

NURIS 2015

1st INRAG Conference on Nuclear Risk

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Vienna, Austria



16 – 17 April, 2015
1st INRAG Conference on Nuclear Risk

iNRAG International
Nuclear Risk
Assessment Group

Program



Bundesministerium
für Umwelt, Naturschutz,
Bau und Reaktorsicherheit



IS R

Institut für Sicherheits-
und Risikowissenschaften

Universität für Bodenkultur Wien

FOREWORD:

Dear participants of NURIS 2015

For the most of you this will not be the first conference on nuclear topics and in particular not the first on nuclear safety. But there is one difference. NURIS is not a conference on nuclear safety – and there is a reason for it. If we judge a plant or an installation or a technology to be safe then we say nothing else that we accept its remaining risks. Safety is so far another expression for the acceptance of the remaining risks. Talking about safety thus calls for talking on the remaining risks - not to scandalize them but to give the debate on nuclear safety and nuclear technology its rational basis. That makes the difference.



INRAG Foundation Assembly

Welcome to Vienna

Wolfgang Renneberg
(Chair of INRAG)



Agenda at a glance

Venue:

University of Natural Resources and Life Sciences, Vienna

Peter Jordan Straße 82

1190 Vienna

Room: EH 05

Opening Ceremony

10.00 - 10.30	Andrä Rupprechter	Opening
	Martin Gerzabek	Welcome Address
	Wolfgang Renneberg	Welcome Address INRAG

Coffee Break

Keynotes

10.30 - 11.00	Gregory Jaczko	Risk, Reality and the Future of Nuclear Power
11.30 - 13.00	Satoshi Sato	True Lessons Learned from Fukushima Accident to be Shared Internationally
	Richard Adams	Risk, public opinion and EU energy policy
	G. Jaczko, S. Sato, R. Adams	Special Panel

Lunch

Room: Schwackhöfer SR06

Session 1: The Future of Nuclear Energy

14.00 - 15.30	Antony Froggatt	World Nuclear Industry Status Reports
	Stephen Thomas	Economic bottlenecks for the further development of nuclear technology
	Paul Dorfman	Potential challenges concerning State Aid procedures relating to the implementation of EC competition policy

Coffee Break

15.50 - 17.20	Nikolaus Arnold/ Klaus Gufler	The future of nuclear fuel supply
	Wolfgang Kromp	Evaluation of a hypothetical nuclear Renaissance (EHNUR), Contribution of nuclear energy to the climate change challenge
	Yudha Pratama	The Intersection of Islamic Groups and Nuclear Experts in Indonesia's Nuclear Power Controversy

Coffee Break

17.40 - 18.40	Gustav Resch	Renewable Energies vs. Nuclear Power - Comparing Financial Support
	Helga Kromp-Kolb	Climate Change: Adaptation Needs for Nuclear Installations

Room: Schwackhöfer SR09

Session 2: Fukushima

Christian Küppers	Radiological Situation in Japan after the Fukushima Accident
Mitsuhiro Tanaka	About the Possibility of the 1F1 IC Piping Breakage due to the Earthquake Jolts
Gueorgi Kastchiev	Status of the Fukushima Daiichi site and the remaining risks

Sonja Schmid	Planning for the Worst: Organizational Approaches to Severe Accident Response
Christoph Pistner	A Comparison of the Events at Fukushima Daini and Daiichi
Special Panel	

Session 3: Proliferation Risks

Wolfgang Liebert	Is the current non-proliferation regime adequate to deal with the ambivalence of nuclear technologies and materials?
Matthias Englert	Ambivalence and Weaponless Deterrence - The Intricate Story How Centrifuges Spin the World

Day 2

Room: Schwackhöfer SR06

Session 4: Nuclear technology and risks of old and new reactors

09.00 - 10.40	Piet Müskens (Seminar Chair)	Introduction
	Ilse Tweer	The risk of material degradation (Doel / Thiange)
	Dieter Majer	Operational Risks of old Nuclear Power Plants in Switzerland
	Helmut Mayer	Risk of Uncontrollable Re-Criticality due to a Steam Generator Tube Rupture

Room: Schwackhöfer SR09

Session 5: Regulation, Risk governance and transparency

Gerrit Niehaus	Transparency: Experience of a Regulator
Wolfgang Renneberg	Limits of experience feedback in the nuclear community
Andreas Molin	Opportunities and limitations for a non-nuclear country – the case of Austria

