CURRICULUM VITAE

Adrian V. GHEORGHE – holds a M.Sc. Electrical / Power Engineering, Department of Power Engineering, Bucharest Polytechnic Institute (1968), Romania, a Ph.D. Systems Science / Systems Engineering, City University, London, UK (1975), a MBA, Academy of Economic Studies, Bucharest (1985), and a M.Sc. Engineering-Economics, Bucharest Polytechnic Institute.

Dr. Gheorghe is a Senior Scientist with the European Institute for Risk and Communication Management (EURISC), and Vice President World Security Forum (WSF), Switzerland.

Dr. Gheorghe is currently Professor of Engineering Management and Systems Engineering, and the Batten Endowed Chair on System of Systems Engineering with the Department of Engineering Management and Systems Engineering, Batten College of Engineering and Technology, Old Dominion University, Virginia, USA.

He is also the Director of the Energy Research, and Homeland Security Clusters at the Batten College Engineering and Technology, Old Dominion University.

Currently is Chair of the Department of Engineering Management and Systems Engineering.

Between 2010 and 2015 Dr. Gheorghe was a Guest Professor and Scientist with Beijing Normal University (BNU), Integrated Risk Governance Project.

Between 1993 and 2006, Dr. Gheorghe was a Senior Scientist and the Director, Centre of Excellence on Risk and Safety Sciences within the Swiss Federal Institute of Technology (ETH) in Zürich, Switzerland; see www.lsa.ethz.ch.

He was Professor of Thermal and Nuclear Energy Systems (1968-1974) and then Professor of Industrial / Energy Systems and Organisational Management,

Faculty of Power Engineering, Bucharest Polytechnic University (see www.energ.pub.ro) and Department of Physics, University of Bucharest (1968-1995), and currently (1995-present) he holds on leave position as Professor for Industrial Risks and Decision Analysis, Department of Engineering Economics, Faculty of Chemical Engineering, University Politehnica Bucharest, Romania.

He lectures (1996-2010) with the IFOR (Institute for Operations Research) Department at ETHZ (Swiss Federal Institute of Technology – Zürich) on specific Operations Research and Decision Analysis topics (multi-criteria decision analysis), and Institute Energy Technology on Risk Assessment and Risk Management, in Switzerland – see http://www.ifor.math.ethz.ch. He delivers distance learning classes with the ETH Zurich on the topic of Multicriteria Decision Analysis and Decision Support Systems.

In 1973 Dr. Gheorghe was the Ford Foundation Visiting Professor, Department of Engineering - Economic Systems, Stanford University, California (U.S.A) – see www.stanford.edu .

Concurrently with his visiting professorship, Dr. Gheorghe was a Research Fellow with Stanford Research Institute (SRI) - Menlo Park, California, Decision Analysis Group (applied decision analysis, risk and safety management; working for the Rasmussen nuclear reactors safety study – WASH 1400)

He worked as a Research Scientist International Institute of Applied Systems Analysis (IIASA), Laxenburg, Austria, on energy policy, systems modelling, and risk analysis (1976).

In 1989, he was a Research Scientist at the Battelle Memorial Institute, U.S.A, researching greenhouse gas effects, climate change, associated economic / energy policies and strategies at country level (e.g. Romania).

Between 1978 and 1982, he was a Research Fellow at the United Nations University - UNU (Tokyo, Japan): Project "Goals, Processes, Indicators for Development" (GPID), energy and socio-economic development (see www.unu.org).

During 1980, he was active as a Research Fellow - International Research Exchanges Board (IREX), U.S.A. and presented Seminars at M.I.T., Harvard University, Institute for Energy Analysis-Oak Ridge, Tenn., Department of Energy, Stanford University, Institute for World Order, New York University, etc.

Between 1978 and 1988, Dr. Gheorghe has been recognized as a Visiting Fellow, National Academies of Sciences, in Czechoslovakia, Hungary, Poland, former USSR (cybernetic economics and development strategies, computer modelling, systems engineering, risk and safety analysis, environment and economic/energy systems policy and management), Utrecht University, The Netherlands (energy conservation and economics).

1988, Research Scientist, Department of Systems Analysis, Riso National Laboratory, Denmark - energy and economic systems engineering modelling, and risk analysis

1989, Visiting Scientist, Energy Study Centre, Energy Netherlands Foundation, Petten, Holland, case study Romanian contribution to the greenhouse effect, risk and economic development and environmental management, model using for climate change assessment.

1990, Senior Scientist - Cowiconsult, Denmark (use of neural networks and expert systems in consulting engineering); seminars delivered at Cowiconsult, and University of Denmark – Lyngby, on Artificial Intelligence for consulting engineering

1990, Advisor to the Romanian Prime Minister (economic, environment and energy, including risk and safety related issues for nuclear and non nuclear industries)

1970-1971, Director and Scientific Secretary, Ministry of Education (Romania)

1975-1989, Permanent Member Economic Committee Ministry of Energy (Romania); Deputy Head of the Department of Management Science, Faculty of Power Engineering, Bucharest Polytechnic University; Scientific Secretary of the Faculty of Power Engineering (till 1990).

Deputy Chairman for the Department of Industrial Management and Systems Engineering, and Director Institute for Safety Sciences and Systems Engineering, within the Bucharest Polytechnic University (1976 - 1990).

1980-1987, Member: Editorial Board International Journal of Risk Analysis (Plenum Press, U.S.A). Organised specialized symposiums and international seminars in Romania, Belgium, U.S.A., acting as Chairperson for international scientific events (e.g. Japan, Germany, The Netherlands, Denmark, USA, Switzerland)

1990 - 1993, International Atomic Energy Agency (IAEA), Vienna [institutional recipient of the Nobel Peace Prize 2005], risk assessment specialist, international programs in energy sustainability and climate change, comparative risk assessment, health and environmental impact assessment of different energy systems for electricity generation, integrated risk management for complex industrial and economic systems, decision aiding techniques for nuclear safety and radiation protection, probabilistic consequence assessment of nuclear accidents, databases for comparative economic and risk assessment, in view of sustainable development paradigm implementation.

