

# Revolutionizing Engineering and Computer Science Education through Curriculum Change: A Look at Some of the Purposes, Possibilities and Pitfalls

University of New Mexico

North Carolina A&T

Oregon State University

Virginia Tech

Boise State University

Rowan University

University of Texas at El Paso

Clemson University

University of Illinois at Urbana-Champaign

University of San Diego

East Carolina University



# Focus

- The role that different approaches to **curriculum change** play in the process of revolutionizing engineering (EED) and computer science education (CSE).

# The Plan

- Overview of session
- Pecha Kucha Presentations
- Small Group Work
- Large Group Share-Out

# Objectives

- Connect features of local curriculum change with wider efforts to radically alter and transform EED and CSE by addressing:
  - a) features or aspects of local change that address wider issues in EED and CSE;
  - b) barriers or limitations to change found in local efforts;
  - c) ways in which local change might be scaled.

# PechaKucha

- PechaKucha is the Japanese word for conversation or “chit chat.”
- Created by two architects in Tokyo who were tired of dreadful PowerPoint presentations
- Designed to force speakers to prepare shorter, more creative, and more polished PowerPoint presentation.
- Motivates speakers to think about their subjects in very different ways.
- A presentation is created using PowerPoint (or any other presentation software).
- 15x20 Presentation: only allowed 15 slides and those slides must automatically advance every 20 seconds.
- Depends on visuals rather than text-heavy slides.

# Individual Prompts

- What were key barriers observed in local examples of curriculum change?
- How might local curriculum change influence wider changes to EED or CSE?

# Group Prompts

1. Share individual responses. Record overlap and differences in your responses.
2. As a group identify, discuss and record:
  - a) collective resources, knowledge, and relationships to address barriers;
  - b) collective resources, knowledge, and relationships might support scaling local efforts.

# Large Group Share-Out

1. Determine one resource to share with larger group that addresses barriers and one that addresses scaling.
2. Provide a one-sentence rationale for how or why each resource is relevant to the revolutionizing curriculum change in EED and CSE.
3. Record each resource and corresponding rationale.