86th Annual Meeting of the

North-Central Branch of the American Society for Microbiology

Showcasing the Power of Microbes

October 9–10, 2026

Volstorff Ballroom, University Student Union
South Dakota State University | Brookings, South Dakota

FULL TECHNICAL PROGRAM

Oral presentations are scheduled for 15 minutes total, including questions.

FRIDAY, OCTOBER 9, 2026

8:00–8:30 AM

Registration, Coffee and Light Breakfast & Poster Setup

Participant check-in, continental breakfast, networking, and student poster setup.

8:30–8:45 AM

Welcome and Opening Remarks

Dr. Barry Dunn, President, South Dakota State University; welcome from the ASM North-Central Branch and meeting organizers.

8:45–8:50 AM

Transition to Technical Sessions

8:50–10:20 AM | Concurrent Oral Technical Session I

Track A — Volstorff Ballroom West

Time	Presenter	Category	Presentation Title
8:50–9:05 AM	**Sheetalpreet Kaur Kang**	Graduate	On the Hunt: Characterizing Candidate Orphan Genes from the Dark Genome
9:05–9:20 AM	**Jagathiswaran Radhakrishnan**	Graduate	ReoGenotyper: An Alignment-Free Open-Set Neural Classifier for Avian Orthoreovirus Segment Genotypes and Ten-Segment Constellations
9:20–9:35 AM	**Katie Barry**	Graduate	Development of a Multiplex Digital PCR Approach to Simultaneously Screen for Five Distinct Stool Methanogen Species
9:35–9:50 AM	**Parfait Kada**	Graduate	Evaluation of a Chicken-Origin Avian Metapneumovirus Subtype B Vaccines in Turkeys
9:50–10:05 AM	**Lucille C. Jonas**	Graduate	Advancing the Understanding of *Pasteurellaceae* as Core Members of the Livestock Vaginal Microbiota
10:05–10:20 AM	**Ahmed Mansour**	Graduate	Development and Validation of a Recombinant G Protein-Based Indirect ELISA for Detection of Avian Metapneumovirus Subtype B Antibodies

Track B — Volstorff Ballroom East

Time	Presenter	Category	Presentation Title
8:50–9:05 AM	**Noreen Bashir**	Graduate	The Safety and Efficacy of Recombinant Baculovirus-HA Vaccine Against Low-Pathogenic Avian Influenza (H4N6) in Turkeys
9:05–9:20 AM	**Samjhana Bhattarai**	Graduate	Enrichment of Prairie Soil Bacteria Growing Under Nitrogen-Deficient Conditions

Time	Presenter	Category	Presentation Title
9:20–9:35 AM	**Khaled Abosria**	Graduate	Tracking the Tissue Distribution of the Emergent North American Avian Metapneumovirus Subtypes A and B in Turkeys by In-Situ Hybridization
9:35–9:50 AM	**Debarshi Dasgupta**	Graduate	Not Left to Chance: Soil Health Drives Deterministic Root Microbiome Recruitment Across Crop Rotations Over Regional Scale
9:50–10:05 AM	**Ahmed Abdallah**	Graduate	Shift in Avian Metapneumovirus Epidemiology: Respiratory Disease Due to Vaccine-Derived Strains in U.S. Turkey Farms
10:05–10:20 AM	**Adity Biswas**	Graduate	Which Plant Ferredoxins Can Support Nitrogenase Activity?