He is a founding member (since 2006) of the project on Fragility of Critical Infrastructures at IIASA (International Institute Applied Systems Analysis – Laxenburg, Vienna, Austria).

He initiated work for the international program DECADES of the IAEA (International Atomic Energy Agency) on comparative risk assessment of various energy systems – see www.iaea.org/programme/ne/nedept.htm.

He organised and contributed with technical inputs to the Helsinki Symposium on comparative risk assessment of various energy systems (1991), and other subsequent events.

He contributed to the compilation and critical evaluation of information on the generation of electricity by nuclear energy within the DECADES computer package. In particular he initiated and developed the HEIES database on energy generation technologies and their impacts to humans and environment.

Scientific Secretary, UN-Inter-Agency Project on Risk Assessment and Management for Electricity Generation and Other Complex Industrial Systems (UNEP / WHO / IAEA / UNIDO); international activities in developed countries (e.g. The Netherlands, France, Israel) developing countries (South Africa, China) countries with economies in transition (Russia, Romania, Croatia, Hungary, Latvia etc.), international organisations (UN and other international institutions e.g. IIASA, World Bank, WMO, WHO, UNIDO, OECD, OPEC).

He was co-ordinating the National Case Studies for industrial (technical) development, and health and environmental risk assessment and safety management due to electricity generation (including the whole fuel cycle of nuclear power) in Croatia, Egypt, Russia, Romania, Latvia, etc. As an IAEA First Officer, he organised, and he was responsible for a very large number of

technical meetings and finalising the appropriate technical documents on issues related to energy infrastructures and their environmental, economical and societal impacts.

1993-2006, Director, Head Risk Analysis Group, Polyproject on "Risk and Safety of Technological Systems", and Centre for „Risk and Safety Sciences“-KOVERS, Swiss Federal Technological Institute - ETH Zurich (Switzerland); see www.kovers.ethz.ch .

Consultant with the Paul Scherrer Institute - Switzerland, integrated modelling, Integrated Decision Support Systems, use of decision aiding techniques assisting the decision making process for comparative assessment energy systems (including nuclear power), and environmental policies, including greenhouse effect and climate change, social acceptability of nuclear generation; see www.psi.ch/GABE .

1994, Honorary Professor: China Institute for Radiation Protection (CIRP), involved in education and research activities for Probabilistic Safety Assessment – Level 3 (health and environmental assessment due to potential nuclear accidents).

Scientific Advisor Government of Sosnovy Bor - Russia, Government of Zagreb City – Croatia, and Government of Kuwait (Environment Public Authority) on risk assessment for large industrial regions / complex energy technological systems.

Member: Alliance for Global Sustainability (AGS), Sustainable Energy Project undertaken by ETH Zurich, MIT (USA) and University of Tokyo (Japan), and co-ordinator / project manager for the ETH-MIT project on integrated comparative assessment and national electricity policies.

Member of Romanian Management Task Force, Cybernetic Committee of the Romanian Academy, Romanian Marketing Association, American Society for Risk Analysis, AMSE (France).

International Affiliations: Austrian Cybernetic Society, Romanian Society for Industrial Engineering and Management, Swiss Society for Risk and Safety Sciences, Romania Academy of Scientists.

President (hon.): EURISC (European Institute Risk, Security and Communication Management).

Organiser: 12-th International Congress on Cybernetics-Namur, Belgium (1989), International Workshop on "The Use of Fuzzy Sets Theory in the Field of Health, Environment and Nuclear Energy“, Yokohama, Japan (1991). "Sun Day" -1976, and "Earth Day" -1990 (Romania)

Executive Organizer and participant in international meetings:

- Society for Risk Analysis – Europe, International Conference, Germany (1995).
- Scientific Secretary International Workshop Advanced Techniques for Environmental Risk Assessment, Japan (1995).
- Spring School on Modelling and Simulation (May 1983),
- Association for Modeling and Simulation of Enterprises (France), Sweden (1992), China (1993), Kuwait (1995),
- Probabilistic Safety Assessment and Management, 1998, 2000, 2002, 2004,
- World Congress on Risk - organiser, Brussels, 2003,
- Integrated Disaster Risk Management – organiser, Kyoto, Japan, 2003, and Ravelo, Italy, 2004.

Lectured in the U.S.A, Europe, Africa and Asia.

Editor At Large for the Encyclopedia of Microcomputers, Marcel Decker Publishing House, New York, U.S.A. (since 1990)

Member of the Editorial Board of the International Journal for Environment and Pollution (UK), International Journal for Global Energy Issues (UK), Editor with Kluwer Academic Publishing House (The Netherlands), and Springer Publishing House – see www.wkap.nl, on the Topics of Safety, Risk, Reliability and Quality (see www.springer.com) as well as with the International Journal of Risk Analysis (USA).

Published works consist of seventeen books and more than one hundred papers in USA, France, UK, Poland, Germany, Holland, Denmark, Japan, Romania, Switzerland, etc.

Guest Editor for Special Issues of various international journals (e.g. International Journal of Environment and Pollution, International Journal Global Energy Issues, International Journal Risk Assessment & Management, International Journal Critical Infrastructures

Editor: Risk and Safety Technical Systems series (thirty books and other documents which were scientifically co-ordinated by Adrian Gheorghe), University Publishing House of the ETH Zurich, Switzerland

Professional experience (1968 - 1999): national authorities (e.g. Ministry of Education, Ministry of Energy, Government of Romania), private business and consulting (e.g. Cowiconsult, Denmark), international organisations (e.g.

