
OKLAHOMA ACADEMY OF SCIENCE

2007 OFFICERS

President

Dr. Ulrich Melcher, OSU

President-Elect

Dr. Ken Hobson, OU

Editor, Proceedings

Kurtis Koll, CU

Immediate Past President

Dr. Susan Barber, OCU

Executive Secretary-Treasurer

David Bass, UCO

Recording Secretary

Dr. Connie Murray, TCC

Section**Chair****Vice-Chair**A: *Biological Sciences*

Dr. Greg Wilson, UCO

Dr. Gloria Caddell, UCO

B: *Geology*

VACANT

VACANT

C: *Physical Sciences*

Dr. Weldon Wilson, UCO

Dr. Karen Williams, ECU

D: *Social Sciences*

Dr. Mary Dzindolot, CU

Dr. Justina Powers, CU

E: *Science Education*

Dr. Michelle Smith, CU

Dr. Doug Wood, SOSU

F: *Geography*

Dr. Greg Plumb, ECU

Dr. Bruce Hoagland, OU

G: *Fish & Wildlife Conservation*

Dr. Kristen Baum, OSU

Dr. Carmen Greenwood, OSU

H: *Microbiology*

Dr. Charlie Biles, ECU

Dr. Arden Aspedon, SWOSU

I: *Engineering Sciences*

Dr. Yuhao Jiang, UCO

Dr. Mohamed Bingabr, UCO

J: *Biochemistry & Biophysics*

Dr. Jialing Lin, OUHSC

Dr. Robert Burnap, OSU

K: *Microscopy*

Dr. Preston Larson, OU

Dr. Liang Zhang, OC

L: *Mathematics, Computer
Science, & Statistics*

Dr. Clay Carley, ECU

Dr. Anita Walker, ECU

M: *Environmental Sciences*

Dr. Cindy Cisar, NSU

Dr. Charles Crittall, ECU

N: *Biomedical Sciences*

Dr. Jennifer Xiao, OC

Dr. Melville Vaughan, UCO

Collegiate Academy of Science *Director*

Dr. Nick Cheper, ECU

Junior Academy *Director*

Dr. Rahmona Thompson, ECU

OAS Technical Meeting, 2008 *Local Coordinator*

Dr. Sharon Young, SNU

OAS Web Site *Webmaster*

Dallas New, UCO

THE OKLAHOMA ACADEMY OF SCIENCE
**STATEMENT OF REVENUES COLLECTED AND EXPENSES PAID
FOR THE YEAR ENDED DECEMBER 31, 2007**
REVENUES COLLECTED

Contributions		
Donations		\$ 1,463.62
Membership Dues and assessments		
Dues		4,848.00
Investment Income		
Interest Earned		31.63
Interest CD		424.66
Dividend		456.29
Other Income		
POAS Income	5,233.50	
Woody Plants	272.00	
Other	53.00	
Registration - Spring Meeting	2,561.00	
Registration -Fall Meeting	4,916.00	
Registration - Technical Meeting	<u>5,143.00</u>	<u>18,178.50</u>
	Total Revenue Collected	<u>\$24,946.41</u>

EXPENSES PAID

Grants and Similar		
Awards		
Salaries and Other Compensation		
Salary	5,541.00	
Medicare	174.00	
Social Security	<u>744.00</u>	\$6,459.00
Professional Fees		
Audit	150.00	
Tax Preparation	<u>171.50</u>	\$ 321.50
Printing, Publications, Postage		
Frontier Printers	750.76	750.76

**STATEMENT OF REVENUES COLLECTED AND EXPENSES PAID
FOR THE YEAR ENDED DECEMBER 31, 2007 (Continued)**

Other Expenses		
Fall Spring Meeting	1,749.23	
Spring Fall Meeting	2,971.15	
Annual Technical Meeting	<u>1,076.21</u>	5,796.59
Insurance	941.28	941.28
NAAS	420.00	
POAS	7,237.97	
Others	<u>85.62</u>	<u>7,743.59</u>
Total Expenses Paid		<u>\$22,012.72</u>
<u>EXCESS REVENUES COLLECTED OVER EXPENSES</u>		<u>\$2,933.69</u>

