



II European Summer School on
**Minimally Invasive Therapies &
Novel Embedded Technology Systems**

July 17th – 21st, 2006

Albergo Palazzo, Via Roma 233
Santa Cesarea Terme (LE), Italy

SCIENTIFIC PROGRAM & EVENTS

ORGANIZED BY:



<http://www.ifc.cnr.it>

ARIS^{ER} Network
Augmented Reality in Surgery

<http://www.ariser.info>

WELCOME BY THE LOCAL SCIENTIFIC ORGANIZERS

We have the honour and pleasure to welcome you to the second edition of the ARISER Summer School that will be held in Santa Cesarea Terme, Adriatic coast, Lecce, Italy. This year we have an impressive participation of invited speakers and of our European Consortium researchers. The scientific program of the school will cover all aspects of the Minimally Invasive Therapies ranging from medical needs to advanced R&D technological aspects (Image processing, Robotics, Virtual Reality, Haptics, Health Economics) having open discussions, workshops and focused brainstorming sessions.

We are grateful to all partners and participants and we wish to thank them for all their enthusiastic efforts to create the European Research Area in this important medical field of science and technology. We look forward to meeting you at this ARISER event and we wish all a pleasant and fruitful stay!

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1. IFC-CNR - Institute of Clinical Physiology - National Council of Research, Lecce, Italy
2. ISBEM - Euro Mediterranean Scientific Biomedical Institute, Brindisi, Italy

PARTNERS

ARISER STEERING COMMITTEE & INTERNATIONAL INSTITUTIONS

Eigil Samset	(1) University of Oslo, The Interventional Centre	Norway
Dieter Schmalstieg	(2) Graz University of Technology	Austria
Jos Vander Sloten	(3) The Katholieke Universiteit Leuven	Belgium
Adinda Freudenthal	(4) Technical University of Delft	The Netherlands
Jerome Declerck	(5) Siemens Molecular Imaging, Advanced Applications, Oxford	United Kingdom
Sergio Casciario	(6) IFC-CNR - National Research Council, Lecce	Italy
Øyvind Rideng	(7) Systems in Motion AS (SIM)	Norway
Borut Gersak	(8) Ljubljana Medical Center	Slovenia

For more information on **registration to the event and **CME credits** please contact:**

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INVITED SPEAKERS

Massimo Bergamasco: Professor of Mechanics of Robots and Virtual Environment, Coordinator of the Percro laboratory of Scuola Superiore Sant'Anna, Pisa, Italy.

Antonio Malvasi: MD, Department of Obstetrics and Gynecology, Santa Maria Hospital, Bari, Italy, NESAs Member.

Petter M.T. Pattynama: Professor of Interventional Radiology, Department of Radiology, Erasmus Medical Center, Rotterdam, The Netherlands.

Vincenzo Positano: Research Scientist at IFC-CNR - National Research Council, Italy.

Giuseppe Turchetti: Professor of Economics and Management of Health Care Systems, Scuola Superiore Sant'Anna, Pisa, Italy.

Andrea Tinelli: MD, Department of Obstetrics and Gynecology, Vito Fazzi Hospital, Lecce, Italy, NESAs member.

Enzo Pasquale Scilingo: Professor of Automatic Control and Robotics at the University of Pisa, and at Interdepartmental Research Centre, "E. Piaggio", Italy.

Stefano Sellari-Franceschini: Professor of otorhinolaryngology, Neuroscience Dept., Pisa University Medical School, Italy.

Giovanni Silvano: Head of Radiation Oncology Dept. of Taranto Hospital, Taranto, Italy.

ARISER NETWORK SPEAKERS

Tamer Fahmy: Early-stage researcher at Systems in Motion AS, Norway.

Adinda Freudenthal: Research Scientist ID-StudioLab, Faculty of Industrial Design Engineering, Technical University of Delft, The Netherlands.

Denis Kalkofen: Early-stage researcher at Graz University of Technology, Austria.

Laurent Massotier: Early-stage researcher at IFC-CNR - National Research Council, Italy.

Robert McLaughlin: Research Scientist at Siemens Molecular Imaging, Advanced Applications (Mirada Solutions), Oxford, United Kingdom.

Sergiy Milko: Early-stage researcher at Siemens Molecular Imaging, Advanced Applications (Mirada Solutions), Oxford, United Kingdom.

Tangui Morvan: Early-stage researcher at the University of Oslo, The Interventional Centre, Norway.

Judith Muehl: Experienced researcher at Graz University of Technology, Austria.

Ashis Jalote Parmer: Early-stage researcher at Technical University of Delft, The Netherlands.

