

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	Yasaman Abdolvand; Mohammadhossein Sadeghiamirshahidi
8:50 - 10:20	ICBBG2025-17	Jude Zelotony; Wolfgang Lieske; Arash Lavasan; Torsten Wichtmann
ICBBG2025-29	Effect of Spatial Variability on Unconfined Compressive Strength of MICP-treated Soils	Piyush Vyas; Chukwuebuka Nweke
ICBBG2025-67	Combined Effect of Relative Density and Calcium Carbonate Content on Drained Triaxial Behaviour of Bio-cemented Sand	Raymond Chen; Ahmet Mert Kavala; Emily Miller; Alexandra Clara Saracho; Ewa J. Marek
ICBBG2025-142	Preliminary Investigation of the Effects of EICP on Compaction and Unconfined Compression Strength of Sandy Soil	Saleh Allothman; Edward Kavazanjian; Claudia Zapata

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

1:00 - 1:40	Monday, May 19, 2025 - Afternoon Sessions - Memorial Union
	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; Katerina Ziotopoulou; Jason DeJong
ICBBG2025-171	Measuring and Modelling Kinetics of CO2 hydration catalysed by Carbonic Anhydrase in Buffered Systems	Raymond Chen; Ahmet Mert Kavala; Emily Miller; Alexandra Clara Saracho; Ewa J. Marek
ICBBG2025-8	Simulation Study on Impact of MICP Treatment Against Degradation of Geotextiles	Ibuki Nishimura; Tomonori Yamada; Hiroshi Matsubara
ICBBG2025-10	Effects of Non-uniform Distribution of Calcium Carbonate in Sand Column by Enzyme Induced Calcite Precipitation Using Discrete Element Method	Yun Chen; Qi Xu; Qiang Tang; Satoru Kawasaki
ICBBG2025-181	Durability of biocalcified porous materials exposed to solutions of varying aggressiveness: model-based measurements and short- and long-term issues	Lorenzo Spadini; Laurent Oxarango; Emilie François; Annette Esnault Filet; Leslie Sapin; Jean M.F. Martins

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
5:15 - 5:20	Introduction: Jian Chu, Recipient; Leon van Paassen
	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; Oladoyin 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 Kavala; Cambry Stratton; Berkin Dorddivaniloglu; Alexandra Clara Saracho
ICBBG2025-168	MICP Delivery via Engineered Living Materials: Co-Culture of S. pasteurii and S. oneldensis	Emily J. Miller; Gina Partipilo; Benjamin K. Keitz; Alexandra Clara Saracho
ICBBG2025-95	Understanding the role of soil biota in relation to plant roots in sustainable geotechnical engineering perspective	Alena D. Zhelezova; Gerald I. Otim; Gianmario Sorrentino; Irene Rocchi
ICBBG2025-41	Methodology to generate root analogues based on root tensile behaviour	Shanshan Li; Hans Henning Stutz

10:20 - 10:50	Please join us in the Ventana (A) Ballroom for this morning's break - Sponsored by Keller-North America
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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; Raghuveer 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

1:00 - 1:40	Tuesday, May 20, 2025 - Afternoon Sessions - Memorial Union
	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	Soo-Min Ham; Jose Calsapanta; Daniel W. Wilson; Jason DeJong
ICBBG2025-61	Effects of Biocementation Treatment on Mitigating Liquefaction-Induced Foundation Settlements Using 1g Shake Table Test	Ma
ICBBG2025-81	Incorporating the Influence of Microbially Induced Carbonate Precipitation in Nonlinear Site Response Analyses	Thomas Na; Brina Montoya; Ashly Cabas Yvo Veenis; Edward Kavazanjian Jr.; Leon van Paassen; Caitlyn Hall; Patrick Kwon; Caroline Van de Steenoven; Ronny Van der Heijden; Eliam Viljim
ICBBG2025-148	BISI Flood and Earthquake Hazard Mitigation Fraser River BC, CND	Katherine M. Currier; Caitlyn A. Hall; Bruce E. Rittmann; Edward Kavazanjian Jr.
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	Evaluating injection strategies for a field trial of Microbially Induced Desaturation and Precipitation (MIDP)	

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	Riya Anilkumar; Alejandro Martinez Harsha Vardhan Kurugodu; Debayan Bhattacharya; Prashanth Vangla; David Frost
ICBBG2025-20	MPM Modeling of Self-Penetrating Probe for Soil Characterization in Layered Granular Media	
ICBBG2025-136	Evaluation of the Capacity of Deployable Granular Anchors in Sands	Aly Ghanem; Alejandro Martinez
ICBBG2025-120	Investigation of Pullout Resistance of Geogrids with Different Topologies	Honglai Peng; David Frost; Rodrigo Borela
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 - I		
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	Alberto Escobar; Sanchari Mondal; Mahdi M Disfani; Guillermo Narsilio
ICBBG2025-43	From Nature to Engineering: Pull-out Behaviors of Tree Root-inspired Anchors	Yoon-Ah Kim; Matthew Burrall; Min-Kyung Jeon; Alejandro Martinez; Jason DeJong; Tae-Hyuk Kwon
ICBBG2025-78	Investigating Physical and Mechanical Properties of Mud Dauber Nests	Candas Oner; David Frost
ICBBG2025-25	Investigating Physical and Mechanical Properties of Mud Dauber Nests	Joon Soo Park; Hai Lin
ICBBG2025-111	Fabric and Structure of Potter Wasp Nests	Shrut Pandey; Tejas G Murthy; Renee M. Borges

