

Day 0	Sunday, May 18, 2025 - HMLK Building
5:00pm-7:00pm	Welcome Reception Sponsored by Freeport-McMoRan Inc., 3rd Floor Atrium
Day 1	Monday, May 19, 2025 - Morning Sessions - Memorial Union
7:00 - 7:45	Breakfast Buffet - Arizona Ballroom, Room 221
7:15 - 7:45	Registration Open - Arizona Ballroom lobby
7:00 - 8:00	Exhibitor set up - Arizona Ballroom
7:45 - 8:00	Opening Remarks (Ed Kavazanjian, Jr.) - Pima Auditorium, Room, 230
8:00 - 8:40	Keynote 1 (Jian Chu) - Pima Auditorium, Room 230

Track A: Alumni Lounge, Room 202	
Session 1A: Fundamental Research on Biogeotechnics (Experimental Studies)	
ICBBG2025-104	Physical-Chemical Impacts of a Controlled Carbonate Phase on Microbially Induced Calcite Precipitation Shaivan H. Shivaprakash; Susan E. Burns
ICBBG2025-51	Microbially induced calcite precipitation in fine-grained soils through mechanical mixing Influence of Curing Stress on Biocemented Sand; Shear Modulus Degradation and Design of Treatment Molds Jude Zelotny; Wolfgang Lieske; Arash Lavasan; Torsten Wichtmann
ICBBG2025-17	Combined Effect of Relative Density and Calcium Carbonate Content on Drained Triaxial Behaviour of Bio-cemented Sand Effect of Spatial Variability on Unconfined Compressive Strength of MICP-treated Soils Piyush Vyas; Chukwuebuka Nweke
ICBBG2025-29	Preliminary Investigation of the Effects of EICP on Compaction and Unconfined Compression Strength of Sandy Soil Saleh Allothman; Edward Kavazanjian; Claudia Zapata
ICBBG2025-142	
10:20 - 10:50	Please join us in the Arizona Ballroom for this morning's break - Sponsored by Groundwater Technology
10:20 - 11:50	Poster Session, Arizona Ballroom
11:50 - 1:00	Lunch Buffet Sponsored by Schnabel, Arizona Ballroom
Day 2	Monday, May 19, 2025 - Afternoon Sessions - Memorial Union
1:00 - 1:40	Keynote 2 (Jonathan Knappett), Pima Auditorium, Room 230

Track A: Alumni Lounge, Room 202	
Session 2A: Fundamental Research on Biogeotechnics (Modeling and Simulations)	
ICBBG2025-69	Review of critical state theory based constitutive models for bio-cemented granular soils Shahid Ali Khan; Md Rajibul Karim; Md Mizanur Rahman; Edward Kavazanjian; Khoi Nguyen
ICBBG2025-184	MICP for Liquefaction Mitigation: Interpretation of DSS tests and Constitutive Model Calibration Laura M.C. Luna; Ross W. Boulanger; Katherine Ziotopoulou; Jason DeJong
ICBBG2025-171	Measuring and Modelling Kinetics of CO2 hydration catalysed by Carbonic Anhydrase in Buffered Systems Simulation Study on Impact of MICP Treatment Against Degradation of Geotextiles Raymond Chen; Ahmet Mert Kavalı; Emily Miller; Alexandra Clara Saracho; Ewa J. Marek
ICBBG2025-8	Effects of Non-uniform Distribution of Calcium Carbonate in Sand Column by Enzyme Induced Calcite Precipitation Using Discrete Element Method Durability of bio-calcified porous materials exposed to solutions of varying aggressiveness: model-based measurements and short- and long-term issues Yun Chen; Qi Xu; Qiang Tang; Satoru Kawasaki
ICBBG2025-10	ICBBG2025-181
3:20 - 3:50	Please join us in the Arizona Ballroom for this afternoon's break - Sponsored by Groundwater Technology
3:50 - 4:30	Keynote 3 (Alejandro Martinez), Pima Auditorium, Room 230
4:30 - 5:15	2nd Annual Biogeotechnics Lecture Award, Pima Auditorium, Room 230 Introduction: Jian Chu, Recipient: Leon van Paassen
5:15 - 5:20	Day One Adjourned

