Annual Report of the Iowa Academy of Science, 1992-93

Paul E. Rider

University of Northern Iowa

Copyright © Copyright 1993 by the Iowa Academy of Science, Inc.

Follow this and additional works at: https://scholarworks.uni.edu/jias

Part of the Anthropology Commons, Life Sciences Commons, Physical Sciences and Mathematics Commons, and the Science and Mathematics Education Commons

Recommended Citation


Available at: https://scholarworks.uni.edu/jias/vol100/iss3/8

This General Interest Article is brought to you for free and open access by the Iowa Academy of Science at UNI ScholarWorks. It has been accepted for inclusion in Journal of the Iowa Academy of Science: JIAS by an authorized editor of UNI ScholarWorks. For more information, please contact scholarworks@uni.edu.
Annual Report of the Iowa Academy of Science, 1992-93

PAUL E. RIDER

Department of Chemistry, University of Northern Iowa, Cedar Falls, Iowa 50614

PREFACE

Starting in 1976, annual reports have served as a continuing record of the activities of the Iowa Academy of Science. These augment a 100 year history of the Academy which was written in the centennial year of 1975.

This report covers the period from July 1, 1992 to June 30, 1993. It is based on the official records of the Academy (committee reports, Board minutes, correspondence) as well as the recollections, impressions and thoughts of the author.

THE 105TH ANNUAL MEETING

The Luther College campus provided the setting for the 105th Annual Meeting of the Iowa Academy of Science, held on Friday and Saturday, April 23 and 24, 1993, in Decorah, Iowa. The Centennial Union, the Center for Faith and Life, and Valders Science Hall provided excellent facilities for the general sessions, symposia, and registration. The Awards Luncheon and the President's Banquet were also held in the Peace Dining Room.

The weather was reflective of the late spring that occurred in Iowa but the registration and general attendance were substantial. The beauty of northeast Iowa and the Decorah area were an enticement for members who enjoy such surroundings. The general sessions included a presentation on "Heirloom Vegetables" by Kent Whealy of the Seedsavers Exchange, located at Heritage Farm in the Decorah area. Other presentations included a program by Robert Monserrate, a state forensics expert from the Iowa Department of Criminal Investigation, who described the events associated with the crash of Flight 232 at Sioux City, and a presentation by Luther graduate Ivar Lovaas, who described studies involving autistic children.

The chair for local arrangements was Dr. Philip Reitan, Professor of Biology at Luther College. Other members of the committee included individuals from the Luther faculty from the other sciences.

The meeting was organized through the efforts of Gary Downs, Director of Meetings and Programs, who called the Annual Meeting Committee together at Luther in September of 1992. The committee consisted of the following individuals:

Annual Meeting Committee
Local Arrangements Committee Chair
Philip Reitan

Section Chairs:
Agricultural Sciences
Linda M. Pollak, Iowa State University

Anthropology
James Collins, University of Iowa

Cellular & Molecular Biology
Patrick Schnable, Iowa State University

Botany
Lenore Durkee, Grinnell College

Chemical Education
Don Lang, NIACC

Chemistry, Organic and Biological
James G. Macmillan, University of Northern Iowa

Conservation
Dean Roosa, Ames, Iowa

Earth Science Teaching
Thomas Ervin, Wood Jr. High, Davenport

Elementary Science Teaching
Carol Houk, Waterloo

Engineering
P. Barry Butler, University of Iowa

Geology
Robert Dawson, Iowa State University

Linguistics
Orrin Frink, Des Moines

Nursing
Penny Y. Leake, Allen Hospital Nursing School

Physics
Billy Anderson-Pugh, Luther College

Physiology
Russell Rulon, Luther College

Psychology
David Lopatto, Grinnell College

Science Teaching
Peg Steffen, Ottumwa High School, Ottumwa

Zoology
Steve Lehtinen, Buena Vista College

The committee discussed possible topics for symposia and general session speakers. The program was blocked and section chairs were briefed on their responsibilities. Details of implementation leading up to the meeting were handled by the Director of Meetings and Programs, the Executive Director, the Administrative Assistant, and the section chairs.

The meeting was held April 23-24, 1993. The various aspects of the meeting are described in the following sections.

Iowa Junior Academy of Science Program

Peggy Tlgnier, Junior Academy Director, and the Student Programs Committee, under its Chair Larry Schwingler, planned a program of invited poster papers and oral presentations involving students who had been working on science projects during the year. Section vice chairs and committee members acted as judges for the selection of individuals to participate in the junior academy programs held in conjunction with the AAAS meeting in San Francisco, in February of 1994. Students and their projects are listed below.

"BUG OFF!" Creatures of the Corn. A Plot Study of the Effects of Ostrinia nubialis on Zea mays"

Andrea Clark, Algona High School

"POWERDAMS - A Look Into the Future"

Jamie Harding, West High School, Davenport

"BUG OFF!" Creatures of the Corn. A Plot Study of the Effects of Ostrinia nubialis on Zea mays"

Andrea Clark, Algona High School

"POWERDAMS - A Look Into the Future"

Jamie Harding, West High School, Davenport

The committee discussed possible topics for symposia and general session speakers. The program was blocked and section chairs were briefed on their responsibilities. Details of implementation leading up to the meeting were handled by the Director of Meetings and Programs, the Executive Director, the Administrative Assistant, and the section chairs.

The meeting was held April 23-24, 1993. The various aspects of the meeting are described in the following sections.

Iowa Junior Academy of Science Program

Peggy Tlgnier, Junior Academy Director, and the Student Programs Committee, under its Chair Larry Schwingler, planned a program of invited poster papers and oral presentations involving students who had been working on science projects during the year. Section vice chairs and committee members acted as judges for the selection of individuals to participate in the junior academy programs held in conjunction with the AAAS meeting in San Francisco, in February of 1994. Students and their projects are listed below.

"BUG OFF!" Creatures of the Corn. A Plot Study of the Effects of Ostrinia nubialis on Zea mays"

Andrea Clark, Algona High School

"POWERDAMS - A Look Into the Future"

Jamie Harding, West High School, Davenport
"Taking a Byte Out of Inefficiency - The Power of Computer-Controlled Programmable Peripheral Interfaces"
Nathan Holmes, West High School, Davenport

"The Effects of Various Central Cements and Tensions on the Tooth Enamel Surface"
Christine Micheel, Marshalltown High School

"Effects of Various Central Cements and Tensions on the Tooth Enamel Surface"
Marie Peleck, Marshalltown High School

"Effect of Aflatoxin Levels in Peanut Butter"
Nicole Rascon, North High School, Davenport

"The Effects of Metal Ions on Daphnia magna"
Sarah E. Renze, Marshalltown High School

"Association Studies of Candidate Genes in Congenital Heart Disease"
Sara Rohdy, Central Lee Community High School

"Electrophoresis and Determination of Passive Transfer of Colostral Immunoglobulins in Ovis aries"
Cameron Schmitt, Stuart-Menlo High School

"Use of Polymers to Reduce Trihalomethanes in Drinking Water"
Karin Wilhelm, Stuart-Menlo High School

"Estimation of Fractional Lengths"
Winston Yang, Central High School, Davenport

Program Summary
The program consisted of three general sessions, two symposia, and 14 section meetings involving 123 presentations (poster papers included). There were two formal meals including the Awards Luncheon and the President's Banquet. The Saturday box luncheon was held this year and was well attended. The following gives the details of the events on the program.

