



FEW Nexus Workshop on Integrated Science, Engineering, and Policy: A Multi Stakeholder Dialogue

Objective: Building the roadmap that lays the foundation for the creation of an inclusive FEW Nexus Community of science, composed of engineers, scientists, and stakeholders from industry and public sector and that will foster science and engineering cooperation in the FEW domains.



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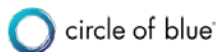
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January 25: Check in at Hilton Hotel; Informal social session (cash bar)

Day 1: January 26 (Ideas Day)

8:00 **OAKWOOD BALLROOM** - Registration and coffee

Masters of Ceremonies:

Peter Saundry, NCSE & John Hopkins University, and **J. Carl Ganter** Circle of Blue

9:00 Welcome note

Glen A. Laine, VPR, Texas A&M University

Dimitris Lagoudas, Sr. Assoc. Dean for Research, College of Engineering
Assoc. Vice Chancellor for Engineering, Texas A&M Engineering

9:15 Workshop Objectives **Rabi Mohtar**, Texas A&M WEF Nexus Initiative

9:30 Opportunities and Challenges in the FEW Nexus - **JoAnn Lighty**, NSF-CBET

10:15 Burst session of 10 BIG IDEAS

(Questions posted on portal to be discussed in breakout session)

1. Data and modeling **Bernie Engel**, Purdue
2. Governance, policy, and financing **Kent Portney**, Bush School, Texas A&M
3. Governing resources in future cities **Josh Sperling**, NREL
4. Tradeoffs and decision support tools **Suzanne Pierce**, UT Austin
5. Energy for water **Enid J. Sullivan-Graham**, U NM
6. Water for food **Elsa Murano**, Borlaug Institute, Texas A&M
7. Water for energy production **Ashlynn Stillwell**, U IL
8. Food processing and waste **Stephen Searcy**, Texas A&M
9. Soil – Food – Climate Nexus **Rattan Lal**, Ohio State
10. Engagement and outreach: Community Building **Jon Padgham**, futurearth

12:00 Networking Lunch **BALLROOM 5-7**

1:00 Breakout session #1: **Exploring the FEW System**

1. FEW Research Facilitator, **Noel Bakhtian** **MOCKINGBIRD AB**
2. FEW Education Facilitator, **Adel Shirmohammadi** **MOCKINGBIRD CD**
3. FEW Practice: applied research, industry, policy; Facilitator, **Jamal Yagoobi**, **NORTH/SOUTH 40**
4. FEW Community building Facilitator, **Molly Jahn**, **BRAZOS AMPHI**

Questions:

1. Define target FEW system(s)
2. What are the key challenges
3. What are the solutions (immediate possibilities to leverage opportunities)
4. What are the key potential impacts (social, environmental, economic)
5. What resources are needed for implementation

3:00 Summary Panel from moderators of breakouts and Q/A

4:00 Goals for tomorrow and Closing

Evening Networking Reception immediately following, hosted by Texas A&M WEF Nexus Initiative. Welcome: **Martin Scholtz**, Executive Associate VPR, Texas A&M





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Day 2: January 27 (Action Day)

Masters of Ceremonies

Jack Baldauf, *Geosciences, Texas A&M* and **J. Carl Ganter**, *Circle of Blue*

9:00 OAKWOOD BALLROOM

Hotspot – Nexus Live – **J. Carl Ganter**, *Circle of Blue*

9:30 Science and Policy Panel with Q/A OAKWOOD BALLROOM

Moderator, **J. Carl Ganter**

Panelists: **Rattan Lal**, *Ohio State*, **Vanessa Casado Perez**, *Texas A&M Law*, **Astrid Hillers**, *Global Environ. Facility*

Kickoff Questions:

1. How do you characterize the state of FEW science and policy interaction nationally?
2. What steps should be taken to improve the science base decisions related to FEW resources?
3. What policy changes can improve the science and science – policy coherence in FEW resources?

10:30 Industry and Technology Panel with Q/A OAKWOOD BALLROOM

Moderator: **Michel Boufadel**, *NJIT*. Panelists: **Will Sarni**, *Water Foundry*, **Carlos Dengo**, *Texas A&M*, **Walid Saad**, *VA Tech*, **Andrea Putman**, *SoAR*, **Gerrit Hoogenboom**, *UFL*

Kickoff Questions:

1. Do we have the right incentives for innovations in the FEW system
2. What unique technological challenges / opportunities that FEW system exhibits?
3. What are the infrastructure and human capacity needed for fostering innovations in the FEW system.

11:30 – 12:00 Breakout assignments

12:00 Networking lunch BALLROOM 1-2

1:00 **Breakout session #2 Moving Forward: the Road map**

- a. Building on the white papers **Ali Fares** MOCKINGBIRD AB
- b. Community of Science: RCN & e-portal **Katrina Bennett**, MOCKINGBIRD CD
- c. INFEWS **Lucy M Camacho**, NORTH/SOUTH 40
- d. Belmont Forum **Rick Lawford**, BRAZOS AMPITHEATER

Sessions Deliverables:

1. Establish targets and priorities for the theme
2. Develop action plan including activities, timeline, teams and role for achieving the target.
3. Identify resources are needed for implementation
4. Are there other targets that should be included?

3:00 Panel summaries and discussions OAKWOOD BALLROOM

4:00 Conclusions and recommendations (Rabi Mohtar)

4:00 Adjournment



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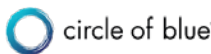
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Scientific Committee

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 Anik Bhaduri, Water Future Program
 Manocher Dorraj, Texas Christian U
 Amr Elnashai, Penn State
 Bernard Engel, Purdue
 J. Carl Ganter, Circle of Blue
 Karin Krchnak, World Wildlife Fund
 Rattan Lal, Ohio State U
 Upmanu Lall, Columbia
 Richard Lawford, Morgan State
 Claudia Ringler International Food Policy Research Institute (IFPRI)
 Peter Saundry, Nat'l Council for Science & Environment and John Hopkins U
 Kurt Schwabe, UC-Riverside
 Shashi Shekhar, U Minnesota
 Joshua B. Sperling, National Renewable Energy Lab
 Enid J. Sullivan Graham, U New Mexico



Organizing Committee (Texas A&M University)

Jack Baldauf, Professor, Executive Associate Dean, and Associate Dean for Research,
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 Phil Berke, Professor and Director, Institute of Sustainable Coastal Communities at
 College Station, College of Architecture
 David Burnett, Director of Technology, Global Petroleum Research Institute
 Shankar Chellam, Zachry Department of Civil Engineering
 Ali Fares, Associate Director for Research, Prairie View A&M University
 Bruce McCarl, Distinguished Professor of Agricultural Economics
 Ari Michelsen, Professor and Resident Director, Texas AgriLife Research & Extension
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 Rabi Mohtar, TEES Professor, Texas A&M WEF Nexus Initiative, Departments of
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 Rudy Rosen, Professor and Director, Institute for Water Resources Science and
 Technology, Texas A&M University, San Antonio
 David Smith, Extension Program Specialist, Biological & Agricultural Engineering
 John Tracy, Director, Texas Water Resources Institute
 Kevin Wagner, Professor and Deputy Director Texas Water Resources Institute