Day 2	Tuesday, May 20, 2025 - Morning Sessions - Memorial Union
7:00 - 8:00	Breakfast Buffet - Ventana A, Room 221
	Registration Open - Ventana A lobby
	Exhibitor set up - Ventana A, Room 221
8:00 - 8:40	Keynote 4 (Annette Esnault Filet) - Pima Auditorium, Room 230
8:50 - 10:20	Track A: Alumni Lounge, Room 202 Session 3A: Fundamental Research on Biogeotechnics (Emerging Topics)

ICBBG2025-15	Characterization of Time-Dependent Bio-Invasion in Sandstone Using EICP Mary C. Ngoma; Oladotyin Kolawole
ICBBG2025-55	MICP via denitrification pathway under aerobic conditions Yasaman Abdolvand; Mohammadhossein Sadeghiamirshahidi
ICBBG2025-147	Mechanical Characterization of Bacteria-Encapsulated Hydrogels for Enhanced Microbial-Induced Carbonate Precipitation (MICP) Mert Kavalı; Cambry Stratton; Berkin Dordtdivanloglu; Alexandra Clara Saracho
ICBBG2025-168	MICP Delivery via Engineered Living Materials: Co-Culture of S. pasteurii and S. oneldensis Understanding the role of soil biota in relation to plant roots in sustainable geotechnical engineering perspective Emily J. Miller; Gina Partipilo; Benjamin K. Keitz; Alexandra Clara Saracho
ICBBG2025-95	Methodology to generate root analogues based on root tensile behaviour Alena D. Zhelezova; Gerald I. Otim; Gianmario Sorrentino; Irene Rocchi
ICBBG2025-41	
10:20 - 10:50	Please join us in the Ventana (A) Ballroom for this morning's break - Sponsored by Keller-North America

Track A: Alumni Lounge, Room 202	
Session 4A: Bio-mediated Methods for Hazard Mitigation (Erosion and Slope Stability)	
ICBBG2025-49	Rainfall Erosion of MICP-treated Sandy Slopes Shihui Liu; Kang Du; Lin Li
ICBBG2025-160	Forming a cemented crust in sloped sand with enzyme induced carbonate precipitation Emilia Marmolejo; Noah A. Madrigal; Paola Bandini
ICBBG2025-6	Influence of Bio-Mediated Slope Cover on Stability of Soil Slopes During Rainfall Vibha S; Raghuvveer Rao P
ICBBG2025-75	Preliminary Study of the Effect of EICP and X-EICP Treatment on Wind Erosion and Penetration Resistance of a Clayey Sand Shivangi Jain; Claudia Zapata; Edward Kavazanjian
11:50 - 1:00	Lunch break - Please pick up your box lunch in Ventana A There is seating in Alumni Lounge, Ventana A ballroom, and the patios just outside the MU

Day 2	Tuesday, May 20, 2025 - Afternoon Sessions - Memorial Union
1:00 - 1:40	Keynote 5 (Anca Delgado), Pima Auditorium, Room 230

Track A: Alumni Lounge, Room 202	
Session 5A: Bio-mediated Methods for Hazard Mitigation (Liquefaction)	
ICBBG2025-183	Effects of Structure Frequency placed in Bio-cemented Sands using Centrifuge Modeling Effects of Biocementation Treatment on Mitigating Liquefaction-Induced Foundation Settlements Using 1g Shake Table Test Soo-Min Ham; Jose Calsapanta; Daniel W. Wilson; Jason DeJong
ICBBG2025-61	Incorporating the Influence of Microbially Induced Carbonate Precipitation in Nonlinear Site Response Analyses Md Kausar Alam; Ramin Motamed; Ben Ma
ICBBG2025-81	ICBBG2025-148
ICBBG2025-156	Evaluation of microbially induced desaturation and precipitation (MIDP) using semi-batch columns Patrick Kwon ; Edward Kavazanjian Jr.; Leon A. van Paassen
ICBBG2025-86	
3:20 - 3:50	Please join us in the Ventana (A) Ballroom for this afternoon's break - Sponsored by Haley & Aldrich, Inc.
3:50 - 4:30	Keynote 6 (Brina Montoya), Pima Auditorium, Room 230
4:30 - 4:50	Special Talk (Jason DeJong), Pima Auditorium, Room 230
4:50 - 5:00	Closing Remarks (Susan Burns), Pima Auditorium, Room 230
5:00 - 5:30	Please follow the volunteers with the red scarves to the buses that will take us to our ICBBG Banquet at Rustler's Rooste - Parking Lot 3 in front of Gammage Auditorium
6:00 - 8:30	Rustler's Rooste, Cowboy Barbeque
8:30 - 8:45	Busses leave Rustler's Rooste to return to ASU

