



Graduate Research Assistant Sociotechnical Sustainable Transitions

Masdar Institute of Science and Technology
*Institute Center for Smart and Sustainable Systems
Engineering Systems & Management*

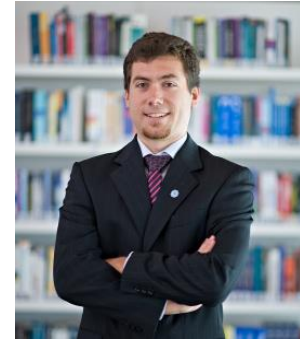
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Co-founder Systems Modeling Expert

ARC-initiative.org
*Integrated Sustainable Systems Solutions
for Human Capability Enhancement*

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denes@arc-initiative.org



Interests

System Dynamics

Agent-Based Modeling

Applied Engineering Algorithmics

Hybrid Systems Modeling Methods

Sociotechnical & Engineering Systems

Systems Thinking and Systems Theory

Integrated Systems Approaches

Sustainable Energy Transitions

Engineering Solutions for Sustainable Development

Capacity Building & Participatory Design

Capability Enhancement

Integrated Community Development



Education

2011 – 2013

3.63 / 4.00

MSc Thesis ➔

MSc Engineering Systems & Management **BSc** (honors) Electrical Engineering

Masdar Institute of Science and Technology, Abu Dhabi, UAE

degree offered in collaboration with **Massachusetts Institute of Technology (MIT)**, USA

Focus areas: Object Oriented System Dynamics, Sustainable Aviation

2007 – 2011

9.15 / 10.00

BSc Thesis ➔

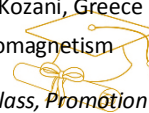
Technical University of Cluj-Napoca, Cluj-Napoca, Romania, *Head of Class, Best Thesis*

co-signed by **Technological Educational Institute of Western Macedonia**, Kozani, Greece

Specialization: Electrical Systems, *Focus areas:* Numerical Methods, Electromagnetism

2003 – 2007

Márton Áron High School – Miercurea Ciuc, Romania, **98.4 / 100**, *Head of Class, Promotion*



Languages

Hungarian (native)

Romanian (advanced)

English (advanced)

French (intermediate)

German (intermediate)



Experience & Research

5 years experience as **Research Assistant**

3 years experience as **Teaching Assistant**

link ➔

6 months as **Visiting Researcher**

1 year involvement with **ARC initiative** - link ➔

1 journal, 9 working papers

3 conference presentations

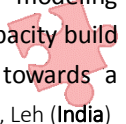
1 book, 1 book chapter

link ➔



Involvement

I co-founded a **non-profit organization** that focuses on an **integrated systems approach** towards **community development** and **capability enhancement**. Using a participatory systems thinking approach and possibly systems modeling techniques, we try to design **integrated solutions** to capacity build in communities and design a path for a transition towards a **sustainable future**. Borneo (Malaysia), Abaars (Somaliland), Leh (India)



Activities

Climbing ➔
Stok Kangri
6153m

4 DAN Shotokan Karate **3 DAN Kendo**

2 World & 4 European Championships
with **Romanian National Kendo Team**

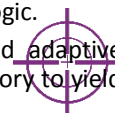
Traveling ➔ (visited **40+** countries, lived in **4**)



Aim

contribute to the advancement of sociotechnical sustainable transitions and community development

- Theory realm:** create **interactive systems tools** (and theories) to aid policy-makers in designing **integrated sustainable energy transitions** and **community development frameworks**. Combines object oriented system dynamics and agent-based modeling into a **hybrid systems modeling method** to model abstract-level policy decisions, as well as adaptive entity-level user logic.
- Involvement realm:** through numerous **field-trips**, design and test a portable and adaptive community development framework, using systems thinking and complex systems theory to yield an **integrated sustainable solutions for human capability enhancement model**.



Skills



Microsoft Office

AnyLogic **Vensim**

Mathcad **Matlab**

JAVA **C++** **HTML5**

System Dynamics

Project Management