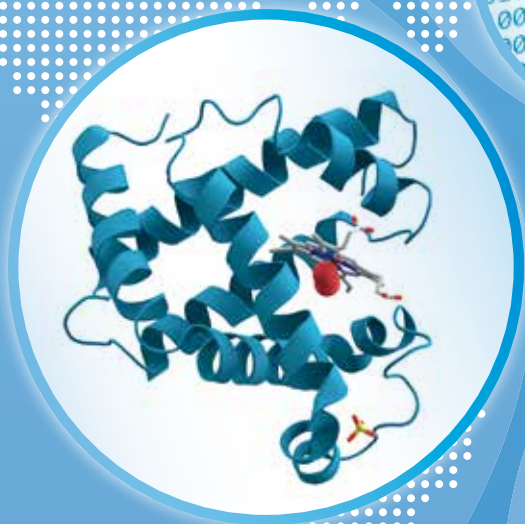


DRUGS, BYTES AND STANDARDS: THE FUTURE OF RADIOLOGY



11th Biennial International
Symposium of the
International Society
for Strategic Studies
in Radiology

IS³R 2015

Amsterdam/The Netherlands
August 27–29, 2015

Scientific Program

IMPRINT

Vienna, July 2015

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Coordination: Monika Hierath, Katharina Krischak

Design: Sonja Huber, www.diehuber.at

Print office: druck.at



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LETTER FROM THE PRESIDENT



Dear Fellow Members, Colleagues, and Friends,

On behalf of the Executive Board of the International Society for Strategic Studies in Radiology, it is my great pleasure to welcome you to the 11th Biennial International Symposium of our Society, August 27–29, 2015, in Amsterdam, the Netherlands. I am extremely pleased that the Executive Board of IS³R has chosen the capital of my country as the venue of our meeting as I feel that this vibrant city with its international flair combining history and tradition with extreme tolerance and unconventional thinking fits perfectly with the aims of our Society and with the atmosphere of our meetings.

The program of this year's symposium is outstanding. I am extremely grateful to Ralph Weissleder and all the members of the Program Committee for including truly timely and stimulating topics. The large number of panel discussions will enable interactive exchange of opinions between our distinguished members and our industrial partners. It is this exchange to which we are particularly looking forward as it brings a very special flavor to our meetings: the interaction between professionals and companies involved in the field of imaging with the intention to improve the health and well-being of our patients. On behalf of our entire society, I would like to thank our corporate members for their support and active participation.

In addition to the program-related interaction, I hope that participants will benefit from the possibility to establish new and intensify old relationships, to start new and expand old friendships, and to experience stimulating conversations in a relaxed environment. But I also hope that all attendees will take advantage of Dutch hospitality and of the social events that offer a small taste of the history of Amsterdam as well as providing some food for thought. During the past two years the IS³R has implemented a number of new activities: an "Interim Meeting" was held in December 2014 in Chicago revisiting the developments in our field. This may be the start of an increasingly intense dialogue over the coming years. At the 2015 International Symposium, we, for the first time, welcome a group of young leaders, who we hope will boldly and resolutely guide our profession into a challenging but very promising future. I hope that the information received in our meetings and the contacts with our members and partners from industry will spur their careers so that they may indeed play a meaningful role during the years to come.

As my tenure as President of the IS³R is coming to an end, I would like to express my gratitude to all members of the Executive Board for their support and hard work. A special word of thanks goes to Hedi Hricak, our Past President, on whose wisdom I could always rely with trust and confidence. I would like to congratulate Jonathan Lewin, our incoming President, and wish him a successful term. I am convinced that under his expert and dedicated guidance the IS³R will continue to flourish as a unique platform for high-level strategic exchange in Medical Imaging.

Best wishes,

A handwritten signature in black ink, appearing to read "G. Krestin".

Gabriel Krestin, MD, PhD
IS³R President

LETTER FROM THE PROGRAM CHAIRS



Dear Colleagues,

on behalf of the Program Committee for our 11th Biennial International Symposium held this week in Amsterdam, the Netherlands, August 27–29, 2015, it is our pleasure to present the final program and details for the meeting. We anticipate a very thought-provoking meeting as well as lively discussion from our usual gathering of academic, clinical, and industrial leaders.

