

## MINUTES OF THE SIXTY-SEVENTH ANNUAL MEETING OF THE SOUTH DAKOTA ACADEMY OF SCIENCE

The Sixty-seventh Annual Meeting of the South Dakota Academy of Science was held at Augustana College, Sioux Falls, S. D.

The meeting was called to order by President Harry Hecht, S.D.S.U., at 10:00 A.M., Friday, April 24, 1982 in the auditorium of Gilbert Science Center on the campus of Augustana College. An address of welcome to the campus was presented by Augustana's President, Dr. William Nelson. Dr. Theodore Van Bruggen, Department of Biology of The University of South Dakota, presented the presidential address titled "The South Dakota Landscape—Past and Future."

Wayne Houtcooper presented a brief program on the work of the South Dakota Natural Heritage Program.

Dr. Robert Greenler, Professor of Physics at The University of Wisconsin - Milwaukee presented the annual Academy address on Friday evening. He spoke on the many beautiful sky effects as the result of the interaction of sunlight with minute ice crystals falling through the air in his address entitled "Sunlight, Ice Crystals, and Sky Archeology."

Separate business meetings were held by the Collegiate and Junior Academies and their reports are included under committee reports.

The Annual Business Meeting was called to order by President Harry Hecht at 10:00 A.M. on Saturday, April 24, 1982. Following the reports and elections, the gavel of office was presented to the president elect, Theodore Van Bruggen.

The 1983 annual meeting will be held on April 22 and 23 at the South Dakota School of Mines and Technology, Rapid City.

### COLLEGIATE COMMITTEE REPORT

The collegiate section of the SDAS met concurrently with the junior and senior sections of the Academy at Augustana College on April 23 and 24, 1982, in the Gilbert Science Center.

The collegiate and senior sections of the SDAS were consolidated into a joint presentation program for the first time in its sixty-six year history. For this reason, most of the collegiate section material was handled through the office of the secretary-treasurer

of the senior division. In March, the collegiate section president sent out a letter to all South Dakota colleges and universities reminding students and advisors of the deadline for submitting abstracts.

Ten collegiate division papers were presented at the 1982 meeting.

A business meeting followed the paper presentations at 4:30. No officers were elected for the 1983 collegiate section since no college students from the host institution for 1983 were present. It was agreed to contact the South Dakota School of Mines and Technology and have someone appointed president for next year.

It was further agreed to continue consolidating the collegiate and senior sections for next year. The suggestion was made to critique the collegiate papers for next year to enhance the learning process, and give the students some constructive criticism to improve their presentations.

Respectfully submitted,  
Craig Uthe, President  
John Ekstrand, Vice-President  
South Dakota Academy of Science,  
Collegiate Section

### JUNIOR ACADEMY REPORT

A total of forty-nine papers from ten schools were presented. One hundred eighteen students attended the activities of the Junior Academy. The following are the 1982-1983 ties of the June Academy. The following are the 1982-1983 officers of the Academy: Steve Kurtenbach, Brookings, president; Sean Todd, Brookings, vice president; and Marita Yeager, Brookings, secretary-treasurer. The outstanding papers were read by Todd Kolbeck, Rapid City Central, and Tamara Poling, Vermillion. The Tri-State Symposium presenters in November, 1982 will be David Wheeler and John Harnash from Rapid City Central and Megan Bennett of Belle Fourche.

Senior Academy members were encouraged to enlist the schools in their areas for the activities of the Junior Academy.