Coffee Break

11.00- 13.00	Helmut Hirsch	Safety of VVER-1200/V491: Application of WENRA Safety Objectives
	Lothar Hahn	Phenomena in the operation history of the AVR experimental reactor
	M. V. Ramana	Accident Risks for High Temperature Reactors
	Rainer Moormann	Decommissioning problems of German pebble bed reactors

Manfred Mertins	The new German Safety Criteria for Nuclear Power Plants in the view of international standards
Oda Becker	Review of the European Stress Test Action Plans
Michael Weixelbraun	International black out experience and potential power grid black outs
John Downer	Disowning Fukushima: Managing the Credibility of Nuclear Reliability Assessment In The Wake Of Disaster

Lunch

14.00 - 15.30	Nikolaus Müllner	Impact of Climate Change on Safety of European NPPs
	Yves Marignac	Problems of long term operation of french nuclear power plants
	Jiaqun Wang	Risk-Informed Design Optimization Method and Implementation in China LEAd-based Research Reactor

Session 6: Radiation Protection

Tim Deere-Jones	An independant analysis of UK Nuclear Industry and UK government agency research on the behaviour and fate of sea discharged radioactive waste
Franz Josef Maringer	Decommissioning, clearance levels and acceptance criteria - requirements and standards
Theodoros Christoudias	Global risk model for the atmospheric dispersion of radionuclides by nuclear power plant accidents

Coffee Break

Session 7: Waste Management

15.50 - 17.50	Christine Arvegard	The Review of the Swedish Spent Fuel Repository License Application
	Christoph Pistner	Partitioning and Transmutation
	Jochen Ahlswede	Nuclear disposal in Germany - Risks and Chances for the new site selection process
	Günter Hillebrand	Nuclear Waste Management: Challenges for Austria

Petra Seibert	Climatological assessment of nuclear accident risks and hazards in Europe
Inom Normatov	Risk assessment and protection of impact of radioactive waste tailing dams on the population health

17.50 - 18.20

Closing Ceremony - Get together

Detailed Program

Thursday 16 April 2015	
09.00 – 10.00	Registration
Location	Aula Schwackhöfer Haus
10.00 – 10.30	NURIS 2015 Opening ceremony
Location	Exnerhaus EH05
	<p>Andrä Rupprechter, Minister of Agriculture, Forestry, Environment and Water Management, Austria</p> <p><i>Opening</i></p> <p>Martin Gerzabek, Rector of the University of Natural Resources and Life Sciences, Vienna, Austria</p> <p><i>Welcome Address</i></p> <p>Wolfgang Renneberg, Chair of the International Nuclear Risk Assessment Group (INRAG), Institute of Safety and Risk Sciences, University of Natural Resources and Life Sciences, Vienna, Austria</p> <p><i>Welcome Address INRAG</i></p>
10.30 – 11.00	Keynote I
Location	Exnerhaus EH05
	<p>Gregory Jaczko, former Head of US-Nuclear Regulatory Commission, Washington D.C., USA</p> <p><i>Risk, Reality and the Future of Nuclear Power</i></p>
11.00 – 11.30	Coffee Break
11.30 – 12.00	Keynote II
Location	Exnerhaus EH05
	<p>Satoshi Sato, Nuclear consultant, former GE engineer, Investigator for the report of the Fukushima Nuclear Accident Independent Investigation Commission, Tokyo, Japan</p> <p><i>True Lessons Learned from Fukushima Accident to be Shared Internationally</i></p>

<p>12.00 – 12.30</p> <p>Location</p>	<p>Keynote III</p> <p>Exnerhaus EH05</p> <p>Richard Adams, Member of the Economic and Social Committee of the European Union; Co-Chair of the Transparency working group of the European Nuclear Energy Forum, Brussels, Belgium</p> <p><i>Risk, public opinion and EU energy policy</i></p>
<p>12.30 – 13.00</p> <p>Location</p> <p>Chair</p> <p>Panelists</p>	<p>Special Panel</p> <p>Exnerhaus EH05</p> <p>Wolfgang Renneberg, Chair of the International Nuclear Risk Assessment Group (INRAG), Institute of Safety and Risk Sciences, University of Natural Resources and Life Sciences, Vienna, Austria</p> <p>Gregory Jaczko, former Head of US-Nuclear Regulatory Commission, Washington D.C., USA</p> <p>Satoshi Sato, Nuclear consultant, former GE engineer, Investigator for the report of the Fukushima Nuclear Accident Independent Investigation Commission, Tokyo, Japan</p> <p>Richard Adams, Member of the Economic and Social Committee of the European Union; Co-Chair of the Transparency working group of the European Nuclear Energy Forum, Brussels, Belgium</p>
<p>13.00 – 14.00</p>	<p>Lunch</p>