This year's symposium will focus on three distinct areas: imaging and molecular therapeutics, information technology and standards in radiology. These areas were chosen by the Program Committee as they will likely change our specialty over the years to come. Session 1 focuses on "imaging in the molecular era" where molecular diagnostics and targeted therapeutics are ever more pervasive. The session also encompasses discussions on unique growth opportunities and barriers to commercialization. Session 2 focuses on clinical applications of PET imaging technologies and their different challenges in penetrating the market while session 3 addresses changes and opportunities in healthcare informatics, clinical decision support and next generation information technologies in radiology. Finally, session 4 focuses on diverse restructuring efforts in and affecting radiology as well as the need for more rigorous standards. We hope that you are as excited by these topics as we are as we look forward to engaging discussions.

Two keynote lectures will be presented by distinguished experts to lay the foundation for continued conversations on the future of healthcare, global changes and challenges and scientific opportunities. A hallmark of our meetings is time for panels and interactive discussions to facilitate the exchange of ideas. We have tailored the program to ensure that there is sufficient time after each session for these discussions. As in the past, we will prepare a summary of the meeting outcomes which will be distributed to our members.

We would like to thank the entire Program Committee for its tireless efforts in organizing this year's meeting. Together, we would also like to thank the IS³R office staff and the rest of the IS³R board for their support in preparing for the meeting. Last but not least, we would like to thank all the invited speakers, moderators, and panelists for their invaluable contributions. It is their input that will hopefully make this meeting a huge success. We look forward to welcoming you in Amsterdam.

With best regards,

Ralph Weissleder, MD, PhD
Chair of the
Program Committee

Gabriel Kreftin, MD, PhD
President and local host of
the Program Committee

Hedvig Hricak, MD, PhD
Co-Chair of the
Program Committee

ABOUT THE IS³R

Mission of the IS³R

The International Society for Strategic Studies in Radiology is a non-political, not-for-profit organization whose purpose is to define and investigate strategic, scientific and economic issues of global importance to the field of radiology.

By forming a partnership between academia and industry, the Society seeks to anticipate national and global developments in radiology and allied fields, define areas of common interest to both partners, and encourage cooperation. It aims to communicate important issues to radiologists, physicians in other medical fields, industry and governments, and to influence healthcare management and the flow of financial and human resources into the scientific and strategic fields most likely to advance biomedical imaging and patient care.

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Hans G. Ringertz, MD, PhD, F.F.R.RCSI, FRCR(Hon), FACR(Hon), FHKCR(Hon)

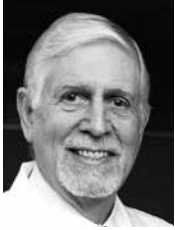
Dr. Hans G. Ringertz will be awarded the 2015 IS³R Gold Medal at the 11th Biennial Symposium.

Dr. Ringertz began his studies in 1958 in biophysics research; earned his M.D. in 1964 and his PhD in biophysics in 1969. He held the position of Associate Professor in biophysics from 1969 to 1973 and in diagnostic radiology from 1973 to 1983. Dr. Ringertz served as Professor of radiology at the Karolinska Institute from 1984 to 2006 before being named Professor Emeritus in 2006; a position he continues to hold. During his tenure at Karolinska Institute he held the following hospital positions: Assistant Head of Paediatric Radiology at Karolinska 1973-77; Head of Radiology, Sachs Paediatric Hospital Stockholm 1977-83; Chairman, Diagnostic Radiology, Huddinge University Hospital 1984-87 and Karolinska Hospital 1987-2006. From 2006 to 2013 he was Professor and Chairman of the Board for the Center for Medical Imaging Science and Visualization, Linköping University. Since 2013 he has served as a Consulting Professor at the Department of Radiology, Stanford University.

Dr. Ringertz has also been recognized as a Fellow in Pediatric Cardiac Imaging at UCSF in 1975; a visiting Professor responsible for pediatric MRI at UCSF 1983-84; a visiting Professor at Stanford University 2004-2012; co-director of the Strategic Center for Biomedical Imaging at Stanford 2007-2010; and Adjunct Professor of Radiology at UCSF 1984-2009 and Michigan State since 1991.

