CONSOLIDATED MINUTES OF THE
NINETY-FIRST ANNUAL MEETING OF SOUTH
DAKOTA ACADEMY OF SCIENCE, DAKOTA
WESLEYAN UNIVERSITY, HELD AT CEDAR
SHORE RESORT, OACOMA, SD, 7-8 APRIL 2006

The Executive Council met at 10:00 am Friday 7 April 2006 for a final check
of plans for the meeting.
President Bob Tatina opened the executive committee meeting and noted
that a quorum was present.
Proceedings Editor Steve Chipps noted that fewer copies of the Proceedings
have been printed than in the past. The payment rate has been around 85-90%
for articles and is somewhat lower for abstracts. The Proceedings accounts will
need to be audited.
A copy of the Treasurers Report was distributed by Treasurer Kristel Bakker.
The Audit Committee will consist of Audrey Gabel.

Committee reports were as follows:
President Bob Tatina handled publicity for the 2006 meeting. He sent an
electronic photograph to Neal Reese for posting on the SDAS website, phoned
local TV stations about the upcoming symposium on energy, e-mailed press
releases to the Argus Leader, and coordinated external publicity on the web site.
Bob volunteered to develop a contact list for the Academy. This list will serve as
campus contacts for e-mails who can then forward to members on their respec-
tive campuses. In addition, Bob has graciously volunteered to serve as the Public
Relations member of the Executive Council.
Nels Troelstrup reported that the 2007 SDAS annual meeting, hosted by
SDSU, will be 13-14 April on the SDSU campus. Jim Sorenson noted that
the 2008 meeting hosted by Mount Marty College will be held at Cedar Shore
Resort.
The following resolutions will be presented to the membership at the Busi-
ness Meeting. Bob Tatina has authored a resolution to be forwarded to the South
Dakota Board of Education on inclusion in the new set of administrative rules to
include statements on the molecular basis of education and the scientific theory
and biological principles of evolution. Mark Gabel will present two resolutions,
a resolution on Biological Collections and a resolution on the SDAS 2006 An-
nual Meeting.
The Executive Council endorsed a recommendation from Kristel for the
Non-game Teaming with Wildlife Coalition. An endorsement would support
the concept of funding non-game outdoor education, but does not involve finan-
cial commitment from the SDAS.
Bob Tatina will head a committee for forwarding resolutions to Pierre or to
University Presidents as appropriate.
Bob Tatina reported the continuation of an opportunity through the AAAS to provide awards to students. For the undergraduate award, to be presented to one male and one female undergraduate student, Jim Sorenson and Steve Chipps will judge the poster session, and winners will be announced at the banquet.

Krisma DeWitt graciously agreed to head the Fellows Committee. Nominations for Fellows for 2007 will be sent to Krisma.

The Nominating committee, Neil Reese from SDSU and Jim Sorenson from Mount Marty College will have the following positions to fill: Second Vice President, and two members-at-large. John Naughten and Dave Swanson will be going off as Members-at-Large.

Donna Hazelwood and Kristel Bakker sent eight award checks for $25.00 each to five South Dakota Regional Science Fairs. The regional science fair coordinators are: 1) Jodie Ramsay, Northern South Dakota Science and Math Fair; 2) Madeline Rose Eastern South Dakota Science and Engineering Fair; 3) Brian T. Hemmelman, High Plains Regional Science and Engineering Fair; 4) Michael Nobel Farney, South Central South Dakota Science and Engineering Fair; and 5) Ms. Monica Mayer, Northwest Area Schools Regional Science and Engineering Fair. The SDAS presence at the Regional Science Fairs was discussed. It was decided that the Academy continue support and add a statement that each science fair will be notified that continuation of funding will necessitate an application by a given date.

A proposal for Peer Review of papers will be presented to the membership. A request will be made for associate editors and a stringent three-week turnaround will be applied. The review would be in the form of a friendly review. To facilitate the process, a form for review will be placed on the website. In addition, proposal to have abstracts pre-reviewed by the inclusion of two signatures at the time of submission will be proposed.

Neil Reese proposed that the Proceedings be placed on the SDAS web site in a format searchable by author or title. He will present a motion at the Business Meeting to allocate an estimated $300.00 from the Proceedings budget for the purpose of formatting the papers from 1991 to the present in PDF format.

President Bob Tatina opened the Business meeting 1:00 pm Saturday 8 April 2006, and introduced President Elect Jim Sorenson from Mount Marty College who gave the Presidential Address on “The End of Cheap Oil; Boom or Bust for South Dakota”.

Registration for the Symposium and Annual Meeting began 8:30 a.m. Friday 7 April, continued again 8:00 a.m. Saturday 9 April. Steve Chipps brought Terri Symens to assist with registration.