<p>14.00 – 15.30</p> <p>Location</p> <p>Speakers</p>	<p>Session 1: The future of nuclear energy</p> <p>Schwackhöfer SR06</p> <p>Antony Froggatt, Senior Research Fellow, Energy, Environment and Resources, Chatham House, The Royal Institute of International Affairs, London, UK <i>World Nuclear Industry Status Report</i></p> <p>Stephen Thomas, Director of Research, Public Services International Research Unit, University of Greenwich, UK <i>Economic bottlenecks for the further development of nuclear technology</i></p> <p>Paul Dorfman, Research Fellow, Energy Institute, University College London, UK <i>Developments following the EC decision to allow UK fiscal support mechanisms for new nuclear: Potential challenges concerning State Aid procedures relating to the implementation of EC competition policy</i></p>
<p>14.00 – 15.30</p> <p>Location</p> <p>Speakers</p>	<p>Session 2: Fukushima</p> <p>Schwackhöfer SR09</p> <p>Christian Küppers, Deputy Division Manager, Nuclear Technology and Facility Safety, Öko-Institut e.V, Darmstadt, Germany <i>Radiological Situation in Japan after the Fukushima Accident</i></p> <p>Mitsuhiko Tanaka, Former member of the Fukushima Accident Independent Investigation Commission, Tokyo, Japan <i>About the Possibility of the 1F1 IC Piping Breakage due to the Earthquake Jolts</i></p> <p>Gueorgi Kastchiev, Consultant at the Institute of Safety and Risk Sciences, University of Natural Resources and Life Sciences, Vienna, Former Head of the Bulgarian Nuclear Authority, Bulgaria <i>Status of the Fukushima Daiichi site and the remaining risks</i></p>
<p>15.30 – 15.50</p>	<p>Coffee Break</p>

<p>15.50 – 17.20</p> <p>Location</p> <p>Speakers</p>	<p>Session 1: The future of nuclear energy</p> <p>Schwachhöfer SR06</p> <p>Nikolaus Arnold, Klaus Gufler, Research Fellow at the Institute of Safety and Risk Sciences, University of Natural Resources and Life Sciences, Vienna, Austria</p> <p><i>The future of nuclear fuel supply</i></p> <p>Wolfgang Kromp, Former Head of the Institute of Safety and Risk Sciences, University of Natural Resources and Life Sciences, Vienna</p> <p><i>Evaluation of a hypothetical nuclear Renaissance (EHNUR), Contribution of nuclear energy to the climate change challenge</i></p> <p>Yudha Pratama, Researcher at University of Brawijaya, Malang, Indonesia</p> <p><i>The Intersection of Islamic Groups and Nuclear Experts in Indonesia's Nuclear Power Controversy</i></p>
<p>15.50 – 17.20</p> <p>Location</p> <p>Speakers</p> <p>Panel</p> <p>Panelists</p>	<p>Session 2: Fukushima</p> <p>Schwachhöfer SR09</p> <p>Sonja Schmid, Assistant Professor at the Department of Science and Technology in Society, Virginia Tech, Blacksburg, Virginia, USA</p> <p><i>Planning for the Worst: Organizational Approaches to Severe Accident Response</i></p> <p>Christoph Pistner, Deputy Head of Division, Nuclear Engineering & Facility Safety, Öko-Institut e.V, Darmstadt, Germany</p> <p><i>A Comparison of the Events at Fukushima Daini and Daiichi</i></p> <p>Special Panel on the Fukushima Daiichi Accident and the Lessons Learned</p> <p>Christian Küppers, Deputy Division Manager, Nuclear Technology and Facility Safety, Öko-Institut e.V, Darmstadt, Germany</p> <p>Mitsuhiko Tanaka, Former member of Fukushima Accident Independent Investigation Commission, Tokyo, Japan</p> <p>Gueorgi Kastchiev, Consultant at Institute of Safety and Risk Sciences, University of Natural Resources and Life Sciences, Vienna, Former Head of the Bulgarian Nuclear Authority, Bulgaria</p> <p>Sonja Schmid, Assistant Professor at the Department of Science and Technology in Society, Virginia Tech, Blacksburg, Virginia, USA</p> <p>Christoph Pistner, Deputy Head of Division, Nuclear Engineering & Facility Safety, Öko-Institut e.V</p> <p>Satoshi Sato, Nuclear consultant, former GE engineer, Investigator for National Diet of Japan Fukushima Nuclear Accident Independent Investigation Commission, Tokyo, Japan</p>