Dr. Ringertz is the author of 240 scientific articles and six books. He served as a permanent member of the Nobel Assembly for Physiology and Medicine from 1986 to 2006 and held the positions of President Elect and President in 2002 and 2003. He was a Trustee of the Nobel Foundation from 2002 to 2007. He was a member of the International Commission on Radiological Protection, committee 3, Medicine from 1992 to 2013. Dr. Ringertz is an honorary member of 15 national and regional radiological societies, including the Society for Pediatric Radiology and the European Society of Paediatric Radiology, and an honorary fellow of four Colleges. He has been awarded Gold Medals from Tokyo University, Japan, the European Society of Radiology, and the Asian Oceanian Society of Radiology.

Dr. Ringertz held the position of President for the International Congress of Paediatric Radiology 1991; the Swedish Society of Medical Radiology 1995-97; the European Congress of Radiology 1995-97; the European Association of Radiology 1997-99; the Swedish Union of Radiologists 1999-2005; and the International Society for Strategic Studies in Radiology 1999-2003. He served the International Society of Radiology as Treasurer 2000-2005; President Elect 2006-2008; President 2008-2010; and Past President 2010-2012.



James H. Thrall, MD, FACR

Dr. James H. Thrall will be awarded the 2015 IS³R Gold Medal at the 11th Biennial Symposium.

Dr. Thrall served as Chairman of the Department of Radiology, Massachusetts General Hospital (MGH) and as the Juan M. Taveras Professor of Radiology at Harvard Medical School (HMS) from 1988 until 2013. He continues his service at MGH and HMS as Chairman Emeritus and as the Distinguished Taveras Professor of Radiology.

Dr. Thrall received his M.D. degree from the University of Michigan in 1968 and trained in Radiology and Nuclear Medicine at the Walter Reed Army Medical Center, Washington, D.C. where he also held the position of Assistant Chief of Nuclear Medicine for two years before returning to the University of Michigan in 1975 as an Assistant Professor. He was promoted to Professor of Internal Medicine and Radiology in 1981. He joined the staff of the Henry Ford Hospital as Chairman of Radiology from 1983 until 1988.

Dr. Thrall has held the positions of President, American Roentgen Ray Society and Chairman, Board of Chancellors and President, American College of Radiology (ACR). He served on the Board of Trustees of the Research and Education Foundation of the Radiological Society of North America, the Board of Directors of the Academy of Radiology Research, the Executive Council of the American Roentgen Ray Society, the Board of Trustees of the Society of Nuclear Medicine, the Board of Councilors of the Society of Chiefs of Academic Radiology Departments and the Board of Chancellors of the ACR.

Dr. Thrall is an elected member of the Institute of Medicine (IOM) of the National Academies of the United States. He has served on the Advisory Committee to the Director of the National Institutes of Health (NIH) and the National Advisory Council of the NIBIB. He is a Fellow of the ACR and has received the Gold Medals of the American Roentgen Ray Society, the Radiological Society of North America, the Association of University Radiologists and the American College of Radiology.

Dr. Thrall holds the positions of Chairman of the Board of Directors for WorldCare Limited and Mobile Aspects Incorporated.

Internationally, Dr. Thrall has served on the Board of Directors of the International Society of Radiology and currently serves on the Executive Board of the International Society for Strategic Studies in Radiology.

Dr. Thrall is an Honorary Member of the French Society of Radiology and the European Society of Radiology and an Honorary Fellow of the Royal College of Radiologists of the United Kingdom. He received the Beclère Medal from the International Society of Radiology.

Dr. Thrall is an author of over 350 scientific publications, perspectives and reviews and is the founder and Editor of the Requisites in Radiology textbook series.