United Nations University www.unu.org, International Atomic Energy Agency www.iaea.org, International Institute for Applied Systems Analysis www.iiasa.org), universities and research centres: University Polytechnic Bucharest (Romania), Swiss Federal Technological Institute - Zurich, Energy Study Centre (The Netherlands), Riso National Research Institute (Denmark), The City University London (UK), Old Dominion University, Norfolk, Virginia, USA, Energy Lab, MIT, USA.

Fields of work: environment, energy modelling / simulation and technology assessment, risk analysis and safety management for nuclear power, disaster risk and vulnerability management, systems engineering and energy/industrial management, smart energy systems, economics of renewable technologies, risk and resilience governance critical energy infrastructures, risk governance carbon sequestration technologies.

Executive Editor: International Journal Sustainable Development, UK, 1998, International Journal Critical Infrastructures, UK, 2004, International Journal System of Systems Engineering, UK, 2008 (see www.inderscience.com) .

Registered International Expert: World Bank - Roster List; International Atomic Energy Agency, TRUSTNET (European Commission Risk Management Team of Experts)

He was nominated as Ministry of Education and Science in Romania (early 1990).

He was offered the position as Research Professor, in the field of Systems Engineering with the Naval Postgraduate School, Monterey, California, USA, in 2004

He is a Member of the IFAC (International Federation Automatic Control) Technical Committee, in charge with the WG5, Risk management in Large Scale Systems, with particular emphasis on critical infrastructures (since 2005)

He is the coordinator of the Homeland Security Research Cluster of the Batten College of Engineering and Technology, Old Dominion University, Member of the HSDEC (Homeland Security and Defence Education Consortium).

He acted as a Co - Principal Investigator in the DHS project on "Critical Infrastructures Resilience in the Hampton Road Region".

He was an invited speaker at a number of NATO meetings on topics related to modelling and simulation and recently he contributed to published books under the auspices of NATO Science and Technology division.

Current involvement:

- Energy security, environmental and industrial risk, local and regional level and
- Critical Space Infrastructure Systems Resilience and Governance
- Smart and Resilient Cities and their modelling by use of Serious Gaming and Agent Based Modelling techniques.
- Advanced generation of models for (comparative) risk assessment and safety management, including sustainability
- Critical information infrastructures security and protection
- Development of original models for the quantitative vulnerability assessment of energy critical infrastructures e.g. refineries and petrochemical installations, nuclear reactors, and critical transport infrastructures
- Interdisciplinary research programmes on energy, sustainability, and risk analysis
- Transportation dangerous goods risk analysis and intelligent transportation systems
- Use of GIS for risk and vulnerability assessment and risk visualization
- Use of satellite technology and associated digital technology with relevance to risk and vulnerability assessment for critical infrastructures
- Critical infrastructure risk and vulnerability governance by use of models assisted by GIS and satellite technology
- Regional risk and vulnerability assessment, and critical infrastructures resiliency at regional level
- Establishing a research framework for the field of system of systems engineering with application to homeland security and critical infrastructures analysis and protection
- Establishing a new research field on resilience governance for critical energy infrastructures
- Developing the framework and advanced platforms and tools for Serious Gaming for Good Energy Governance.

Scientific concerns: energy systems and management, system of systems engineering, critical infrastructures protection, economic development and management science (systems engineering, cost-benefit analysis, econometrics, dynamic modelling and optimisation), risk assessment and safety analysis,

transportation of dangerous goods, energy economics and systems analysis, environmental and health impact and risk assessment of different energy and industrial systems, global climate change, comparative economic, health / environment risk assessment, complex infrastructures design and management, sustainable development and policy formation, technology assessment, emergency planning and preparedness, advanced artificial intelligence and neural networks models, rough sets models for complexity modelling, use of GIS and space technology to risk and safety assessment on large territories in relation to fire management and land use planning, multi-criteria decision analysis, Decision Support Systems and stakeholders interactions, smart grids, serious gaming and energy infrastructures policy.

He worked as the project manager on the topic of Ubiquity of Digitalization and Risk Impact on Critical Infrastructures, with International Risk Governance Council (IRGC) - www.irgc.org, and on a project named Vulnerability Analysis (Switzerland) with the Department of Defence, Switzerland

Dr. Gheorghe was a project manager for joint work with the EC-JRC (European Commission – Joint Research Centres), Ispra, Italy and ETH Zurich, on the topics of "Infrastructures at Risk: Issues on Digitalization and Interdependencies" (with IRGC), and "Regional Vulnerability Assessment" (with ETHZ), since July 2004. He was involved in designing guidelines, tools and case studies related to regional vulnerability assessment with respect to various regions in Europe e.g. Sweden, Switzerland, etc.

Dr. Gheorghe was coordinator of the AGS (MIT, ETH, and University of Tokyo, Japan) project on "Strategic Electric Sector Assessment Methodology under Sustainability Conditions. Knowledge-Based Decision Support Framework: an Enhanced Methodology (SESAMS)", see www.sesams.ethz.ch - Member of the research project on China Energy Technology Programme (CETP) – see www.cetp.ch - and making research in the European Commission project on nuclear safety, STEPS (Source Term Estimation Based on Plant Status).

- As project manager of SESAMS, he was fully involved in the process of analysing the use of nuclear energy: economic impacts, stranded costs and the competition/deregulation of electricity markets in Europe and Switzerland in particular, strategic options and electricity generation policy by use of LCA approach and externalities, all with the direct assessment to Switzerland electricity market

- Research on electricity and sustainability in Switzerland involved a methodology with the full interaction of stakeholders (government representatives, nuclear power utilities), for a period of over three years

- As member of the EC - STEPS Consortium, he was fully involved within international programmes in the field of nuclear safety and emergency management e.g. RODOS European project on emergency policy and management in case of large scale nuclear accidents in Europe.