Track B: Cochise, Room 228	
Session 1B: Bio-Inspired Subsurface Exploration and Excavation	
ICBBG2025-127	Plant root adaptation to changes in soil stiffness: characterization and future perspectives for the design of self-motile robots Tomoya Nagayama; Luc Sibille; Emanuela Del Dottore; Barbara Mazzolai; Gioacchino (Cino) Viggiani
ICBBG2025-99	Plant root-inspired penetration experiments in layered sand profiles MPM Modeling of Self-Penetrating Probe for Soil Characterization in Layered Granular Media Riya Anilkumar; Alejandro Martinez Harsha Vardhan Kurugodu; Debayan Bhattacharya; Prashanth Vangla; David Frost
ICBBG2025-20	Evaluation of the Capacity of Deployable Granular Anchors in Sands Investigation of Pullout Resistance of Geogrids with Different Topologies Aly Ghanem; Alejandro Martinez
ICBBG2025-136	ICBBG2025-120
ICBBG2025-103	Laboratory Evaluation of Vertical Burrowing Behavior of a Bioinspired Robot (BurroBot) Sarina Shahhosseini; Julian Tao

Track B: Cochise, Room 228	
Session 2B: Bio-Inspired Methods for Infrastructure Construction	
ICBBG2025-139	3D Printing and Lab scale testing of Bio-Inspired Geogrids for Road Rutting Reduction Jiaojun Liu; Nimisha Roy; David Frost
ICBBG2025-116	Field investigation of tree-root-like minipile groups in cohesive soils Yoon-Ah Kim; Matthew Burrall; Min-Kyung Jeon; Alejandro Martinez; Jason DeJong; Tae-Hyuk Kwon
ICBBG2025-43	From Nature to Engineering: Pull-out Behaviors of Tree Root-inspired Anchors Investigating Physical and Mechanical Properties of Mud Dauber Nests Candas Oner; David Frost
ICBBG2025-78	
ICBBG2025-25	
ICBBG2025-111	

Track B: Cochise, Room 228	
Session 3B: Bio-inspired methods for infrastructure construction	
ICBBG2025-58	Design Considerations for Multi-axial Tensile Testing of Conventional and Next-Generation Geosynthetic Specimens Emre Duman; J. David Frost
ICBBG2025-100	Interface Shear Directionality between Snakekin-Inspired Surfaces and Normally Consolidated and Compacted Fine-Grained Soils Hyeon Jung Kim; Alejandro Martinez
ICBBG2025-83	Discrete Element Modeling Simulations of Interfaces Between Snakekin-Inspired Surfaces and Sand Damon Nguyen; Alejandro Martinez
ICBBG2025-80	Quantitative Analysis of Harvester Ant Nest Geometry Griffin Bodow; Meron Belachew; Karie Yamamoto; Chloe Arson; David Frost
ICBBG2025-169	Design and prototyping of root-inspired soft-growing robot DEM Investigation of Sediment Densification Effect Induced by Mangrove-Inspired Skirt Piles Dongho Seo; Gyeol Han; Jee-Hwan Ryu; Tae-Hyuk Kwon
ICBBG2025-175	

Track B: Cochise, Room 228	
Session 4B: Bio-Mediated Environmental Protection And Restoration	
ICBBG2025-77	Ureolytic biostimulation in aridisols - from microbiomes to MICP Michael Teesarsky; Kesem Abramov; Hadas Raveh-Amir
ICBBG2025-91	A Preliminary Study of Growth Response and Copper Tolerance in the Desert Fungus Podaxis pistillaris Biochemical Species Plume Migration under Diverse Injection Strategies during Microbially Induced Calcite Precipitation Treatment in Soils Ryan Cotter; Emmanuel Salifu; Caitlyn A. Hall
ICBBG2025-187	
ICBBG2025-93	Optimization of EICP Treatment Parameters for Dust Mitigation Salim Alaoui; Emmanuel Salifu; Edward Kavazanjian