PROGRAM OVERVIEW

Thursday, August 27*

From **Breakfast**
07:00 (Admiralty)

07:30 Registration

08:30 Welcome and Opening Remarks

09:00 **KEYNOTE ADDRESS 1**

09:45 **SESSION I: MOLECULAR
THERAPIES AND IMAGING**

10:25 Break

10:55 **SESSION I (CON.): MOLECULAR
THERAPIES AND IMAGING**

11:55 Lunch
(Admiralty)

13:00 **PANEL DISCUSSION: COMPANION
IMAGING DIAGNOSTICS (CID)**

14:00 Break

14:30 **SESSION II: PET TECHNOLOGIES,
MRI-PET**

16:00 Adjourn

16:00 **IS³R GENERAL ASSEMBLY**
(members only)

19:00 Social Event at Rosarium

Friday, August 28*

From **Breakfast**
07:00 (Admiralty)

08:30 **SESSION III: HEALTHCARE IT**

10:30 Break

11:00 **PANEL DISCUSSION: NEXT GEN
INFORMATICS AND CLINICAL
DECISION SUPPORT**

12:00 Lunch
(Admiralty)

13:00 **PANEL DISCUSSION (CON.): NEXT
GEN INFORMATICS AND CLINICAL
DECISION SUPPORT**

14:00 **KEYNOTE ADDRESS 2**

14:45 Break

15:15 **SESSION IV: STANDARDS AND
CHANGES IN RADIOLOGY**

**PANEL DISCUSSION: CHANGING
TIMES OF ACADEMIC/INDUSTRY
RELATIONSHIPS**

16:45 **PANEL DISCUSSION:
NON-PHYSICIAN SUPPORT**

17:45 Adjourn

19:30 Social Event at National Maritime
Museum

Saturday, August 29*

From **Breakfast**
07:00 (Admiralty)

08:30 **SESSION IV (CON.):
STANDARDS AND CHANGES IN
RADIOLOGY**

10:30 Break

11:00 **PANEL DISCUSSION:
STANDARDIZATION OF IMAGING
BIOMARKERS ACROSS DIFFERENT
VENDORS**

12:30 **SUMMARY and CLOSING**

13:00 Farewell Lunch
(Admiralty)

*All sessions take place in the Council Chamber.

SCIENTIFIC PROGRAM SCHEDULE

Thursday, August 27

OPENING SESSION

08:30 Opening Remarks and Welcome

09:00 Keynote address: The future of health-care from company perspective
F. van Houten

SESSION I: MOLECULAR THERAPIES AND IMAGING

Chairs: B. Hamm, H. Honda

09:45 The growing field of theranostics and companion imaging diagnostics
M. Schwaiger

10:05 Precision Health: The Baseline Study
S. Gambhir

10:25 Break

10:55 Interventional approaches for molecular testing
R. Weissleder

11:15 Imaging in drug development: patient selection or efficacy
H. Hricak

11:35 Imaging and in vitro biomarkers: challenges and opportunities for integrated diagnostics (academic perspective)
G. Krestin

11:55 Lunch

13:00 PANEL DISCUSSION: COMPANION IMAGING DIAGNOSTICS (CID)

Chairs: O. Clément, B. Hillman

- a. Is there a business for CID and how do we get them reimbursed?
J. Debatin
- b. CID development from a pharma company perspective
M. Mintun
- c. CID development from a diagnostics company perspective
A. Spinazzi
- d. CID development from a diagnostics company perspective
E. Lancelot
- e. CID development from an equipment manufacturer perspective
R. Mather
- f. NIH perspectives
R. Pettigrew

14:00 Break

SESSION II: PET TECHNOLOGIES, MRI-PET

Chairs: O. Ratib, C. Meltzer, P.-L. Khong

14:30 What are the niches for MRI-PET?
G. von Schulthess

14:45 What are the European challenges for PET (incl. regulatory hurdles for new tracers)?
C. Claussen

15:00 PET neuroincubator model – enabling the field by making PET tracers available through a self-sustaining initiative
G. Brophy

15:15 Fifteen years after the introduction of PET/CT: the Siemens experience
W. Märzendorfer

15:30 Fifteen years after the introduction of PET/CT: the Toshiba experience
R. Mather

15:45 Fifteen years after the introduction of PET/CT: the Phillips experience
H. Pien

16:00 Adjourn

16:00 IS³R GENERAL ASSEMBLY (MEMBERS ONLY)

19:00 SOCIAL EVENT at Rosarium
Meeting point for bus transport in hotel lobby at 18:15

