



**2019**

Annual **INCOSE**  
international workshop

**Torrance, CA, USA**

January 26 - 29, 2019

# Natural Systems

---

[www.incose.org/iw2019](http://www.incose.org/iw2019)

# Natural Systems



**2019**  
Annual **INCOSE**  
international workshop  
Torrance, CA, USA  
January 26 - 29, 2019

**MEMBERS**  
23

## CO-CHAIRS

Curt (curtmcn@gmail.com)

Randy Anway (randy@new-tapestry.com)

## INCOSE CONNECT ADDRESS



<https://www.incose.org/incose-member-resources/working-groups/analytic/natural-systems>

## INCOSE WEB PAGE



<https://sites.google.com/site/incosenswg/>

# Charter Summary



**2019**  
Annual **INCOSE**  
international workshop  
Torrance, CA, USA  
January 26 - 29, 2019

## WG PURPOSE/MISSION

Evaluate changes to Systems Eng. processes & communications to take advantage of Natural Systems, including broader relationships between SE---Science--Tech.

## WG GOAL(S)

1. Assess State-of-the-Discipline regularly.
2. Cultivate a NS Community of Practice.
3. Share Best Practices & Success Stories.
4. Investigate enhancements to SE practices.
5. Grow in numbers and scope.

## WG SCOPE

The Natural Systems Working Group includes members from industry, academia, and government. Our work focuses on tools for bio-inspired design and their application to the SE process.

# Planned Work for IW



**2019**  
Annual **INCOSE**  
international workshop  
Torrance, CA, USA  
January 26 - 29, 2019

## **Intro to Natural Systems**

Sat 26 : 10:30-12:00

What do we mean by natural systems? How can knowledge of this help an SE?

## **NSWG Communities of Practice Working Session**

Sat 26 : 13:00-15:00

Overview of natural systems and design communities of practice, creation/ curation of bio-inspired community map

## **Complexity and Natural Systems**

Sat 26 : 15:30-17:00

Joint meeting with Complex Systems Working Group

## **NASA Challenge for natural systems**

Sun 27 : 10:30-12:00

Review NASA challenge for nature inspired solutions, and proposed solutions.

## **NSWG/Systemology Joint Session: NS Tools in the SE Process**

Sun 27 : 13:00-15:00

The NASA Vine Systemology Cluster has produced a list of 25 tools for bio-inspired design. Join us to discuss how these could be mapped to the SE process.

## **NSWG Future Planning**

Tue 29 : 10:00-12:00

Discuss ongoing and future working group projects

## **Science Basis for Systems Mimicry**

Tue 29 : 13:00-15:00

Discussion with Len Troncale on Isomorphic Patterns for SE Systems Mimicry/Systems Pathology from Studies of Natural Systems