Track B: Cochise, Room 228		
Session 3B: Bio-inspired methods for infrastructure construction - II		
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	Dongho Seo; Gyeol Han; Jee-Hwan Ryu; Tae-Hyuk Kwon
ICBBG2025-175	DEM Investigation of Sediment Densification Effect Induced by Mangrove-Inspired Skirt Piles	Xiwei Li; Julian Tao; Leon van Paassen

Track B: Cochise, Room 228		
Session 4B: Bio-Mediated Environmental Protection And Restoration		
ICBBG2025-91	A Preliminary Study of Growth Response and Copper Tolerance in the Desert Fungus Podaxis pistillans	Ryan Cotter; Emmanuel Salifu; Caitlyn A. Hall
ICBBG2025-187	Biochemical Species Plume Migration under Diverse Injection Strategies during Microbially Induced Calcite Precipitation Treatment in Soils	Pavan Kumar Bhukya; Xuerui Wang; Dali Naidu Arneppalli
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	Micaela Robson; Amy Grunden; Brina Montoya
ICBBG2025-71	Effect of clay content in lead-contaminated soils on the distribution uniformity of biostimulated ureolytic bacteria	Shih Li; Yu Zhang; Haishan Qin; Xiangrui Xu; Ningjun Jiang
ICBBG2025-105	Microscopic insights into MICP treated fly ash	Shaivan Hirebelaguly Shivaprakash; Susan Burns
ICBBG2025-76	The Challenge of Stabilizing Copper Tailings Using EICP: The Role of Inhibitors	Bernah Ibrahim; Md Mizanur Rahman; Md Rajibul Karim; Khoi Nguyen; Edward Kavazanjian
ICBBG2025-189	A study on the heavy metal remediation and mechanical properties improvement of contaminated humus soil using EICP method: From Particle-Scale to Macroscale	Yi Bian; Yanbo Chen; Liangtong Zhan; Yufeng Gao

Track C: Graham, Room 226		
Session 1C: Biopolymer Treated Soils -I (updated)		
ICBBG2025-13	Stabilization of Dredged Marine Sediment Using Biopolymer	Yaser Ghafouri; Parisa Samadi; Pooria Ghadir; Stanislas Lenart; Sabina Doleneac; Hamed Khodadadi Tirkolaei
ICBBG2025-185	Improvement of soil strength using biopolymers	Min Yao, Benhui Fan; Fernando Lopez-Caballero; Jean-Marie Fleureau
ICBBG2025-87	Biopolymer-Induced Stabilization of Sandy Soils for Enhanced Erosion Resistance	Anish Lamsal; Mohammadhasan Sasar; Sherif L. Abdelaziz
ICBBG2025-27	Long-term Durability of Biopolymer Treated Recycled Glass Sand	Junjie Li; Kajun Wen
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	Beatrice Magombana; Shihui Liu; Lin Li
ICBBG2025-84	Breach Evolution in Sand-Silt Dams with a Surface Layer of Xanthan Gum-Treated Soil during overtopping: Laboratory Experiments	Matthew Czapiga; Ezzat Elafly; Enrica Viparelli; M. Hanif Chaudhry
ICBBG2025-128	Xanthan Gum Treated Sand as a Mechanism to Improve Resistance to Erosion with Application to Breach Development	Edwin Kotey; Matthew Czapiga; Enrica Viparelli; M. Hanif Chaudhry
ICBBG2025-172	Effect of Using Xanthan Gum on Properties of Fine-Grained Soils	Kiran Kukei; Bernardo A. Castellanos; Lucas Welschire
ICBBG2025-119	Insights into the impact of synergistic fungi-biopolymer stabilization on the shear strength of sand	Edwin Kotey; Matthew Czapiga; Enrica Viparelli; M. Hanif Chaudhry
ICBBG2025-155	Utilizing Extracellular Polymeric Substances (EPS) from Psychrophilic Bacteria for Bio-Mediated Frost-Susceptible Soil Stabilization	Domenico Gallipoli