The Symposium on “Energy Resources in South Dakota: Issues and Global Concerns” was hosted by Perry Rahn and included eight presentations.

The Plenary Speaker, Dr. Tad Patzek, Department of Civil and Environmental Engineering, University of California – Berkeley gave a thoughtful and timely presentation on the “The Real Biofuels Cycle.”
The business meeting was opened by President Bob Tatina.

President Elect Jim Sorenson gave a well received presidential address entitled “The End of Cheap Oil: Boom or Bust for SD”.

On behalf of First Past President Andy Detwiler, Second Past President Miles Koppang presented to outgoing President Bob Tatina a plaque honoring his contributions to the Academy. In addition, Miles thanked the Symposium Committee Bob Tatina, Andy Detwiler and Perry Rahn.

Steve Chipps reported on the Proceedings Account. The account is at the break even point. To stay solvent the membership will need to increase, or, as a last resort, the page charge will need to increase. Because the account will need to be audited, the report was accepted.

The Treasurer report was provided by Donna Hazelwood for Kristel Bakker. Audrey Gabel served as Auditing Committee. Audrey reported that the account was in order. Jim Lefferts moved and Mark Gable seconded that the treasurer’s report be accepted. The motion passed by voice vote. The CD at Dakotah Bank will be allowed to rollover for another term.

Mark Gabel and H.L. Hutchinson served as the resolution Committee and forwarded the following resolutions:

A resolution authored by Bob Tatina to be forwarded to the South Dakota Board of Education on inclusion in the new set of administrative rules to include statements on the molecular basis of education and the scientific theory and biological principles of evolution. The resolution will be forwarded to the State Board of Education; the hearing date is set for 15 May. Neil Reese moved and Audrey Gabel seconded acceptance of the resolution. The resolution carried by voice vote.

Mark Gabel presented a resolution on the need to protect Natural History Collections and the need for a one-half FTE curator position for the state. The resolution will be distributed to the SD BOR and the legislature. Steve Chipps moved and Mike Wanous seconded acceptance of the resolution. The motion carried by voice vote.

The Resolutions Committee, Mark Gabel and H.L. Hutchinson proposed the following resolutions: 1) thanks to Dakota Wesleyan University for hosting the event and to Bob Tatina and the local planning committee Steve Chipps, Donna Hazelwood, and Terri Symens; 2) thank you Bob Tatina and the Symposium Committee Andy Detweiler and Perry Rahn for arranging the Symposium 3) thank you to Keynote Plenary Speaker Dr. Tad Patzek, Department of Civil and Environmental Engineering, University of California – Berkeley who spoke on “The Real Biofuels Cycle”; 4) commend Past President Bob Tatina for his direction and leadership 2005-2006, 5) thanks to Terri Symens, Di Drake, and Nancy Presuhn for secretarial assistance and to Terri Symens for assisting with registration for the meeting, 6) thanks to Jim Lefferts for presidential address on “The End of Cheap Oil: Boom or Bust for SD” 7) thanks to Terri Symens for assisting with registration at the meeting; 8) thanks to Secretary Donna Hazelwood and Treasurer Kristel Bakker for continued service, and 9) a special thanks goes to Editor Steve Chipps for his oversight of timely publication of the Proceedings.
Neil Reese moved and Audrey Gabel seconded acceptance of the resolutions. The motion carried by voice vote.

In order to remain financially solvent and to be able to continue generous support to the Regional Science Fairs, The Executive Council forwarded a motion to raise dues for regular members from $20.00 to $25.00 per year and for students from $5.00 to $10.00 per year. Bob Tatina moved and Audrey Gabel seconded acceptance of the motion. The motion carried by voice vote.

The Executive Council forwarded a motion to upgrade the image of the Proceedings by requiring manuscripts to be peer reviewed. A lively discussion followed. The motion was amended to read: All manuscripts submitted for publication to the Proceedings of the South Dakota Academy of Science will be either pre-peer reviewed in the friendly sense or will be subjected to a more formal review process with forms completed by two reviewers. Bob Tatina moved and Mike Hildreth seconded acceptance of the motion. The motion carried.

Bob reported on the conversion of the Proceedings to PDF files. Currently, the 2000-2005 Proceedings which have been converted to a PDF file, but are in a single file. The Academy has the opportunity contract for $300.00 the conversion of 1991-2004 data to page files which would be accessible on the web site. Bob Tatina moved and Mark Gabel seconded that the sum of $300.00 be granted for a contract to convert the 1991-2004 data to separate pages and to load the files separately on the database. The motion carried by voice vote.

