

THE ASSOCIATION FOR THE EDUCATION OF TEACHERS IN SCIENCE

Vol. 31, No. 4 Editor: Joseph Peters, College of Education, The University of West Florida Summer 1997

President's Message

Bill Baird, President

What do we know, and what does it mean for policy? Science education research symposium scheduled for December

AETS is a member of the Council of Scientific Society Presidents - a collection of leaders of about sixty scientific federations and societies representing over 1.4 million scientists and science educators. Besides AETS, members include the American Chemical Society, American Physical Society, American Mathematical Society, and various optical, acoustical, botanical, and ecological associations. Based in Washington, DC, this group meets twice each year to discuss common goals and pending federal legislation of interest to all members. At our last meeting in May, we wrestled with the wording of a position statement on cloning research and then left it with members of congress. We also heard speakers on topics that should concern the scientific community in the coming decade, with related policy recommendations. We awarded Bill Nye (The Science Guy) the CSSP public recognition of science award. For three days we talked and listened to each other in break-out groups in a search for better understanding of ways we can work together for mutual gain. We sought common ground on policy issues to promote with our elected representatives in congress. Like AETS, most association members of CSSP are non-profit, and forbidden to actively lobby in Congress. But we can encourage our members to write their own representatives to express views on critical science issues.

One of those issues is science education. Almost everyone I spoke with wanted to know what their group could do to help make graduates of U.S. high schools and universities better qualified to serve effectively on the frontiers of science. There is growing panic among the leaders of the U.S. science community that we may soon find ourselves depending on science skills imported from outside

our borders. Our universities are respected around the world, but the graduate students enrolled here in engineering and the sciences are largely from Asia and Europe. CSSP wants to hold a symposium to examine what we know and what can be done about the problem of reaching excellence in science education.

The main focus of this symposium will be how to build and sustain a continuing capacity for research in mathematics and science education. Such research should produce results for guiding policy decisions and educational funding priorities. The symposium will be presented at the next CSSP meeting in Washington this December 7th. I am working with other science education members of CSSP to tell our story at that symposium. Under the leadership of Betty Carvellas, Past President of the National Association of Biology Teachers, the CSSP Education Committee will provide speakers and a draft position paper for possible ratification by CSSP member representatives present at the December meeting. Others who will help are Joe Krajcik, President-Elect of NARST; Ron Edge, President of the American Association of Physics Teachers; Gail Burrill, President of the National Council of Teachers of Mathematics.

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With this message, I am calling on all interested AETS members to help me describe what we would like to say to CSSP members and then to those representing us in Congress. We are looking at potential speakers who can address what we know about science learning environments, and how that can direct funding to apply our research knowledge in producing better graduates of U.S. schools. The end result should be students who can function in the multi-dimensional domains of science and technology. Students who can reason from evidence, seek additional information in pursuit of answers, question proposed solutions, and state reasonable conclusions based on content knowledge and experiences in laboratory settings.

Please send me, through e-mail (bairdwe@mail.auburn.edu), before October 1st your thoughts on what we should tell Congress when they ask what we recommend be done to help the U.S. become first in the world in science and mathematics. Or at least in the top ten nations producing scientists and engineers. If I use your input, I will cite you by name and institution. I am asking our Secretary, Joe Peters to post on our AETS web page the current draft of the science education position paper for CSSP consideration. It should be there by the time you read this message. Remember that the position paper is not designed to represent AETS interests alone. It should include our goals, but also those of other science education associations like NARST, NABT, AAPT, NCTM, and NSTA. We are receiving help from the staff at NSTA. We need your input too. Please let me hear from you.