- As a Member (Co-PI) of the DHS project on Critical Infrastructures Resilience in the Hampton Roads (Virginia) Region, he was responsible in developing novel methodologies, as well as modeling and simulation environment for assessing the capability and resilience policy for civil – military infrastructures exposed to all hazards e.g. natural, technical, terrorist attacks.

Dr. Gheorghe was a Member of an international team conducting research on electricity and environment / sustainability for a region in China (Shandong), project named CETP (China Energy Technology Programme), currently being sponsored by AGS – ETHZ and the ABB-International, and fully documented in a book published in Kluwer Academic in 2003.

He was an invited speaker for the UN Commission on Space Technology, Vienna 2004, with topics related to risk and vulnerability assessment assisted by GIS and space/satellite technologies.

He was a Keynote Speaker with the international Crans Montana Forum, Switzerland attended by head of states and high level executives from all around the world (June 2004), see www.cmf.ch

Dr. Gheorghe is senior scientific advisor for the International Risk Governance Council (IRGC), with headquarter in Geneva (Switzerland), on topics related on risks and critical infrastructures.

Dr. Gheorghe is Vice-President of the World Security Forum - WSF (February 2004), headquartered in Switzerland.

During the years 2003 - 2005 he delivered a series of lectures within the Presidential Seminars on Critical Infrastructures, Presidential Administration, Bucharest, and organized and gave keynote presentation to the Parliament of Romania.

He is a keynote speaker with the Asian Security Conference, New Delhi, India, February 2010, with the topic Status of Critical Infrastructures.

During September 2004, he visited and gave topical lectures on critical infrastructures risks, and their vulnerability to EPRI (Electric Power Research Institute, Palo Alto, California, SNL (Sandia National Laboratory), Santa – Fe Institute, ANL (Argonne National Laboratory), in USA,

In May 2005 he acted as lecturer for the GCSP (Geneva Centre Security Policy, Switzerland), on the topic of security of critical infrastructures, and offered advice to high level ministerial bodies in Baku, Azerbaijan

He is an Alumnus of the International Institute Applied Systems Analysis. Recently (July – August 2009) he was actively involved with international conferences in Europe by promoting new research fields on system of systems, vulnerability and risk analysis critical infrastructures, integrated - analysis for the disaster risk management due to terrorist threats or natural events.

Nominated for the WHO's WHO in the WORLD – (1996-2010) - USA, as an internationally recognised scientist and manager

Nominated for the WHO's WHO IN SCIENCE – 1997, 2003, 2004 editions - USA, as an internationally recognised scientist

Nominated for the WHO's WHO IN INDUSTRY AND FINANCE – 1997, 2003, 2004, 2009 editions - USA, as an internationally recognised scientist.

Nominated for the FIVE HUNDRED LEADERS OF INFLUENCE - 1997, 1998, 2004 - USA

Nominated in the Dictionary of International Biography, Volume XXV - 1997, Cambridge, UK, for distinguished service to mankind

Languages: English, German, Russian, Romanian
USA – Permanent Residence, Greencard
Mobile: 0041 79 402 84 09 (Switzerland) and +757 277 6280 (USA)
Email: adriangheorghe9145@gmail.com

Selective Publications (2011 - 2016)

1. Adrian Gheorghe et al. – "Critical Infrastructures. Risk and Vulnerability Transport Dangerous Goods. Rail and Road Transport Systems", Springer, Dordrecht, 2016
2. Adrian Gheorghe et al. – "Hydrogen economy", AGIR Publishing House, Bucharest, Romania (in Romanian), 2016
3. Adrian Gheorghe et al. – "Infranomics, Springer, Dordrecht, 2015
4. Adrian Gheorghe, Liviu Muresan – "Energy Security", Beijing, China (in Chinese), 2015
5. Ion Bostan, Adrian Gheorghe, Valeriu Dulgheru, Ion Sobor, Viorel Bostan, Anatolie Sochirean – "Resilient Energy Systems. Renewables: Wind, Solar, Hydro", Springer Publishing House, Dordrecht, The Netherlands, 2013
6. John Johnson, Adrian Gheorghe – "Antifragility Analysis and Measurement Framework for Systems of Systems", Int. J. Disaster Risk Sciences, 2013, 4 (4), : 159 – 168
7. Berna Tokgoz, Adrian Gheorghe – "Resilience Quantification and its Application to a Residential Building Subject to Hurricane Winds", Int. J. Disaster Risk Sciences, 2013, 4 (3), : 105 – 115
8. Ion Iordache, Adrian Gheorghe, Mihaela Iordache – "Towards a Hydrogen Economy in Romania. Statistics, Technical and Scientific General Aspects", Int. J. of Hydrogen Energy, 38 (2013)
9. Berna Eren Togkoz, Adrian Gheorghe – "Resilience. An Emergent Characterization of Complex Interdependent Critical Infrastructures", in The European Journal of Critical Services and Infrastructure Protection, Vol. 1, No. 1, 2013
10. Adrian Gheorghe – "Forward Notes", in The European Journal of Critical Services and Infrastructure Protection, Vol. 1, No. 1, 2013
11. Gheorghe A., et al – "Resilience and Engineering Systems – Research Trends and Challenges", International Journal Critical Infrastructures, 2015
12. Ancel E., Gheorghe, A., - "A Simulation Game Application for Improving the United States' Next Generation Air Transportation System" (NextGen). In K. Hausken & J. Zhuang (Eds.), Game Theoretic Analysis of Congestion, Safety and Security: Networks, Air Traffic and Emergency Departments (pp. 219-254), Switzerland, Springer
13. Tokgoz B., Adrian Gheorghe (2015) – "Probabilistic resilience for building systems exposed to natural disasters", International Journal Critical Infrastructures, Vol. 10, no ¾, pg 375 – 397