Andrea Ranftl: Associate Researcher at the Division of Biomechanics and Engineering Design of The Katholieke Universiteit Leuven, Belgium.

Petter Risholm: Researcher in Visualisation and Image Processing at University of Oslo, The Interventional Centre, Norway.

Eigil Samset: Director of the Minimally Invasive Therapy Visualization and Robotics Lab at the Interventional Centre, University of Oslo, Norway.

Dieter Schmalstieg: Professor of Virtual Reality and Computer Graphics at Graz University of Technology, Austria.

Mauro Sette: Early-stage researcher at The Katholieke Universiteit Leuven, Belgium.

Jos Vander Sloten: Professor at the Division of Biomechanics and Engineering Design of The Katholieke Universiteit Leuven, Belgium.

Milada Småstuen: Administrative assistant at University of Oslo, The Interventional Centre, Norway.

SCIENTIFIC PROGRAM

JULY '06	Monday 17th	Tuesday 18th	Wednesday 19th	Thursday 20th	Friday 21st
8:00 – 8:30	Registration				
8:30 – 9:30	Welcome by IFC-CNR Scientific Director Alessandro Distantè Biomedical Therapies of the Future	Vincenzo Positano Simultaneous registration of multiple images: applications to multimodal and dynamic medical imaging	Giuseppe Turchetti Economic Evaluation of Biomedical Technology: the case Minimally Invasive Therapies	Enzo Pasquale Scilingo Haptic interfaces for biomedical applications	Jos Vander Sloten (3) Biomechanical models and measurements enhance the performance of robot assisted surgery systems
9:30 – 9:45	<i>Coffee Break</i>	<i>Coffee Break</i>	<i>Coffee Break</i>	<i>Coffee Break</i>	<i>Coffee Break</i>
9:45 – 10:15	Self introduction of Summer School Attendees	Peter Pattynama Radio Frequency Ablation of the liver current trends and future perspectives	Giovanni Silvano Virtual Reality In External Beam Radiotherapy And Brachithrapy	Massimo Bergamasco Haptic technologies for interactive simulations in Virtual Reality	Stefano Sellari Franceschini Virtual reality and computerized simulation for ear surgery
10:15 – 10:45	Eigil Samset (1) Overall Advancement of ARISER Project		Petter Risholm (1) ARIS*ER software architecture		Adinda Freudenthal (4) Technology Assessment in ARISER Project
10:45 – 11:45	Antonio Malvasi Imaging in obstetric and gynaecology: current trends and future perspectives	Denis Kalkofen and Judith Muehl (2) StudierStube4 + RFA Demo	Ashis Jalote Parmer (4) RFA workflow – Laparoscopic liver surgery workflow	Tamer Fahmy (7) State of the art in volume rendering	Eigil Samset (1) Timetable towards mid-term review
11:45 – 12:45	<i>Lunch</i>	<i>Lunch</i>	<i>Lunch</i>	<i>Lunch</i>	<i>Lunch</i>
12:45 – 13:45	Andrea Tinelli Endoscopical vs classical gynaecological surgery: current trends and future perspectives	Laurent Massoptier (6) Segmentation of liver anatomy and pathology	Petter Risholm (1) Technical requirements for lap. liver surgery Discussion	Mauro Sette (3) Tactile sensing in biomedical virtual systems	Workshops Programming workshop UI & Robotics workshop
13:45 – 14:00	<i>Coffee Break</i>	<i>Coffee Break</i>	<i>Coffee Break</i>	<i>Coffee Break</i>	<i>Coffee Break</i>
14:00 – 15:00	Dieter Schmalstieg (2) Recent advances in Augmented and Virtual Reality	Sergiy Milko (5) Adaptive US + MRI/CT registration	Robert Mc Laughlin (5) Image segmentation and registration brainstorm session	Tangui Morvan (1) Robot collision avoidance Demo	Programming workshop (following) UI & Robotics workshop (following)
15:00 – 15:30		<i>Virtual Navigator DEMO</i>	<i>Trim Probe DEMO</i>	15:00 – 17:00 Annual Board Meeting	
15:30	<i>Excursion</i>	<i>Excursion</i>	20:30 Social event	<i>Excursion</i>	

Milada Småstuen (1) will be available on Monday and Tuesday during the Summer School for questions about ARISER contracts and funds.



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Acknowledgements for supporting this event to:



Lecce University

ARIS^{ER}
Augmented Reality
in Surgery

Marie Curie Actions
Human resources and mobility

sim SYSTEMS IN MOTION
ADVANCED 3D VISUALIZATION

esaote

Trim Probe
a Finmeccanica Company