PROGRAM SUMMARY

THURSDAY, APRIL 22
6:00 Board of Directors Dinner and Meeting
6:15 President's Banquet
President William Deskin, presiding
Presentation of Iowa Academy of Science
Distinguished Iowa Science Teaching Award
Awarding of Runkel-Roosa Natural History Research Grant
Installation of new president and remarks by outgoing President Deskin
Response by President Jean Prior

FRIDAY, APRIL 23
7:30 Registration
8:00 Exhibits
8:00 IJAS Posters
8:00 IJAS Presentations
8:00 Registration
8:00 General Meeting
10:30 General Session I
President William Deskin, presiding
"Heirloom Vegetables: Grass Roots Rescue Efforts in America, Eastern Europe, and Russia." Mr. Kent Whealy, Seed Savers Exchange, Decorah

12:00 Awards Luncheon
1:00 Registration
1:30 Business Meeting
2:00 General Viewing of Junior Academy Posters
2:00 Standing Committee Meetings
2:30 Concurrent Symposia
6:00 Open house at the Porter House Museum, 401 West Broadway, arranged by the Iowa Natural History Association
6:15 President's Banquet
6:30 Joint Physics Section and AAPT Meeting

SATURDAY, APRIL 24
8:00 Section Meetings
8:00 General Session III
President Jean C. Prior, presiding
"On the Merits of Inductive Procedures in Psychological Treatment Research"
Dr. O. Ivar Lovaas, University of California, Los Angeles

12:20 Iowa Natural History Assn. Meeting followed by field trip to Brush Creek Canyon State Preserve at 1:30
1:00 Joint Physics Section and AAPT Meeting
1:00 Section Meetings
Botany
Engineering
Physics
Science Teaching
Zoology

The Awards Luncheon
This took place in the Peace Dining Room of the Centennial Union. There were 108 individuals present. Student Program Committee Chair Larry Schwinger, recognized students who had participated in science fairs and other science related activities in Iowa during the past year.

Junior Academy Director Peggy Tilgner presented the two high school scholarship winners and the two representatives who will be a part of the AJAS activities at the AAAS meeting in San Francisco in February of 1994. The scholarship winners were:
Sarah Renze, Marshalltown High School
Karin Wilhelm, Stuart-Menlo High School

The AJAS representatives were:
Christine Micheel, Marshalltown High School
Marie J. Peleck, Marshalltown High School

The winners of the Excellence in Science Teaching Awards were also recognized by Roy Unruh, chair of the ESTA Committee and newly elected member of the IAS Board of Directors. This is always a highlight of the meeting because it showcases some of Iowa's finest science teachers. The winners were:
Biolog - Richard Kruse, Ankeny Senior High School, Ankeny
Chemistry - Jeffrey B. Hepburn, Dowling High School, West Des Moines
Earth Science - Beverly A. Iverson, Marshalltown Community High School, Marshalltown
Elementary - Barbara A. Ehlers, Wings Park Elementary School, Oelwein
Environmental Education - No award
General/Multiple - Michael F. Zeller, Woodward-Granger Comm.
School, Woodward  
Junior High - Lyn Countryman, Malcolm Price Laboratory School, Cedar Falls  
Physics - Charles S. Gesiriech, Urbandale High School, Des Moines

The President's Banquet  
The President's banquet was also held in Peace Dining Room following the social hour which was held in the lounge area outside of the dining room in Centennial Union. Attending were 106 members and guests. President William Deskin introduced Robert Carmichael, chair of the Recognition and Awards Committee, who introduced the nominator of this year's one award winner, who described the individual and why he was selected to be the first recipient of the IAS award for Distinguished Science Teaching.  
Distinguished Fellow Award  
(no award in this category)  
Distinguished Iowa Scientist Award  
(no award made in this category)  
Distinguished Service Award  
(no award made in this category)  
Distinguished Iowa Science Teacher  
Jay P. Kopp, Loras College  
President Deskin presented the year in review for the Academy before presenting the gavel to incoming President Jean Prior. President Prior spoke to the gathering of her involvement in the IAS and her goals for the coming year.  
The banquet adjourned so that those attending could attend the evening general session featuring Robert Monserrat, a forensics chemist from the DCI, who made a presentation on how investigators use scientific means to solve crimes.

Attendance  
Tables 1 and 2 present attendance figures for the 1993 meeting and for the past five meetings, respectively.  
Total attendance was somewhat lower than other meetings, but it still was quite good and reflected the fact that the meeting was held at the edge of our population region. This was a credit to the planning committee and the local arrangements people who put a good meeting together to attract members and others.  
The ratio of attendees to papers presented (3.4) was higher than the 2.5 ratios seen in several previous years. This suggests that the meeting was attended by more spectators than individuals interested in presenting papers.  
The number of papers presented and number attending section meetings as well as the other sessions are given in Table 3. The section meetings were not as well-attended in relation to other years, but this continues to be an important part of the function of the IAS in providing an opportunity for the presentation of research results by Iowa scientists and their students.

<table>
<thead>
<tr>
<th>Table 2. Five Year Average Attendance</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>YEAR</td>
<td>Members</td>
</tr>
<tr>
<td>1989*</td>
<td>338</td>
</tr>
<tr>
<td>1990*</td>
<td>447</td>
</tr>
<tr>
<td>1991*</td>
<td>333</td>
</tr>
<tr>
<td>1992*</td>
<td>308</td>
</tr>
<tr>
<td>1993*</td>
<td>250</td>
</tr>
</tbody>
</table>

1 Buena Vista College  
2 Drake University  
3 Luther College  
4 University of Northern Iowa

Table 3. Attendance Summary, 105th Session, 1993

<table>
<thead>
<tr>
<th>Number of</th>
<th>Attendance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Papers</td>
<td></td>
</tr>
</tbody>
</table>

- Contributed Papers
- Agricultural Sciences
- Anthropology
- Botany
- Cellular/Molecular Biology
- Chemistry C
- Chemistry D
- Conservation
- Engineering
- Geology
- Nursing
- Physics
- Physiology
- Psychology
- Zoology

TOTAL 122 207

- Computer Applications in the Chemistry Lab 12
- Status of K-12 Science Education Reform in Iowa 50
- General Session I 185
- General Session II 230
- General Session III 150
- Special Events:
  - Annual Business Meeting 108
  - Awards Luncheon 100
  - President's Banquet 100

MINUTES OF THE ANNUAL BUSINESS MEETING
Reclital Hall, Center For Life, 1:30 p.m., April 23, 1995
President William Deskin called the meeting to order, 1:30 p.m.

1. President Deskin made remarks on the status of Academy. He reviewed the year for the IAS in terms of activities and described some new initiatives, including a possible joint meeting with the Minnesota Academy of Science in 1999 or 2000. He expressed his appreciation to members for their efforts and support.

2. Luther Erickson reported the results of the election. Daryl Smith was elected as the new President-Elect and new Board members were Don Perschau and Rick Lampe. They were introduced to those in attendance.