Respectfully submitted:  
Ron Fahy, Joyce Gawell,  
Jerry Loomer, Roy Rissky,  
Robert Waddell, Marvin Selnes

### REPORT OF THE NOMINATIONS COMMITTEE

#### 1982-1983 Officers:

President .....Ted Van Bruggen, USD  
President-elect .....Cliff Lewis, SFC  
1st Vice President .....Maureen Diggins, Augustana  
2nd Vice President .....Don Hopkins, SDSM&T  
Secretary-Treasurer .....Peter Maldonado, USD  
Editor .....Carroll Hanten, Onida

#### Executive Committee — Members at Large:

Warren Hein, SDSU .....term expires in 1983  
J. Haworth Jonte, SDSM&T .....term expires in 1983  
Laird Hartman, USD/S .....term expires in 1984  
Robert Tatina, DWU .....term expires in 1984

#### Membership Committee:

Nels Granholm, SDSU  
John Naughten, NSU  
James Patterson, SDSM&T  
Dennis Skaland, USD/S

#### Collegiate Committee:

Anthony Duben, SDSM&T  
Royce Engstrom, USD  
Gary Peterson, SDSU  
Duane Dolejsi, NSU

#### Junior Academy Committee:

Jerry Loomer, RC Central  
Bob Waddell, Belle Fourche  
Frances Vandel, Newell  
Marvin Selnes, SF  
Vijaya Ramakrishnan, RC Central  
Ron Fahy, Belle Fourche  
Joyce Gawell, Brookings  
Pat Cheesman

Respectfully submitted:  
James Schmulbach, David Hildebrand,  
Marvin Hanson, Laird Hartman,  
John Fitzgerald

### REPORT OF THE MEMBERSHIP COMMITTEE

The Membership Committee recommends to the Academy approval of all eighteen applications for new membership.

Respectfully submitted:  
Keith Perkins, Stephen Metzner,  
Nels Granholm, John Fitzgerald,  
Tim Modde

### RESOLUTIONS COMMITTEE

The members of the South Dakota Academy of Science wish to express their appreciation to Dr. William Nelson, President of Augustana College, for making the facilities of Augustana available for this meeting.

The members of the Academy likewise express their thanks to Dr. Harold Foss and the other members of the local arrangements committee for making the necessary arrangements which have allowed this meeting to proceed smoothly and successfully.

Appreciation is expressed to Mr. Marvin Selnes, Chairman of the Junior Academy Committee, and to committee members Ron Fahey, Joyce Gawell, Jerry Loomer, Bob Waddell and Roy Rissky for their efforts in making once again the Junior Academy Sessions an outstanding part of our annual meeting.

Appreciation is also expressed to Chairman Wayne Dorband of the Collegiate Committee and to the other committee members for their efforts which ensured the success of the Collegiate Section sessions.

We wish to express our sincere thanks to Dr. Robert Greenler of the University of Wisconsin - Milwaukee for his outstanding address, "Sunlight, Ice Crystals, and Sky Archeology," delivered to the Academy on Friday evening.

Finally, we wish to express our appreciation and thanks to all those Academy members, officers, and especially to Dr. Harry Hecht, Academy President, and Dr. Peter Maldonado, Academy Secretary, who by their unselfish service have contributed to the success of this sixty-seventh annual meeting of the South Dakota Academy of Science.

#### ANSWER TO THE 1981 SOUTH DAKOTA ACADEMY OF SCIENCE RESOLUTION

Committee Members: William Wadsworth, Arie Gaalswyk,  
James Patterson, Frank Einhellig

The following recommendations, we believe, meet the intent of the resolution:

1. It is recommended that as a first step a directory of scientists be compiled.
2. The directory would list both members and non-members of the Academy (both academic and non-academic) who are engaged in any aspect of science, engineering and technology.

3. Besides names, the directory should include backgrounds and areas of expertise, particularly those areas in which the person listed would feel competent to act as a consultant.
4. To compile the list, a standard form would be drawn up. Distribution would be to all Academy members and to those recommended by Academy members. The aid of directors of research or other appropriate personnel would be sought both on college campuses and in industrial organizations.
5. Upon completion of the directory, copies would be distributed to:
  - The appropriate legislative committees
  - The Governor's office
  - The Board of Regents
  - Consulting firms
  - Appropriate lobbyists
  - Civil defense authorities
  - Chambers of commerce
  - Senators and Representatives
6. If accepted, we recommend that a standing committee be appointed whose duty it would be to carry out the directives outlined.
7. We propose that the Academy set aside funds for the project and that State aid be sought. As a first step an estimated cost would be determined.
8. The ultimate aim of the project is the establishment of a Statewide Research Institute. The purpose of the Institute would be to provide ready access to scientific expertise to citizens and State government.