17.20 – 17.40	Coffee Break
17.40 – 18.40	Session 1: The future of nuclear energy
Location	Schwackhöfer SR06
Speakers	<p>Gustav Resch, Energy Economics Group, Vienna University of Technology, Vienna, Austria <i>Renewable Energies vs. Nuclear Power - Comparing Financial Support</i></p> <p>Helga Kromp-Kolb, Head of the Center for Global Change and Sustainability, University of Natural Resources and Life Sciences, Vienna, Austria <i>Climate Change: Adaptation Needs for Nuclear Installations</i></p>
17.40 – 18.40	Session 3: Proliferation Risks
Location	Schwackhöfer SR09
Speakers	<p>Wolfgang Liebert, Head of the Institute of Safety and Risk Sciences, University of Natural Resources and Life Sciences, Vienna, Austria <i>Is the current non-proliferation regime adequate to deal with the ambivalence of nuclear technologies and materials?</i></p> <p>Matthias Englert, Senior Researcher, Nuclear Engineering & Facility Safety, Öko-Institut e.V, Darmstadt, Germany <i>Ambivalence and Weaponless Deterrence - The Intricate Story How Centrifuges Spin the World</i></p>

20.00 –	Social Event – Conference Dinner
Location	<p>TIAN at KUNST HAUS WIEN Weißgerberlande 14, 1030 Vienna</p> <p><i>“KUNST HAUS WIEN was established on the basis of the philosophy and artistic principles of the Austrian artist Friedensreich Hundertwasser (1928 –2000). The building itself, formerly the Thonet furniture factory, was architecturally remodelled according to Hundertwasser’s own designs.”</i></p> <p>Participants are required to register for the conference dinner. You can register via sending a Mail to dinner@nuris.org.</p> <p>Please note that the capacity of the location is limited. Therefore we would like to encourage you to confirm your participation as soon as possible.</p>

Friday 17 April 2015

09.00 – 10.40	Session 4: Nuclear technology and risks of old and new reactors
Location	Schwackhöfer SR06
Chair	Piet Müskens , Nuclear Consultant, former Head of the Nuclear Authority of the Netherlands, Den Hague, Netherlands
Speakers	Ilse Tweer , Physicist, material sciences, Nuclear Consultant, Buxtehude, Germany <i>The risk of material degradation (Doel / Thiange)</i> Dieter Majer , Former Deputy Director General for Nuclear Safety at Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, Germany <i>Operational Risks of old Nuclear Power Plants in Switzerland</i> Helmut Mayer , Consultant, former nuclear engineer, Gorxheimertal, Germany <i>Risks of Uncontrollable Re-Criticality due to a Steam Generator Tube Rupture</i>
09.00 – 10.40	Session 5: Regulation, Risk governance and Transparency
Location	Schwackhöfer SR09
Speakers	Andreas Molin , Head of nuclear co-ordination, Austrian Federal Ministry of Agriculture, Forestry, Environment and Water Management, President of the 3 rd ENSREG Conference <i>Opportunities and limitations for a non-nuclear country – the case of Austria</i> Gerrit Niehaus , Head of the nuclear authority Baden-Württemberg, Ministry of the Environment, Climate Protection and the Energy Sector, Baden-Württemberg, Germany <i>Transparency: Experience of a Regulator</i> Wolfgang Renneberg , Chair of the International Nuclear Risk Assessment Group (INRAG), Institute of Safety and Risk Sciences, University of Natural Resources and Life Sciences, Vienna, Austria <i>Limits of experience feedback in the nuclear community</i>
10.40 – 11.00	Coffee Break

<p>11.00 – 13.00</p> <p>Location</p> <p>Speakers</p>	<p>Session 4: Nuclear technology and risks of old and new reactors</p> <p>Schwachhöfer SR06</p> <p>Helmut Hirsch, Cervus Nuclear Consulting, Austria/Germany <i>Safety of VVER-1200/V491: Application of WENRA Safety Objectives</i></p> <p>Lothar Hahn, Former Head of “Gesellschaft für Anlagen- und Reaktorsicherheit” (GRS), Germany <i>Phenomena in the operation history of the AVR experimental reactor</i></p> <p>M. V. Ramana, Nuclear Futures Laboratory and Program on Science and Global Security, Princeton University, New Jersey, USA <i>Accident Risks for High Temperature Reactors</i></p> <p>Rainer Moormann, former Researcher at AVR Jülich, Germany <i>Decommissioning problems of German pebble bed reactors</i></p>
<p>11.00 – 13.00</p> <p>Location</p> <p>Speakers</p>	<p>Session 5: Regulation, Risk governance and Transparency</p> <p>Schwachhöfer SR09</p> <p>Manfred Mertins, Former Senior expert at “Gesellschaft für Anlagen- und Reaktorsicherheit” (GRS), Cologne, Germany <i>The new German Safety Criteria for Nuclear Power Plants in the view of international standards</i></p> <p>Oda Becker, Nuclear Consultant, Hannover, Germany <i>Review of the European Stress Test Action Plans</i></p> <p>Michael Weixelbraun, CEO Assistant, Austrian Power Grid, Division: Grid Security, Vienna, Austria <i>International black out experience and potential power grid black outs</i></p> <p>John Downer, Lecturer in Risk and Resilience, School of Sociology, Politics and International Studies, University of Bristol, UK <i>Disowning Fukushima: Managing the Credibility of Nuclear Reliability Assessment In The Wake Of Disaster</i></p>
<p>13.00 – 14.00</p>	<p>Lunch</p>