14. Walker R., Charles Keating, Adrian Gheorghe, Resit Unal (2014) – "A method to define system of systems requirements", International Journal System of Systems Engineering, Vol. 5, no 4, pg 289 – 323
15. Bell A., Adrian Gheorghe (2014)– "Time-based collision risk models in air traffic management systems", International Journal System of Systems Engineering, Vol. 5, no 4, pg 324 – 378
16. Adrian Gheorghe et al (2015) – "Space as Critical Infrastructure; Critical Load Concept for Debris", International Journal Disaster Risk Sciences, no. 4
17. Iordache Ion, D. Schitea, Adrian Gheorghe, Mihaela Iordache (2014) – "Hydrogen underground storage in Romania: potential directions of development, stakeholders, and general aspects", International Journal Hydrogen Energy, Vol. 39, Issue 21, 15 July
18. Tokgoz B., Adrian Gheorghe (2014) – "Probabilistic Resilience Assessment Modeling", International Journal of Disaster Risk Science, December 2014, Springer

Selective Publications (1996 - 2010)

1. Adrian Gheorghe et al. – "Critical Infrastructures at Risk. Securing the European Electricity Critical Infrastructures", Springer, Dordrecht, 2006
2. Adrian Gheorghe ed. –"Energy Security", Springer Publishing House, Dordrecht, The Netherlands, 2010 (in press)
3. Ion Bostan, Adrian Gheorghe, et al –"Wind, Solar, and Hydro Renewable Systems", Springer Publishing House, Dordrecht, The Netherlands, 2010 (in press)
4. Adrian Gheorghe et al. – "Mining intelligence data in the benefit of critical infrastructures security; vulnerability modeling, simulation and assessment, system of systems engineering", International Journal System of Systems Engineering", Vol. 1, nos. 1-2, 2008
5. Adrian Gheorghe et al – "Testing Critical Infrastrucutre Vulnerability: An Essay in Probabilistic Resilience Analysis", in the volume Computational Models of Risks to Infrastrucutres, D. Skanata and D. M. Byrd (Eds.), IOS Press, Amsterdam, 2007
6. Adrian V. Gheorghe, Dan V. Vamanu – "Quantitative Vulnerability Assessment of Critical Infrastructures: watching for hidden faults", International Journal of Critical Infrastructures 2008 - Vol. 4, No.1/2 pp. 144 - 152

7. Adrian V. Gheorghe, Dan V. Vamanu – “Risk and vulnerability games. The anti-satellite weaponry (ASAT)”, International Journal of Critical Infrastructures 2007 - Vol. 3, No.3/4 pp. 457 - 470
8. Adrian V. Gheorghe, Marcelo Masera, Laurens De Vries, Margot Weijnen, Wolfgang Kroger – “Critical infrastructures: the need for international risk governance”
9. Adrian V. Gheorghe, Dan V. Vamanu – “Another tool in the business of spatial framing of illicit/lost from account radioactive material: helping the AT (Anti-Terrorism) paraphernalia thrive”, International Journal of Critical Infrastructures 2006 - Vol. 2, No.4 pp. 347 - 356
10. Adrian V. Gheorghe, et al. – “Risks in business design for critical infrastructures: the 'DASHBOARD' concept”, International Journal Critical Infrastructures, Vol. 2, Issue 1, 2006
11. Adrian V. Gheorghe (Ed.) – “Integrated Risk and Vulnerability Management Assisted by Decision Support Systems. Relevance and Impact to Governance”, Springer, Dordrecht, 2005
12. Adrian V. Gheorghe, Jason Levy (Guest Editors) – “Aging Nuclear Critical Infrastructures” – Special Issue, International Journal Critical Infrastructures, vol. 1 no.4, 2005
13. Adrian V. Gheorghe, Ralf Mock – „Risk Engineering. Bridging Risk Analysis with the Stakeholders Values”, Kluwer Academic, Dordrecht, 1999
14. Adrian V. Gheorghe (Guest Editor) – Special Issue on “Electricity and Sustainability: Issues in Debate”, International Journal Sustainable Development, Vol. 4, 2000
15. Adrian Gheorghe (Guest Editor) - Special Issue on “Knowledge and Decision Support Systems for Energy Policy and Mangement”, Inter, Journ. Global Energy Issues, Vol. 2-4, 1999
16. Adrian Gheorghe – “Applied Systems Engineering”, John Wiley & Sons, London, 1982
17. Adrain Gheorghe – “Systems Engineering – Methods and Models”, Academy Publishing House, Bucharest, Romania, 1979
18. Adrian Gheorghe (Guest Editor) - Knowledge Infrastructures and Decision Support Systems for Integrated Modelling in Energy Management and Policy, International Journal Global Energy Issues, Vol. 10, nos. 2-4, 1998
19. Adrian V. Gheorghe, Dan V. Vamanu - Reading vulnerability in phase portraits: an exercise in probabilistic resilience assessment, Int. J. Critical Infrastructures, Vol. 1, no.4, 2005, pp. 312-329
20. Dan Vamanu, Adrian Gheorghe - STEPS - Source Term estimation Based on Plant Status. The Containment Module Technical Specification, IPSN, France (EC Contract), STEPS / 97.009, August 1997
21. Adrian Gheorghe, R.M. von Spakovsky, Stefan Hirschberg, P. A. Haldi, S. Connors - Strategic Electric Sector Assessment Methodology under