Larry Flick President-Elect

AETS fills 10 hours of program at each NSTA area and national convention. This is an official call for papers or workshops to be presented at the Fall, 1998 NSTA area conventions. The deadline for submission is December 1, 1997. This date is set so that submissions that are not selected for the AETS portion of the program can be forwarded to NSTA for possible inclusion in the general program. The deadline for submitting proposals to NSTA is January 15, 1998. AETS members offer an important dimension to NSTA programs. Our members are well versed on current work in curriculum, instruction, and assessment. Further, our members are at the forefront of relating national innovations and reform efforts to state standards. This provides timely and important information concerning policy and teaching practice to teachers around the country. NSTA conventions are also a good way to communicate the work of AETS and to actively recruit new members. Please consider presenting at an NSTA regional convention. The program chairs for each of the NSTA conventions are listed on the proposal form on pages 3 and 4. If you have any questions about the AETS portion of the NSTA program you should contact the appropriate program chair.

> **AETS Program Chairs for NSTA** 1998 Area Conventions

NSTA Northwest Regional, Seattle, WA October 21-31, 1998

> Carole Kubota Research Assoc. Prof. UW Bothell 22011 26th Ave. SE Bothell, WA 98021 kubota@u.washington.edu

NSTA Southern Regional, Birmingham, AL November 19-21, 1998

> Scott Robinson Suny College at Brockport Education and Human Development 350 New Campus Drive Brockport, NY 14420 srobinso@acs.brockport.edu

NSTA Southwestern Regional, Albuquerque, NM December 3-5, 1998

Barbara Crawford Oregon State University Science & Math Education 261 Weniger Hall Corvallis, OR 97330 crawforb@ucs.orst.edu

National Association for Research in Science Teaching (NARST) 1998 Annual Meeting April 19-22, 1998 The San Diego Princess in San Diego, California

Networking: Developing and Renewing Resources and Strategies for Excellence in Science Teaching and Learning.

Proposal deadline: August, 1997

1998 Program Coordinator:

John Wiggins Science Education Department, University of Georgia, Athens, GA 30602 Telephone: (706) 542-1763 Fax: (706) 542-1212 email: JWIG@UGA.CC.UGA.EDU

For additional proposal information, annual meeting registration information, and membership information, contact:

Art White, Executive Secretary of NARST, The Ohio State University, 1929 Kenny Rd., Rm 200E, Columbus, OH 43210 USA (614) 292-3399, fax: (614) 292-1594 email: ts0002@ohstmvsa.acs.ohiostate.edu

Program Proposal

Program Proposal

AWARDS

AETS makes available three awards that recognize the personal achievements and contributions of its members. For each award, a nomination must be made by an AETS member who is cognizant of the qualifications of the nominee. The nominee should be informed of the nomination. Responsibility for the preparation of documentary evidence rests with the nominator. Five copies of all documentary evidence should be mailed to the Chair of the Awards Committee by June 1 of each year in order for the nomination to be considered. The purpose of each award, the recognition provided, and details of eligibility and scoring criteria are highlighted below. For each of the awards selection is based on an overall and categorical point system. Copies of the judging criteria can be obtained from the Chair of the Awards Committee or from the AETS WWW (http:// science.coe.uwf.edu/AETS/AETS.html).

Award I - Outstanding Science Teacher Educator of the Year

The purpose of this award is to broaden awareness of individual contributions and to encourage continued leadership activity of individuals in their first ten years as science teacher educators. Award I consists of a plaque, \$1000 cash from Carolina Biological Supply and a tribute in the awards issue of the *Journal of Science Teacher Education*.

Documentation may include, but is not limited to, the following types of information: competency in teaching, development of science teacher education programs, research activities, science curricula development, leadership in science education, leadership outside of science education.

Award II: Outstanding Mentor Award

This award honors and encourages AETS members who support and encourage new science teacher educators entering our profession and seeks to recognize the valuable contributions of mentors to the profession of science teacher education. Recognition comes in the form of a plaque, a one-year paid membership to AETS, and a tribute in the awards issue of the *Journal of Science Teacher Education*.

Outstanding mentor's efforts to contribute to the professional development of new science teacher educators are evidenced by: encouraging participation in professional associations related to science teacher education, including AETS; encouraging contributions to the knowledge base of science teacher educators; and providing opportunities for professional growth. Recommended documentation includes, but is not limited to: a) letters of support from mentees, b) evidence of demonstrated initiatives in working with schools, c) conference participation (e.g., co-presenting with new inductees), d) letters of support from colleagues.