Bob addressed the question on life membership. Miles Koppang noted that in the past life membership was awarded to retirees how have been active and were nominated by the membership. The question raised was whether someone could purchase life membership before retirement. Mile Wanous moved and Jim Sorenson seconded that the Treasurer do a study on the benefits to the Academy for providing life membership to members for specific costs and ages of members.

Winners of the Undergraduate AAAS awards were Kelley M. Vannatta and Cody Henriksen for the following presentations respectively; Kelley M. Vannatta (UG)* and Paul G. Egland, Augustana College-Biology. “Metabolic Interactions Between the Dental Plaque Bacteria Streptococcus gordonii and Veillonella atypica.”; and Cody Henriksen (UG)*, Matt McDougall (UG)1, Mitch Weber (UG)1, Gina Furman1, Steve Matzner1, Neil Reese2, and Maureen Diggins1, 1AUGIE-Biology, 2SDSU-Biology and Microbiology. “Effect of Acorus calamus Extracts on Glucose and Insulin Levels in Lethal Yellow (AY/A) and Black (A/A) Mice.” Kelly and Cody will each receive a one year membership in the AAAS.

Bob Tatina addressed the question of Fellows and noted that senior members, especially retirees be honored as Fellows. Krisma Dewitt has graciously agreed to continue as Chair of the Fellows Committee.

Bob has kindly agreed to continue as Chair of the Publicity Committee and will be sending out information on the need to recruit new members.

Elections were held for officers for 2006-2007. The nominations committee, Neil Reese and Jim Sorenson presented the nominations. Bob Tatina moved and Mike Wanous seconded nominations cease and members cast a unanimous ballot in favor for Second Vice-President Krisma Dewitt, and for 2005-2007 member-
at-large for Dave Swanson and John Naughten. The motion carried by voice vote.

On behalf of the membership committee, Nels Troelstrup recommended that the Academy accept as new members 120 individuals. Bob moved and Jim Lefferts seconded the motion. The motion carried by voice vote.

Next year SDSU will host the 92nd annual meeting 13-14 April at SDSU. Following similar format, a keynote speaker will address the Academy and we will invite a symposium. Anyone interested in participating in the symposium is invited to visit with Nels, Steve, or Donna.

Steve requested that the Academy provide honoraria for assistance in the following amounts to Terri Symens $500.00, Di Drake $100.00, and Nancy Presuhn $100.00. Neil moved and Donna seconded a motion to give the amounts requested. The motion carried by a voice vote.

**Committee positions for 2006-2007 include**

- **Membership** to be filled
- **Fellows** Krisma DeWitt
- **Resolutions** to be filled
- **Nominations** to be filled
- **Publicity** Bob Tatina

Outgoing President Bob Tatina handed the hammer of office to Incoming President Jim Sorenson.

Neil Reese moved and Gary Earl seconded the meeting be adjourned. The motion carried by voice vote.

Several items for consideration at the fall meeting of the Executive Committee were discussed. 1) the 2007 meeting hosted by SDSU; 2) nomination of individuals for Fellow; 3) recruitment of new members; 4) the 2008 meeting hosted by Mount Marty College; 5) the locations of future meetings, 6) exposure and publicity of the academy, and 7) forwarding resolutions to Pierre.

To Recap: the SDAS 2006 Annual Meeting hosted by Dakota Wesleyan University included a Symposium on “Energy Resources in South Dakota: Issues and Global Concerns” hosted by Perry Rahn and included eight presentations. Saturday, 48 posters and 24 papers were presented. A total of 89 members attended the 2006 Annual Meeting.

Respectfully submitted,

Donna Hazelwood, DSU
SDAS Secretary
REPORT OF THE RESOLUTIONS COMMITTEE

The membership of the South Dakota Academy of Science thanks the science faculty of Dakota Wesleyan University and the Program Committee including Bob Tatina, Steve Chipps, Donna Hazelwood and Terri Symens for arranging the 91st annual meeting in Chamberlain.

We thank Dr. Tad Patzek for his keynote address entitled “The Real Biofuels Cycle.”

Bob Tatina is commended for his service as President of the Academy for the past year. Donna Hazelwood deserves thanks for her job as Secretary of the Academy. Kristel Bakker’s service as Treasurer is greatly appreciated.

Thanks are extended to Terri Symens for excellent secretarial help.

Thanks to President-elect James Sorenson for his address to the membership.

The Academy expresses their thanks to Steve Chipps, editor, and Ken Higgins, associate editor for their work on the Proceedings of the South Dakota Academy of Science.