Track B: Cochise, Room 228	
Session 5B: Bio-Mediated Environmental Protection And Restoration	
ICBBG2025-7	Enhancing Sandstone Surface Strength in Caves Through Microbial Filaments with Calcareous Coatings Hitoshi Matsubara
ICBBG2025-23	Investigating Heterotrophic Nitrifying-Aerobic Denitrifying Bacteria to Improve MICP Sustainability Effect of clay content in lead-contaminated soils on the distribution uniformity of biostimulated ureolytic bacteria Micaela Robson; Amy Grunden; Brina Montoya
ICBBG2025-71	
ICBBG2025-105	Microscopic insights into MICP treated fly ash The Challenge of Stabilizing Copper Tailings Using EICP: The Role of Inhibitors A study on the heavy metal remediation and mechanical properties improvement of contaminated humus soil using EICP method: From Particle-Scale to Macroscale Shaivan Hirebelaguly Shivaprakash; Susan Burns
ICBBG2025-76	
ICBBG2025-189	

Track C: Graham, Room 226	
Session 1C: Biopolymer Treated Soils - I	
ICBBG2025-13	Stabilization of Dredged Marine Sediment Using Biopolymer Yaser Ghafoori; Parisa Samadi; Pooria Ghadir; Stanislas Lenart; Sabina Doleneac; Hamed Khodadadi Tirkolaei
ICBBG2025-185	Improvement of soil strength using biopolymers Effectiveness of Plant Derived Biopolymer for Green Protection of Soil Against Wind Erosion Min Yao; Benhui Fan; Fernando Lopez-Caballero; Jean-Marie Fleureau
ICBBG2025-21	Biopolymer-Induced Stabilization of Sandy Soils for Enhanced Erosion Resistance Long-term Durability of Biopolymer Treated Recycled Glass Sand Dunja Peric; Arash Olla; Jack Fry
ICBBG2025-87	
ICBBG2025-27	
ICBBG2025-109	Enhancing Soil Stability with Biopolymers and Vegetation Anish Lamsal; Mohammadhasan Sasar; Sherif Abdelaziz

Track C: Graham, Room 226	
Session 2C: Biopolymer Treated Soils - II	
ICBBG2025-63	Assessment of Xanthan Gum-Based Stabilization of Construction and Demolition Waste for Enhanced Construction Material Performance Breach Evolution in Sand-Silt Dams with a Surface Layer of Xanthan Gum-Treated Soil during overtopping: Laboratory Experiments Beatrice Magombana; Shihui Liu; Lin Li
ICBBG2025-84	Xanthan Gum Treated Sand as a Mechanism to Improve Resistance to Erosion with Application to Breach Development Effect of Using Xanthan Gum on Properties of Fine-Grained Soils Matthew Czapiga; Ezzat Elalfy; Enrica Viparelli; M. Hanif Chaudhry
ICBBG2025-128	Insights into the impact of synergistic fungi-biopolymer stabilization on the shear strength of sand Utilizing Extracellular Polymeric Substances (EPS) from Psychrophilic Bacteria for Bio-Mediated Frost-Susceptible Soil Stabilization Edwin Kotey; Matthew Czapiga; Enrica Viparelli; M. Hanif Chaudhry
ICBBG2025-172	
ICBBG2025-119	
ICBBG2025-155	

Track C: Gold, Room 207	
Session 3C: Biopolymer Treated Soils - III	
ICBBG2025-125	Biopolymer produced by Rhizobium Tropici: Chemistry, Water Retention, and Interactions with Clays Impact of Rhizobium Tropici Produced EPS on Arabidopsis Thaliana Growth Yawei Fang; Rick Qian; Steven Yang; Damien Crowley; Aaron Sloutski; Marcia Simon; Jay Gao; Miriam Rafailovich; Steve Larson; Dilip Gersappe
ICBBG2025-135	Mapping Seepage Flow in Untreated and Biopolymer-Treated Soils Using Wireless Sensing Spikes for Electrical Conductivity Assessment Mechanical Stability, Hydromechanical and Decay Behavior of Polymer-Modified Fine-Grained Soils Ayman Mokhtar Nemmen; Puja Chowdhury; Clay Crews; Austin R.J. Downey; Jason D. Bakos; M. Sadik Khan; M. Hanif Chaudhry; Jasim Imran
ICBBG2025-140	
ICBBG2025-179	
ICBBG2025-123	The Effect of Biopolymer Pore Fluids on Soil Properties using Molecular Dynamics Simulations Experimental study on the effect of biopolymers on the thermal properties of soil and thermal diffusion analysis using COMSOL Multiphysics Shoumik Saha; Sherif Abdelaziz; Dilip Gersappe
ICBBG2025-107	