SCIENTIFIC PROGRAM SCHEDULE

Friday, August 28

SESSION III: HEALTHCARE IT

Chairs: M. Reiser, P. Aspelin, R. Garcia-Monaco

- 08:30 Update on clinical decision support
J. Brink
- 08:50 How will “big data” affect radiology (research/analytics)?
R. Arenson
- 09:10 What does image mining offer? Why should we care?
T. Grist
- 09:30 How will Apple and Google health-care entries change our space?
J. Lewin
- 09:50 Opportunities for business analytics software
D. Enzmann
- 10:10 Large scale, vendor neutral solutions
M. Prokop

10:30 Break

11:00 **PANEL DISCUSSION: NEXT GEN INFORMATICS AND CLINICAL DECISION SUPPORT**
Chairs: V. Jackson, S. Schönberg

1. What’s on the horizon beyond PACS?
 - a. Cloud Imaging enabling breakthrough analytics and boundaryless collaboration
J. De Witte
 - b. New IT developments
G. Sorensen
2. What are the opportunities and barriers to broad adoption of clinical decision support?
S. Seltzer, L. Donoso, G. Frija

12:00 Lunch

13:00 3. What are the challenges developing/implementing Next Generation IT?
W. Kalender, M. Graif

4. Digital connectivity and big data for standardised high quality outcomes and efficient care delivery
D. Moulavasilis

14:00 **KEYNOTE ADDRESS: PHENOTYPING OF GENETIC DISORDERS USING IN VIVO IMAGING**
J. Penninger

14:45 Break

SESSION IV: STANDARDS AND CHANGES IN RADIOLOGY

15:15 **PANEL DISCUSSION 1: CHANGING TIMES OF ACADEMIC/INDUSTRY RELATIONSHIPS**
Chairs: N. Dunnick, B. Brkljacic, S. Ternovoy

- a. How are the relationships changing?
P. Grenier
- b. What has worked and what hasn’t?
N. Pelc
- c. New models (industry perspective: Siemens)
B. Montag
- d. New models (industry perspective: Philips)
D. Olego
- e. New models (academic perspective Europe)
C. Catalano
- f. New models (academic perspective Russia)
V. Sinitsyn

g. New models (academic perspective Brazil)
G. Cerri

h. New models (academic perspective Asia)
Z. Jin, X. Feng, K. Sugimura

16:45 **PANEL DISCUSSION 2: NON-PHYSICIAN SUPPORT**
Chairs: L. Bonomo, B. Choi, H. Gharbi

- a. Who/what are the drivers (expand access and decrease costs)
S. Golding
- b. Can computers be a radiologist’s assistant (clinical decision support software for neuroradiology; a start-up perspective)?
R. Bryan
- c. Outsourcing to other countries
A. Dixon
- d. Physician extenders
K. Soyebi
- e. Back to Basics: IQ, Apps and Automation
Y. Wedmid

17:45 Adjourn

19:30 **SOCIAL EVENT** at National Maritime Museum
Boat will depart from Sofitel Legend The Grand at 18:30

SCIENTIFIC PROGRAM SCHEDULE

Saturday, August 29

SESSION IV (CON.): STANDARDS AND CHANGES IN RADIOLOGY

Chairs: C. Herold, S. Baum

08:30 Partnering and interdisciplinary interactions in radiology (departments vs. service lines/centers) and the importance of multidisciplinary conferences
W. Bradley

08:50 Conflict of interest and compliance. How does it work with increasing pressure to enter academic/private sector relationships?
H. Kressel

09:10 External factors in finance affecting radiology utilization
B. McNeil

09:30 ACOs in the US (i.e. population health management); Imaging 3.0 (value vs. volume).
J. Thrall

09:50 Companies buying hospitals and practices: what is happening in Europe?
A. Palkó

10:10 Rising cost of imaging and equipment. How to control costs
G. Rubin

10:30 Break

11:00 PANEL DISCUSSION 3:
STANDARDIZATION OF IMAGING
BIOMARKERS ACROSS DIFFERENT
VENDORS

*Chairs: J. Dai, D. Le Bihan,
M. Fuchsjäger*

a. FDA requirements for quantitative biomarker approval
D. Sullivan

b. How do we implement standardized biomarkers
M. Schnall

c. Technology pre-requisites for Imaging Biomarkers: State-of-the-art today and future directions
B. Ohnesorge