#### RESOLUTION ON FORCED TEACHING OF CREATIONIST BELIEFS IN PUBLIC SCHOOL SCIENCE EDUCATION

The following resolution was passed by the Academy at its business meeting:

"WHEREAS it is the responsibility of the South Dakota Academy of Science to preserve the integrity of science, and

WHEREAS science is a systematic method of investigation based on continuous experimentation, observation, and measurement leading to explanations of natural phenomena, explanations which are continuously open to further testing and change, and

WHEREAS the theory of evolution fully satisfies these criteria, irrespective of remaining debates concerning its detailed mechanisms, and

WHEREAS the South Dakota Academy of Science respects the right of people to hold diverse beliefs about creation, and

WHEREAS some creationist groups are attempting to impose beliefs represented as science, that are not based upon the scientific method of inquiry as science, upon teachers and students to the detriment and distortion of public education in the United States,

BE IT RESOLVED that because 'Creationist Science' is not scientifically valid, and should not be taught as science, and further, that the South Dakota Academy of Science views legislation requiring 'Creationist Science' to be taught in public schools as a threat to the integrity of education and the teaching of science, and

BE IT FURTHER RESOLVED that the South Dakota Academy of Science urges citizens, educational authorities, and legislators to oppose any legislation which requires compulsory inclusion in science education curricula of 'Creationist Science' or any other beliefs that are not amenable to the process of scrutiny, testing, and revision that is indispensable to science."

### SOUTH DAKOTA ACADEMY OF SCIENCE STATEMENT OF RECEIPTS AND DISBURSEMENTS

For the Year Ending March 31, 1982

Receipts .....	\$4,223.43	
Disbursements:		
Academy Proceedings .....	\$1,332.80	
Senior Academy .....	1,466.98	
Junior Academy		
Awards .....	\$900.00	
Other .....	117.30	
	1,017.30	
USD Account .....	800.00	
Supplies and Repair .....	226.14	
Miscellaneous .....	52.24	4,895.46
	1,095.48	
Excess of Disbursements over Receipts .....	(\$ 672.03)	
Cash Balance, April 1, 1981 .....	2,791.76	
	2,119.73	
Cash Balance, March 30, 1982 .....	\$2,119.73	
	Balance Sheet	
	March 31, 1982	
Assets:		
Cash on Hand .....		\$2,119.73

USD Account .....	132.93
Certificate of Deposit .....	1,785.52
Passbook Savings (Interest added during year: \$31.41) .....	606.03
	2,524.48
Total Assets .....	\$4,644.21

### REPORT OF THE AUDITING COMMITTEE

The committee has audited the records and finds them in order. We wish to make two recommendations:

1. That the checking account be transferred to a bank that does not assess service charges. The secretary can transfer from savings to maintain a minimum balance as necessary.
2. That when Savings Certificate #19074, face value \$1785.52, matures on 10/8/82, it be reinvested in the most advantageous manner.

C. L. Hills, Gary Peterson, Alan Ward

## GUY O. KARNES

Guy Otwell Karnes was born May 24, 1902, in Emigrant, Mont., son of Francis Marion and Kate (Otwell) Karnes. He was graduated from McKendree College, Lebanon, Ill., in 1925. He received his master's degree from South Dakota State College, Brookings, in 1953, and took additional graduate work at the University of Illinois, University of Minnesota and University of South Dakota. After teaching in Northfield, Minnesota, for several years, he moved to Brookings in 1945 where he taught chemistry and physics until his retirement in 1970.