3. Membership Committee Chair Dave Roslien gave the report of the membership including deceased members (a moment of silence was observed for Myrle Burk, Winston Hackbarth, Harvey Diehl, and James Stewart). New emeritus members were named (Ben Clausen, Howard Lyon, Bob Simpson and Wanda Wehner). New
fellows were named by Chair Roslien, who were Connie Mutel, Dean Roosa, Gary Phillips, Roy Unruh, and David Lopatto.

4. Executive Director Paul Rider gave the financial report of the Academy (this information and other items are given later in this annual report). He presented data suggesting that a dues increase is justified for the 1994 calendar year. Members who pay the annual dues and attend the annual meeting pay $50.00 a year to the IAS. The membership paid $22.07 per member to IAS in dues and registration fees in 1992 (includes those not attending annual meeting). Expenses per year per member in 1992 (excluding the Iowa Science Foundation) were $55.48. The difference between what members pay and what costs are, is made up through farm income, grants, state aid, donations, and other miscellaneous income. IAS expenses, not including any administrative salary/wages (i.e., just operational costs and journal costs, excluding ISF costs), amounts to over $33.00 per member per year. It was moved (and seconded) that member dues for the 1994 calendar year be raised from $30.00 to $35.00 per member (and all other dues, such as student, etc. be raised accordingly and consistent with this amount and standing policies). The motion passed.

5. Rider urged members to submit manuscripts to Ken Windom, editor of the Journal of the Iowa Academy of Science.

6. The meeting adjourned at 1:50 p.m. so that standing committees could hold short meetings starting at 2:00 p.m.

**REVIEW OF ACADEMY ACTIVITIES 1992-93**

The year was another successful one for the Academy, its leadership and its committees. Goals were established and most committees were able to perform their tasks in an effective way. The following information describes committee activities.

**Annual Meeting**
Chair: Gary Downs

The Annual Meeting Committee met on October 7, 1992 on the campus of Luther College, Decorah, to plan the program for the 105th Annual Meeting. Director of Meetings and Programs, Gary Downs, called the group together after an initial meeting with the local arrangements committee. Several of the section chairs attended. Administrative Assistant Doris Mitchell attended on behalf of Executive Director Paul Rider.

Blocking of the program sections was discussed and several suggestions were made as to possible topics and speakers. The committee did not meet again and all planning went smoothly up and through the meeting.

**Committee on Committees**
Chair: Jean Prior

The committee met twice during the 1992-93 year. It met at the annual meeting held on the University of Northern Iowa Campus in April, 1992, and also on November 14, 1992, on the Oakdale Campus of the University of Iowa (Charles Wunder supplied the facilities and hospitality, with the gratitude and appreciation of the committee).

During the November meeting, the committee selected individuals to be asked to serve on the various committees during the coming year. These individuals were contacted by letter in late December or early January and asked to respond to President-Elect Jean Prior about their willingness to serve. President-Elect Prior also consulted with potential committee chairs and had the process of selection and confirmation completed in time for the annual meeting at Luther.

5. The committee also discussed the matter of the Data Base Committee, which has been trying to establish a larger, more useful data base for the IAS and its committees. Charles Wunder, who has been particularly helpful in this regard, indicated his desire to no longer work on this matter. President-Elect Prior expressed her interest in continuation of the effort and her willingness to be involved.

Committee Chair Prior also expressed her appreciation for the assistance of Doris Mitchell in the IAS Office.

**Conservation and Preserves**
Chair: Lois Tiffany

The committee did not hold any formal meetings, and no report was available at the time this report was written.

**Controversial Issues**
Chair: Edwin Powell

The committee met four times during the year (9/19/92; 12/5/92; 2/6/93; and 4/23/93). Issues discussed included (1) requests from Maharishi University to rewrite position paper on pseudo-science; (2) articles to be sent to the Iowa Science Teachers Journal for publication; (3) the importance of critical thinking in counteruing pseudo-science, creationism; (4) ways that committee members could assist teachers in dealing with pseudo-science issues in their classrooms; (5) other controversial issues such as fetal tissue research, animal rights; (6) the efforts conservative Christian groups to push their agenda into the public school domain; and (7) content of the current position paper on pseudo-science (which remained unchanged.)

**Education**
Chair: Richard Kruse

This committee usually assists in the selection of the Presidential Awards for Excellence in Science and Mathematics Teaching. Tony Heiting of the State Department of Education provided information on nominees who were eventually selected. Those selected were the following individuals:

Virginia Elliott, South Tama Elementary School, Tama
Candace Kilburg, Center Point/Urbana Elementary School, Center Point
Cindy Roberts, Lake View-Auburn Schools, Lake View
Hector Ibarra, West Branch Middle School, West Branch
Doug Nauman, George Washington High School, Cedar Rapids
John Zietlow, West Delaware Middle School, Manchester

**Finance**
Chair: Burton Loupee

This committee did not have a formal agenda during the year and fund raising activities were carried on by Executive Director Rider. This committee does not usually advise the executive director on budget matters which are regarded as a Board responsibility. The Board believes this committee might be more involved in decisions on investing IAS reserve funds, as well as fund raising.

**Iowa Science Foundation**
Chair: Warren Dolphin

The committee solicited and evaluated proposals for the 1992-93 fiscal year. It met in March of 1993, at the University of Northern Iowa to distribute proposals to committee members for review. A second meeting on May 18, 1993 at Iowa State University was held to select awardees.

Award of 2 grants in public understanding of science, 3 in science education, and 6 in research. The committee recommended that discussion continue on the emphasis in the three categories, on the reviewer evaluation forms, and other issues. Interest was expressed in developing a questionnaire (to be done by Bruce Menzel) to evaluate the program after its first decade (ending this current year).

There were 39 proposals for grants of which the following were...
awarded a total of $40,000.00. This amount consisted of $40,000 in state funds. Those receiving grants were:

- **Student Research: An Investment in the Future** $4,959.00
  - Hector Ibarra, West Branch Middle School
- **Molecular Basis of Plant Defense Strategies** $4,991.25
  - Craig S. Tepper, Cornell College
- **An Astronomical Telescope for the Grout Museum of History and Science** $3,251.30
  - Aaron J. Spurr, Grout Museum of History and Science
- **"LEGS" Enhancement for a Simple Machine Curriculum Unit** $1,100.00
  - Jolene Otto and Marybelle Howard, Central Clinton Community School
- **Manson Impact Structure Educational Project** $2,100.00
  - Raymond R. Anderson, Geological Survey Bureau/Iowa DNR
- **"An Adult Education Program in Science"** $4,660.00
  - Mary L. Caffery, Clarke College, Dubuque
- **Phytolith Analysis of Iowa Mammals and Its Implications for Determining the Paleo diet of Extinct Species** $5,000.00
  - Russell L. Ciochon, University of Iowa
- **Environmental Education Audio/Visual Equipment** $1,158.00
  - Mike Wallace, Lyon County Conservation Board
- **Iowa Bar Conservation Education Project** $1,751.00
  - Paula Bergstrom, Johnson County Conservation Board
- **Patterns of Genetic Diversity for Three Rare and Endangered Plant Species of Midwestern Prairie*** $3,000.00
  - Kay Klier, University of Northern Iowa
- **The Role of Some Parameters of Katydid Male Song in the Attraction of Conspecific Females** $3,469.00
  - Kenneth C. Shaw, Iowa State University
- **Origin of Methane Gas in Groundwater in Central Iowa** $4,994.00
  - William W. Simpkins, Iowa State University
- **Ecology of Native Grasslands in the Loess Hills** $1,600.00
  - David Glenn-Lewin, Iowa State University

**Membership**
Chair: David Roslien

The committee selected five individuals for Fellow status who were recommended to the Board of Directors and approved. The committee chair reported this as well as other membership matters at the annual business meeting.