<p>14.00 – 15.30</p> <p>Location</p> <p>Speakers</p>	<p>Session 4: Nuclear technology and risks of old and new reactors</p> <p>Schwackhöfer SR06</p> <p>Nikolaus Müllner, Senior Researcher, Institute of Safety and Risk Sciences, University of Natural Resources and Life Sciences, Vienna, Austria</p> <p><i>Impact of Climate Change on Safety of European NPPs</i></p> <p>Yves Marignac, Director, World Information Service on Energy, Paris, France</p> <p><i>Problems of long term operation of French nuclear power plants</i></p> <p>Jiaqun Wang, Group Head, Department Assistant, Reliability and Probabilistic Safety Group, Department of Nuclear Software and Simulation, Institute of Nuclear Energy Safety Technology, Hefei, Anhui, China</p> <p><i>Risk-Informed Design Optimization Method and Implementation in China LEAd-based Research Reactor</i></p>
<p>14.00 – 15.30</p> <p>Location</p> <p>Speakers</p>	<p>Session 6: Radiation Protection</p> <p>Schwackhöfer SR09</p> <p>Tim Deer-Jones, Nuclear Consultant, UK</p> <p><i>An independant analysis of UK Nuclear Industry and UK government agency research on the behaviour and fate of sea discharged radioactive wastes</i></p> <p>Franz Josef Maringer, Institute of Soil Research (IBF), University Natural Resources and Life Sciences, Vienna, Austria</p> <p><i>Decomissioning, clearance levels and acceptance criteria - requirements and standards</i></p> <p>Theodoros Christoudias, Assistant Professor, Computation-based Science and Technology Research Center (CaSToRC), The Cyprus Institute, Nicosia, Cyprus</p> <p><i>Global risk model for the atmospheric dispersion of radionuclides by nuclear power plant accidents</i></p>
<p>15.30 – 15.50</p>	<p>Coffee Break</p>

<p>15.50 – 17.50</p> <p>Location</p> <p>Speakers</p>	<p>Session 7: Waste Management</p> <p>Schwackhöfer SR06</p> <p>Christine Anvegård, Swedish NGO Office for Nuclear Waste Review, MKG, Göteborg, Sweden <i>The Review of the Swedish Spent Fuel Repository License Application</i></p> <p>Christoph Pistner, Deputy Head of Division, Nuclear Engineering & Facility Safety, Öko-Institut e.V, Darmstadt, Germany <i>A Comparison of the Events at Fukushima Daini and Daiichi</i></p> <p>Jochen Ahlswede, Federal Office for Radiation Protection, Salzgitter, Germany <i>Problems of radioactive waste disposal in Germany</i></p> <p>Günter Hillebrand, Former director of Nuclear Engineering Seibersdorf, Austria <i>Nuclear Waste Management: Challenges for Austria</i></p>
<p>15.50 – 17.20</p> <p>Location</p> <p>Speakers</p>	<p>Session 6: Radiation Protection</p> <p>Schwackhöfer SR09</p> <p>Petra Seibert, Institute of Meteorology, University of Natural Resources and Life Sciences, Vienna, Austria <i>Climatological assessment of nuclear accident risks and hazards in Europe</i></p> <p>Inom Normatov, Institute of Water Problems, Hydropower and Ecology, Tajik National University, Dushanbe, Tajikistan <i>Risk assessment and protection of impact of radioactive waste tailing dams on the population health</i></p>
<p>17.50 – 18.20</p> <p>Location</p>	<p>NURIS 2015 Closing ceremony - Get together</p> <p>Aula Schwackhöfer Haus</p>