise: lectures, seminars and working groups concerned with a retrospective review of integrated science education, by case studies, over the period 1968-1978.

Lectures and discussions on the future of integrated science education together with a day of visits to educational institutions in the Netherlands. It is expected that the first half will include joint programmes with NVON, the association for science education in the Netherlands.

Participants

- Science teachers and heads of science departments in schools with an interest or involvement in integrated science education.
- Representatives of science teachers' associations.
- Lecturers in colleges of education and university departments of science.
- Project leaders of integrated science education programmes.
- Inspectors, science advisers and administrators concerned with policies and implementation of integrated science education.

Dates

Easter Sunday in 1978 is 26 March. The participants in the Conference will register on Tuesday 28 March and the opening ceremony will be on that day.

The Conference will close on Friday 7 April. There will be some free time for optional visits to Amsterdam, The Hague and other city and country attractions in the Netherlands.

Place

The Conference will be held in NIJMEGEN, a city situated on the Rhine, with the heaviest river traffic in Europe, and with a very long history, since the reign of Emperor Augustus when Nijmegen became a fortress of the Roman Empire. (The Catholic University of Nijmegen will provide the facilities for the conference).

Application

This is a preliminary announcement. Further details about the programme, principal speakers and finance will be available in March or April 1977. Write to Drs F.Th.H. Dekkers.

Officers

Conference Chairman:
Dennis G. Chisman, British Council London
Executive Secretary ICASE

Chairman of Netherlands Science Education Committee:
Drs W.IJ. Zandstra, President of NVON

Secretary of NVON:
Drs F.Th.H. Dekkers

Office of NVON:
Pieter Borstratt 22, AMSTERDAM 18

ED. Note to those who plan to attend: Write to R. J. Vanden Branden at NARST office. A group rate may be possible. If so, we will coordinate arrangements.

1978 NARST ANNUAL MEETING
CALL FOR PROPOSALS
Toronto, Canada March 31, April 1, 2

The 1978 NARST Annual Meeting will be held in Toronto, Canada at the Toronto Hotel on March 31, April 1, 2. It will overlap with the end of the AERA meeting. This announcement is the official call for proposals. Included here are descriptions of the various sessions, a form to complete to guide the selection of training sessions, and a cover sheet for proposals.

Proposal Deadline

The 1978 program will include general sessions with invited speakers, reports of research, training sessions, and symposia. All proposals will be considered by the planning committee if they are received by October 10.

<p>DEADLINE FOR SUBMITTING PROPOSALS IS OCTOBER 10, 1977</p>
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Types of Sessions

The following types of sessions are planned and proposals are solicited in each category.

1. Contributed Papers--reports of research that specify
 - a. objectives and rationale for the study
 - b. methodology and design
 - c. instruments and data
 - d. results and conclusions

Contributed papers are typically grouped by topic and 3 or 4 related papers are presented at a concurrent session. A discussant will be assigned to each set of contributed papers.

2. Paper Sets--Several related studies originating from a common research center or line of research can be structured as a set of from three to five separate but related reports. This grouping allows for common elements of design or approach to be presented once instead of several times. A paper set can also allow for a division of a single report which represents a major research effort in terms of time, number of workers, and/or geography. An outside discussant may be assigned to paper sets.
3. Round Table Discussions--Round table discussions are used to provide a thorough analysis of a paper by a group. Presenters will have an hour in which the rationale, design, procedures, instruments, and results from a study are examined with others in a discussion format. One or more papers may be discussed simultaneously in a room in a round table format. If members are asked (and agree) to present their

research in this format they should bring materials such as protocols, instruments, computer printouts, experimental curriculum materials, and logs to the session to aid discussion.