Award III - Honorary Emeritus Membership

Election as an Honorary Emeritus Member is the highest recognition within the power of AETS to confer. Any science educator who has demonstrated a distinguished career in teaching, research, or service to and in the area of education of teachers in science is eligible for this award.

Nominations for Honorary Emeritus Membership shall be proposed in writing by at least ten active AETS members and be supported by appropriate biographical information. The chair of the Awards Committee, upon recommendation of the Awards Committee, shall forward the list of nominees to the Board of Directors. Nominees, upon receiving endorsement of three-fourths of the Board of Directors voting, shall be declared elected. No more than five individuals will be elected to Honorary Emeritus status in a single year. In recognition of this honor, the dues of Honorary Emeritus members shall be waived, all rights and privileges of an active member shall be maintained, a plaque will be presented at the Annual AETS Meeting, and a tribute will be printed in the awards issue of the *Journal of Science Teacher Education*.

AETS offers two awards to recognize excellence in papers presented at the previous AETS Annual Meeting. Members are invited to submit papers of no more than 15 double-spaced pages in length. Papers previously published are not eligible for this award. The winning paper will be published in the AETS Journal of Science Teacher Education, pending review, and the author(s) will receive a plaque and cash award. It is recommended that prospective authors look at articles that have appeared in the Journal of Science Teacher Education for models.

Submit five blind copies of the complete paper to the AETS Awards Committee Chair. Author(s) should not be identified by name in the document. One copy should be accompanied by a cover page that includes the following information about each author: name, institutional affiliation, address, home phone, and business phone. Nominations must be received by June 1 of each year in order for the nomination to be considered. The purpose of each award, the recognition provided, and details of eligibility and scoring criteria are highlighted below. For each of the awards, selection is based on an overall and categorical point system. Copies of the judging criteria can be obtained from the Chair of the Awards Committee or from the AETS WWW.

Award IV: Innovation in Teaching Science Teachers

This award seeks to encourage the development and dissemination of new designs for courses and curricula, new instructional methods or approaches, and other types of innovations in the pre- or in-service education of teachers of science. Papers may deal with practices for the preparation of elementary, middle school, or secondary teachers. A cash award of \$1000 is made possible by Delta Education.

Papers will be judged on: evidence of effectiveness, research/ theory base, possibility for replication/expansion, clarity of communication, and response to recognized weaknesses.

Award V - Implications of Research for Educational Practice

Papers submitted for this award should identify a persistent and recurring problem in the practice of science teacher education. The paper should develop strategies to resolve the problem based upon a comprehensive synthesis of relevant research and interpret theory and research for practice. A cash award of \$500 is made possible by Carolina Biological Supply.

Papers will be judged on the: problem, rationale, documentation, synthesis, implications, and quality of writing. The next deadline is June 1, 1998. Send completed packets to: Dr. Julie Gess-Newsome, Science Education, University of Utah, 307 Milton Bennion Hall, Salt Lake City, UT, 84112, 801-581-7158, gess-newsome@gse.utah.edu.

AETS/NSF Preconference on Science Teaching for Students with Disabilities

You are invited to apply for a one day pre-conference program for science educators on science teaching for students with disabilities. The program will be held in Minneapolis, Minnesota from 8:00 a.m. to 4:00 p.m. on Thursday, January 8, 1998. The conference is jointly sponsored by the Association for the Education of Teachers in Science and the National Science Foundation., Presenters will include members of the AETS Committee on Inclusive Science Education.

The goals of the program are:

- 1. To share information on best practice relating to inclusive instruction in science education.
- 2. To allow participants to experience model lessons with accommodations for students with disabilities.
- 3. To provide participants with resources on agencies and services which can be utilized to more effectively meet the needs of students with disabilities.

Participants will each receive a kit of hands-on materials and resources for their professional use, and will develop an action plant to incorporate inclusive science teaching into their professional practice. The program is limited to 25 participants. A fee of \$40 will be charged for the workshop. Following the workshop, participants will receive an honorarium of \$100 upon implementation of their action plans.