Sustainability Conditions (SESAMS). Knowledge Based Decision Support Framework, An Enhanced Methodology, in Adrian Gheorghe (Guest Editor) - Knowledge Infrastructures and Decision Support Systems for Integrated Modelling in Energy Management and Policy, International Journal Global Energy Issues, Vol. 10, nos. 2-4

22. Adrian Gheorghe - Integration and Decision Support Systems for Energy Policy Management and Comparative Assessment Studies, in Adrian Gheorghe (Guest Editor) - Knowledge Infrastructures and Decision Support Systems for Integrated Modelling in Energy Management and Policy, International Journal Global Energy Issues, Vol. 10, nos. 2-4
23. Adrian Gheorghe, Alex Fuchs - Integration and Decision Support Systems. Applications within the Framework of Comparative Assessment of Energy Systems, in G. Beroggi (Editor), Public Policy Engineering Management, International Journal of Technology Management, 1997
24. Adrian Gheorghe, H. Seiler - Risk Assessment and Communication, in Encyclopedia of Occupational Health and Safety. Fourth Edition, International Labour Organisation (ILO), Geneva, 1997
25. Adrian Gheorghe, Jean-Pierre Krause, Ralf Mock - "Integration von Fuzzy Logic fur eine regionale Umweltrisiko-Analyse", vdF, Zurich, 1996
26. M. Monier-Nicolet, Adrian Gheorghe- "Quantitative Risk Assessment of Hazardous Materials Transport Systems", Kluwer Academic Publishers, Dordrecht, 1996
27. Adrian Gheorghe, Dan Vamanu - "Emergency Planning Knowledge", vdf Zurich, 1996
28. Adrian Gheorghe (Guest Editor) - Special Issue on "Integrated Regional Health and Environmental Risk Assessment and Safety Management", Int. J. Environment and Pollution, Vol. 6, Nos. 4-6, 1996
29. Adrian Gheorghe, H. Seiler (Eds.) - "Was ist Wahrscheinlichkeit", vdf, Zurich, 1996
30. W. Kroger, H. Seiler, Adrian Gheorghe - "Technik, Risiko und Sicherkeit", vdf, Zurich, 1996
31. Dan Vamanu, Adrian Gheorghe - "Heuristic approach to particle flow in complex terrain", in Adrian Gheorghe (Guest Editor) - Special Issue on " Integrated Regional Health and Environmental Risk Assessment and Safety Management", Int. J. Environment and Pollution, Vol. 6, Nos. 4-6, 1996
32. Adrian Gheorghe - "The role of risk assessment in obtaining technical information for emergency preparedness and planning due to major industrial accidents: view from a UN international project", in Adrian Gheorghe (Guest Editor)-Special Issue on "Integrated Regional Health and Environmental Risk Assessment and Safety Management", Int. J. Environment and Pollution, Vol. 6, Nos. 4-6, 1996

33. Adrian Gheorghe, L. Muresan - “Risk assessment of large industrial complexes in Eastern Europe: a comparative prospective” in Adrian Gheorghe (Guest Editor) - Special Issue on “ Integrated Regional Health and Environmental Risk Assessment and Safety Management”, Int. J. Environment and Pollution, Vol. 6, Nos. 4-6, 1996
34. Adrian Gheorghe - Dealing with technical risks in a region” in Adrian Gheorghe (Guest Editor) - Special Issue on “Integrated Regional Health and Environmental Risk Assessment and Safety Management”, Int. J. Environment and Pollution, Vol. 6, Nos. 4-6, 1996
35. Adrian Gheorghe, Ralf Mock - “Employing Fuzzy Logic into Regional Risk Assessment and Safety Management”, in Probabilistic Safety Assessment and Management, P. C. Cacciabue, and I. A. Papazoglou (Editors), Springer Verlag, 1996
36. Adrian Gheorghe - “Complementary Approaches of Probabilistic Systems Safety” in Adrian Gheorghe, H. Seiler (Eds.) - “Was ist Wahrscheinlichkeit”, vdf, Zurich, 1996
37. Adrian Gheorghe, Dan Vamanu - “ Development of a DSS to Assist Nuclear Authorities in the Early Phase Emergency Management in a Potential NPP Accident”, in Proceedings of the International Emergency Management and Engineering Conference”, Montreal, Canada, May, 1996
38. Adrian Gheorghe, Felix Gmunder, - “Methoden der Sicherheits und Risikoanalyse.” in Instabile Hange und andere risikorelevante naturliche Prozesse, Monte Verita, 1996 Birkhauser Verlag, Basel
39. Adrian V. Gheorghe - “Integration and Decision Support Systems. Energy Policy Management and Comparative Assessment Studies”, KOVERS - Working Paper no. 1, October, 1996
40. W. Kroger, T. Birner, A. Gheorghe- “Multicriteria Optimisation of Transportation of dangerous Goods in a Free Market Environment”, PSAM 98, New York, September, 1998
41. Warren Schenler, Adrian Gheorghe - “Strategic Electric Sector Assessment Methodology under Sustainability Conditions: A Swiss Case Study”, Research Report, Swiss Federal Institute of Technology, Zürich, 1998
42. Warren Schenler, Adrian Gheorghe - “Strategic Electric Sector Assessment Methodology under Sustainability Conditions: Stranded Costs and Deregulation and Competition”, Research Report, Swiss Federal Institute of Technology, Zürich, 1999
43. W. Kröger, T. Birner, Adrian Gheorghe- “Multicriteria Optimisation of Transportation of Dangerous Goods in a Free Market Environment”, PSAM 4, New York, September 1998, Springer Verlag
44. Adrian Gheorghe, Dan Vamanu- “Source Term Estimation Based on Plant Status”, PSAM 4, New York, September 1998, Springer Verlag