While in Brookings, Mr. Karnes started the FISH program and served as chairman until 1979; he was instrumental in organizing the Brookings Blood Bank and served as president. He was also active in the Red Cross, serving on the county board, and started the Brookings County Transportation Service for senior citizens.

In 1958, Mr. Karnes was named "Man of the Year" by the Brookings Chamber of Commerce. He was presented the Distinguished Service Award by South Dakota State University in 1964, and the Liberty Bell Award in 1970 from the Brookings County Bar Association. He is listed in "Who's Who in South Dakota" and "Who's Who in the Midwest." In 1962 he was one of two men in the United States to be honored by the National Junior Engineering Technical Society.

He was a member of the South Dakota Education Association, National Education Association, Minnesota Academy of Science and the South Dakota Senior Academy of Science, also serving on the Junior Academy Committee. In 1950 he was honored by the Vermillion Chapter of the American Chemical Society, and in 1960 he received a certificate of merit from the South Dakota School of Mines and Technology.

In 1962 he was elected to membership in the Beadle Club, an organization of men who have been honored for outstanding educational contributions in South Dakota.

He was a member of First Methodist Church in Brookings, serving as Sunday School teacher, chairman of the board of trustees, member of the administration board and taught at Lake Poinsett Methodist Camp. He and his wife served as counselors of the Brookings Methodist Youth Fellowship.

Educating until the very end, Guy Karnes died at his daughter's home in Berlin, Wisc., on Feb. 9, 1981.

It is seldom society is blessed with an educator who is so proficient and dedicated as Guy Karnes. To speak with him was an experience that was forever cherished since in all his actions, he demonstrated a real concern for the welfare of mankind.

## 1982 MEMBERSHIP LIST

The letters in parentheses following the names indicate: A, Mathematics; B, Physics; C, Chemistry; D, Biology (includes Zoology, Botany, Physiology, Psychology, Bacteriology, Health, Biochemistry, Wildlife, Nutrition and Philosophy); E, Geology; F, Agriculture (includes Agronomy, Poultry Science, Dairy Science, and Animal Science); G, Engineering (includes Metallurgy); H, English; and J, Administrative. \*Life members.

### SENIOR ACADEMY

#### Life Members

Beaty, Marjorie  
Cobb, Henry V.  
Delzell, Mark W.  
Dillon, Raymond D. (D)  
Ekman, W. E.  
Froemke, John  
Goodell, Harold B.  
Green, Morton  
Grieb, Edna  
Gries, John Paul  
Halsted, Al  
Hilpert, Marion (D)  
Johnson, Elmer R. (C)  
Klug, Harlan (C)  
Kohlmeyer, William  
Landborg, Richard John  
Martin, W. J.  
Loomer, Jerry E.  
Moller, G. I.  
McGregor, Ralph H.  
Nelson, Ronald  
Olson, Oscar E. (C)  
Partlo, Fay L.  
Pengra, Robert (D)  
Semeniuk, George (D)  
Sidlo, Charles  
Taylor, Charles, Jr. (D)  
Van Bruggen, Theodore (J)  
Vaughn, Charles  
Webster, Victor (C)  
Willard, John W.  
Wingfield, Frank

#### Augustana College

Blankespoor, Gilbert (D)  
Diggins, Maureen (D)  
Foss, Harold (D)  
Froiland, Gordon S. (D)  
Gaalswyk, Arie (A)  
Hanson, Milton P. (C)  
Johnson, Leland G. (D)  
Kintner, Robert Roy (C)  
Prescott, Lansing M. (D)  
Rogers, Dilwyn J. (D)  
Sigurdson, Orville S.