THE OKLAHOMA ACADEMY OF SCIENCE
STATEMENT OF ASSETS, LIABILITIES AND FUND BALANCE
ARISING FROM CASH TRANSCATIONS
DECEMBER 31, 2007

ASSETS

Cash:

Checking account (2868632566)	\$ 9,116.65
Savings account (2867527973)	1,872.80
Savings account (2867527960)	<u>3,246.95</u>

Total Cash	\$14,236.40
------------	-------------

Investments:

Certificate of Deposit (91000087267752)	15,000.00
Certificate of Deposit (91000087354416)	10,000.00
Vangaurd Short Term Treasury (9880623556)at cost	10,000.00
Vangaurd Health Care Fund (9880623556),at cost	10,000.00

45,000.00

Total Assets	\$59,236.40
--------------	-------------

LIABILITIES AND FUND BALANCE

Liabilities	\$.00
-------------	--------

Fund balance:

Beginning operation fund balance	56,302.71
Excess revenues collected over expenses paid	<u>2,933.69</u>

Ending operating fund balance	\$59,236.40
-------------------------------	-------------

Total liabilities and fund balance	<u>\$59,236.40</u>
------------------------------------	--------------------

THE OKLAHOMA INDEPENDENT AUDITORS' REPORT

Executive Committee
The Oklahoma Academy of Science

I have audited the accompanying statements of assets, liabilities and fund balance arising from cash transactions of the Oklahoma Academy of Science as of December 31, 2007, and the related statements of revenue collected and expenses paid for the year then ended. These financial statements are the responsibility of the Company's management. My responsibility is to express an opinion on these financial statements based on the audit.

I have conducted an audit in accordance with generally accepted auditing standards. An audit to obtain reasonable assurance about whether the financial statements are free of material misstatement and examining, on a test basis evidence supporting the amounts and disclosures in the financial statements. These financial statements were prepared on the basis of cash receipts and disbursements and this report prepared only for the internal use of the Executive Committee of the Oklahoma Academy of Science.

I find the financial statements referred to above present fairly, in all material respects, the assets, liabilities and fund balance arising from cash transactions of The Oklahoma Academy of Science as of December 31, 2007 and its revenue collected and expenses paid during the year then ended.

E. Pace, Retired
Assistant County Auditor

Editorial Policies and Practices

The *Proceedings of the Oklahoma Academy of Science* is published by the Oklahoma Academy of Science. Its editorial policies are established by the Editor and Associate Editors, under the general authority of the Publications Committee. The Editor is appointed by the Executive Committee of the Academy; Associate Editors are appointed by the Publications Committee in consultation with the Editor. The suitability for publication in the *Proceedings* of submitted manuscripts is judged by the Editor and the Associate Editors.

All manuscripts must be refereed critically. The POAS Editors have an obligation to the membership of the Academy and to the scientific community to insure, as far as possible, that the *Proceedings* is scientifically accurate. Expert refereeing is a tested, effective method by which the scientific community maintains a standard of excellence. In addition, expert refereeing frequently helps the author(s) to present the results in a clear, concise form that exceeds minimal standards.

The corresponding author is notified of the receipt of a manuscript, and the Editor sends the manuscript to at least two reviewers, anonymous to the author(s). After the initial review, the Editor either accepts the manuscript for publication, returns it to the author for clarification or revision, sends it to another referee for further review, or declines the manuscript.

A declined manuscript will have had at least two reviews, usually more. The Editors examine such manuscripts very carefully and take full responsibility. There are several grounds for declining a manuscript: the substance of the paper may not fall within the scope of the *Proceedings*; the work may not meet the standards that the *Proceedings* strives to maintain; the work may not be complete; the experimental evidence may not support the conclusion(s) that the author(s) would like to draw; the experimental approach may be equivocal; faulty design or technique may vitiating the results; or the manuscript may not make a sufficient contribution to the overall understanding of the system being studied, even though the quality of the experimental

work is not in question.

A combination of these reasons is also possible grounds for declining to publish the MS. In most cases, the Editors rely on the judgment of the reviewers.