4. Symposia--Areas of current research or research needs should be identified and members of the symposium asked to prepare papers addressing themselves to defined issues. Symposia should include persons with varying backgrounds, positions, and research interests. In addition to presentations concerning research in a given area, interaction among the symposium presentors, other discussants, and the audience is anticipated. Varying views, approaches, data reports, and data interpretation are desirable features.
5. Panels--There are many debatable issues in science education and panels can be constituted based on the positions taken by members. Such panels provide a mechanism for debating issues and involving interested members in such discussions of views.
6. Training Sessions--Training sessions of 2-3 hours are provided to help NARST members acquire new research skills or update old ones. The sessions are planned for intensive involvement with some aspect of problem identification, research methodology, data analysis, data interpretation, or some other aspect of research in science teaching. Proposals should include a statement of objectives for the session, a description of the activities to be followed, plans for evaluation, and a listing of annotated references pertinent to the topic. Include a 100-word description of the training session in your proposal that could be printed in the program. (SEE THE OTHER NOTE IN THIS NEWSLETTER CONCERNING TRAINING SESSIONS)

Proposal Guidelines

An individual is limited to the presentation of one paper, although this individual may be permitted to appear on the program at additional times as either the second author of a paper, as a member of a symposium or panel, or as a presider or critic.

Proposals must be submitted on the enclosed forms. They will be rated anonymously by members of the Program Committee. The criteria employed will be: (1) relevance to the objectives of NARST, (2) general quality, and (3) clarity of expression. Proposals must consist of a cover page (attached) and four copies of a 500-word (maximum) summary of the study. The summaries will be published prior to the meeting by the ERIC Center at Ohio State University.

Symposium proposals should be submitted as a package listing participants on the cover sheet. The summary should address itself to the individual presentations and to the thread that ties the symposium papers together. The total symposium summary including summaries of individual presentations, must be limited to a maximum of 500 words.

In the case of paper sets, a cover sheet and summary should be submitted for each paper in the set. The author of each paper should be identified in the proposal and the order of presentation of the papers provided.

All proposals should be mailed by October 10, 1977 to the Program Committee chairman:

James R. Okey
Department of Science Education
University of Georgia
Athens, GA 30602

Here is a checklist of the materials to be submitted:

- one copy of the completed cover sheet
- four copies of a 500-word (maximum) summary (without author identification)
- two self-addressed, stamped envelopes (to acknowledge receipt of the proposal and to notify contributors of the decision of the Program Committee)

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CLASSIFICATION NUMBERS

- 01 -- Teacher Education - Preservice
- 02 -- Teacher Education - Inservice
- 03 -- Teacher Behaviors/Characteristics
- 04 -- Student Behaviors/Characteristics
- 05 -- Instruction
- 06 -- Learning Theory
- 07 -- Curriculum Development/Evaluation
- 08 -- Research Methodology
- 09 -- Instrument Development and Testing
- 10 -- Scientific Literacy
- 11 -- General Research

TRAINING SESSIONS AT THE
1978 NARST MEETING
IN TORONTO

The NARST Program Committee needs your help in planning training sessions for the annual meeting. If many members desire a certain type of training session we will try to find someone to lead it. From the list below, number your first, second, and third choices for training sessions. If there are topics not on the list that you would like to see offered, enter them in the blanks. If you have suggestions for persons who could lead a particular training session, write in their names to the right of the topic.

- _____ Multivariate correlational methods (such as regression and factor analyses)
- _____ Evaluating teacher training programs
- _____ Assessing formal operational thinking
- _____ Post-hoc data analysis (multiple comparison techniques)
- _____ Establishing reliability and validity of instruments
- _____ Planning and conducting survey studies
- _____ Selecting designs for research and evaluation studies
- _____ Analysis of covariance
- _____ Conducting Piagetian interviews
- _____ Assessing the impact of a science curriculum
- _____ other (specify) _____
- _____ other (specify) _____

NARST members should feel free to submit training proposals to the NARST Program Committee for the topics listed here or for any other topics they feel are important

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Mark your choices on this sheet and mail it by July 1, 1977 to:

James R. Okey
Department of Science Education
University of Georgia
Athens, GA 30602

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