

# STATEMENT OF RESEARCH INTERESTS AND PHILOSOPHY

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## 1. COMMUNICATION AND INFO

My office is located (temporarily) at the CA building, room 315. You can reach me by email at [kalexan@uvi.edu](mailto:kalexan@uvi.edu), or by phone: (340) 201-0888. My door is always open and everyone's welcomed to drop by for a discussion and dialogue. You can find my complete CV in my website: [www.mindscribble.net](http://www.mindscribble.net).

## 2. MY RESEARCH INTERESTS

Areas: natural resource policy; sustainable NRM livelihoods; coupled social-ecological systems; computational social science; complexity, self-organization and social emergence; participation and community decision making.

### Research Interests:

My research strives to emphasize the paramount significance of multi and cross-disciplinary nature of scientific discovery, especially related to coupled human – natural systems of interaction. The study of human dimensions in natural resource management and policy involves understanding the volatile and deeply uncertain nature of human cognition, behavior and action. By the same token, indistinguishable involves embracing the complexity, nonlinearity and dynamic characteristics of interactions among the components of such coupled system. My past, current and future work moves along the following directions:

- a) Understanding the fundamental elements that shape, formulate and transform collective social cognition, behavior, and action. It includes the study of social-ecological emergence and complex patterns of community behavior and decision-making. An example is the study of natural resource-based livelihoods that encapsulates environmental, social, economic and cultural synergies in exploring alternative, sustainable and resilient future pathways improving and enhancing human wellbeing and ecological resilience. Another example is the study of how local and regional communities transform and adapt in the face of important environmental challenges, risks and/or vulnerabilities (including climate change, extreme or catastrophic events, to name a few).
- b) Making sense of complex patterns of interactions in a fundamentally multidimensional universe of real-world interactions. I am studying the emergence of complex patterns in biophysical, geographic, social, economic and cultural settings using advanced and intelligent mathematical, graph-theoretic and statistical algorithms, pattern recognition methodologies, data mining techniques and spatially-explicit tools. A key emphasis of my research is the true integration of both quantitative and qualitative research methods, including cutting-edge science tools and methodological advances. Furthermore, I am interested on how human communities, decision and policy-makers understand and interact with randomness and unpredictability in natural resource management settings.
- c) Understanding the role of multiple scales in natural resource management. Such scales are temporal (short, near and long-term), spatial (from local to global), socio-cognitive (from individual cognition to collective action), semantic/ontological (the meaning of human-human and human-computer interactions), cultural (from homogenous to culturally diverse societies) and economic (from individual to societal wellbeing). Decisions, interventions, management actions and general understanding of the significance and impacts of contemporary

marine and environmental challenges depend on and exert influence the scale dimensionality in which such challenges are both manifested and enter our social awareness.

#### Engagement and Outreach:

An important part of my work and research concentrates and integrates true participation at the local community and stakeholder level. My engagement and outreach philosophy is an integral part of the research process in a co-research paradigm. Communities and stakeholders are both encouraged to acquire a sense of ownership through the scientific discovery process, and to enhance their capacity and capability for addressing the complexity of NRM-related contemporary challenges. Building networks of mutual trust and respect between and among communities that participate in research and scientists is both a science and an art by itself and requires careful consideration, effort and commitment. Another important integrated aspect of my research comes from the recognition that often there are not simple “buttons” or “one-size-fits-all” solutions that provide ready-made answers to our real-world coupled social-environmental problems. In many instances, the complexity of the solutions may be comparable only to the complexity of the problems themselves. In such cases, science and community participating in a co-research project work together and alongside to enhance their ability to understand and face the present and future challenges.

#### Education:

Ph.D. – Purdue University, Department of Forestry and Natural Resources, West Lafayette, IN USA

B.S. – Agricultural Economics and Rural Sociology, College of Geotechnical Sciences, Aristotle University of Thessaloniki, Greece

#### Selected Publications:

(For a recent list of publications, [download my full CV here](#))

Alexandridis, K., Maru, Y., Davies, J., Box, P., and Hueneke, H. (2009). Constructing Semantic Knowledge Networks from the Ground Up: livelihoods and employment outcomes in Anmatjere region, central Australia. In Anderssen, R. S., Braddock, R. D. and Newham, L. T. H. (Eds.), *18th World IMACS Congress and MODSIM09 International Congress on Modelling and Simulation* (pp. 2819-2825). Cairns, Australia, 13-17 July 2009: Modelling and Simulation Society of Australia and New Zealand and International Association for Mathematics and Computers in Simulation. URL: <http://mssanz.org.au/modsim09/H1/alexandridis.pdf>

Maru, Y., Alexandridis, K., and Perez, P. (2009). Taking 'participatory' in participatory modelling seriously. In Anderssen, R. S., Braddock, R. D. and Newham, L. T. H. (Eds.), *18th World IMACS Congress and MODSIM09 International Congress on Modelling and Simulation* (pp. 3011-3017). Cairns, Australia, 13-17 July 2009: Modelling and Simulation Society of Australia and New Zealand and International Association for Mathematics and Computers in Simulation. URL: <http://www.mssanz.org.au/modsim09/H6/maru.pdf>