**Parish Farm**
Chair: Carol Thompson

The committee met twice during the year and also at the annual meeting. It continues to be very active.

- Matters of interest this year included attention to the ongoing need to use appropriate agricultural practices to keep the farm operating as a "model farm," improvement of the prairie area, ground water sampling, improvement of the woodlot, focus on publicity with articles in several publications and visitors from Russia, development of an article for IAS about the farm, and other matters. The sign was rejuvenated last year, only to have it blown down by storm winds this summer.

**Public Information**
Chair: James Christiansen

The committee was very active in developing a cooperative association between the IAS and the Army Corps of Engineers at the Saylorville Dam Visitors Center. Chair Christiansen arranged meetings between Corps personnel and IAS personnel and details were worked out to start the dissemination of informative, education materials at the center.

Professor Phyllis Kingsbury of Drake University agreed to serve as the IAS liaison person with the Corps and keep track of the inventory and funds.

The committee also discussed issues related to making the activities of the IAS more visible and recommended that (1) presenters at the annual meeting consider submitting their abstracts to Charles Wunder for review for possible publicity in local media, (2) the PI committee have a liaison person with the local arrangements committee for the annual meeting, (3) the list of IAS experts should be updated, and (4) the Recognition and Awards Committee work with the PI committee to publicize IAS award winners.

**Recognition and Awards**
Chair: Robert Carmichael

The committee met and discussed possible award winners. The only individual selected this year was Dr. Jay Kopp, Loras College, who received IAS Distinguished College Teaching Award.

**Student Programs**
Chair: Larry Schwingler

The committee worked with Peggy Tilgner, Director of the Iowa Junior Academy of Science, in soliciting and evaluating student research grants. Grants were made to the following students:

- **"Determination of Antibody Transfer in Newborn Lambs"** $200.00
  - Cameron Schmitt, Stuart-Menlo High School
- **"The Antibacterial Effects of Fruit Juices on Escherichia coli"** $175.49
  - Allison L. Erion, Marshalltown High School
- **"How do Different Concentrations of Various Metal Ions Affect the Population Growth of Daphnia magna?"** $200.00
  - Sarah E. Renze, Marshalltown High School
- **"Leafing Water Through Fly Ash and Cement Concrete"** $200.00
  - Cristi Taylor, Stuart-Menlo High School
- **"Effectiveness of Due-Made Ovine Ecthyma Vaccine Versus Pharmaceutical Ovine Ecthyma Vaccine in Sheep"** $200.00
  - Eric O'Brien, Stuart-Menlo High School
- **"The Effects of Common Agricultural Insecticides on Earthworm Populations"** $200.00
  - Timothy Ray O'Brien, Stuart-Menlo High School
- **"Use of Polyurethanes in Reducing Trihalomethane Levels Within Water Municipalities"** $200.00
  - Karin Wilhelm, Stuart-Menlo High School

The committee was involved in science fair activity through the state and several individuals were invited to give papers at the annual meeting. Scholarship awards in the amount of $500 each were made after these papers were judged which were given to:
- Sarah Renze, Marshalltown High School
- Karin Wilhelm, Stuart-Menlo High School

Representatives chosen for the AJAS trip to Boston, in February, 1993 were:
- Christine Michael, Marshalltown High School
- Marie J. Peleck, Marshalltown High School
- Students selected for the Governor's National Youth Science Camp were:
  - Taia Pals, Clinton High School
  - Thomas Kang Rhee, Pleasant Valley Community High School

Those selected for National Energy Institutes were:
- Argonne National Laboratory
- Brian Schuster, Cascade High School
- Brookhaven National Laboratory
- Lily Kim, Bettendorf High School
- Fermi National Accelerator Laboratory
- Mike Dawson, MFL Community Schools, Monona
- Lawrence-Berkeley Laboratory
- John Dohrman, Heelan High School, Sioux City
Alternate: Stephanie J. Franks, Lincoln H.S., Council Bluffs
Oak Ridge National Laboratory
Amy Dreyer, Farragut Community School
Alternate: Brent Buckalew, Hamburg High School
Sandia National Laboratory
Aaron Wilt, Westwood High School, Sloan
Several students were selected from Iowa high schools to receive the Outstanding Science Student Award and medallion.

The IJAS assisted in the Iowa Physics Olympics and support for student programs came from Pioneer Hi-Bred, Rolscreen Company, and the AAAS.

The committee also awarded three high school teachers and three students cash awards to recognize participation in science related activities.

### Excellence in Science Teaching Award

This program was directed by Dr. Roy Unruh of the University of Northern Iowa. Eight subcommittees reviewed several applicants and selected winners. The awards were not made at the Awards Luncheon at the Annual Meeting at Luther College. The names are given in the section on the program for the Annual Meeting.

### SECTION ACTIVITIES

The sections held sessions as part of the annual meeting. The response to calls for papers was down from previous years.

#### Iowa Science Teachers Fall Conference

The fall conference of the ISTS was held on October 22, 1992 at the Convention Center in Des Moines, Iowa. The attendance was improved over the previous year Details of the attendance appear in Table 4.

Convention speaker was Dr. Tik Liem of Science Inquiry Enterprises who presented his views on how to stimulate student interest in science.

#### Table 4. ISTS Fall Conference Attendance

<table>
<thead>
<tr>
<th>Registration</th>
<th>Pre-registration</th>
<th>Walk-in</th>
</tr>
</thead>
<tbody>
<tr>
<td>Members</td>
<td>408</td>
<td>49</td>
</tr>
<tr>
<td>Non-members</td>
<td>248</td>
<td>32</td>
</tr>
<tr>
<td>Students</td>
<td>66</td>
<td>7</td>
</tr>
<tr>
<td>Guests</td>
<td>4</td>
<td>-</td>
</tr>
<tr>
<td>Exhibitors</td>
<td>42</td>
<td>-</td>
</tr>
<tr>
<td><strong>Total Attendance</strong></td>
<td><strong>856</strong></td>
<td></td>
</tr>
</tbody>
</table>

*includes presenters

New Members (included in counts) - 119 (23 students; 94 professional)
Presenters - 113 (73 members; 40 nonmembers)
13 people attended only the workshops

### ADMINISTRATION

Administrative Assistant Doris Mitchell completed her 20th year of service to the Academy and continues providing excellent leadership. She assumed another half-time position in the University of Northern Iowa Museum during the spring semester, and now works for both organizations. This arrangement has worked well because Doris has been willing to work extra hours to make certain that IAS matters receive appropriate attention.

