

Transforming Undergraduate Education in Engineering

April 10-11, 2015 | The Westin Crystal City | Arlington, VA





TUEE Transforming Undergraduate Education in Engineering

Phase II: Insights from Tomorrow's Engineers

SCHEDULE AT-A-GLANCE

Friday, April 10, 2015

| Time | Session | Room | |
|-----------------|--|---------------|---------------|
| 2:00PM - 2:30PM | Registration | Foyer | |
| 2:30PM - 3:15PM | Welcome – <i>Ashok Agrawal</i> , Managing Director, Professional Services, American Society for Engineering Education | Jefferson III | |
| | Review of Survey – <i>Brian Yoder</i> , Director, Assessment, Evaluation, & Institutional Research, American Society for Engineering Education | | |
| | Student Introductions – <i>Christopher Carr</i> , Program Manager, Fellowships & Research Opportunities, American Society for Engineering Education | | |
| 3:15PM - 4:15PM | Breakout I Students will comment on assigned KSAs with regard to their experience in their academic environment and classroom setting and make specific suggestions for improvement of Engineering Education. | Group 1 | Jefferson III |
| | | Group 2 | Crystal II |
| | | Group 3 | Crystal III |
| | | Group 4 | Crystal IV |
| 4:15PM - 4:30PM | Break | Foyer | |
| 4:30PM - 5:30PM | Breakout II Students will comment on assigned KSAs with regard to their experience in their academic environment and classroom setting and make specific suggestions for improvement of Engineering Education. | Group 1 | Jefferson III |
| | | Group 2 | Crystal II |
| | | Group 3 | Crystal III |
| | | Group 4 | Crystal IV |
| 5:30PM - 5:45PM | Break | Foyer | |
| 5:45PM - 6:45PM | Day 1 Collective Debrief | Jefferson III | |
| 7:00PM - 8:00PM | Dinner (<i>buffet served in the Foyer</i>) Speaker: <i>John Krupczak</i> , Program Officer, National Science Foundation | Jefferson III | |



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Saturday, April 11, 2015

| Time | Session | Room |
|-------------------|---|------------------------------|
| 7:00AM - 7:30AM | Breakfast | Foyer |
| 7:30AM - 8:30AM | Breakout III Students will comment on assigned KSAs with regard to their experience in their academic environment and classroom setting and make specific suggestions for improvement of Engineering Education. | Group 1 Jefferson III |
| | | Group 2 Crystal II |
| | | Group 3 Crystal III |
| | | Group 4 Crystal IV |
| 8:30AM - 8:45AM | Break | Foyer |
| 8:45AM - 9:45AM | Breakout IV Students will comment on assigned KSAs with regard to their experience in their academic environment and classroom setting and make specific suggestions for improvement of Engineering Education. | Group 1 Jefferson III |
| | | Group 2 Crystal II |
| | | Group 3 Crystal III |
| | | Group 4 Crystal IV |
| 9:45AM - 10:00AM | Break | Foyer |
| 10:00AM - 11:00AM | Day 2 Collective Debrief All groups will return to Main Room to confer. | Jefferson III |
| 11:00AM - 11:15AM | Break | Foyer |
| 11:15AM - 12:30PM | Final Debrief and Open Discussion All groups will return to Main Room to confer. | Jefferson III |
| 1:00PM - 2:00PM | Lunch (<i>buffet served in the Foyer</i>) Overall reflections on TUEE Phase II and next steps. <i>Ashok Agrawal</i> , Managing Director, Professional Services, ASEE | Jefferson III |
| 2:00 PM | Adjourn | |





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STUDENT BREAKOUT GROUPS – DAY 1

Friday, April 10, 2015

Breakout Session I **Time: 3:15PM – 4:15PM**

Breakout Session II **Time: 4:30PM – 5:30PM**

Students will comment on assigned KSAs with regard to their experience in their academic environment and classroom setting and make specific suggestions for improvement of Engineering Education.