Reviewer's Responsibilities

We thank the reviewers who contribute so much to the quality of these *Proceedings*. They must remain anonymous to assure their freedom in making recommendations. The responsibilities or obligations of these reviewers are

- Because science depends on peer-reviewed publications, every scientist has an obligation to do a fair share of reviewing.
- A reviewer who has a conflict of interest or a schedule that will not allow rapid completion of the review will quickly return the manuscript; otherwise, the review will be completed and returned promptly.
- A reviewer shall respect the intellectual independence of the author(s). The review shall be objective, based on scientific merit alone, without regard to race, religion, nationality, sex, seniority, or institutional affiliation of the author(s). However, the reviewer may take into account the relationship of a manuscript under consideration to others previously or concurrently offered by the same author(s).
- A reviewer should not evaluate a manuscript by a person with whom the reviewer has a personal or professional connection if the relationship could reasonably be perceived as influencing judgment of the manuscript.
- The manuscript is a confidential document. If the reviewer seeks an opinion or discusses the manuscript with another, those consultations shall be revealed to the Editor.
- Reviewers must not use or disclose unpublished information, arguments, or interpretations contained in a manuscript under consideration, or in press, without the written consent of the author.
- Reviewers should explain and support their judgments and statements, so both the Editor and the author(s) may understand the basis of their comments.

Brief Instructions to Authors

The instructions and suggestions to authors, which have appeared in several recent issues of the Proceedings (POAS), are now moved to this booklet. We ask authors to recognize that the intent is not to establish a set of restrictive, arbitrary rules, but to provide a useful set of guidelines for authors, guidelines that, in most cases, are also binding on the Editors in their task of producing a sound and respected scientific journal.

© 2006 Oklahoma Academy of Science.

Introduction

The *Proceedings of the Oklahoma Academy of Science* (POAS) is an eclectic collection of papers and notes from many disciplines (see the areas found on the application/renewal form in the Appendix). The Editor's problem is to find one set of "style rules," for authors to use when preparing a manuscript, that will satisfy all the disciplines in the Academy. That task is clearly impossible, so the Editorial Board (Editor and Associate Editors) have adopted a compromise, which is described below, in **B. Organizing the Manuscript, "References."** As we say there, much of the time spent by the Editors in regularizing references adds to production costs. We hope this brief explanation of our thinking will help you prepare a better manuscript.

A. GENERAL INFORMATION

Manuscripts for the Proceedings should be submitted to:

Kurtis Koll, Ph.D.
 Editor, POAS
 2800 West Gore
 Cameron University
 Lawton, OK 73505
 580-281-2886
 FAX: 580-591-8011
 E-mail: kurtisk@cameron.edu

Include a cover letter containing the address, telephone numbers (Voice and FAX), and electronic mail address of the submitting (corresponding) author.

Prospective authors should note carefully the policy statement "Policies of the Proceedings" on page ii.

The Editors review the MS and carefully select other reviewers as described in "Editorial Policies and Practices" (see p. 134); all referee and editorial opinions are anonymous. Send a resubmitted and/or revised manuscript and all correspondence concerning the MSs to the Editor. Revised manuscripts (two copies) should be accompanied by

- one copy of the *unrevised* version,
- a brief explanation indicating the changes that you have made, and
- if any of the changes suggested or requested by the reviewers and/or Editors have not been made, a justification for that decision.

All authors should approve all revisions (the corresponding author is responsible for insuring that all authors agree to the changes). A revised paper will retain its original date of receipt only if the revision is received by the Editor within two months after the date of the letter to the author(s).

Page Charges

The OAS will publish accepted MSs with the implicit understanding that the author(s) will pay a charge per published page. Page charges are billed at the cost per page for the given issue: in 2009, \$90 per page for nonmembers of the Academy and \$35 for members.

Under exceptional circumstances, when no source of grant funds or other support exists, the author(s) may apply, *at the time of submission*, for a waiver of page charges. All such applications must be countersigned by

an appropriate institutional official stating that no funds are available for page charges. An unaffiliated author is expected to honor the page charges.

Billing for page charges and receipt of payment are handled by the Business Manager, who is also the Executive Secretary/Treasurer for the Academy (for the name and address see the Membership Application Form on page 123).