45. W. W. Schenler, Adrian Gheorghe- “Integrated electric sector planning and life cycle assessment methodologies for CO2 policy issues”, Fourth International Conference on Greenhouse Gas Control Technologies, Interlaken, Switzerland, August 30-September 2, 1998
46. Alex Fuchs, Adrian Gheorghe- “Multicriteria Decision Analysis for Energy Public Policy Management”, in Special Issue on Public Policy Engineering Management, G. Beroggi, Editor, International Journal of Technology Management, 1998
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51. Adrian V. Gheorghe, Markus Schläpfer - “Critical Infrastructures: Ubiquity of Digitalization and Risks of Interdependent Critical Infrastructures”, IRGC - ETH Document, June 2004, Zürich
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1. Adrian Gheorghe, Dan Vamanu - " Energy Security: New Tendencies in Critical Infrastructures Protection and Resilience", Workshop on Energy Security at the Black Sea Region, Bucharest, Romania, May 19, 2009

2. Adrian Gheorghe, Dan Vamanu - " Energy Security: Gaming and Governance", ROSTREC Romanian - Norwegian Project, Bucharest, Romania, May 20, 2009

3. Adrian Gheorghe, Dan Vamanu, Berna Eren Tokgoz - "The Advent of the Concept of Resilience for System Engineering Decision Analysis", Decision Analysis and Systems Engineering Workshop, INCOSE, Newport News, Virginia, USA, 17 November 2009

4. Adrian Gheorghe, Dan Vamanu - "Risk Governance and Energy Security", Annual Meeting on Energy Security and Critical Infrastructure Protection, Bucharest, December 17, 2009

5. Adrian Gheorghe, Dan Vamanu - "Mathematical Models for Urban Security", Annual Meeting Romanian Security Companies Association, Bucharest, 18 December 2009

6. Adrian Gheorghe, Dan Vamanu - "From Risk Governance to Resilience Governance", National Science Foundation (NSF) Meeting on Resilience, Sustainability and Critical Infrastructures, Alexandria, Virginia, USA, December 6, 2009

7. Adrian Gheorghe, Dan Vamanu - " System of Systems concept for Vulnerability Assessment of Large Scale Critical Infrastructures", Atlantic Treaty Association (ATA) Meeting, Norfolk, Virginia, USA, 18 February 2009

8. Adrian Gheorghe, Liviu Muresan, Dan Vamanu - " Threats and Vulnerability Assessment of Maritime Infrastructure Systems", USA Navy - GCC Meeting on Critical Maritime Infrastructure Protection, Bahrain, February 10, 2009

9. Adrian Gheorghe, Dan Vamanu - "International Activities on System of Systems Engineering: an European Perspective", Workshop on SoSE - State of the Art, University of New Mexico, New Mexico, USA, March 16 2009

10. Adrian Gheorghe, Dan Vamanu - "Critical Infrastructure Protection at Regional Level: Development and Use of DSS", Workshop on Regional Assessment of Critical Infrastructures, Bucharest, November 13, 2009

Working Papers

1. Adrian Gheorghe, Dan Vamanu - Geographical Information Systems (GIS) in the Risk Assessment Business: A Briefing, January 1997, ETH KOVERS - Working Paper no. 2,
2. Adrian Gheorghe, Dan Vaamnu - Knowledge Assisted Chain Approach to the Integrated Risk Assessment of Hazardous Substances: Decision Support Methodology and Software Tools, ETH, KOVERS - Working Paper no. 3, March 1997
3. Adrian Gheorghe, Dan Vamanu - Decision Support Software Tools for Integrated Risk Assessment of Hazardous Substances in Complex Terrain, ETH KOVERS - Working Paper no. 4, July 1997

Lectures (selective)

1. Adrian Gheorghe - "Risk Management for Energy Systems", EPFL, Postgraduate course on Energy Systems, November 1996, Lausanne
2. Adrian Gheorghe - "Risk and Safety Sciences: An Interdisciplinary Perspective", Summer School of the Black See University, Mangalia, August 1996
3. Adrian Gheorghe - Risk Analysis and Environmental Management, Postuniversity Course on Environmental Management, EPFL, Lausanne, June 1997
4. Adrian Gheorghe - Foundations of Decision Analysis, Postuniversity Course on Environmental Management, EPFL, Lausanne, June 1997
5. Adrian Gheorghe - "Decision Support Systems (DSS) in transport of dangerous goods using Geographical Information Systems (GIS), and Risk Management", Technologie-Trreff, Bundesamt für Verkehr, Bern, 12 June 1998
6. Adrian V. Gheorghe – "New tendencies for electricity genaration under sustainability", National Congress of Nuclear Energy, Belo Horizonte, Brasisl, 31 August – 3 September 1999
7. Adrian V. Gheorghe – "Technical Risks and their Impact to Globalisation", IMD; Gstad, Switzerland, September 1999

Research Activities and Publications / Keynote Presentations in 2005-2008

A. Contractual activities: SwissRe (Swiss Reinsurance Company)- VULPET (Vulnerability Assessment of Petrochemical and Refineries)

B. Contractual activities: DoD-BABS (Office of Civil Defense), Switzerland – Vulnerability Assessment and the Protection of the Population in Switzerland

C. Consultancy activities for EPA (Environment Protection Authority) Kuwait

D. Consultancy activities East West Institute - Task Force G8 for Critical Energy Infrastructures Protection

E. Consultancy activities for SwissRe (Swiss Reinsurance Company) – Risk Engineering Group (ad hoc research and product development for critical infrastructures protection): Sihl Dam Case Study

F. Consultancy activities for SwissRe (Swiss Reinsurance Company) – Risk Engineering Group (ad hoc research and product development for critical infrastructures protection): Sihl Dam Case Study