RESOLUTION OF THE SOUTH DAKOTA ACADEMY OF SCIENCE

Whereas the mission of the South Dakota Academy of Science includes the stimulation of scientific research and education and the diffusion of scientific knowledge;

Whereas it is acknowledged that natural history research collections are the foundation of research in biological sciences and related fields;

Whereas natural history research collections are increasing in value due to advances in biotechnology;

Whereas natural history research collections are important in understanding the history of our state and critical to comparing modern and historical distributions of species by providing baseline data critical to future studies;

Whereas natural history research collections are important in monitoring the presence of insect pests, fungi and weedy species;

Whereas the biodiversity of the state of South Dakota is represented by major natural history collections of plants and fungi in the herbarium at Black Hills State University, plants in the herbaria of South Dakota State University and the University of South Dakota and by a major collection of insects at South Dakota State University;

Whereas increasing demands of teaching, research and service on the curators result in less time for management and improvement research collections;

Whereas there is an urgent need to implement measures to protect the specimens from insect and fungal pests to ensure the very survival of these collections for posterity;
Be it resolved that the South Dakota Academy of Science supports the active maintenance, development and protection of the natural history research collections of the state;

Be it further resolved that the South Dakota Academy of Science recommends the assignment of 1/2 FTE by the South Dakota Board of Regents to each of the aforementioned research collections;

Be it finally resolved that the 1/2 FTE will be permanently assigned to the research collection rather than to the university to preserve the collections in perpetuity to ensure that these valuable collections will remain a viable source of data for future generations of scientists.

Respectfully submitted,
Mark Gabel
H.L. Hutcheson

SOUTH DAKOTA ACADEMY OF SCIENCE
2006-07 EXECUTIVE COUNCIL

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Member-at-Large 2005-2007
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Member-at-Large 2006-2008
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Member-at-Large 2006-2008
David Swanson, USD, Biology, 677-6175
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2006 REGIONAL SCIENCE FAIRS

2006 Regional Science Fair Location: Timber Lake, South Dakota
SDAS Representative: NONE

<table>
<thead>
<tr>
<th>STUDENT</th>
<th>SCHOOL</th>
<th>YEAR</th>
<th>TEACHER</th>
<th>TITLE OF PROJECT</th>
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<tr>
<td>Zach Bunn &amp; Lane Alley</td>
<td>Isabel</td>
<td>8th</td>
<td>Merretta Kahl</td>
<td>I Spy: Does Age and Gender Affect Visual Crime Scene Recall?</td>
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<tr>
<td>Abbey Thiel</td>
<td>Isabel</td>
<td>7th</td>
<td>Merretta Kahl</td>
<td>What is the correlation between IMF% score and scrotal size in Charolais and Black Angus yearling Bulls?</td>
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<td>Kourt Starr</td>
<td>Dupree</td>
<td>7th</td>
<td>Zach Davis</td>
<td>Purinna Versus Oats</td>
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<tr>
<td>Danielle Alley &amp; Kali Wiedmer</td>
<td>Isabel</td>
<td>8th</td>
<td>Merretta Kahl</td>
<td>Does Upper Body Fatigue or Lower Body Fatigue Have More Effect on Shooting Ability?</td>
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<tr>
<td>Kelsey Lindskov</td>
<td>Isabel</td>
<td>8th</td>
<td>Merretta Kahl</td>
<td>Which is More Effective on Alfalfa growth: Natural Compost or Brand Name?</td>
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Teacher: Zach Davis, Dupree

SOUTH DAKOTA ACADEMY OF SCIENCE
TREASURER’S REPORT 14-OCT-06

Balance as of 25-October-05 $9962.68

Debits:

2006 SDAS meeting:
Ted Patzek 500.00
Terri Symens (room) 49.52
SDSMT 36.00
Printing 21.00
Di, Nancy, Terri (thank yous) 700.00
Cedar Shores 3045.77
U-Haul (Miles K) 77.78
Science Fair 1000.00
US Post Office 16.40
Total $5446.47

Credits:

2006 SDAS meeting $4695.00

Balance as of 14-October-2006 $9211.21

Respectfully,
Kristel K. Bakker
SDAS Treasurer
EXECUTIVE SUMMARY,
PROCEEDINGS EDITOR

Volume 84 for 2005 totaled 369 pages and the production cost was $6,362.25. Our production editor, Tom Holmlund, converted Proceedings issues and individuals papers to PDF format for the years covering 1992 to present; PDF files are now available on-line and can be accessed through our web site. The account balance for Proceedings as of April 6, 2006 was $5,315.25. Copies of Proceedings have been mailed to all current members, all life members, all State libraries, and to abstract indexing services.

Respectfully submitted by:
Steven R. Chipps, Editor

For the South Dakota Academy of Science Proceedings
August 24, 2006