Copyright Transfer

Before publication, authors must transfer copyright to the Oklahoma Academy of Science. All authors must sign, or the signing author must hold permission to sign for any coauthors. Copyright for papers reporting research by U.S. Government employees as part of their official duties will be transferred to the extent permitted by law. The Editor will provide a form to the (corresponding) author at the appropriate time for accomplishing the transfer.

Types of Manuscripts

A MS may be a paper (report), review, note (communication), a technical comment, or a letter to the editor.

Paper (a report; traditional research paper) — A Paper may be of any length that is required to describe and to explain adequately the experimental observations.

Review The Editor will usually solicit review articles, but will consider unsolicited ones. The prospective writer(s) of reviews should consult the Editor; in general, the Editor needs a synopsis of the area proposed for review and an outline of the paper before deciding. Reviews are typically peer-reviewed.

Note (Communication) The objective of a *Note* is to provide an effective form for communicating new results and ideas and/or describing small but complete pieces of research. Thus, a *Note* is either a preliminary report or a complete account of a small investigation. *Notes* must not exceed

four printed pages including text, figures, tables, and references. One journal page of standard text contains about 600 words; hence, there is space for presentation of considerable experimental detail. *Notes* are peer-reviewed.

Technical Comment Technical comments (one journal page) may criticize material published in an earlier volume of *POAS* or may offer additional useful information. The author(s) of the original paper are asked for an opinion on the comment and, if the comment is published, are invited to reply in the same volume,

Letter to the Editor Letters are selected for their pertinence to materials published in *POAS* or because they discuss problems of general interest to scientists and/or to Oklahomans. Letters pertaining to material published in *POAS* may correct errors, provide support or agreements, or offer different points of view, clarifications, or additional information.

Abstract—You may submit an abstract of your presentation at the OAS Technical Meeting. For specific instructions, contact the Editor. Even though abstracts are not peer-reviewed, they must align with the policies and scope of the Proceedings. The quality or relevance of work may not be in question, but the printed material is still subject to scientific accuracy. The same guidelines that apply to manuscripts and notes submitted for peer-review, also apply to abstracts submitted for print. Just as manuscripts and notes are subject to thorough testing, so are comments written in abstracts (supported by data). The Proceedings understands that all disciplines are in a search for a deeper understanding of the world some of which are through creative expression and personal interpretation. Science is a system by which one discovers and records physical phenomena, dealing with hypotheses that are testable. The domain of “science” while working within nature is restricted to the observable world. There are many valid and important questions to be answered but lie outside the realm of sci-

ence. The abstract must provide evidence that supports a conclusion.

Some Suggestions About Your Contribution to POAS

1. State clearly how your work contributes to the subject, field, or methodology. Carefully define the work's parameters, scope, and purpose, and stick to them.
2. Work that originates in a seminar or for a conference sometimes relies on an implicit assumption about context that the initiating occasion supplies. Make the framing issues explicit in a paper submitted to *POAS* (as opposed to a paper submitted to a conference proceedings).
3. Length is often an issue—too long or too short. Seminar or conference papers are by nature brief and need to be amplified. A thesis or chapter from a book, however, needs pruning, with key theory sections concisely summarized and the number of examples and amount of discussion cut. The *POAS* paper falls somewhere in between. Not only is length an issue but also style, voice, argument, and evidence as well. The Editors have not set strict limits on length because each work is different, requiring different amounts of exposition. Your style should be as polished as possible so as to enhance, rather than detract, from your content.

Electronic Manuscripts

The author(s) will prepare an electronic version of the manuscript on a computer and transmit it to the Editor on a magnetic disk or via the Internet as an attachment to an e-mail message, so that the Production Editor can make an image for printing *without* the time and expense of rekeyboarding the manuscript from a paper copy.

While most authors now routinely prepare MSs on a computer, ALL authors should carefully note the following:

1. DO NOT *submit* your manuscript on disk until asked. Send the usual paper copies (4) as described in Section C, below.
2. The Editors assume that, at the appropriate time, an author can provide a disk containing an electronic file of the MS. If you CANNOT, so indicate in your letter of transmittal.
3. Provide the disk when you prepare the FINAL version of the MS. Details about preparing this disk are in the booklet mentioned in the Abstract above.