Thompson, J. D.  
Vander Lugt, Karel (B)

#### Dakota State College

Buckman, Robert (D)  
Hall, Vincent A. (D)

#### Dakota Wesleyan University

Houk, William F.  
McVarish, Donald  
Tatina, Robert

#### Huron College

Hanson, Marvin (B)

#### Mt. Marty College

Bowers, James R.  
Kilzer, S. Laetitia (C)  
Rasmussen, James

#### Northern State College

Benton, D. C.  
Dolejsi, Duane A. (B)  
Fries, James F. (J)  
Hart, E. Blake (B)  
Karim, M. Raj (D)  
Naughten, John C.  
Rehfeld, Dwayne W. (C)  
Roberts, R. Evelyn (D)  
Tallman, Dan

#### Sioux Falls College

Klawiter, W. F. (B)  
Lewis, L. C. (C)  
Niemeck, Richard A.  
Perkins, Keith III

#### South Dakota School of Mines and Technology

Ballew, David Wayne (A)  
Bjork, Philip R. (E)  
Duben, Anthony (C)  
Fitzgerald, John J. (C)  
Hodgins, Larry A. (C)  
Hopkins, Don C. (B)  
Howe, S. Marmion (D)

**South Dakota School of Mines**

Jonte, J. Haworth  
 Macdonald, James Reid (E)  
 Martin, James E. (E)  
 Mickelson, John C.  
 Patterson, James D. (B)  
 Pinsof, John (E)  
 Redin, Robert Daniel (B)  
 Whitworth, Clarence

**University of South Dakota/  
Springfield**

Foss, Michael D. (B)  
 Hartman, Laird M.  
 Hempel, Robert (D)  
 Jennewein, Shirley  
 Oldewurtel, Lawrence  
 Skailand, Dennis A.

**South Dakota State University**

Barnes, Tom (D)  
 Berg, Sherwood O.  
 Boe, Arvid (D)  
 Brandwein, Bernard J. (C)  
 Carson, Martin L. (D)  
 Chen, Chen H. (D)  
 Duimstra, Julie R.  
 Embry, Lawrence  
 Emerick, Royce J. (D)  
 Fine, Lawrence (D)  
 Fransen, Steven C. (D)  
 Gardner, Wayne S. (D)  
 Gednalske, Joseph  
 Graetzer, Hans G.  
 Granholm, Nels H. (D)  
 Grove, John A.  
 Halverson, Andrew W.  
 Haertel, Lois (D)  
 Hecht, Harry G. (C)  
 Heilman, Terril (D)  
 Hein, Warren  
 Hildebrand, David C. (C)  
 Holden, David J. (D)  
 Horton, Leah (B)  
 Hubbard, Daniel E. (D)  
 Huggins, Ernest (D)  
 Hutcheson, H. L.  
 Islam, Dara T. (D)  
 Jensen, William P. (C)  
 Kamstra, Leslie D. (F)  
 Larson, Gary E. (D)  
 Linder, Raymond (D)  
 Matthees, Duane (C)  
 McMullen, Charles (D)  
 Miller, Eugene L.  
 Morgan, Walter (D)  
 Myers, Gerald A. (D)  
 Ness, Steve (B)  
 Palmer, Ivan S. (C)

Peterson, Gary B. (D)  
 Scalet, Charles G. (D)  
 Smolik, James D. (D)  
 Spinar, Leo H.  
 Thiex, Nancy J. (C)  
 Tunheim, Jerald A. (B)  
 Wadsworth, William (C)  
 Walstrom, R. J.  
 White, Everett M. (D)  
 Wilkin, Peter (D)  
 Wynia, Richard (D)