APPLICATION for the AETS/NSF Preconference on Science Teaching for Students with Disabilities January 8, 1998 Minneapolis, Minnesota

Please PRINT or TYPE				
Name		Date		
Institutional Affiliation				
Address				
City	_State	Zip Code		
Telephone (work)	(home)_			
E-mail address				
Statement: Please prepare a statement indicating why you wish to be included as a participant at the conference.				
Confidential Information (Optional): PLEASE CIRCLE THAT WHICH PERTAINS TO YOU. African American/Black, Native American, Alaskan Native Asian American, Pacific Islander, Caucasian/White, Other Please check here if also of Hispanic origin Gender (please circle): Male Female If you have a disability please indicate:				

Send application and check for \$40 payable to AETS: Katherine Norman, Ph.D., College of Education, California State University San Marcos, San Marcos, California 92096, Phone: (760) 750-4314, E-mail: knorman@mailhost1.csusm.edu

AETS Position Statement on The Inclusion of Underserved Populations in Science Education

WHEREAS underserved students benefit from "education in the least restrictive school environment" and WHEREAS as much as possible, these students need inclusion and involvement in all facets of school life, and WHEREAS there is a growing need to prepare teachers to accommodate instruction for all students?

THEREFORE, BE IT RESOLVED THAT THE ASSOCIATION FOR THE EDUCATION OF TEACHERS IN SCIENCE URGE ALL EDUCATORS TO HIGHLIGHT INTEGRATION AND INCLUSION WITH REGARD FOR ALL STUDENTS.

RATIONALE:

The present state of accommodative practice of "least restrictive environment," especially for the mildly disabled and many underserved students, has been through partially segregated instruction utilizing resource programs. This is often compounded when regular classroom teachers, administrators, and counselors make general assumptions about what students can and cannot do. Immediate attention must be channeled towards the integration and inclusion of all students within the school setting, particularly within the regular classroom. Noteworthy goals for science educators...

- 1. to insure that instructional adaptations are made to allow for students with physical disabilities to participate fully in laboratory and outdoor learning opportunities.
- 2. to access new technology for students with physical disabilities enabling them to participate in all facets of the instructional program by becoming informed about emerging technologies and acquiring these tools for student use during instruction.
- 3. to serve as advocates for underserved students to insure they are not advised to take classes which minimize the need for adaptations, special modification, or instructional accommodations within he instructional setting.
- 4. to provide opportunities for all students to socialize informally in and out of the classroom.
- 5. to create a caring, supporting atmosphere that tolerates and welcomes a wide range of student diversity.
- 6. to foster cooperative learning activities rather than competitive or individual tasks.
- 7. to provide opportunities for peer interactions, multiage grouping, and group cohesiveness.

NSTA/AETS STANDARDS AVAILABLE FOR REVIEW

Revised NSTA Standards for Science Teacher Preparation will be available for review by the science education community beginning September 15. Review drafts of the new performance- based standards have been prepared by members of the CASE (Certification and Accreditation in Science Education) Project, an initiative of the NSTA Science Teacher Education Committee in collaboration with the Association for the Education of Teachers in Science (AETS). The new standards will support the National Science Education Standards and will replace the current NSTA standards used by the National Council for the Accreditation of Teacher Education (NCATE) and some partnership states for institutional program reviews.

CASE Project writers are actively encouraging input from the science education community with respect to (a) identification of research which may enhance the quality of the knowledge base for the standards; and (b) identification of institutional or state science teacher education programs or practices that appear to be particularly consistent with the goals of the standards, such that they may be included as exemplars of practice to be considered for adoption or modification by other science teacher education programs. A guide for review will be included with the standards to help obtain most informative feedback.

Drafts of the new standards will be available on the World Wide Web from two servers: http://science.coe.uwf.edu/aets/draftstand.htm and from http://www.iuk.indiana.edu/faculty/sqilbert/draftstand.html.

The review period will close December 15, 1997.