B. ORGANIZING the MANUSCRIPT

1. General organization For papers (reports), the subsections should typically include the following. In the case of notes or short papers, you may combine some headings, for example, "Results and Discussion":
 - a. Abstract,
 - b. Introduction,
 - c. Experimental Procedures (or Methods),
 - d. Results,
 - e. Discussion,
 - f. Acknowledgments, if any, and
 - g. References.
2. The title should be short, clear, and informative; it should not exceed 150 characters and spaces (three lines in the journal), and include the name of the organism, compound, process, system, enzyme, etc., that is the major object of the study.
3. Provide a running title of fewer than 60 characters and spaces.
4. Spell out either the first or second given name of each author. For example, Otis C. Dermer, instead of O.C. Dermer, or H. Olin Spivey, instead of H.O. Spivey.
5. Every Paper must begin with a brief Abstract (up to 200 words) that presents clearly the plan, procedure, and significant results of the investigation. The Abstract should be understand-

- able alone, because it is often used by abstracting journals.
6. The Introduction should state the purpose of the investigation and the relationship with other work in the same field. It should not be an extensive review of literature, but provide appropriate literature to demonstrate the context of the research.
 7. The Experimental Procedures (or Methods) section should be brief, but adequate for repetition of the work by a qualified experimenter. References to previously published procedures can reduce the length of this section. Refer to the original description of a procedure and describe any modifications.
 8. You may present the Results in tables or figures or both, but note that it is often simpler and clearer to state the observations and the appropriate experimental values directly in the text. Present a given set of results *in only one form*: in a table, or figure, or the text.
 9. The Discussion section should interpret the Results and how these observations fit with the results of others. Sometimes the combination of Results and Discussion can give a clearer, more compact presentation.
 10. Acknowledgments of financial support and other aid are to be included.
 11. References are discussed below.

References

Beginning with Volume 83, *POAS* began using the name-year system for citing references. Previous to this change, the citation-sequence system was used. In the name-year system, citations in the text, tables and figure legends include the surname of the author or authors of the cited document and the year of publication. The references are listed alphabetically by authors' surnames in the reference list found at the end of the text of the article. Below are given several examples of correct formats for citing journal articles, books, theses and the internet.

For other citation examples and for more information about the name-year system, consult the CBE Manual [*Scientific Style and Format: The CBE Manual for Authors, Editors, and Publishers*, 6th edition].

Prospective authors should make a special effort to use the correct format for citations in the text and in the references. The correction of inappropriate bibliographic style and format is often the most time-consuming task in processing a manuscript and frequently delays the whole production.

Abbreviate journal names according to *Chemical Abstracts or Biological Abstracts List of Serials (Biosis)*. Other sources include *Engineering Index and Index Medicus*. Abbreviations for specific words appear in the *International List of Periodical Title Word Abbreviations*.

If it is necessary to refer to a manuscript that has been accepted for publication elsewhere but is not yet published, use the format shown below, with the volume and page numbers absent, the (estimated) year included and followed by the words *in press* for papers publications and *forthcoming* for all other forms (CBE 30.68). If the materials have significant bearing on the manuscript submitted to *POAS*, submit copies of such papers and the letter(s) of acceptance. If the materials are published before the manuscript with that reference is published in *POAS*, notify the Editor of the appropriate volume and page numbers and make the changes as you revise.

Responsibility for the accuracy of bibliographic references rests entirely with the author(s); confirm all references through comparison of the final draft of the manuscript with the original publications. *We expect that the only changes in galley proof will be for typographical errors.*

Any mention of *manuscript in preparation, unpublished experiments, and personal communication* should be in parenthesis. Use of *personal communication* should be with written permission of the communicator and should be entered only in the text, not in the Reference list. *Examples of References*

in *CBE Format and Style* are given at the end of these Instructions.

C. FORM and STYLE OF MANUSCRIPT

Prepare the manuscript with 12point serif type or a comparable font. Double-space throughout, including references, tables, footnotes, and figure legends. Submit four easily legible copies of the manuscript, one of which must be the original copy or one of equal quality; pay particular attention to print quality if you use a computerdriven impact printer. Arrange the parts of the MS in the order given below and number all sheets in succession, the title page being page 1. Indicate by *Insert table/figure [number] here*, in the margin, the appropriate location for the tables and figures.

