



# The 1998 meeting of SIG Chaos and Complexity Theory at AERA

## Page Index:

[Membership Meeting and Discussion \(The Practical Side of Chaos\)](#)

Roundtables: [The Complexities of Development & Thought](#)

Roundtables: [Complex Implications for Instruction & Policy](#)

Symposium: [The Sciences of Complexity, Learning, and the Educational Process: Emerging Perspectives on Ways of Thinking and Doing](#)

## Monday Session 2.08

1:15-1:55--Marriott, Marina E, South Tower, Level 3  
(SIG/Chaos and Complexity Theory-- Roundtables)

## The Complexities of Development & Thought

TABLE 27 Dynamics of Children's Friendship--A Random Dynamical Systems Approach. *Lutz-Michael Alisch, Technical University Dresden, Germany*

TABLE 28 A Review of the Basic Principles of Catastrophe Theory and Their Application to Learning and Development. *Matthijs Koopmans, York College, CUNY*

TABLE 29 Analysis of the Discovery of Chaos: Social and Cognitive Aspects. *Jong-Baeg Kim, University of Wisconsin, Madison*

TABLE 30 The Autopoietic Nature of Thought. *Sherrie Reynolds, Texas Christian University*

TABLE 31 Chaos/Complexity Theory, Hermeneutics, and Construction of the World by Children and Those Who Work with Them. *Karen VanderVen, University of Pittsburgh; Doris Fromberg, Hofstra University; Carlos A. Torre, Southeastern Connecticut State University; Michael J. Nakkula, Harvard University*

**Tuesday Session 13.50**

**12:25-1:05--Marriott, Marina Ballroom E, South Tower, Level 3  
(SIG/Chaos and Complexity Theory--Roundtables)**

## **Complex Implications for Instruction & Policy**

TABLE 23 Principles of Self-Organization: Ecologizing the Learner-Instructor System. *Sasha A. Barab, Indiana University, Bloomington*

TABLE 24 Complexity Theory for Classroom Management. *David Chawszczewski, University of Michigan, Flint*

TABLE 25 The Gaze and Autopoiesis: A Case Study in Student Assessment. *Jean-Claude Couture, University of Alberta, Canada*

TABLE 26 The Development of a Complex, Dynamic Causal Model for Cyclically Organized Processes of Cumulative Advantage and Disadvantage in Education. *Ton Jörg, IVLOS Institute of Education, The Netherlands*

TABLE 27 Chaos and Standards: A Solvable Educational Paradox. *Martin R. Ramirez, Illinois Mathematics and Science Academy*

**Thursday Session 33.52**

**8:15-10:15--Conv. Ctr., Room 3, Upper Level  
(Division B; SIG/Chaos and Complexity Theory--Symposium)**

## **The Sciences of Complexity, Learning, and the Educational Process: Emerging Perspectives on Ways of Thinking and Doing**

**CHAIR** *Michael J. Jacobson, University of Georgia*

### **PARTICIPANTS**

Thinking Like a Tree. *Mitchel Resnick, MIT Media Laboratory*

Statistical Mechanics for K-12: An Emergent Model of Gas Laws. *Uri Wilensky, Tufts University*

Reconceptualizing Categories Without "Necessary and Sufficient" Features: Dynamical Categories. *John St. Julien, University of Delaware*

Complexity and Cognition: Ways of Thinking About Self-Organization, Emergence, and Natural Selection. *Michael J. Jacobson, University of Georgia*  
**DISCUSSANT** *Rick Ginsberg, Colorado State University*

**Thursday 37.31**

**12:25-1:55--Marriott, La Jolla, South Tower, Level 4**  
**(Division B; SIG/Chaos and Complexity Theory--Membership Meeting)**

## **Membership Meeting & Discussion**

PRESIDENT Robert Kahn, University of Missouri, Kansas City

**Discussion** **The Practical Side of Chaos**, *Noel Gough, Deakin University*

### **Discussed:**

"The fractal nature of a mother and son's mathematical activity" *Elaine S. M. Simmt, University of Alberta, Canada*

"Using chaos theory to inform high school redirection" *James H. Lytle, University City High School, Philadelphia*