Group 1 | Room: Jefferson III

Moderator - Dr. Russell Korte, Associate Professor, University of Colorado

Report-out - Amber Mills, The Citadel

| Name | Institution |
|------------------------------|--|
| Amber Mills | The Citadel |
| Bill Kim | Johns Hopkins University |
| Bryan Bonnet | Stevens Institute of Technology |
| Bryan Ricksecker | University of South Alabama |
| Dalia Abo Mazid | Qatar University, College of Engineering |
| Erica Flores | Seattle University |
| Jordan Burns | University of Colorado Boulder |
| Keoponnreay Kim | Concordia University |
| Nicolas Corrales | Arizona State University |
| Robert Christian Ford | North Carolina A&T State University |
| William Zygmunt | Wayne State University |

Group 2 | Room: Crystal II

Moderator - Christopher Carr, Program Manager, Fellowships & Research Opportunities, ASEE

Report-out - Alison Grady, Smith College

| Name | Institution |
|------------------------|--|
| Alison Grady | Smith College |
| Allison King | Swarthmore College |
| Amy Haddix | West Virginia University Institute of Technology |
| Andrew Sousa | University of Massachusetts, Amherst |
| Brian Ward | Bucknell University |
| Emily Hernandez | Missouri University of Science and Technology |
| Hayley Spears | University of South Florida |
| Jenna Humble | Embry-Riddle Aeronautical University |
| Mary Osetinsky | Tulane University |
| Thomas Foulkes | Rose-Hulman Institute of Technology |



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Group 3 | Room: Crystal III

Moderator - Yvette Deale, Interaction Design Manager, ASEE

Report-out - Braden Gourley, The Pennsylvania State University

| Name | Institution |
|----------------------------------|---|
| Antoinette Winkel | South Dakota School of Mines and Technology |
| Bethany Brigandi | Rowan University |
| Braden Gourley | The Pennsylvania State University |
| Brian M. Van Nortwick Jr. | New Jersey Institute of Technology |
| Chloe McPherson | Iowa State University |
| Kevin McNamara | University of Waterloo |
| Lucius M. Rice IV | Tuskegee University |
| Melinda McClure | Texas A&M University |
| Melissa Flores | California State University, Northridge |
| Miriana Doghan | University of Michigan, Dearborn |

Group 4 | Crystal IV

Moderator – Ashok Agrawal, Managing Director Professional Services, ASEE

Report-out - Austin Smith, University of Arizona

| Name | Institution |
|---------------------------------|--|
| Austin Smith | University of Arizona |
| Brian Grau | Santa Clara University |
| Hayden Hast | Valparaiso University |
| Joshua Alcalá | New Mexico State University |
| Kia Graham | Southern University and A&M College |
| Lupita Carabes | University of Portland |
| Mackenzie Peterson | James Madison University |
| Mashail Khalifa Al-Kaabi | Qatar University, College of Engineering |
| Michael Vartan | California State University, Long Beach |
| Skylar Addicks | Texas Christian University |





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Phase II: Insights from Tomorrow's Engineers

STUDENT BREAKOUT GROUPS – DAY 2

Saturday, April 11, 2015

Breakout Session I Time: 7:30AM – 8:30AM

Breakout Session II Time: 8:45AM – 9:45AM

Students will comment on assigned KSAs with regard to their experience in their academic environment and classroom setting and make specific suggestions for improvement of Engineering Education.

Group 1 | Room: Jefferson III

Moderator - Dr. Russell Korte, Associate Professor, University of Colorado

Report-out - Brian Grau, Santa Clara University

| Name | Institution |
|----------------------------------|--|
| Alison Grady | Smith College |
| Brian Grau | Santa Clara University |
| Brian M. Van Nortwick Jr. | New Jersey Institute of Technology |
| Dalia Abo Mazid | Qatar University, College of Engineering |
| Hayley Spears | University of South Florida |
| Jenna Humble | Embry-Riddle Aeronautical University |
| Jordan Burns | University of Colorado, Boulder |
| Melinda McClure | Texas A&M University |
| Michael Vartan | California State University, Long Beach |
| Nicolas Corrales | Arizona State University |

