



# WELCOME TO RSNA 2017

## Dear Colleagues,

It is my pleasure to welcome you to RSNA 2017, an unparalleled opportunity for all of us to "Explore. Invent. Transform."

Your Board and many of your colleagues have volunteered their time, expertise and energy to organize and present a wide-ranging program of relevant science, education, business and social opportunities. Full participation in the RSNA meeting can earn you up to 98.50 AMA PRA Category 1 Credits™.

Special Interest Sessions on Monday will delve into diverse topics including innovative ways to fund your research, patient perspectives on care and the emerging role of radiology in imaging dementia. Machine learning and 3-D printing continue to garner interest across the program. Take time to visit the 3-D Printing Showcase and the new Machine Learning Community in the Learning Center. I encourage you to explore special programs such as the Colombia and Israel Presents sessions to learn about issues our colleagues are tackling around the world.

A new Fast 5 Session will feature five speakers each giving a five-minute presentation in the Arie Crown Theater on topics selected by you.

RSNA Diagnosis Live™ courses using gaming technology are always a draw, and you will find even more opportunities to test your knowledge with this rapid-fire platform this year.

The Virtual Meeting has expanded in size and length, allowing you to pack even more into your RSNA 2017 experience. This year the Virtual Meeting offers 150 learning opportunities, and the program will be available until Feb. 28, 2018. CME credit is available for many of the sessions.

Visit the RSNA Connections Center to learn more about RSNA, find help navigating the meeting, relax and recharge. The Discovery Theater is back with informative presentations and lively entertainment. Connect with old and new friends over a cup of coffee or a glass of wine in the comfortable lounge space.

The RSNA Technical Exhibits are second to none. Be sure to visit the exhibit halls and witness some of the remarkable technology advances on display. The new Machine Learning Showcase highlights the latest advances in machine learning and artificial intelligence.

There is so much to explore at RSNA 2017. Read more in this program book or visit [Meeting.RSNA.org](http://Meeting.RSNA.org) to plan your week.

I am honored to serve as the president of our Society and to preside over RSNA 2017. I hope to meet many of you throughout the week, and I wish you all a productive conference and memorable time in Chicago.

Sincerely,

*Richard L. Ehman, MD*

RSNA President





# Program Dedication



## RICHARD L. BARON, MD 1949-2017

RSNA dedicates the 103<sup>rd</sup> Scientific Assembly and Annual Meeting Program to the memory of Richard L. Baron, MD, who died May 4, 2017.

Widely respected by colleagues across the globe as a diagnostic radiologist, educator, author and researcher, Dr. Baron forged a lasting legacy at RSNA, serving in numerous leadership positions culminating in his RSNA presidency in 2016.

Throughout his career, