

AGENDA

INDUSTRY ADVISORY BOARD (IAB) MEETING ON WEBEX NSF Industry-University Collaborative Research Center (IUCRC) for Solid-State Electric Power Storage (CEPS)



May 15th- 16th, 2023

Organizer: SD Mines, Rapid City, SD, 57701, USA
Technical Point of Contact: Pascal Britton 605-430-4334

DAY 1: May 15 th , 2023 (Mountain Daylight Time - MDT)	
	PARTICIPANT REGISTRATION https://www.greenceps.com/register-for-iab-meeting
8:45 am – 9:00 am MDT	Networking on WebEx (Creating online WebEx profile if necessary)
9:00 am – 10:00 am MDT	WELCOME REMARKS Session Chair: CEPS Managing Director Dr. Serge Pann <ul style="list-style-type: none"> • NSF IUCRC Program Director Dr. Crystal Leach • IAB meeting goals; industry members overview (IAB Chair Dr. Mark Viste) - perspective from IAB and expectations • Center achievements (CEPS Director Dr. Smirnova) – structure, value proposition, research roadmap, memberships, outreach activities, and supplemental funding.
10:00 am – 10:40 am MDT	SESSION 1: PRESENTATIONS from CURRENT & PROSPECTIVE INDUSTRY PARTNERS Session Chair: CEPS Managing Director Dr. Serge Pann Lithoz, HFH, Nissan, PolyPlus, C4V, Daktronics, Medtronic, VRC
10:40 am – 11:10 am MDT	SESSION 2: INTRODUCTION by the CANDIDATE UNIVERSITY SITE - Michigan State University Session Chair: CEPS Managing Director Dr. Serge Pann
11:10 am – 11:20 am MDT	How to submit a L.I.F.E. form for each project or proposal – Pascal Britton <i>Each presentation is followed by the submission of the Level of Interest and Feedback Evaluation (L.I.F.E.) form through AirTable.</i>
11:20 am – 11:30 am MDT	Networking break
DAY 1: May 15 th , 2023 (Mountain Daylight Time - MDT)	
11:30 am – 2:00 pm MDT (10 min each presentation + 10 min Q&A between projects)	SESSION 3: INTERIM PROGRESS REPORTS Session Chair: CEPS Site Director at the Northeastern University Dr. Sanjeev Mukerjee Project 1: Intro by PI Dr. A. Smirnova Report 1a: Lithium halide solid-state electrolytes for solid-state lithium-metal battery (PhD student Farzaneh Bahmani, SD Mines) Report 1b: Cold spray for solid-state battery manufacturing (PhD student Collin Rodmyre and Research Scientist III Dr. Fan Zheng, SD Mines)

