

**15th International Workshop On Micropiles  
The Sebastian | Vail, Colorado  
May 31-June 2, 2023****Workshop Program****Wednesday, May 31, 2023**

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| 12:00 PM - 1:00 PM | Registration  |
| 1:00 PM - 1:10 PM  | Welcome, Dan MacLean, P.Eng.   Keller, Canada   |
| 1:10 PM - 1:55 PM  | 11th Lizzi Lecture — Introduction: Allen Cadden, P.E., D.GE, FASCE   Schnabel Engineering, United States<br>Lizzi Lecturer: Erik Løehr, Ph.D. P.E., University of Missouri<br>Mainstreaming of Micropiles: Probabilistic Calibration of Axial Resistance for Load and Resistance Factor Design  |
| 1:55 PM - 2:30 PM  | 9th Lizzi Scholarship Presentation — Introduction: Sue Frank   TEI Rock Drills, United States<br>Kelly Flanagan   North Carolina State University, United States<br>Interface Shear Strength Characterization Between Subsea Installed Micropile Grout and Textured Rock for Micropiles Anchoring Offshore Renewable Ocean Energy Devices |
| 2:30 PM - 2:45 PM  | Break   |

**Session 1 — Moderator: Ty Jahn, P.E. | Condon-Johnson Associates, United States**

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| 2:45 PM - 2:55 PM | 4th Micropile World Cup Presentations<br>Introduction: Ty Jahn, Condon-Johnson Associates, United States   |
| 2:55 PM - 3:20 PM | Australasia: Micropiled Cell Towers for the Rural Connectivity Group<br>Neil Jacka   Total Ground Engineering and Earth Stability Limited, New Zealand                                 |
| 3:20 PM - 3:45 PM | Europe: Reconstruction of Railway Bridge in Old Town of Cracow<br>Hubert Zychalak   AARSLEFF, Poland   |
| 3:45 PM - 4:10 PM | Africa and Central Asia: Remedial Works to Arrest the Differential Settlement of Foundations of Sabic Building<br>Haytham Hamdan   Bullivant Arabia, Saudi Arabia                      |
| 4:10 PM - 4:35 PM | North America: Battling the Elements with Helicopters at Elevation 11,260 feet<br>Ty Jahn, P.E.   Condon-Johnson Associates, United States   |
| 4:35 PM - 5:00 PM | South and Central America: Installation of Micropiles for the Foundation of the New Furnace at the O-I Peldar Zipaquira Plant<br>Esteban De La Cruz Soto, P.Eng.   Ischebeck, Colombia |
| 5:00 PM - 5:15 PM | Closing  |
| 5:30 PM - 7:30 PM | Welcome Reception, The Sebastian Vail  |

**Thursday, June 1, 2023**

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**Session 2 — Moderator: Robert Schiermeyer, P.E. | Keller, United States**

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| 8:30 AM - 8:35AM  | Opening and Introduction of Keynote Speaker   |
| 8:35 AM - 9:20 AM | Special Lecture, Colorado DOT<br>A Colorado View of Micropiles in Transportation<br>David Thomas, P.G., P.E.   Colorado DOT, United States<br>Also presenting: Sam Abraham and Trey White   Colorado DOT, United States |
| 9:20 AM - 9:45 AM | The Role of Micropiles in a Sustainable Deep Foundations Industry<br>Freddy Lopez, M.Sc.-Ing.   Tiroler Rohre, Germany  |

## Thursday, June 1, 2023 continued

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- 9:45 AM - 10:10 AM The Hidden Opportunity: Can Micropiles Reduce Cost and Carbon in the Windpower Sector  
Neil Jacka | Total Ground Engineering, New Zealand
- 10:10 AM - 10:35 AM Swiss Grid Transmission Towers  
Racquel Nottingham | Ischebeck, Germany
- 10:35 AM - 10:50 AM Break

### Session 3 — Moderator: Charles Braun, P.E. | Williams Form Engineering Corporation

- 10:50 AM - 11:15 AM When Heat Treatment Gives You Lemons...  
Justin Toney, P.E. | Crux Subsurface, United States
- 11:15 AM - 11:40 AM High-Capacity Micropiles with Unique Testing Requirements for Parking Structure Upgrade in Los Angeles  
Pete Speier, P.E. | Williams Form Engineering Corporation, United States
- 11:40 AM - 12:05 PM Micropile Install in the Steep Talus, Debris Flow and Basalt of the Columbia River Gorge  
Brian Olson | Crux Subsurface, United States
- 12:05 PM - 12:30 PM Durability of Anchorages – A Critical Approach to a Sensitive Topic  
Andreas Brandner, Dipl.-Ing. | IB-Brandner, Austria
- 12:30 PM - 1:30 PM Lunch

### Session 4 — Moderator: Bill Zietlow, P.E. | Brierley Associates Corporation, United States

- 1:30 PM - 1:55 PM One Post Office Square  
Tony Barila | Hub Foundations, United States
- 1:55 PM - 2:20 PM US Based Design Guidance Updates (ADSC/DFI)  
FHWA/LRFD Update  
Allen Cadden, P.E., D.GE, F.ASCE | Schnabel Engineering  
Electric Power Guidance Document  
Steve Davidow, P.E., S.E., P.Eng. | Crux Subsurface  
Micropile Connector Study Results  
Helen Robinson, P.E., D.GE | GEI Consultants, United States
- 2:20 PM - 2:45 PM Micropiles in the Second Generation of Eurocode 7: Geotechnical Design  
Natalia Maca | Titan Polska, Poland
- 2:45 PM - 3:00 PM Break