Group 2 | Room: Crystal II

Moderator - Christopher Carr, Program Manager, Fellowships & Research Opportunities, ASEE

Report-out - Amy Haddix, West Virginia University Institute of Technology

| Name | Institution |
|---------------------------|--|
| Allison King | Swarthmore College |
| Amy Haddix | West Virginia University Institute of Technology |
| Braden Gourley | The Pennsylvania State University |
| Bryan Ricksecker | University of South Alabama |
| Emily Hernandez | Missouri University of Science and Technology |
| Erica Flores | Seattle University |
| Keoponnreay Kim | Concordia University |
| Kia Graham | Southern University and A&M College |
| Lucius M. Rice IV | Tuskegee University |
| Mackenzie Peterson | James Madison University |
| Hayden Hast | Valparaiso University |



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Group 3 | Room: Crystal III

Moderator - Yvette Deale, Interaction Design Manager, ASEE

Report-out - Bill Kim, Johns Hopkins University

| Name | Institution |
|-------------------------|---|
| Bethany Brigandi | Rowan University |
| Bill Kim | Johns Hopkins University |
| Bryan Bonnet | Stevens Institute of Technology |
| Joshua Alcala | New Mexico State University |
| Lupita Carabes | University of Portland |
| Mary Osetinsky | Tulane University |
| Melissa Flores | California State University, Northridge |
| Miriana Doghan | University of Michigan, Dearborn |
| Skylar Addicks | Texas Christian University |
| William Zygmunt | Wayne State University |

Group 4 | Crystal IV

Moderator - Ashok Agrawal, Managing Director Professional Services, ASEE

Report-out - Andrew Sousa, University of Massachusetts, Amherst

| Name | Institution |
|---------------------------------|---|
| Amber Mills | The Citadel |
| Andrew Sousa | University of Massachusetts, Amherst |
| Antoinette Winckel | South Dakota School of Mines and Technology |
| Austin Smith | University of Arizona |
| Brian Ward | Bucknell University |
| Chloe McPherson | Iowa State University |
| Kevin McNamara | University of Waterloo |
| Mashail Khalifa Al-Kaabi | Qatar University, College of Engineering |
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FACILITATORS



Christopher Carr

Christopher Carr is the Program Manager, Outreach & Public Affairs for the National Science Foundation's Graduate Research Fellowship Program, administered through the American Society for Engineering Education. Christopher mainly works in the area of STEM education and policy, with a particular passion for access to education, diversity in STEM, and nuclear, and international politics. Christopher holds a Bachelor of Arts in International Relations and History from William Jewell College, a Master of Science in International Management from the School of Oriental and African Studies at the University of London, and a Master of Public Policy from Pepperdine University. He is currently working on his Doctor of Public Administration degree from the University of Baltimore.