Alexandridis, K. T., and Pijanowski, B. C. (2007). Assessing Multiagent Parcelization Performance in the MABEL Simulation Model Using Monte Carlo Replication Experiments. *Environment and Planning B: Planning and Design*, 34(2), 223-244. URL: <http://www.envplan.com/abstract.cgi?id=b31181>

Pijanowski, B. C., Alexandridis, K. T., and Müller, D. (2006). Modelling Urbanization Patterns in Two Diverse Regions of the World. *Journal of Land Use Science*, 1(2-4), 83 - 108. URL: <http://www.informaworld.com/smpp/content?content=10.1080/17474230601058310>

Lei, Z., Pijanowski, B. C., and Alexandridis, K. T. (2005). Distributed Modeling Architecture of a Multi Agent-based Behavioral Economic Landscape (MABEL) Model. *Simulation: Transactions of the Society for Modeling & Simulation International*, 81(7), 503-515. URL: <http://sim.sagepub.com/cgi/content/abstract/81/7/503?etoc>

Pijanowski, B. C., Shellito, B., Pithadia, S., and Alexandridis, K. (2002). Forecasting and assessing the impact of urban sprawl in coastal watersheds along eastern Lake Michigan. *Lakes and Reservoirs: Research and Management*, 7(3), 271-285. URL: <http://www3.interscience.wiley.com/journal/118960421/abstract>

### 3. FOOD FOR THOUGHT FOR INTERESTED STUDENTS

First things first - a word on my mentoring and teaching philosophy: Learning is hardly a one-way process. We all learn from each other regardless our roles, duties and responsibilities. Students and teachers alike can learn from each other in ways that enhance the process of scientific discovery and promote a strong sense of scholarship and excellence. I am strongly committed to and highly value dynamic feedback and interactions, active participation and teamwork, as well as a strong sense of social and scientific ethics and responsibility.

Following are some suggestions and thoughts you might find of interest

- Promoting Team work: emphasis on strategic team building and synergies that promote collaborative and 'out of the box' thinking. 'Bowling together' is always better than 'bowling alone'. No need to reinvent the wheel, but rather to put to work everyone's best skills and competencies to achieve common and valuable goals at both the interpersonal and the collective good.
- Improve professional and communication skills: ability to strive for professional excellence depends highly on how successfully communication skills are sought and applied in multiple settings. Developing skills for science communication in various settings ranging from technical to broad social and community audiences.
- Science and technology: Enhancing the level of understanding and utilization of scientific technology and methodologies. Ability to understand the complexity of the scientific methods, being able to fully realize underlying assumptions (often well hidden), critically evaluate models and methodologies and strive for veridicality, rather than simplicity.
- Engage, outreach and cross-pollinate: focus on innovative thinking and creative solutions, be proactive and visionary. Think about the future, the past and the present in holistic ways, and be able to engage in meaningful dialogue that enhance the efficiency and success of professional undertakings. Developing capabilities and carrying capacity for research and science understanding at multiple levels, from individuals, to stakeholders, to policy-makers.
- Develop strong work and personal ethics: Hard work pays in the long run. Spending the time to think and reflect about the ethics involved in research, communication and engagement with others is worth the extra effort. Being a scientist is more than advancing technical skills. It requires scholarship and strong intellectual skills that reflect a strong sense of ethical commitment to science and the impact it brings to people and the society at large.

4. STRATEGIES FOR SUCCESSFUL DIALOGUE  
(Yankelovich, 2001)

- Strategy 1: Err on the Side of including people who disagree.
- Strategy 2: Initiate dialogue through a gesture of empathy
- Strategy 3: Check for the presence of all three core requirements of dialogue – equality, empathic listening, and surfacing assumptions nonjudgmentally – and learn how to introduce the missing ones.
- Strategy 4: Minimize the level of mistrust before pursuing practical objectives.
- Strategy 5: Keep dialogue and decision-making compartmentalized.
- Strategy 6: Focus on common interests, not divisive ones.
- Strategy 7: Use specific cases to raise general issues.
- Strategy 8: Bring forth your own assumptions before speculating on those of others.
- Strategy 9: Clarify assumptions that lead to subculture distortions.
- Strategy 10: Where applicable, identify mistrust as the real source of misunderstandings.
- Strategy 11: Expose old scripts to a reality check.
- Strategy 12: Focus on conflicts between value systems, not people.
- Strategy 13: Be sure trust exists before addressing transference distortions.
- Strategy 14: When appropriate, express the emotions that accompany strongly held values.
- Strategy 15: Encourage relationships in order to humanize transactions.

Source: Yankelovich, D. (2001). *The Magic of Dialogue: transforming conflict into cooperation*. New York: Touchtone Books; Simon & Schuster.