Track C: Gold, Room 207	
Session 4C: Bio-Mediated Methods For Infrastructure Construction	
ICBBG2025-97	Cross-scale correlations in biocement test samples Soil stabilization via carbonate precipitation by plant-derived urease: comparison between soybeans fine powder and crude extract juice Rhett L. Martineau; Brandon M. Bradov; Matthew J. Tuttle; Michael S. Carter; Josh A. Manonci; Maneesh K. Gupta
ICBBG2025-114	Utilization of Recycled Soybean as a Urease Source in Carbonate Precipitation for Soil Improvement Evaluation of the physical properties of sands with enzyme induced calcite precipitation (EICP), biopolymer-based soil treatment (BPST), and composite treatment through elastic wave and direct shear test Elise Lefevre; Alessia Cuccurullo
ICBBG2025-30	
ICBBG2025-19	

Track C: Gold, Room 207	
Session 5C: Bio-Mediated Methods For Infrastructure Construction	
ICBBG2025-57	Development of a Treatment Strategy Applicable to Field Conditions for the Repair of Vertical Fractures in Concrete Using MICP Gloria Castro-Quintero; Grainne El Mountassir; Rebecca Lunn
ICBBG2025-18	Bio-enhanced Soil Bentonite Slurry Trench Cutoff Walls Jeffrey Evans; Derek Mantheim; Nazli Yessiller
ICBBG2025-22	Development of High-Performance Wood (HPW) Piles for Deep Foundation Applications Integration of Plants and Microbially Induced Soil Stabilization for Sustainable Infrastructure Design Hussein Algrinawi; Hai Lin; Qinglin Wu; Shergil Chen
ICBBG2025-40	
ICBBG2025-52	

Track D: Pima Auditorium, Room 230	
Session 1D: Fungal Treatment of Soils	
ICBBG2025-26	Modification of Soil Properties by Fungal Mycelium Effect of Engineered Fungal Mycelium Growth on Infiltration and Erosion Resistance in Fire-Affected Soils Joon Soo Park; Hai Lin
ICBBG2025-158	Evaluating Fungal Inoculation for Biogeotechnical Slope Stabilisation Influence of Fungal Mycelium on Desiccation Cracking in Expansive Soils Unconfined Compression Behaviour of Silty Sand treated with Pleurotus Ostreatus Henry Nakaana; Adesola Habeeb Adegoke; Emmanuel Salifu
ICBBG2025-115	
ICBBG2025-73	
ICBBG2025-94	
ICBBG2025-118	Exploratory research on optimising the synergistic application of fungi biopolymers in soil engineering Alireza Fathollahi; Grainne El Mountassir

Track D: Pima Auditorium, Room 230	
Session 2D: Hybrid Session	
ICBBG2025-102	Integrating MICP with Geothermal Pavements: A Numerical Analysis of Thermal Performance and Cost-Efficiency Correlation of Penetration Resistance with Wind Erosion Resistance for Fugitive Dust Studies Xiaoying Gu; Alexandra Clara Saracho; Nikolas Makasis; Monika Kreitmair; Guillermo Narsilio
ICBBG2025-92	Increasing Amsterdam quay wall stability through Bio-Inspired Soil Improvement Understanding the variation of thermal conductivity of sands with bio-cementation and desaturation Salim Alaoui; Brian Scott; Salifu Emmanuel; Edward Kavazanjian
ICBBG2025-150	
ICBBG2025-180	
ICBBG2025-145	
ICBBG2025-53	

Track D: Pima Auditorium, Room 230	
Session 3D: Case Studies and Field Applications of Biogeotechnics	
ICBBG2025-186	Scaling up biocement production in the Department of the Air Force Mitigating Train-induced vibration nuisance through Bio Inspired Soil Improvement Michael S. Carter; Kristen A. Bruce; Matthew J. Tuttle; Rhett L. Martineau; Maneesh K. Gupta
ICBBG2025-146	A Study on the Applicability of MICP for Stabilization of Platform Embankment of Angkor Ruins Investigation of biostimulation feasibility in dumped soils of lignite opencast mines Yvo Veenis; Eliam Viljim; Agnes van Ulter; Ronald Damen; Leon van Paassen; Caroline Van de Steenoven; Sjoerd van Gaal; Ronny Van der Heijden
ICBBG2025-90	
ICBBG2025-178	
ICBBG2025-130	
ICBBG2025-144	