10:20–10:30 AM **Coffee & Networking Break**

10:30 AM–12:00 PM | Concurrent Oral Technical Session II

Track A — Volstorff Ballroom West

Time	Presenter	Category	Presentation Title
10:30–10:45 AM	**Santosh Thapa**	Graduate	Microbial Fermentation-Driven Extraction of Plant Proteins: A Green Alternative to Chemical Extraction
10:45–11:00 AM	**Bhawana Khadka**	Graduate	Enzymatic Conversion of Soybean Hulls Xylan to Prebiotic Oligosaccharides
11:00–11:15 AM	**Bidya Ojha**	Graduate	*Azospirillum brasilense* Sp7 and Cytidine as Combination Treatment on Drought Tolerance in Peas
11:15–11:30 AM	**Ditam Chakraborty**	Graduate	Cross-Scale Multi-Omics Reveal Concordant Microbial Responses and Functional Adaptations Under Salinity Stress
11:30–11:45 AM	**Lin Gao**	Faculty/PostDoc	Nitrous Oxide Emissions in Single- and Two-Stage Partial Nitritation–Anammox Systems Under Hypersaline Conditions
11:45 AM–12:00 PM	**Ivan Salmerón**	Faculty/PostDoc	Enhancement and Modeling of a Dairy Wastewater Bioprocess: Converting Cheese Whey into Lactic Acid and Probiotic Microbial Biomass

Track B — Volstorff Ballroom East

Time	Presenter	Category	Presentation Title
10:30–10:45 AM	**Kelsey Taylor**	Undergraduate	Constructing an Ordered *Campylobacter jejuni* Transposon Library
10:45–11:00 AM	**Ethan Chodur**	Undergraduate	Active Site Mimicry Underlies Toxic Effector Neutralization in Human Gut Bacillota
11:00–11:15 AM	**Nicholas Coad**	Undergraduate	More Than Meets the Eye: Uncharacterized Genes *yjbE* and *yciF* Shape *Escherichia coli* Colony Morphology
11:15–11:30 AM	**Connor Kreutner**	Undergraduate	Building a Scalable In Vitro Platform to Assay Candidate ClpP Small-Molecule Activators
11:30–11:45 AM	**Aaheli Malla**	Undergraduate	Microbial Biofortification of DDGS with L-Lysine via Co-Culture Fermentation of *Corynebacterium glutamicum* and *Aureobasidium pullulans*
11:45 AM–12:00 PM	**Nathaniel A. Strickland**	Undergraduate	Nanogels for Oncological Drug Delivery Synthesized from Thermophile-Derived Biopolymers

12:00–12:30 PM

Lunch & Networking

Lunch provided for registered participants; networking among students, faculty, postdoctoral researchers, industry representatives, and other attendees.

12:30–2:00 PM

Student Poster Session & Competition

Graduate and undergraduate student poster presentations, poster viewing, scientific discussion, and judging.

2:00–3:30 PM | Concurrent Oral Technical Session III

Track A — Volstorff Ballroom West

Time	Presenter	Category	Presentation Title
2:00–2:15 PM	**Muhammad Yasir Afzal**	Graduate	Bacterial Antagonism Limits the Growth of Spore-Forming *Caryophanales* in the Rhizosphere
2:15–2:30 PM	**Janice N. A. Tagoe**	Graduate	Comparative Effects of *Azospirillum brasilense* on Hydroponically Grown Lettuce Using Tap and Sugar Beet Processing Water
2:30–2:45 PM	**Tareq N. Bastawisy**	Graduate	Proximity-Ligation Metagenomic Sequence Analysis Reveals Novel Ammonia-Oxidizing Bacteria Growing in Full-Scale Municipal Wastewater Treatment Bioreactors
2:45–3:00 PM	**Ram Nageena Singh**	Faculty/PostDoc	Biofilms as Biofoundries: Unlocking the Hidden Microbiome of Wastewater Treatment Biofilms
3:00–3:15 PM	**Naveen Duhan**	Faculty/PostDoc	Cross-Species Circulation and Genomic Architecture of H5N1 Clade 2.3.4.4b in Dairy Cattle and Domestic Cats in South Dakota
3:15–3:30 PM	**Dipro Sinha**	Faculty/PostDoc	deepFLUpred: A Deep Learning-Based Framework for Genomic Characterization, Subtyping, and Pathogenicity Prediction of Avian Influenza Viruses