G. Consultancy activities for SwissRe (Swiss Reinsurance Company) – Risk Engineering Group (ad hoc research and product development for critical infrastructures protection): Modelling for Vulnerability Assessment of Pandemics and Critical Infrastrcuutres Security

H. Consultancy activities with AXPO (Swiss Electricity Concern)– Risk Management Methodology and Practice for Scenario Development: the Case of Stress Scenarios

I. Collaborative Agreement Regional Vulnerability Assessment, EC – JRC, Ispra, Italy

J. Member of the Task Force G8 Meeting, St. Petersburg, June 2006 – Working Group on Critical Energy Infrastrucutres Protection

K. Member of the NATO project on Emergency Management and Critical Infrastrcutures Protection in the Hampton Roads Region, Virginina, USA, 2008

L. Keynote Speaker for the Homeland Securrity and Defense Education Consortium, Colorado and Maryland, 2007, 2008

M. Publications and Conference Participation (selective list)

1. Adrian Gheorghe (Ed.). – Integrated Risk and Vulnerability Management Assisted by Decision Support Systems. Relevance and Impact on Governance, Springer, Dordrecht, 2005
2. Adrian Gheorghe et al. – Critical Infrastrucutres at Risk. Securing the European Electricity Critical Infrastructures, Springer, Dordrecht, 2006
3. Adrian Gheorghe, Dan Vamanu – "Disaster Risk and Vulnerability Management. From Awareness to Practice", in A. Gheorghe (Ed.), Integrated Risk and Vulnerability Management Assisted by Decision

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5. Jason Levy, Adrian Gheorghe (Guest Editors) – "Aging Nuclear Critical Infrastructures", IJCI, vol.1, no.4, 2005
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7. Adrian Gheorghe, Dan Vamanu – "On the vulnerability of critical infrastructures: "seeing it coming"", in IJCI, vol. 1, nos. 2/3, 2005, pp. 216-247
8. Adrian Gheorghe, Dan Vamanu – "A cellular automaton approach to air flow dispersion in urban areas", in Proceedings on Systems Analysis for a more Secure World: Application of System Analysis and REMS to Security of Complex Systems, Editor Giacomo G.M. Cojazzi, EC JRC Ispra, pp. 369-383
9. Adrian Gheorghe, Dan Vamanu –"Daily Regional Vulnerability of Infrastructures to Obnoxious Agents How vulnerable are you today" Proceedings of the Annual IIASA-DPRI Meeting on Integrated Disaster Risk Management, Beijing, September 2005
10. Adrian Gheorghe, M. Masera, L.J. De Vries – "Critical Infrastructures at Risk. Securing the European Electric Power System", in Proceedings of the IEEE International Conference on Technologies for Homeland Security and Safety, TEHOSS 2005, September 28-30, 2005, Gdansk
11. Adrian Gheorghe - "Risk, Vulnerability and Sustainability for Critical Infrastructures" Keynote Speaker, International Conference on Resilient Infrastructures, Rotorua, New Zealand, September 2005
12. Adrian Gheorghe, Dan Vamanu – "Critical Infrastructures Protection: From [(Systems) Engineering] to {(System of Systems) Engineering}. Use of Cellular Automata Modeling", International Conference on Resilient Infrastructures, Rotorua, New Zealand, September 2005
13. Adrian Gheorghe – "Risk and Vulnerability Assessment and Management", Presentation at the Workshop on "Critical Infrastructure Protection and Security Challenges"- Baku, Azerbaijan, 19-21 May 2005
14. Adrian Gheorghe – "Dealing with Integrated Risk and Vulnerability Management: Analytic Models", EPA presentation Kuwait, April 9, 2005

15. Adrian Gheorghe, Dan Vamanu – "Pixel as a Source of Input; Pixel as a Support of Output", Gulf Area International Workshop on the Use of GIS, Kuwait, 2005
16. Adrian Gheorghe, Dan Vamanu – "GIS: Pixels, Analytic Models Cellular Automata: A New Kind of Modeling", Gulf Area International Workshop on the Use of GIS, Kuwait, 2005
17. Adrian Gheorghe – "European Critical Electricity Infrastructures: Risk and Vulnerability", National Symposium on Protection of Critical Electricity Infrastructures, Bucharest, 10 March, 2005
18. Adrian Gheorghe – "Critical Infrastructures Risk and Vulnerability in the European Context", National Symposium on Protection of Critical Electricity Infrastructures, Bucharest, 10 March, 2005
19. Adrian Gheorghe – "Advances in Vulnerability Assessment for Critical Infrastructures Interactions", EPA presentation Kuwait , April, 2005
20. Adrian Gheorghe – "Advance Modeling for Integrated Risk Assessment and Management", Presentation at the ad-hoc Davos Seminar, Davos, Switzerland, 12 July 2005
21. Adrian Gheorghe – "Interdépendance: où sont les risques?, Civil Défense Organisation of France, Paris, Novembre 30, 2005
22. Adrian Gheorghe, Dan Vamanu – "Towards a Standard Model of Societal Vulnerability to Natural Disasters. The Katrina Paradigm", OECD Workshop on Science and Technology for a Safer Society, Tokyo, Japan, December 5-6, 2005,
23. Adrian Gheorghe, Dan Vamanu – "Quantitative Vulnerability Assessment of Critical Infrastructures: Watching for Hidden Faults", Presentation at the Task Force G8 Meeting on Critical Energy Infrastructures, Brussels, November, 2005
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26. Adrian Gheorghe, Markus Schlaepfer – "Critical Infrastructures. Ubiquity of Digitalization and Risks of Independent Critical Infrastructures" Joint IRGC-ETH final edition, Working Paper, Zurich 2005, Zurich
27. Sara Bouchon, Adrian Gheorghe, Jurg Birchmeier – "Toward Guidelines for Regional Assessment of Vulnerability Against Service Disruption of

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