Student helpers Sara Paar and Kathy Rider both became graduates of the University of Northern Iowa in May. Kathy even managed to get married one week later (to UNI graduate Eric Haage from Des Moines). Both have taken full-time jobs in the area, but have continued to assist in our office as the need has arisen.

Executive Director Paul Rider completed his fifth year in his position and the first year on his present three-year appointment.

Dr. Peggy Tilgner of the Biology Department of Wartburg College had a productive year as Director of the Junior Academy. She attended the American Junior Academy of Science in Boston and accompanied our two young scientists who presented papers.

The membership voted to have all five appointed positions reviewed on a regular schedule, meaning the two journal editors will have their reviews in Spring, 1994, during the St. Ambrose meeting. The other three directors will be reviewed in 1995 at the Wartburg meeting.

### Facilities

The new suite of offices in Baker Hall at UNI continue to serve the Academy well. The conference room was used for board meetings and other uses.

### Grants

The Academy received a $1000 grant from the AAAS for IJAS activities. Pioneer Hi-Bred also supplied $5000 for these activities, which was a restoration to the amount they originally provided during the middle 1980s.

The Iowa Science Foundation grant from the state continues to be administered through the University of Northern Iowa. The amount of funds continues to be $40,000 per year.

The Elementary Science Teaching Section received an additional $6,000 grant from the Iowa Space Grant Consortium through the efforts of Dave Fagle and Gary Downs. These funds will continue paying dues for members as well as for publications of interest to that section.

The Iowa Science Teaching Section implemented the WEHOS Project using the $100,000 grant from the Roy J. Carver Trust of Muscatine, Iowa. Cherin Lee of UNI served as director and 53 teachers participated in a week long workshop on the UNI campus in June. They are not utilizing materials in their own teaching areas.

### Publications

The Journal of the Iowa Academy of Science was edited by Ken Wendorf, of Iowa State University. The calendar year 1992 Volume 99 was published in 3 issues. There were 17 articles and 111 pages by 30 authors.

The Iowa Science Teachers Journal was edited by Carl Bollwinkel with Volume 29, issues 1, 2, and 3 being published.

The publication of the IAS Bulletin did not occur during the year in order to save money, but will be reinstated to provide the membership with needed information. The IJAS Newsletter was not published but the SPARKS newsletter was edited by Suzanne Kelley of Meeker Elementary School in Ames, Iowa.

### National Activities

Executive Director Paul Rider represented the Iowa Academy of Science at the AAAS Meeting in February in Boston, Massachusetts. He attended meetings of the National Association of Academies of Science and Section Y of the AAAS.

### MEMBERSHIP

The membership data for the past five years are presented in Table 5. The latest membership figures show a decrease, which may in part be due to a drop in those we have counted as members of theQE (Elementary Science Teachers) Section.

The section membership figures are given in Table 6 for the current year.

### FINANCIAL REPORT

#### Balance Sheet

The balance sheet for the Iowa Academy of Science as a comprehensive organization (combined) as well as an operational unit (IAS) within that comprehensive organization is given in Table 7.

The net income loss for the IAS, discounting the built-in $30,000 deficit due to the artifact in the accounting system that treats the transfer of farm funds as a debit in the IAS account, becomes an actual positive gain, approaching $10,000. This is the difference between the built-in $30,000 deficit and the actual $20,052.88 deficit.

Total IAS assets remain strong for the IAS and the combined
Table 5. Membership 1989-93

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Member</td>
<td>1534</td>
<td>1715</td>
<td>1703</td>
<td>1739</td>
<td>1528</td>
</tr>
<tr>
<td>Student</td>
<td>146</td>
<td>187</td>
<td>181</td>
<td>179</td>
<td>170</td>
</tr>
<tr>
<td>Fellow</td>
<td>245</td>
<td>238</td>
<td>241</td>
<td>200</td>
<td>187</td>
</tr>
<tr>
<td>Life Member</td>
<td>47</td>
<td>46</td>
<td>46</td>
<td>46</td>
<td>45</td>
</tr>
<tr>
<td>Emeritus</td>
<td>97</td>
<td>94</td>
<td>99</td>
<td>98</td>
<td>104</td>
</tr>
<tr>
<td>Distinguished Fellow</td>
<td>25</td>
<td>26</td>
<td>27</td>
<td>28</td>
<td>29</td>
</tr>
<tr>
<td>Corporate</td>
<td>5</td>
<td>5</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>TOTAL</td>
<td>2099</td>
<td>2311</td>
<td>2299</td>
<td>2292</td>
<td>2065</td>
</tr>
</tbody>
</table>

Table 6. Membership by Section, June 30, 1993

<table>
<thead>
<tr>
<th>Relative Section Interest*</th>
<th>Agriculture (U)</th>
<th>Anthropology (H)</th>
<th>Botany (G)</th>
<th>Cellular/Molecular Biology (K)</th>
<th>Chemical Education (S)</th>
<th>Conservation (J)</th>
<th>Engineering (M)</th>
<th>Geology (E)</th>
<th>Inorganic, Analytical Physical Chemistry (C)</th>
<th>Linguistics (R)</th>
<th>Nursing (N)</th>
<th>Organic &amp; Biological Chemistry (D)</th>
<th>Physics (B)</th>
<th>Physiology (O)</th>
<th>Psychology (I)</th>
<th>Science Teaching (Q)</th>
<th>Earth Sci. Teaching (Qg)</th>
<th>Elementary Sci. Teaching (Qe)</th>
<th>Zoology (F)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(U)</td>
<td>145</td>
<td>41</td>
<td>241</td>
<td>(K)</td>
<td>(S)</td>
<td>(J)</td>
<td>(M)</td>
<td>(E)</td>
<td>(C)</td>
<td>(R)</td>
<td>(N)</td>
<td>(D)</td>
<td>(B)</td>
<td>(O)</td>
<td>(I)</td>
<td>(Q)</td>
<td>(Qg)</td>
<td>(Qe)</td>
<td>(F)</td>
</tr>
<tr>
<td>7.0</td>
<td>1.9</td>
<td>11.6</td>
<td>4.0</td>
<td>78.0</td>
<td>11.2</td>
<td>3.3</td>
<td>7.6</td>
<td>7.3</td>
<td>1.5</td>
<td>1.0</td>
<td>2.0</td>
<td>5.2</td>
<td>6.9</td>
<td>6.1</td>
<td>2.0</td>
<td>33.4</td>
<td>5.3</td>
<td>26.4</td>
<td>10.6</td>
</tr>
</tbody>
</table>

*Relative Section Interest is the percentage of all IAS members (2065) indicating a particular section interest.

companies. This was also helped by a bequest from the estate of Myrle Burke, of Waverly, who donated 5% of her estate ($50,000) to the IAS to establish an ornithology scholarship fund. The money was given to the IAS in the Spring of this year.