MEMBERS NEEDED FOR THE CASE NETWORK

Members of the science teacher education community who wish to be involved in the CASE Project should consider joining the CASE Network. Members of the new network will be called upon to support and disseminate the new NSTA and AETS Standards for Science Teacher Education. They will collaboratively devise and implement strategies to communicate with state agencies, legislators, teachers and personnel involved in science teacher certification and program approval in their states, and individually represent the standards to these groups. Some members may become trainers for program reviewers in states where the new standards are adopted for program approval.

Qualifications include successful experience in science teacher preparation and knowledge of, and interest in, the development of standards for science teacher education at the state, regional and national level. A minimum commitment of three years is strongly encouraged. Each member of the CASE Network must agree to participate in at least one seminar per year at national NSTA or AETS meetings in order to: (a) stay informed of events related to standards development and implementation; (b) inform other members of significant developments in relation to standards in their state or region; and (c) propose and deliberate

ongoing changes in the CASE standards. CASE Network organizational meetings are scheduled for the NSTA regional meetings this fall, as well as for the AETS and NSTA National meetings in 1998. Sessions will be restricted to those who have indicated an interest in attending beforehand. These are informational meetings and do not constitute a commitment to the Network.

Active members of the science education community who are involved in teacher education and who would like to explore participation in the CASE Network should contact Dr. Robert Fisher at rlfisher@ilstu.edu (FAX 309-438-3592). Response forms and information pertaining to the Network are available at: http://science.coe.uwf.edu/aets/nethome.htm or from http://www.iuk.indiana.edu/faculty/sgilbert/nethome.html. The form should be emailed or faxed to Dr. Fisher prior to the first CASE Network Session you plan to attend.

CURRICULUM ORCHESTRATOR IMPROVED: SPECIAL OFFER FOR PRE-SERVICE PROGRAMS

In September 1997, MediaSeek Technologies will release an upgrade to Curriculum Orchestrator Version 1.1 for Macintosh. Improvements include simplified installation, more robust reporting capabilities, and Macintosh System 8.0 compatibility. Expanded content encompasses over 30 state curriculum frameworks from CA, CO, FL, IN, MA, MI, NJ, NY, OH, TX, UT, VA, WA in Science, Math, Social Studies and Language Arts as well as the NRC and NCTM developed national standards. Also included are correlated references to over 300 instructional titles in all media formats from more than 100 educational publishers.

AETS members making first time purchases can own Curriculum Orchestrator for \$99 per copy, \$100 off the suggested list price. AETS members already registered as owners of ANY previous version of Curriculum Orchestrator may upgrade for \$29 per copy (S&H are not included).

As in 1996, MediaSeek will continue to support Teacher Pre-Service use of Curriculum Orchestrator by offering student copies at a price of \$49 each in quantities of 10 or more when the order is accompanied by a request on University letterhead. With this package, the course instructor receives a teaching lab license for Curriculum Orchestrator at no additional charge.

Watch for the late '97 release of Curriculum Orchestrator for Windows 95. For more information, contact MediaSeek Technologies Sales at: MediaSeek Technologies Inc., 2211 Rimland Dr., Suite #224, Bellingham, WA 99328, Phone: (800) 372-3277, Fax: (360) 738-3255, email: sales@mediaseek.com.

LOOKING FOR CURRICULUM OUTLINES FOR INNOVATIVE PROJECT

I am looking for curriculum outlines produced by you or your students for use as part of an innovative software application which supports educators' sharing of curriculum. Syllabi for grades K-12 in the curriculum areas of Science, Mathematics, Social Studies, and English Language Arts are needed. Authors whose outlines are selected will receive a copy of the software application, personal and professional acknowledgment, and monetary compensation.

Little to no additional work may be required in order to submit a syllabus for inclusion in this project. Outlines should be submitted as a word processing documents and are best if they contain four tiers such as Unit, Topic, Lesson, Objective (alternate labels are acceptable). Each lesson should have a brief description of at least one inclass activity, a homework assignment, and assessment. Makes a great activity for inservice and pre-service teachers!

