

## MCAD MA in Sustainable Design: Systems Thinking course outline

### Waymaking

- Relating & Relationships
  - Voices: Rosalind Armson, Gregory, Mary Catherine & Nora Bateson, Janine Benyus, Orland Bishop, Dave Gray, Ray Ison, Enrique Salmón
  - Topics: mapping (model, matrix, framework), rich picture, systems traditions
- Distinction-Making & Identity
  - Voices: Vanessa Andreotti, Derek & Laura Cabrera, Andrew Carey, Francisco Varela, Margaret Wheatley & Myron Rogers
  - Topics: autopoiesis, double bind, mind map, situation and system
- Patterning
  - Voices: Gilles Deleuze & Félix Guattari, Donna Haraway, Douglas Hofstadter, George Lakoff & Mark Johnson, Dario Paniagua, Robert Rosen
  - Topics: abductive conjecture, analog map, analogy, biomimicry, metaphor, rhizome, synectics
- Being in Time
  - Voices: Karen Barad, Lisa Feldman Barrett, Sean Carroll, Jim Dator, Rasheedah Phillips
  - Topics: anticipation, embodied and enactive cognition, feedforward, futures cone, imaginaries (images of the future), presentism, process and influence

### Patterns

- Circularities
  - Voices: DS4SI, Charles & Ray Eames, Donella Meadows, Elizabeth Sawin, Peter Senge, Katy Shields
  - Topics: behavior over time, causal loop diagram (CLD), diffusion of innovations, escalation, feedback, iceberg model, limits to growth, nonlinearity, shifting the burden, success to the successful
- Organization
  - Voices: Joy Buolamwini, Chris Corrigan, Ben Eater, Marilyn Waring, Cynthia Kurtz, Melanie Mitchell, Eli Pariser, Kate Raworth
  - Topics: agent-based models, commons, concept map, currencies, emergence, filter bubble, governance
- Creativity
  - Voices: Christopher Alexander, Gregory Cajete, Brian Eno, Steven Johnson, Stuart Kauffman, Lynn Margulis, Scott Page, M.C. Richards, Brenda Zimmerman
  - Topics: adjacent possible, affordances, antifragility, ecocycle, exaptation, Gaia, Liberating Structures
- Change
  - Voices: Howard Becker, Oonsie Biggs, Nicky Case, Mindy Fullilove, Cameron Guthrie, Buzz Holling, Marshall McLuhan, Geoffrey Vickers, Margaret Wheatley & Deborah Frieze
  - Topics: business as usual (BAU), figure-ground, landscape model, niche, path dependence, power, regime shift, resilience, social attractors, tetrad, two curves

### Praxis

- Meaning-Making
  - Voices: Marshall Ganz, Shy Inbar, Donella Meadows, Kate Raworth, Bonnitta Roy
  - Topics: pattern language, resonance-relevance, three horizons, umwelt, visioning
- Coordinating
  - Voices: Chris Argyris, Brené Brown, Chris Corrigan, Steve Easterbrook, Barry Johnson, Werner Ulrich
  - Topics: boundary critique, ladder of inference, polarities, reflexivity, situatedness, trust
- Contextualizing
  - Voices: Marina Gorbis, Kurt Lewin, Diana Searce & Katherine Fulton
  - Topics: critical uncertainties, driving forces, force field, leverage points, scanning, scenarios, trends
- Learning & Evaluating
  - Voices: Carol Gilligan, Jerry Muller, Michael Quinn Patton, Kenneth Stanley
  - Topics: accountability, change pathway, ethics, logic model, principles and indicators, single- and double-loop learning, theory of change
- Speculating & Playing
  - Voices: Bayo Akomolafe, Anthony Dunne & Fiona Raby, Ursula Le Guin, Gertrude Stein
  - Topics: 4Ps (probable, plausible, preferable, possible), humor, randomness, weirding