Table 7. Balance Sheet June 30, 1993

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>IAS Assets</th>
<th>COMBINED Assets</th>
</tr>
</thead>
<tbody>
<tr>
<td>Checking</td>
<td>$18,641.21</td>
<td>$163,685.64</td>
</tr>
<tr>
<td>Savings</td>
<td>29,483.58</td>
<td>29,483.58</td>
</tr>
<tr>
<td>Office Equipment</td>
<td>17,450.13</td>
<td>17,450.13</td>
</tr>
<tr>
<td>Accumulated Depreciation</td>
<td>(14,181.29)</td>
<td>(14,181.29)</td>
</tr>
<tr>
<td>Heritage Book Inventory</td>
<td>332.50</td>
<td>332.50</td>
</tr>
<tr>
<td>State Appropriation</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Swearshirt Inventory</td>
<td>369.50</td>
<td>390.20</td>
</tr>
<tr>
<td>Certificates, ISTS</td>
<td>1,908.41</td>
<td></td>
</tr>
<tr>
<td>Saylorville Gift Shop Inventory/Cash Box</td>
<td>1,159.54</td>
<td></td>
</tr>
<tr>
<td>Parish Farm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Deferred Coop Dividend</td>
<td>-</td>
<td>38,190.65</td>
</tr>
<tr>
<td>PIK Certificate Inventory</td>
<td>-</td>
<td>0.00</td>
</tr>
<tr>
<td>240 Acre Farm</td>
<td>-</td>
<td>66,550.00</td>
</tr>
<tr>
<td>TOTAL ASSETS</td>
<td>52,095.63</td>
<td>304,969.36</td>
</tr>
<tr>
<td>IAS Liabilities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Taxes Payable</td>
<td>$2,488.44</td>
<td>2,488.44</td>
</tr>
<tr>
<td>State Appropriations</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>TOTAL LIABILITIES</td>
<td>2,488.44</td>
<td>2,488.44</td>
</tr>
<tr>
<td>IAS Fund Balance</td>
<td>$33,288.96</td>
<td>$151,075.41</td>
</tr>
<tr>
<td>Unrestricted Fund Balance</td>
<td>16,318.25</td>
<td>81,404.43</td>
</tr>
<tr>
<td>Farm Transfer to IAS</td>
<td>35,000.00</td>
<td>35,000.00</td>
</tr>
<tr>
<td>Farm Transfer from Farm</td>
<td>-</td>
<td>(35,000.00)</td>
</tr>
<tr>
<td>ISTS Fund Balance</td>
<td>-</td>
<td>15,319.94</td>
</tr>
<tr>
<td>WHEOS (Carver) Project</td>
<td>-</td>
<td>54,681.16</td>
</tr>
<tr>
<td>TOTAL FUND BALANCE</td>
<td>$84,607.21</td>
<td>$302,480.94</td>
</tr>
<tr>
<td>IAS COMBINED</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Fund Balance</td>
<td>$84,607.21</td>
<td>$302,480.94</td>
</tr>
<tr>
<td>Net Income (Loss)</td>
<td>(20,052.88)</td>
<td>46,541.35</td>
</tr>
<tr>
<td>Total Equity</td>
<td>64,554.35</td>
<td>349,022.29</td>
</tr>
<tr>
<td>TOTAL EQUITY &amp; LIABILITIES</td>
<td>$67,042.77</td>
<td>$351,510.73</td>
</tr>
</tbody>
</table>

INCOME STATEMENT

Tables 8 and 9 show the income and expenses for the IAS portion of the combined organization. Dues and state aid provide the largest amounts of income for the organization. The state aid is primarily used

Table 8. IAS Income Allocation 1992-93

<table>
<thead>
<tr>
<th>INCOME</th>
<th>Amount</th>
<th>Publications</th>
<th>Programs</th>
<th>Meetings</th>
<th>Administration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corporate Gifts</td>
<td>$6,350.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dues</td>
<td>41,521.00</td>
<td>$2,528.73</td>
<td></td>
<td>2,076.75</td>
<td>$36,915.52</td>
</tr>
<tr>
<td>Individual Cont.</td>
<td>375.24</td>
<td></td>
<td></td>
<td>375.24</td>
<td>2,949.67</td>
</tr>
<tr>
<td>Interest/Dividends</td>
<td>2,949.67</td>
<td></td>
<td></td>
<td></td>
<td>6,133.93</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>6,133.93</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other Fees</td>
<td>3,276.50</td>
<td>1,475.00</td>
<td></td>
<td>1,801.50</td>
<td></td>
</tr>
<tr>
<td>Publications Sales</td>
<td>7,301.52</td>
<td>7,301.52</td>
<td></td>
<td></td>
<td>10,910.61</td>
</tr>
<tr>
<td>Registration Fees</td>
<td>5,073.00</td>
<td></td>
<td></td>
<td>4,887.00</td>
<td></td>
</tr>
<tr>
<td>Reimbursements</td>
<td>10,810.61</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reprint Sales</td>
<td>524.00</td>
<td>524.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>State Aid</td>
<td>49,754.39</td>
<td>9,950.88</td>
<td></td>
<td>39,803.51</td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td>$134,069.86</td>
<td>$21,780.13</td>
<td>$46,714.75</td>
<td>$8,765.25</td>
<td>$56,809.73</td>
</tr>
<tr>
<td>UNI Subsidy</td>
<td>16,042.31</td>
<td></td>
<td></td>
<td></td>
<td>16,042.31</td>
</tr>
<tr>
<td>TOTAL INCOME</td>
<td>$150,112.17</td>
<td>$21,780.13</td>
<td>$46,714.75</td>
<td>$8,765.25</td>
<td>$72,852.04</td>
</tr>
</tbody>
</table>
Table 9. Expense Allocation 1992-93

<table>
<thead>
<tr>
<th>EXPENSES</th>
<th>Amount</th>
<th>Publications</th>
<th>Programs</th>
<th>Meetings</th>
<th>Administration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accounting/Ins.</td>
<td>$ 3,032.25</td>
<td>$ 2,119.65</td>
<td></td>
<td></td>
<td>$ 3,032.25</td>
</tr>
<tr>
<td>Banquet/meals</td>
<td>2,119.65</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clerical</td>
<td>20,914.51</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equipment</td>
<td>0.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equipment Service</td>
<td>1,632.30</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grants</td>
<td>40,946.47</td>
<td>$ 40,646.47</td>
<td></td>
<td>1,387.00</td>
<td></td>
</tr>
<tr>
<td>Honoraria</td>
<td>29,084.41</td>
<td>$ 2,499.98</td>
<td>1,000.00</td>
<td></td>
<td>24,197.43</td>
</tr>
<tr>
<td>Misc. Expenses</td>
<td>5,975.88</td>
<td></td>
<td></td>
<td></td>
<td>5,975.88</td>
</tr>
<tr>
<td>Postage &amp; Shipping</td>
<td>8,735.98</td>
<td>1,540.02</td>
<td>909.92</td>
<td>832.99</td>
<td>5,435.05</td>
</tr>
<tr>
<td>Printing</td>
<td>28,361.01</td>
<td>17,633.11</td>
<td>2,126.97</td>
<td>3,165.16</td>
<td>5,435.77</td>
</tr>
<tr>
<td>Special Proj.</td>
<td>0.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supplies</td>
<td>4,673.94</td>
<td></td>
<td>1,020.62</td>
<td>230.72</td>
<td>3,422.60</td>
</tr>
<tr>
<td>Taxes</td>
<td>3,084.63</td>
<td></td>
<td></td>
<td></td>
<td>3,084.63</td>
</tr>
<tr>
<td>Telephone</td>
<td>298.23</td>
<td></td>
<td></td>
<td></td>
<td>298.23</td>
</tr>
<tr>
<td>Travel</td>
<td>5,265.48</td>
<td></td>
<td>2,660.98</td>
<td>1,029.73</td>
<td>1,572.77</td>
</tr>
<tr>
<td>TOTAL</td>
<td>$154,122.74</td>
<td>$21,673.11</td>
<td>$48,364.96</td>
<td>$8,765.25</td>
<td>$75,319.42</td>
</tr>
<tr>
<td>UNI Subsidy</td>
<td>$ 16,042.31</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL EXPENSES</td>
<td>$170,165.05</td>
<td>$21,673.11</td>
<td>$48,364.96</td>
<td>$8,765.25</td>
<td>$91,361.73</td>
</tr>
<tr>
<td>TOTAL INCOME</td>
<td>$150,112.17</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 10. Combined Income Allocation 1992-93