Please contact Michael Jay if you would like more information: mjay@mediaseek.com or 800/372-3277 x310 or c/o MediaSeek Technologies Inc., 2211 Rimland Drive, Suite 224, Bellingham, WA 98226-5662

AETS Conference Proceedings on the AETS Web Site

Check-out three new items on the AETS World Wide Web Site (http://science.coe.uwf.edu/aets/aets.html): 1996 AETS Conference Proceedings, 1997 AETS Conference Proceedings, and 1998 AETS Proceedings Guidelines.

For further information contact: Peter (Pete) A. Rubba Professor of Science Education, and C&I Department Head Department of Curriculum and Instruction 140 Chambers Building Penn State University University Park, PA 16802 Phone: 814-865-1500 FAX: 814-863-7602 E-Mail: par4@psu.edu

1997 AETS Election

In mid-September current AETS members will receive AETS Election information by U.S. first class mail. This will include statements from the slate of candidates developed by the AETS Election Committee for the positions of President-Elect, Director-at-Large, and Election Committee Member, along with a ballot and pre-addressed envelope.

The members of the Election Committee encourage you to participate in this election. Ballots are to be returned to Pete Rubba, Election Committee Chair. Only paper ballots received via U.S. Mail by October 31, 1997 will be counted (votes by electronic mail, FAX, and phone will not be accepted).

Applications Now Being Sought for EDITOR

Journal of Science Teacher Education

The Association for the Education of Teachers in Science (AETS) is seeking applications for the Editor of the *Journal of Science Teacher Education*. The duration of the appointment is five years, July 1, 1998 - July 1, 2003 with 1998 serving as a period of overlap with outgoing Editors to facilitate the transition. Thus the new Editor will assume the editing of Volumes 10-14 of the *Journal*. The Editor also recommends new Review Board members and serves as ex-officio member to the AETS Board of Directors and the Publications Committee.

The Journal of Science Teacher Education, is published in 4 issues per year by Kluwer Academic Publishers in the Netherlands. The Journal serves as a forum for disseminating research, theoretical position statements, and practical articles concerning the preparation and inservice education of science teachers. There are 35 US and international members on the Editorial Review Board.

Applicants for the position of Editor must have an institutional commitment to support the position. The Editor must have the written commitment of his or her university for at least 0.20 FTE released time, 0.50 clerical support, physical facilities, and equipment/software essential to production of the Journal. The Editor must have been a member of AETS for at least five years and must have had five years of teaching experience in a university teacher education program prior to appointment as Editor. It is also possible for the Editor to appoint an Associate Editor or Editors. It is advantageous for the Associate Editor(s) to be at the same campus as the Editor.

Applicants should submit 4 copies of a letter of application, an action plan, vitae for Editor and Associate Editor(s), and letter of commitment from a Dean or appropriate university administrator by October 1, 1997 to: Sandra K. Abell, *JSTE* Search Committee Chair, Department of Curriculum and Instruction, Liberal Arts and Education Building 1442, West Lafayette, IN 47907-1442

Additional information can be obtained from Search Committee members:

Sandra Abell (sabell@purdue.edu/765-494-2358) Gail Jones (gjones@email.unc.edu/919-966-3291) Dan Shepardson (dshep@purdue.edu/765 494-5284)

Potential applicants may also contact the present Editors for information:

Gail Shroyer (shroyer@coe.educ.ksu.edu/913-532-6736) or

Carol Borchers (borchers@coe.educ.ksu.edu/913-532-6357)

PUBLICATIONS AVAILABLE

Who was the Army surgeon dubbed "The Queen of the Ridiculous?" What PMS drug invented by Lydia Pinkham made millions? Why did Puritan John Winthrop attack Ann Hutchinson as a midwife? Where did Louis Leakey send his "ape girls" to study primates? When did priestesses start using aspirin as a pain killer? If you or your students are stumped, then you might be interested in a new book from CVI entitled "From Priestess to Physician." The book is available from The California Video Institute, a non-profit organization, for \$19.99 plus \$2 for shipping costs. A companion book is also available entitled From Sorceress to Scientist. Institutions should send a purchase order to: CVI, P.O.Box 572019, Tarzana, CA, 91357-2019.