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<p>11:30 am –2:00 pm MDT (10 min each presentation + 10 min Q&A between projects)</p>	<p>Q&A and DISCUSSION for Project 1. Fill out L.I.F.E. forms.</p> <p>Project 2: Intro by PI Dr. Q. Qiao Report 2a: Cycling performance of Li/Li symmetrical cells using halide doped LPS electrolyte (PhD student Madan Saud, Syracuse University) Report 2b: Off-grid Audio-Visual systems by Photo-chargeable Solid-state batteries (PhD student Poojan Kaswekar, Syracuse University)</p> <p>Q&A and DISCUSSION for Project 2. Fill out L.I.F.E. forms.</p> <p>Project 3: Intro by PI Dr. S. Mukerjee Report 3a: <i>In-situ / operando</i> XAS and Raman analysis for mechanisms evaluation of “rock-salt” type phase in battery materials (Postdoctoral Researcher Dr. Huidong Dai, Northeastern University) Report 3b: <i>In-situ / operando</i> Raman and XRD analysis for mechanisms evaluation in solid-state battery materials (PhD student Luisa Gomes, Northeastern University)</p> <p>Q&A and DISCUSSION for Project 3. Fill out L.I.F.E. forms.</p> <p>Project 4: Intro by PI Dr. D. Salem and co-PI Dr. S. Mukerjee Report 4a: Li-ion Batteries Based on Solid Polymer Electrolytes: Polymer/LZZO-nanofiber composites (PhD student Zhengqiang Li, SD Mines) Report 4b: Unveiling the properties of gel polymer electrolyte through <i>in-situ</i> Raman spectroscopy (PhD student Luisa Gomes, Northeastern University)</p> <p>Q&A and DISCUSSION for Project 4. Fill out L.I.F.E. forms.</p>
<p>2:00 pm MDT –2:10 pm MDT</p>	<p>Networking break</p>
<p>2:10 pm –3:20 pm MDT (10 min each)</p>	<p>SESSION 4: REVIEW and TEASERS for INDUSTRY PARTNERS</p> <p>Session Chair: CEPS Site Director at the Syracuse University Dr. Quinn Qiao</p> <p>Please fill out L.I.F.E. forms for the review and each teaser.</p> <p>Review: Cradle-to-grave approach in critical elements relevant to solid-state battery technology (Faculty Dr. A. Smirnova, Dr. B. Carlson; Graduate Student Bryce Watson, and Undergraduate veteran student Sean McQueen, SD Mines) Teaser 1: Microwave-assisted engineering of sodium-ion solid-state battery materials (Karen Ly and Collin Rodmyre, SD Mines) Teaser 2: Near-zero porosity cathodes for all solid-state batteries by UV curing (Derrick Maxwell, NU) Teaser 3: Fast charging of solid-state Li-metal batteries enabled by interface engineering (Madan Saud, SU) Teaser 4: Thin film garnet-type solid-state electrolytes (Hansheng Li, Dr. Qiao, SU) Teaser 5: <i>In situ / operando</i> studies of interfacial mechanisms (Dr. Mukherjee, NU) Teaser 6: Additive manufacturing of solid-state batteries using Cold Spray (Dr. Ozdemir and Dr. Muftu, NU)</p>

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3:20 pm – 3:30 pm MDT	Networking/ break
3:30 pm – 4:00 pm MDT (30 min)	<p>SESSION 5: DISCUSSION of the CEPS PROGRESS and CANDIDATE UNIVERSITY SITE - MSU</p> <p>Session Chair: Dr. Mark Viste</p> <ul style="list-style-type: none"> • CEPS Progress and Impressions from Day 1 IAB meeting • Michigan State University Site involvement is expected
DAY 2: May 16th, 2023 (Mountain Daylight Time - MDT)	
9:00 am – 10:00 am MDT	<p>SESSION 6: L.I.F.E. FORMS DISCUSSION for PROGRESS REPORTS</p> <p>Moderators: Syracuse Site Director Dr. Quinn Qiao and SD Mines student Pascal Britton</p> <ul style="list-style-type: none"> • Panel discussions are based on the L.I.F.E. questions from industry partners and the answers provided by the faculty responsible for these projects. • Faculty PIs respond to the comments.
10:00 am – 10:30 am MDT	<p>SESSION 7: L.I.F.E. FORMS DISCUSSION for TEASERS</p> <p>Moderators: IUCRC CEPS Chair Dr. Mark Viste and SD Mines student Pascal Britton</p> <ul style="list-style-type: none"> • Faculty respond to the L.I.F.E. comments submitted by industry partners. • Each teaser is discussed based on the answers to the questions in L.I.F.E. forms.
10:30 am – 10:40 am-MDT	Networking break
10:40 am – 11:40 am MDT (1 hour)	<p>SESSION 8: IAB CLOSED-DOOR MEETING</p> <p>A signed membership agreement is required to attend this meeting.</p> <p>Participants: Chair Dr. Mark Viste, IUCRC Director Dr. Crystal Leach, CEPS Evaluator Dr. Victoria Hill, and CEPS Industry Members</p> <p>Notes/minutes taken by the Vice-chair Dr. Natalia Chernova</p> <ul style="list-style-type: none"> • Discussion regarding the new MSU Site and voting for a Planning grant proposal submission by MSU • Overall evaluation and the feedback from progress reports and teaser presentations
11:40 pm – 12:40 pm MDT	<p>SESSION 9: NEXT ACTION STEPS and CLOSING REMARKS (open for all)</p> <p>Moderator: CEPS Managing Director Dr. Serge Pann</p> <ul style="list-style-type: none"> • Discussion regarding a balanced research portfolio • Announcement of the next meeting: Sep28th-29th, 2023 at Syracuse University • <i>Closing remarks</i>