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	Ywei Fang; Rick Qian; Steven Yang; Damien Crowley; Aaron Sloutski; Marcia Simon; Jay Gao; Miriam Rafailovich; Steve Larson; Dilip Gersappe
ICBBG2025-135	Impact of Rhizobium Tropici Produced EPS on Arabidopsis Thaliana Growth	Aaron Sloutski; Justin Burzachiello; Yu-Chung Lin; Steven Slot; Benoit Lacroix; Vitaly Citovsky; Yuefan Deng; Marcia Simon; Jay Gao; Miriam Rafailovich
ICBBG2025-140	Mapping Seepage Flow in Untreated and Biopolymer-Treated Soils Using Wireless Sensing Spikes for Electrical Conductivity Assessment	Ayman Mokhtar Nemmen; Puja Chowdhury; Clay Crews; Austin R.J. Downey; Jason D. Bakos; M. Sadik Khan; M. Hanif Chaudhry; Jasim Imran
ICBBG2025-179	Mechanical Stability, Hydromechanical and Decay Behavior of Polymer-Modified Fine-Grained Soils	Natascha Kallerhoff; Wolfgang Lieske; Wiebke Baile; Angelica M. Palomino; Torsten Wichtmann
ICBBG2025-123	The Effect of Biopolymer Pore Fluids on Soil Properties using Molecular Dynamics Simulations	Shoumik Saha; Sherif Abdelaziz; Dilip Gersappe
ICBBG2025-107	Experimental study on the effect of biopolymers on the thermal properties of soil and thermal diffusion analysis using COMSOL Multiphysics	Hwijae Lee; Gi-Yun Kim; Jun-Hyeok Yum; Ilhan Chang

Track C: Gold, Room 207		
Session 4C: Bio-Mediated Methods For Infrastructure Construction		
ICBBG2025-97	Cross-scale correlations in biocement test samples	Rhett L. Martineau; Brandon M. Bradow; Matthew J. Tuttle; Michael S. Carter; Josh A. Manoin; Maneesh K. Gupta
ICBBG2025-114	Soil stabilization via carbonate precipitation by plant-derived urease: comparison between soybeans fine powder and crude extract juice	Elise Lefevre; Alessia Cuccurullo
ICBBG2025-30	Utilization of Recycled Soybean as a Urease Source in Carbonate Precipitation for Soil Improvement	Zafra Maulida Ihsani; Naoki Kinoshita; Hideaki Yasuhara; Herianayah Putra; Haruma Nishimoto
ICBBG2025-19	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	Sutayuk Park; Jinwoo Park; Ilhan Chang

Track C: Gold, Room 207		
Session 5C: Bio-Mediated Methods For Infrastructure Construction (updated)		
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	Hussein Algrinawi; Hai Lin; Qinglin Wu; Shergil Chen
ICBBG2025-40	Integration of Plants and Microbially Induced Soil Stabilization for Sustainable Infrastructure Design	Pegah Ghazemi; Hannah Hiscott; Alden Sears; Brina Montoya; Celso Castro Bolineas; William Petry; Amy Grunden; Benjamin Breland; Allison Scates
ICBBG2025-52	Effects of microbially induced calcite precipitation (MICP) on the soil-concrete interface behavior	Yasaman Abdolvand; Mohammadhossein Sadeghiamirshahidi

Track D: Pima Auditorium, Room 230		
Session 1D: Fungal Treatment of Soils		
ICBBG2025-26	Modification of Soil Properties by Fungal Mycelium	Joon Soo Park; Hai Lin
ICBBG2025-158	Effect of Engineered Fungal Mycelium Growth on Infiltration and Erosion Resistance in Fire-Affected Soils	Henry Nakaana; Adesola Habeeb Adegoke; Emmanuel Salifu
ICBBG2025-115	Evaluating Fungal Inoculation for Biogeotechnical Slope Stabilisation	Alireza Fathollahi; Grainne El Mountassir
ICBBG2025-73	Influence of Fungal Mycelium on Desiccation Cracking in Expansive Soils	Adesola Habeeb Adegoke; Yaseen Keshour; Saleh Allothman; Claudia Zapata; Emmanuel Salifu
ICBBG2025-94	Unconfined Compression Behaviour of Silty Sand treated with Pleurotus Ostreatus	Benedek Nagy; Qi Zhang; Alessandro Tarantino; Grainne El Mountassir
ICBBG2025-118	Exploratory research on optimising the synergistic application of fungi biopolymers in soil engineering	Alice Lane; Sravan Muguda Viswanath; Emmanuel Salifu; Hamed Khodadadi Tirkolaei; Agostino Walter Bruno; Domenico Gallipoli

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	Xiaoying Gu; Alexandra Clara Saracho; Nikolas Makasis; Monika Kreitmair; Guillermo Narsilio
ICBBG2025-92	Correlation of Penetration Resistance with Wind Erosion Resistance for Fugitive Dust Studies	Salim Alaoui; Brian Scott; Salifu Emmanuel; Edward Kavazanjian
ICBBG2025-150	Increasing Amsterdam quay wall stability through Bio-Inspired Soil Improvement	Yvo Veenis; Eliam Viljim; Edward Kavazanjian Jr.; Leon van Paassen; Caitlyn Hall; Patrick Kwon; Caroline Van de Steenoven; Gert Jan Weerts
ICBBG2025-180	Understanding the variation of thermal conductivity of sands with bio-cementation and desaturation	Avishke Ghosh; Anitra Banerjee; Volker Brozel; Emmanuel Salifu; Jasaswee Das
ICBBG2025-145	A Synopsis of Difficulties and Benefits of Operating a Local Chapter of the Society of Women Engineers in Yokosburg, Mississippi after 2021	Allison Scates; Katie A. Martin
ICBBG2025-53	Shaping High School Students' Educational and Career Paths Through University Engineering Lab Experiences	Leah Folkestad; Jean Larson