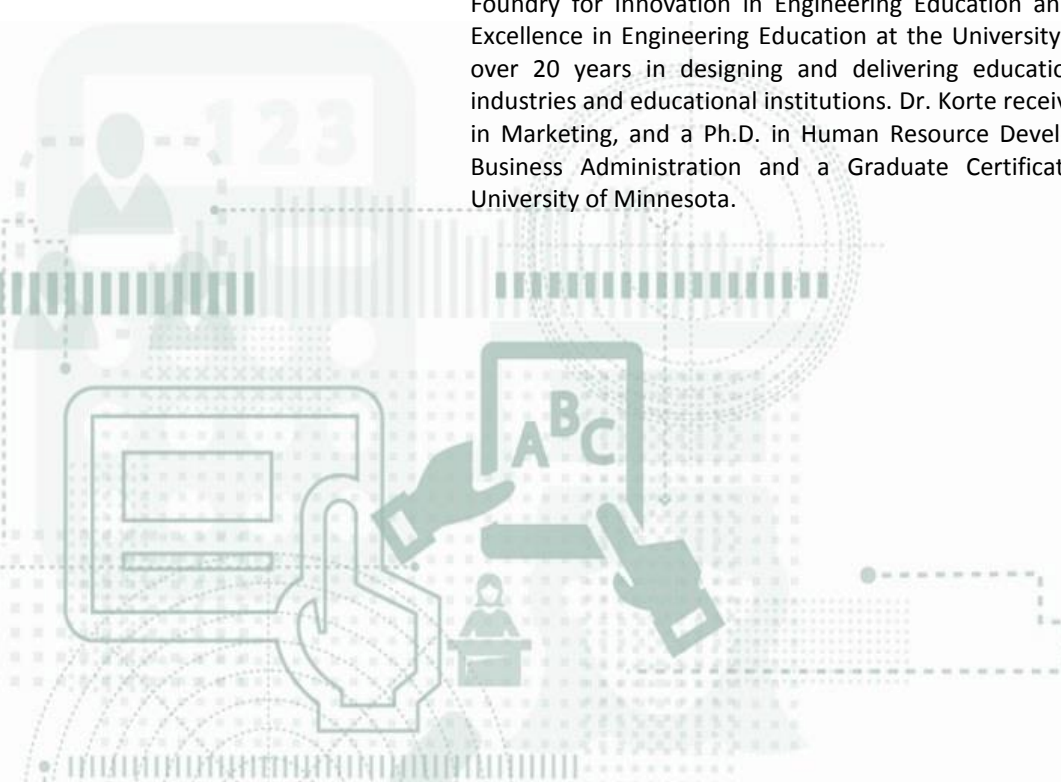
Yvette B. Deale

Yvette B Deale is the User Interaction Design Manager at ASEE. She works with both internal customers as well as ASEE members to enhance the user experience of ASEE's websites, applications, forms, etc. Yvette holds a BS Engineering – Computer Science from the University of Florida with a minor in Mathematics and is a Tau Beta Pi member. Some of the organizations she has worked for are Fairfax County Public Schools system, United Airlines, CSC, and Hewlett-Packard.



Russell Korte, Ph.D.

Russell Korte is Assistant Professor, Organization Learning, Performance, and Change, School of Education, Colorado State University. Dr. Korte's research focuses on understanding the socio-cultural processes affecting the learning and performance of engineering students, graduates, and faculty. Recent work included developing innovative educational experiences for engineering students as a Fellow with the Illinois Foundry for Innovation in Engineering Education and a member of the Academy for Excellence in Engineering Education at the University of Illinois. He has been active for over 20 years in designing and delivering educational programs across a range of industries and educational institutions. Dr. Korte received his B.S. in Education, an M.B.A. in Marketing, and a Ph.D. in Human Resource Development, with a doctoral minor in Business Administration and a Graduate Certificate in Adult Education from the University of Minnesota.





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SPEAKERS



Ashok Agrawal, D.M., P.E.

Dr. Agrawal is the Managing Director for professional services and director of outreach and engagement at the ASEE. Agrawal holds a Doctorate in Management degree from the University of Maryland University College, an MS degree in Materials Science, an MS degree in Mining Engineering from the University of Kentucky, and a BS degree in Metallurgical Engineering from Nagpur University in India. Prior to assuming his present position he was the vice president for Academic Affairs, Dean of the Math, Science, Engineering, and Technology Division at St. Louis Community College at Florissant Valley. Over the last 35 years Agrawal has served as a faculty member and administrator of engineering science and engineering technology Associates and Baccalaureate programs and has many professional and academic positions.



John Krupczak, Ph.D

Dr. Krupczak is a Program Director for the NSF S-STEM and IUSE programs in Division of Undergraduate Education. Krupczak has served as a Senior Fellow for the CASEE at National Academy of Engineering. He is a past chair of the ASEE Liberal Education Division and the founding Chair of the ASEE Technological and Engineering Literacy Division. Dr. Krupczak has also held positions at the Superconducting Super Collider Laboratory in Texas, and Meiji Gakuin University in Tokyo, Japan. He received an M.S. and Ph.D. in Mechanical Engineering from the University of Massachusetts, Amherst and a B.A. in Physics from Williams College. Dr. Krupczak is also a Professor of Engineering at Hope College in Holland, Michigan. Krupczak was Engineering Department Chair and received the Hope Outstanding Educator Award from the graduating class of 2009.