12.30 SUMMARY and CLOSING
H. Ringertz, R. Weissleder, G. Krestin

13:00 FAREWELL LUNCH



Hotel Information

Sofitel Legend The Grand

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Sofitel Legend The Grand Amsterdam is a five-star hotel in the heart of the city offering a unique historical ambiance. From a 15th-century convent to royal lodgings to Dutch Admiralty headquarters to the city hall of Amsterdam, the hotel boasts a rich history. The venue is within walking distance of Amsterdam's major landmarks, including the Van Gogh Museum, the Royal Palace, Anne Frank's House, and the new Hermitage Amsterdam.



PRACTICAL INFORMATION

Practical Information

Certificate of Attendance

Participants who would like to receive a certificate certifying their attendance at the symposium are encouraged to request one from the IS3R Office per email after the event.

Credit Cards/Currency Exchange

The hotel reception provides currency exchange up to €500. The closest exchange office is located at Amsterdam Central Station (10 min walk). The nearest ATM can be found in Dam Square (2 min walk). Major Credit Cards are accepted.

Insurance

Neither the IS³R nor the symposium organizers can accept liability for personal injury, or loss/damage to property, personal or otherwise, belonging to meeting participants or accompanying persons, either during or as a result of the symposium or during all tours or their stay in Amsterdam. Participants and accompanying persons should ensure that their own personal health, accident and/or

travel insurance are up-to-date and valid for use in Amsterdam.

Meals

Buffet breakfast is included at the Sofitel Legend The Grand in the Admiralty Room. Business lunch buffet and coffee breaks for all participants will be provided. Thank you for your understanding that the IS³R does not provide lunch and coffee breaks for accompanying persons.

Official Language

English (no translation of the meeting will be provided).

Recording

Audio or video recording any part of the symposium without prior express permission is prohibited.

Registration

Staff at the symposium registration desk will be available on Wednesday evening from 15:00-19:00, as well as during the symposium

hours from Thursday to Saturday. They will assist you with local information for sightseeing in Amsterdam, booking optional tours, or any questions regarding your accommodations. The registration desk is located outside the main lecture hall.

Smoking Policy

The symposium meeting sessions are non-smoking. However, smoking is permitted in the hotel's cigar lounge.

Speakers' Desk

Speakers are kindly requested to upload their presentation at the Speakers' Desk located in the Bourgomaster Chamber close to the main lecture hall at least 90 minutes before the session starts. At the Speakers' Desk, participants are moreover asked to complete a conflict of interest form and sign a presentation release consent form for archiving purposes and use in the protected members area in pdf format.

Social Evening Events

WEDNESDAY 19:00–20:30.

Welcome reception at the Sofitel Legend The Grand. Drinks and light hors d'oeuvres will be served in the Admiralty Room and the courtyard.

Dress code: Smart casual

THURSDAY at 19:00

Cocktails and dinner will be held at Rosarium, which is located in the middle of the green environment of the beautiful Amstelpark in the south of Amsterdam. The restaurant is known for its innovative cuisine and superb atmosphere. The comfortable and modern

interior and the splendid view of the wonderful rose garden allow for an exceptional dining experience.

Dress code: Business casual attire, jacket not required

[Meeting point for bus transport in hotel lobby at 18:15](#)

FRIDAY at 19:30

The IS³R Gold Medal Dinner will be held at the National Maritime Museum. The reception at the museum will be preceded by a boat ride along the 17th-century canals of Amsterdam. Located at the waterfront, the

museum is housed in a former naval storehouse constructed in 1656 and is a reminder of how significantly Dutch culture has been shaped by the sea. Today, the architecture blends historic architecture with contemporary features such as the magnificent inner courtyard with its spectacular glass roof while retaining all the maritime allure of days gone by.

Dress code: Dinner attire, jacket required

[Boat will depart from Sofitel Legend The Grand at 18:30](#)

Please note that pre-registration to the Thursday and Friday social events was required. If your plans have changed, kindly notify the registration desk at your earliest convenience.

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