<table>
<thead>
<tr>
<th>INCOME</th>
<th>Amount</th>
<th>IAS</th>
<th>ISTS</th>
<th>PARISH FARM</th>
<th>GRANTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corporate Gifts</td>
<td>$ 6,350.00</td>
<td>$ 6,350.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dues</td>
<td>41,521.00</td>
<td>41,521.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parish Farm</td>
<td>111,736.03</td>
<td></td>
<td></td>
<td>$111,736.03</td>
<td></td>
</tr>
<tr>
<td>Grants</td>
<td>51,099.75</td>
<td></td>
<td></td>
<td></td>
<td>$51,099.75</td>
</tr>
<tr>
<td>Individual Cont.</td>
<td>375.24</td>
<td>375.24</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interest/Dividends</td>
<td>5,774.42</td>
<td>$2,949.167</td>
<td>$ 481.72</td>
<td>605.36</td>
<td>1,737.67</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>18,945.93</td>
<td>6,133.93</td>
<td>11,662.75</td>
<td>1,092.00</td>
<td></td>
</tr>
<tr>
<td>Other Fees</td>
<td>3,276.50</td>
<td>3,276.50</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Publications Sales</td>
<td>7,301.52</td>
<td>7,301.52</td>
<td></td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td>Registration Fees</td>
<td>27,197.00</td>
<td>5,073.00</td>
<td>22,124.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reimbursements</td>
<td>10,810.61</td>
<td>10,810.61</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reprint Sales</td>
<td>524.00</td>
<td>524.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>State Aid</td>
<td>49,754.39</td>
<td>49,754.39</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td>$334,666.39</td>
<td>$134,069.86</td>
<td>$34,268.47</td>
<td>$113,433.39</td>
<td>$52,837.42</td>
</tr>
<tr>
<td>UNI Subsidy</td>
<td>$ 16,042.31</td>
<td>$ 16,042.31</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL INCOME</td>
<td>$350,708.70</td>
<td>$150,112.17</td>
<td>$34,268.47</td>
<td>$113,433.39</td>
<td>$52,837.42</td>
</tr>
</tbody>
</table>
Table 11. Combined Expense Allocation 1992-93

<table>
<thead>
<tr>
<th>EXPENSES</th>
<th>Amount</th>
<th>IAS</th>
<th>ISTS</th>
<th>PARISH FARM</th>
<th>GRANTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accounting</td>
<td>$3,038.53</td>
<td>$3,032.25</td>
<td>$6.28</td>
<td></td>
<td>$6.28</td>
</tr>
<tr>
<td>Banquet/meals</td>
<td>12,429.23</td>
<td>2,119.65</td>
<td>$10,231.78</td>
<td></td>
<td>77.80</td>
</tr>
<tr>
<td>Clerical</td>
<td>20,914.51</td>
<td>20,914.51</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contract Services</td>
<td>0.00</td>
<td>0.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equipment</td>
<td>0.00</td>
<td>0.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equipment Service</td>
<td>1,632.30</td>
<td>1,632.30</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parish Farm</td>
<td>56,179.07</td>
<td></td>
<td>$56,179.07</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grants</td>
<td>40,946.47</td>
<td>40,946.47</td>
<td>4,005.54</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Misc. Expenses</td>
<td>17,552.30</td>
<td>5,975.88</td>
<td>4,005.54</td>
<td>5,715.65</td>
<td></td>
</tr>
<tr>
<td>Postage/Shipping</td>
<td>9,625.81</td>
<td>8,735.98</td>
<td>889.83</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Printing</td>
<td>33,206.64</td>
<td>28,361.01</td>
<td>4,845.63</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Special Proj.</td>
<td>500.00</td>
<td>0.00</td>
<td>500.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supplies</td>
<td>47,253.21</td>
<td>4,673.94</td>
<td>4,845.63</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Taxes</td>
<td>3,084.63</td>
<td>0.00</td>
<td>500.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Telephone</td>
<td>1,080.43</td>
<td>298.23</td>
<td>782.20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Travel</td>
<td>7,591.96</td>
<td>2,328.48</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL UNI Subsidy</td>
<td>$16,042.31</td>
<td>$16,042.31</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL EXPENSES</td>
<td>$304,167.35</td>
<td>$170,165.05</td>
<td>$30,724.50</td>
<td>$56,179.07</td>
<td>$47,098.73</td>
</tr>
<tr>
<td>TOTAL INCOME</td>
<td>$350,708.70</td>
<td>$150,112.17</td>
<td>$34,268.47</td>
<td>$113,433.39</td>
<td></td>
</tr>
<tr>
<td>NET INCOME (LOSS)</td>
<td>$46,541.35</td>
<td>(20,052.88)</td>
<td>$3,543.97</td>
<td>$57,254.32</td>
<td>$5,744.97</td>
</tr>
</tbody>
</table>

The goal of the annual meeting paying for itself is still illusive but could be realized through careful planning and the cooperation of the host institution. Registration fees for the meeting will remain at their present level for the time being, although these may require an increase in the near future.

Restricted Assets

Table 12 shows the restricted assets of the Academy. These are distributed among three funds. The Life Member Fund is in a different investment program (Merrill-Lynch Capital Fund) that provides ongoing operating income for the IAS budget as well as reinvestment of income to make the fund grow.

The Savings listed are in reserve funds to be used in emergencies associated with possible drops in farm income or other unanticipated situations. There is also a Merrill-Lynch cash management fund that allows the office to respond to cash flow needs (in addition to a local checking account at Norwest Bank in Cedar Falls). The CMA fund usually has $5,000 to $10,000 in it.

The amounts listed are based on the market value of the Merrill-Lynch funds in which the money is invested, as of June, 1992. These amounts may shift as the market experiences change.

ACADEMY LEADERSHIP 1992-93

Officers

President - William Deskin, Mount Vernon
President-elect - Jean C. Prior, Geological Survey Bureau/DNR
Past President - Luther E. Erickson, Grinnell College
Executive Director - Paul E. Rider, University of Northern Iowa

Table 12. Restricted Assets

<table>
<thead>
<tr>
<th>Investment</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Life Member Fund</td>
<td>$8,756.00</td>
</tr>
<tr>
<td>Hanson Publication Fund</td>
<td>$4,450.08</td>
</tr>
<tr>
<td>Savings</td>
<td>$19,871.06</td>
</tr>
<tr>
<td>Total</td>
<td>$53,077.14</td>
</tr>
</tbody>
</table>

The Savings listed are in reserve funds to be used in emergencies associated with possible drops in farm income or other unanticipated situations. There is also a Merrill-Lynch cash management fund that allows the office to respond to cash flow needs (in addition to a local checking account at Norwest Bank in Cedar Falls). The CMA fund usually has $5,000 to $10,000 in it.