Brian Yoder, Ph.D

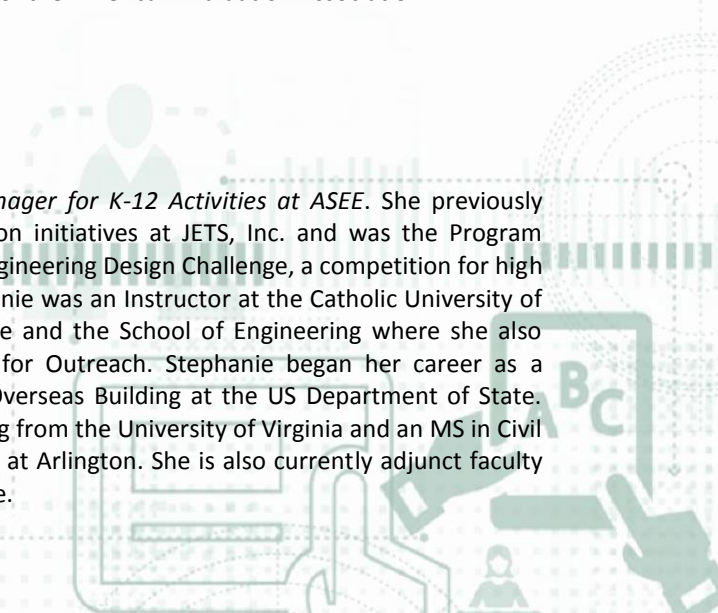
Dr. Yoder is the director of Assessment, Evaluation and Institutional Research at the American Society for Engineering Education, guiding the overall direction of research and evaluation activities. Prior to working at ASEE, Brian worked at NASA Education, overseeing the development of an on-line performance management system to assess NASA's educational investments nationally. He also serves as President of the Washington Evaluators, a local affiliate of the American Evaluation Association.

TUEE PHASE II PROJECT MANAGER



Stephanie Harrington-Hurd

Stephanie Harrington-Hurd is the *Manager for K-12 Activities at ASEE*. She previously managed various engineering education initiatives at JETS, Inc. and was the Program Manager of the AbilityOne/National Engineering Design Challenge, a competition for high school and university students. Stephanie was an Instructor at the Catholic University of America in both School of Architecture and the School of Engineering where she also served as the Assistant to the Dean for Outreach. Stephanie began her career as a Structural Engineer for the Office of Overseas Building at the US Department of State. Stephanie holds a BS in Civil Engineering from the University of Virginia and an MS in Civil Engineering for the University of Texas at Arlington. She is also currently adjunct faculty at Northern Virginia Community College.





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PARTICIPANTS

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The **American Society for Engineering Education** is a global society of individual, institutional, and corporate members founded in 1893. We are committed to furthering education in engineering and engineering technology by promoting excellence in instruction, research, public service, professional practice, and societal awareness.

ASEE seeks to more fully engage with high school students, parents, teachers, engineering faculty and business leaders to enhance the engineering workforce of the nation.

ASEE is the only professional society addressing opportunities and challenges spanning all engineering disciplines, working across the breath of academic education, research, and public service.

- We support engineering education at the institutional level by linking engineering faculty and staff to their peers in other disciplines to create enhanced student learning and discovery.
- We support engineering education across institutions, by identifying opportunities to share proven and promising practices.
- We support engineering education locally, regionally, and nationally, by forging and reinforcing connection between academic engineering and business, industry, and government.

www.asee.org



This project is supported by the National Science Foundation under award DUE - 1448876 to the American Society for Engineering Education. Any opinions, findings, conclusions, or recommendations expressed in this publication are those of the workshop participants and author(s) and do not represent the views of the ASEE Board of Directors, ASEE's membership, or the National Science Foundation.

