

108th Annual Meeting of the South Dakota Academy of Science 2023

Volume 102

Vermillion, South Dakota, USA
23 October 2023

Editors:

**Robert Tatina
Michael Barnes
Dave Bergmann
Steve Chipps
Andy Detwiler**

**Andy Farke
Donna Hazelwood
Tim Mullican
Jeffrey Palmer
Fedora Sutton**

ISBN: 979-8-3313-0003-6

Printed from e-media with permission by:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571



Some format issues inherent in the e-media version may also appear in this print version.

Copyright© (2023) by South Dakota Academy of Science
All rights reserved.

Printed with permission by Curran Associates, Inc. (2025)

For permission requests, please contact South Dakota Academy of Science
at the address below.

South Dakota Academy of Science
308 Orchard Blvd.
Sawyer MI 49125

Phone: (605) 996 7670

southdakotaacademyofscience.wildapricot.org/

Additional copies of this publication are available from:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: 845-758-0400
Fax: 845-758-2633
Email: curran@proceedings.com
Web: www.proceedings.com

TABLE OF CONTENTS

Combined Minutes of the 108th Annual Meeting of the South Dakota Academy of Science	1
In Memorium: Dr. Theodore Van Bruggen	15

Full Papers Submitted for Presentation at the 108th Annual Meeting of the South Dakota Academy of Science

Natural History Notes on Seed-Eating Insects of American Licorice (<i>Glycyrrhiza lepidota</i> Pursh (Fabales: Fabaceae)) in South Dakota, With a New Species of <i>Acrisis</i> Förster (Hymenoptera: Braconidae). Paul J. Johnson, Abigail P. Martens, and Arvid Boe	19
A Tiny Deer With Big Implications: A New Genus (<i>Santuccimeryx</i>) From Badlands National Park Helps Bridge the Gap Between Oligocene and Miocene Leptomerycidae (Mammalia, Artiodactyla). Mattison Shreero, Ed Welsh, Katherine Marriott, Donald R. Prothero.....	59

Abstracts of Research Papers and Posters Submitted for Presentation at the 108th Annual Meeting of the South Dakota Academy of Science

Biosynthesis and Application of Plant Natural Products. Daniel K. Owens	85
Do We Need a Saline Bolus?—The Necessary Refinement of Pediatric Propofol Sedation. Andrew Guymon, Madigan Moore, Laura Nelson, and Mir Ali.....	86
BMP9/ALK1 Signaling in Human Highly Proliferative Cells. Oleksandra Rachynska, Calvin Vary, and Michayla Moore	87
Direct Air Capture Via Metal-Organic Supercontainers. Hanying Li and Zhenqiang Wang.....	88
Incorporating Instrumentation in Large Enrollment General Chemistry Laboratories. R. C. Engstrom and M. D. Koppang	89
Interaction of Environmental Factors on Macroinvertebrate Body Size. Aria Smith, Vojsava Gjoni, and Jeff Wesner	90
Dust Emission Potential of South Dakota Soils: Insight Into the 1930s Dust Bowl Drought. Mark Sweeney, Steve Forman, and Taylor Weeden	91
Cytotoxicity and Determination of the Minimum Bactericidal Concentration (MBC) for <i>Coleus scutellarioides</i> . Lexa Burtzlaff and Kathleen A. Gibson	92
Determination of Minimum Inhibitory Concentration (MIC) and Minimum Bactericidal Concentration (MBC) of <i>Salvia rosmarinus</i> Using a 96 Well Plate Assay. Elisabeth McGill and Kathleen A. Gibson.....	93
Which Is Best: Online, Face to Face or Hybrid Education? Pankaj Mehrotra	94
Lossy Transmission Lines as a Teaching Tool for the Finite-Difference Time-Domain (FDTD) Method. Thomas P. Montoya.....	95
Field-Based Evaluation of Root Segment Resprouted Yellow-Flowered Alfalfa Stand: Persistence and Biomass. Abdulallah M. Alomair, Arvid Boe, and Lan Xu	96