The amounts listed are based on the market value of the Merrill-Lynch funds in which the money is invested, as of June, 1992. These amounts may shift as the market experiences change.

Directors

Marilyn D. Bachmann, Iowa State University
Paul L. Garvin, Cornell College
Bill Gilbert, Simpson College
Connie Mutel, University of Iowa
Dean Hartman, Grant Wood AEA, Cedar Rapids
Roy D. Unruh, University of Northern Iowa
Associate Director of Meetings and Programs
Gary E. Downs, Iowa State University
Director, Iowa Junior Academy of Science
Peggy Tilgner, Wartburg College
Director, Excellence in Science Teaching Award Program
Roy Unruh, University of Northern Iowa
Editor, IOWA SCIENCE TEACHERS JOURNAL
Carl Bollwinkel, Price Laboratory School, University of Northern Iowa
Editor, JOURNAL OF THE IOWA ACADEMY OF SCIENCE
Kenneth E. Windom, Iowa State University
Editor, S.P.A.R.K.S. Newsletter
Suzanne Kelly, Meeker Elementary, Ames

Committee on Committees
Alex C. Prior (Chair), Iowa Geological Survey Bureau/DNR
A.H. Epstein, Iowa State University
Charles C. Wunder, Iowa City
Carl Bollwinkel, University of Northern Iowa
Laverne H. Durkee, Grinnell College
Paul Christiansen, Cornell College
James G. Macmillan, University of Northern Iowa
Board Liaison: Jean C. Prior

Conservation and Preserves Committee
Lois H. Tiffany (chair), Iowa State University
John Pearson, Iowa Department of Natural Resources
ANNUAL REPORT 1992-1993

G. Edgar Folk, University of Iowa
Dennis Keeney, Iowa State University
William Green, University of Iowa
Richard C. Schultz, Iowa State University
Neil P. Bernstein, Mt. Mercy College
Board Liaison: Connie Mutel

Controversial Issues Committee
Edwin C. Powell (chair), Iowa State University
Gerald R. Walsh, Dubuque
Dave Erkenbrack, Central College
Danny D. McLaughlin, Peosta
Richard L. Penney, Iowa Department of Public Health
Donald M. Huffman, Central College
Board Liaison: Marilyn Bachmann

Education Committee
Richard Kruse (chair), Ankeny
Vince Mahoney, Iowa Wesleyan College
Peggy Steffen, Ottumwa High School
Louise Zaffiro, Central College
C. David Christensen, Cedar Falls
David L. Fagle, Marshalltown
W. Tony Heiting (ex-officio), Iowa Department of Education
Larry Schwingert (ex-officio), Stuart-Meno High School
Peggy Tilgner (ex-officio), Wartburg College
Board Liaison: Dean Hartman

Editorial Review Board (JOURNAL OF THE IOWA ACADEMY OF SCIENCE)
Kenneth E. Windom (Editor), Iowa State University
Paul E. Rider (Managing Editor), University of Northern Iowa

Associate Editors
Louis B. Best, Iowa State University
Donald R. Farrar, Iowa State University
Bruce Friedrich, University of Iowa
Paul Garvin, Cornell College
William D. Klipke, Drake University
Richard Shibles, Iowa State University
Nixon Wilson, University of Northern Iowa

Editorial Staff (IOWA SCIENCE TEACHERS JOURNAL)
Carl W. Bollwinkel (Editor), Price Laboratory School, UNI
Marjorie F. Vargas (Copy Editor), University of Northern Iowa
Paul E. Rider (Managing Editor), University of Northern Iowa
Paul Joslin, Drake University
Laurence A. Hutzel, East High School
Gary Downs, Iowa State University
Darrel Hoff, Cambridge, MA
Norris M. Durham, University of Northern Iowa
Francis C. Peterson, Iowa State University

Contributed Papers
All abstracts of contributed papers received on time for the 1993 meeting were printed in an abstract booklet which is available from the IAS Office upon request.

Election Committee
Luther Erickson (chair), Grinnell College
Edward P. Finnerty, University of Osteopathic Medicine and Health Science, Des Moines
Edward A. Peterson, Des Moines School District
Jean C. Prior, Geological Survey Bureau, Iowa City
John B. Cook, AEA 6, Marshalltown

Clayton Swenson, Iowa State University
Board Liaison: Luther Erickson

Finance Committee
Burton Loupee (chair), Cedar Rapids
J. Bruce Holmquist, Loox Hills AEA, Council Bluffs
Samuel J. Tuthill, Amana
Roger Yager, University of Iowa
Richard W. McGaughy, Cedar Rapids
Board Liaison: Luther Erickson

Iowa Science Foundation Committee
Warren D. Dolphin (chair), Iowa State University
Jeffry Schabilion, University of Iowa
Dave Hampton, Wartburg College
Donald J. Perschau, Waukee
Bruce W. Menzel, Iowa State University
D. C. Spriestersbach, University of Iowa
Board Liaison: Connie Mutel

Membership Committee
David J. Roslien (chair), Luther College
Joseph Claflin, Morningside College
Robert Wilson, Belmond High School
James Walters, University of Northern Iowa
Margaret Dadeghpour, Martelle
Ruth W. Swenson, Ames
Board Liaison: Bill Gilbert

Parish Farm Committee
Carol Thompsom (chair), Geological Survey Bureau
Richard B. Hall, Iowa State University
Benjamin F. Graham, Grinnell College
Gerald Toomire, Des Moines
Stephen K. Barnhart, Iowa State University
David Dozark, Iowa City
Board Liaison: Paul Garvin

Public Information Committee
Jim Christiansen (chair), Drake University
George Magrane, Ottumwa
Bill Klein, Sioux City
Sally D. Hinz, Long Grove
Terry L. Jenkins, Divine Word College
Board Liaison: Dean Hartman

Recognition and Awards Committee
Robert Carmichael (chair), University of Iowa
Martha Craft, University of Iowa
Edward A. Peterson, Des Moines School District
Richard Wacha, Drake University
Judith F. Harrington, University of Northern Iowa
John W. Patterson, Iowa State University
Charlie A. Martinson, Iowa State University
George Knaphus, Iowa State University
Roy D. Unruh (ex-officio), University of Northern Iowa
Board Liaison: Bill Deskin

Student Programs Committee
Larry Schwingert (chair), Stuart-Meno High School
Cherin Lee, University of Northern Iowa
Karen Murphy, Des Moines
Cathy Wilson, University of Iowa
Ed Brown, Bondurant
Walter Reemtsma, Laiing Middle School, Algona
W. Tony Heiting (ex-officio), Iowa Department of Education
Peggy Tilgner (ex-officio), Wartburg College
Board Liaison: Roy Unruh