SCIENCE IN ELEMENTARY EDUCATION, 8TH EDITION

Peter C. Gega, Emeritus San Diego State University & Joseph Peters, University of West Florida. Prentice Hall Career & Technology, Copyright 1998, ISBN 0-13-613852-7

Emphasizing the constructivist theory, this classic text provides an overview of science education in a popular two-part demonstration that presents methods first, followed by science content and activities. This new edition includes the use of technology, more emphasis on the learning cycle approach, vignettes from classroom instructors, more in-depth use of assessment and the National Science Education Standards, and resources which are provided through the World Wide Web. It provides hundreds of lively, concrete experiences and activities for presenting science to children in a way that conveys its meaning and its relevance to their lives. The integration of children's literature throughout the text provides students with actual references for future classroom use. It includes new lesson planning that covers direct teaching, inquiry teaching, and integrated teaching. Using the Internet is integrated throughout the text so students and professors can profit from resources on the World Wide Web. It also includes timely topics on safety, metaphors, women in science, the learning cycle, and the use of children's literature have been added to keep the text up-to-date with what is being stressed nationwide. Graphic organizers at the beginning of each chapter provide students with an overview and summary reflections allows students to review and reflect on the content they have learned. Text is automatically packaged with a 60page sampler of the National Science Education Standards. Chapters: 1. Science in Elementary Education, 2. How Children Learn Science, 3. Planning and Facilitating Activities, 4. Scientific Skill Development, 5. How to Use Different Resources to Teach Science, 6. How to Arrange and Manage Complementary Exercises, 7. How to Assess Science Education, 8. Light Energy and Color, 9. Heat Energy, 10. Sound Energy, 11. Magnetic Interactions, 12. Electrical Energy, 13. Simple Machines and How They Work, 14. Plant Life and Environment, 15. Animal Life and Environment, 16. Human Body and Nutrition, 17. The Earth's Changing Surface, 18. Water, Air, and Weather, 19. The Earth in Space, Appendix A: Professional Bibliography, Appendix B: Science Curriculum Projects, Appendix C: Commercial Science Suppliers, Appendix D: Environments and Nutrition for Classroom Animals, Appendix E: Summary of Children's Thinking, Appendix F: State Education Agencies, Index. Preview copies are available from http://www.prenhall.com/

ERIC ANNOUNCEMENT

ERIC ANNOUNCEMENT

Announcements

Minneapolis. Mark your calendars now to attend the 1998 annual AETS conference in Minneapolis, MN! A preconference on inclusive science education is being planned, as is a great program of presentations and panels. Come join us for evenings at the St. Paul Science Museum and the Mall of America too! For further information, please contact the following persons:

Conference Co-Chair: George Davis, Moorhead State University, (218) 236-2904, davisg@mhd1.moorhead.msus.edu

Conference Co-Chair: Patricia Simpson, St. Cloud State University, (612) 255-3012, psimpson@tigger.stcloud.msus.edu

Program Co-Chair: Craig Berg, University of Wisconsin-Milwaukee, (412) 229-4047, caberg@csd.uwm.edu

Program Co-Chair: Michael Clough, University of Iowa, (319) 335-1152, michael-clough@uiowa.edu
Program Co-Chair: Lloyd Barrow, University of

Missouri, (314) 882-7457, swbelbar@mizzou1 **Publicity:** Kevin Finson, Western Illinois

University, (309) 298-2102, kevin-

finson@ccmail.wiu.edu

AETS Member Database

Do you want to check your membership status, look up a colleague's phone number or e-mail address, see who teaches elementary science education, or find friends in your state? Check out the address http://science.coe.uwf.edu/aets/aets.qry?function=form on the web. Be patient, though, although the AETS database is updated daily, the Internet server needs to be updated and is becoming very slow!!

AETS NEWSLETTER

Published four times a year by the Association for the Education of Teachers in Science.

Issue Items due by

issue	items due		
Autumn	Nov. 1		
Winter	Feb. 1		
Spring	May 1		
Summer	Aug. 1		

Send items for the newsletter to:
Joseph Peters, Editor
The University of West Florida
11000 University Parkway
Pensacola, FL 32514
(904) 474-2860



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