**University of South Dakota/  
Vermillion**

Brady, Frank O. (D)  
 Coker, E. Howard (C)  
 Day, Frances A. (D)  
 Dunlap, Donald G. (D)  
 Einhellig, Frank A. (D)  
 Engstrom, Royce C. (C)  
 Estee, Charles R. (C)  
 Hastings, David (D)  
 Hoffman, William L.  
 Karantinos, Andrew E. (A)  
 Lair, Alan V. (A)  
 Maldonado, Peter (C)  
 Metzner, Stephen R. (D)  
 Minneroth, Doris  
 Peanasky, Robert J. (D)  
 Raab, Wallace A.  
 Schmulbach, James C. (D)  
 Schutte, William (C)  
 Scott, George P.  
 Small, Gary D. (D)  
 Stoner, M. Robert (C)  
 Thomas, John A. (C)

**High School Teachers**

Fahy, Ronald  
 Gaines, Roberta K.  
 Gawell, Joyce  
 Hanten, Carroll  
 Landegent, John  
 Martin, James M.  
 Ramakrishnan, Vijaya  
 Rissky, Roy W.  
 Selnes, Marvin D.  
 Vandel, Frances  
 VanderZee, Chester  
 Waddell, Robert  
 Ward, Alan B.

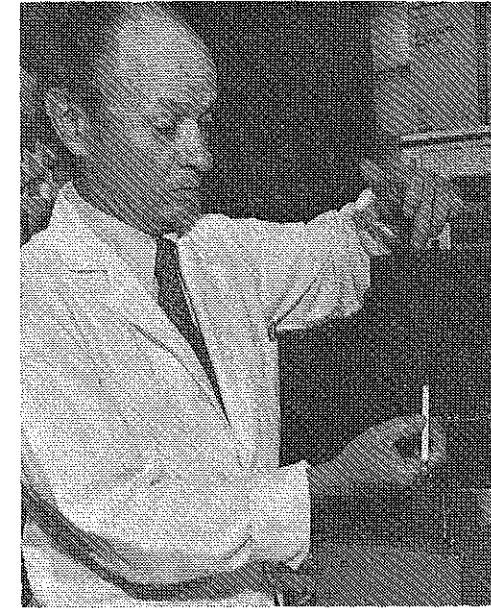
**General Classification**

Bauer, Stephen R.  
 Chace, G. Earl  
 Clark, Dennis  
 Coffman, Charles C.  
 Dell'Aquila, Joseph R.  
 Disrud, Dennis T.

**General Classification (Cont.)**

Duffey, Lowell M.  
 Hanten, Robert  
 Houtcooper, Wayne C.  
 Ideker, Joseph  
 Jaqua, Mary Jo  
 Jung, Jeffrey  
 Kawatski, Joseph A.  
 Kreber, Robert A.  
 Leroux, Edmund F.  
 Miller, Eugene L.

Mosca, Gene  
 Ode, David J. (D)  
 Oleson, Carol Cecil  
 Peter, Kathy Dyer (E)  
 Rahn, Perry H. (E)  
 Rogers, Deborah  
 Stanhope, Russell  
 Struempfer, Arthur W.  
 Thomas, Howard M.  
 Tichy, Jerome J.  
 Vandel, George



The South Dakota Academy of Science is pleased to announce that the 1982 (volume 61) Proceedings of the Academy is dedicated to Dr. Willard O. Read.

Dr. Willard O. Read, former Chairman of the Department of Physiology and Pharmacology at the University of South Dakota, Vermillion was an Editor of The Proceedings from 1963 to 1972; his unflagging zeal for the task and insistence on quality research reporting stands unmatched in the history of the Proceedings.<sup>1</sup>

In a professional career spanning 32 years, Bill was always deeply involved in his discipline and with The University of South Dakota School of Medicine. He was honored three times for his teaching; first in 1971 (Distinguished Professor Award), in 1974 (Outstanding Basic Science Teacher), and in 1980 (Basic Science Award).

Bill passed away Wednesday, August 12, 1981. He is survived by his wife, Virginia, and five children.

It is especially fitting that his passing be recognized by the Academy that he served so well and so faithfully.

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<sup>1</sup>T. Van Bruggen, "Tribute to W. O. Read," Proc. S. D. Acad. Sci. 52, 25-26 (1973).