Track B — Volstorff Ballroom East

Time	Presenter	Category	Presentation Title
2:00–2:15 PM	**Suchi Parvin Biki**	Graduate	Evidence for Epigenetic Adaptation Enabling *Escherichia coli* to Survive Low-Dose Antibiotic Exposure Across Generations
2:15–2:30 PM	**Maxwell Awuah**	Graduate	Genetic Determinants of Beta-Lactam Resistance in the Gut Microbe *Eggerthella lenta*
2:30–2:45 PM	**Sylvia Otchere**	Graduate	Elucidating Regulatory Elements Involved in Cell Death and Cell Survival in Pyroptosis
2:45–3:00 PM	**Morgan Kremer**	Undergraduate	A Major CD4 Helper T Cell Subset Induced During Malaria Provides Suboptimal B Cell Help and Is Promoted by Adenosine Signaling
3:00–3:15 PM	**Omar Aristizabal**	Undergraduate	Characterizing Ebolavirus Localization and Neuroinflammation in the Murine Central Nervous System (CNS)
3:15–3:30 PM	**Angshula Khan**	Undergraduate	Investigation of Potential Nitrogenase-Like Genes in a Human Gut Bacterium, *Raoultibacter spp.*

3:30–4:00 PM

Coffee Break, Networking & Judges' Deliberation

4:00–5:00 PM | KEYNOTE ADDRESS

Dr. Rodney E. Rohde, Ph.D., M.S., SV, SM(ASCP)CM, MBCM, FACSc

Regents' Professor and Chair, Medical Laboratory Science Program
College of Health Professions, Texas State University

Keynote presentation title: Rabies- A New Look at an Old Foe

Keynote speaker profile. Dr. Rohde is a Regents' Professor and Chair of the Medical Laboratory Science Program at Texas State University. His expertise includes microbiology, molecular diagnostics, medical laboratory science, public health, antimicrobial resistance, and virology. He previously worked in public health microbiology and served as a CDC Visiting Scientist. He is also a 2025–2027 American Society for Microbiology Distinguished Lecturer.

5:00–5:30 PM	**Industry & Career Perspectives Panel** Industry partners and career-focused discussion on microbiology, biotechnology, workforce needs, emerging opportunities, and skills for students and early-career scientists.
5:30 PM	**Day 1 Scientific Program Concludes**
6:00–8:00 PM	**Conference Dinner, Awards & Networking** **McCrory Gardens** 631 22nd Avenue Brookings, SD, 57007 Student presentation awards: Graduate Oral, Undergraduate Oral, Graduate Poster, and Undergraduate Poster

SATURDAY, OCTOBER 10, 2026

Research, Industry & ASM North-Central Branch Program

8:00–8:30 AM

Coffee and Light Breakfast & Networking

8:30–9:30 AM

ASM North-Central Branch Business Meeting

Branch updates, current activities and initiatives, future planning, member discussion, and additional branch business.

9:30–10:45 AM | Technical Session IV

Single Track — Volstorff Ballroom

Time	Presenter	Category	Presentation Title
9:30–9:45 AM	**Nicole L. Márquez Reyes**	Faculty/PostDoc	A Nitrogenase-Like Enzyme Involved in Sulfonate Assimilation
9:45–10:00 AM	**Blake Downing**	Faculty/PostDoc	A Divergent 2-Oxoacid: Ferredoxin Oxidoreductase Links Propionate Metabolism and Isoleucine Biosynthesis in *Rhodopseudomonas palustris*
10:00–10:15 AM	**Brandon Ruddell**	Faculty/PostDoc	Coordinated Control of Iron Acquisition, Utilization, and Oxidative Stress Defense via sRNA–Fur Network in *Campylobacter jejuni*
10:15–10:30 AM	**Mohamed Selim**	Faculty/PostDoc	Safety and Protective Efficacy of a Novel U.S. Strain-Derived Live Attenuated Avian Metapneumovirus Subtype B Vaccine in Chickens
10:30–10:45 AM	**Connor Johansen-Sallee**	Faculty/PostDoc	Metagenomic Functional Signatures for Real-Time Predictive Monitoring of Cyanobacterial Bloom Assessment and Biofilm Marker Discovery

10:45 AM–12:00 PM

Closing Discussion & Networking

Research, industry, and career-focused discussion; collaboration opportunities; final announcements and meeting reflections.

12:00 PM

Meeting Adjourns