Begin each of these on a new page (see the most recent issue *POAS* for models.):

- a. Title (≤ 150 characters and spaces), author(s), complete name(s) of institution(s) or laboratory(ies) (complete mailing address).
- b. Running title (≤ 60 characters and spaces), corresponding author, telephone numbers (voice, FAX), electronic mail address.
- c. Abstract.
- d. Text of manuscript.
- e. Acknowledgments, if any.
- f. References.
- g. Footnotes, if any.
- h. Legends for figures (more than one legend may be on a page).
- i. Tables.
- j. Figures.

Using clear, grammatical English is important. Please ask several colleagues to read your manuscript carefully and critically because every reading of the manuscript can improve the clarity and preciseness of the presentation. The Editorial Assistant and Copy Editor will review your MS for style and expression. Do not, however, rely on them to polish your work. We will return

the marked MS to you with the peer reviews and again after the Copy Editor has marked it for a final revision. At this time, when you receive the copy edited MS, make **all** changes marked by the Copy Editor relating to grammar and mechanics, including punctuation, and carefully review any other changes marked. This revision will be the last before you receive galley proofs, when you are to make **no** changes other than those relating to typographical errors.

Notes added in proof: Data obtained after the Editors have accepted your manuscript cannot be inserted into the text, nor should there be any substantial change in the conclusions based on new data. However, if you can demonstrate that adding a "Note Added in Proof" significantly improves your Paper/Note, we will try to accommodate you. We will publish corrections and retractions as required.

For an expanded version of these Instructions, including details about preparing the disk with the Final Version, request a copy of the booklet *Instructions for POAS Authors* from the Editor, and or see the OAS website:

<http://oas.ucok.edu>

Examples of References in CBE Style and Format

References should be in these formats, following this style. *Please Note:* no space between author's initials; comma *always* after initial(s), except a period after the *last* initials in the author list; *no space* in the volume-page number string: 78(2):146-151. For more examples, see the most recent edition (6th or later) of the *CBE Manual*.

Journal Articles

Standard Article:

Miller LF, Chance CJ. 1954. Fishing in the tailwaters of TVS dams. *Prog Fish-Cult* 16:3-9.

Ortenburger AI, Hubbs CL. 1927. A report on the fishes of Oklahoma, with descriptions

of new genera and species. *Proc Okla Acad Sci* 6:123-141.

Anonymous Author(s):

[Anonymous]. 1976. Epidemiology for primary health care. *Int J Epidemiol* 5:224-225.

Books

Books with Authors:

Miller RJ, Robison HW. 1980. *The fishes of Oklahoma*. Stillwater (OK): Oklahoma State University Press. 246 p.

Zar JH. 1984. *Biostatistical analyzes*. 2nd ed. Englewood Cliffs (NJ):Prentice-Hall 1984. 718 p.

Book with Editors:

Gilman AG, Rall TW, Nies AS, Taylor P, editors. 1990. *The pharmacological basis of therapeutics*. 8th ed. New York: Pergamon. 1811 p.

Chapter in Book with Editors:

Hamilton K, Combs DL, Randolph JC. 1985. Sportfishing changes related to hydro-power generation and non-generation in the tailwater of Keystone Reservoir, Oklahoma. In: Olsen FW, White RG, Hamre RH, editors.

Proceedings of the symposium on small hydropower and fisheries. Bethesda (MD): American Fisheries Society. p 145-152.

Book with Organization as Author:

International Union of Pure and Applied Chemistry, Physical Chemistry Division. 1993. *Quantities, units, and symbols in physical chemistry*. 3rd. Oxford (UK): Blackwell Science. 166 p.

Theses

Knapp MM. 1985. Effects of exploitation on crappie in a new reservoir [MSc thesis]. Stillwater (OK): Oklahoma State University. 84 p. Available from: OSU Library.

Bennett JE. 1965. The MIKER technique [PhD thesis]. Stillwater (OK): Oklahoma State University. 114 p. Available from: University Microfilms, Ann Arbor, MI: insert microfilm ID number.

Internet

Oklahoma Climatological Survey. 2003. *Climate of Oklahoma* [online]. Available from: <http://climate.ocs.ou.edu>. (Accessed August 15, 2005).