### Session 5 — Moderator: Allan Herse, CP.Eng. | PCA Ground Engineering, Australia

- 3:00 PM - 3:25 PM Micropiles – An All-In-One Geotechnical Solution at the Nashville International Airport  
Will Shaffer, P.E. | Dan Brown and Associates, United States
- 3:25 PM - 3:50 PM Performance-Based Design and Construction of Micropile Foundations from the Project Engineer of Record Perspective for Building Construction  
Ralph Rempel | Martin/Martin, United States
- 3:50 PM - 4:00 PM Break

### Session 6 — Moderator: Allen Cadden, P.E., D.GE, F.ASCE, Schnabel Engineering, United States

- 4:00 PM - 5:15 PM Panel Discussion Results of Micropile Casing Testing  
Sebastian Montoya-Vargas | University of Maine, USA  
Griffin Lowe, P.E. | Condon-Johnson Associates, United States  
Helen Robinson, P.E., PMP, D.GE | GEI Consultants, United States
- 5:15 PM - 5:25 PM Closing — Dinner on your own

## Friday, June 2, 2023

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8:30 AM – 8:40 AM Opening, Dan MacLean, P.Eng. | Keller, Canada

### **Session 7 — Moderator: Mary Ellen Large, P.E., D.GE | Nicholson Construction Company, United States**

8:40 AM – 9:40 AM Reticulated Micropiles for Restoration of Historic Structures Foundations after Natural and Manmade Disasters  
James Mason, Ph.D., P.E. | National Park Services, United States

9:40 AM – 10:05 AM Reticulation Micropiles for the Preservation and Rehabilitation of Transportation Infrastructure  
Paul Saucó | University of Rhode Island, United States

10:05 AM – 10:30 AM Structural Design of the Upper-Cased Length of Micropiles  
Allen Cadden, P.E., D.GE, F.ASCE | Schnabel Engineering, United States

10:30 AM – 10:45 AM Break

### **Session 8 — Moderator: Cody Telgheder, P.E. | Nicholson Construction Company, United States**

10:45 AM – 11:10 AM Underpinning and Seismic Upgrade of the Salt Lake City Capital Building in Utah  
Marc Mastrantuono, P.E. | Ischebeck, United States

11:10 AM – 11:35 AM Micropiles Support New Red Rocks Amphitheater Roof  
Jeff Wenzel | Park Range Construction, United States

11:35 AM – 12:00 PM Bronco Billy's Casino, Hotel, and Conference Center – Cripple Creek, CO  
Robert Schiermeyer, P.E. | Keller, United States

12:00 PM – 12:25 PM The World's Largest Micropiled Post - Tensioned Raft Foundations in the Kingdom of Bahrain — a Case Study  
Sharath Kumar | Strong Force-MGC W.L.L., Kingdom of Bahrain

12:25 PM – 1:30 PM Lunch and World Cup Voting

### **Session 9 — John Turner, Ph.D., P.E., D.GE | Dan Brown and Associates, United States**

1:30 PM – 1:55 PM Micropiles and Shotcrete to Support the Expansion of the New Cedarvale Interchange Station  
Alex Almeida, P.Eng. | Keller, Canada

1:55 PM – 2:20 PM Emergency Stabilization of Fountain Slide  
Rick Deschamps, P.E., Ph.D. | Nicholson Construction Company, United States

2:20 PM – 2:45 PM A Historical Overview of the Innovative use of Micropiles for Support of Excavation and Facades in Toronto, Canada  
Erika Acton | Isherwood Associates, Canada

2:45 PM – 3:00 PM Break

### **Session 10 — Moderator: Andreas Brandner, Dipl.-Ing | IB-Brandner, Austria**

3:00 PM – 3:25 PM Australasia World Cup Runner Up: Micropiled Pedestrian and Cyclist Bridge Foundation – Parramatta, Sydney, Australia  
Allan Herse, CP.Eng. | PCA Ground Engineering, Australia

3:25 PM – 3:50 PM South American World Cup Runner Up: Dealing with Bending Moments at Micropile Heads in Seismic Regions  
Aldo Guzman | Soilforce, Chile

3:50 PM – 4:15 PM North American World Cup Runner Up: Prairie Du Sac Dam  
Rick Deschamps, P.E., Ph.D. | Nicholson Construction Company, United States

4:15 PM – 4:40 PM European World Cup Runner Up — Visitor Service Center at Auschwitz-Birkenau Museum (Poland)  
Challenging Underpinning in the Important Historic Area  
Natalia Maca | Titan Polska, Poland

4:40 PM – 4:45 PM Closing, Dan MacLean, P.Eng. | Keller, Canada

4:45 PM – 6:30 PM Free Time

6:30 PM – 7:00 PM Awards Reception

7:00 PM – 10:00 PM Awards Dinner

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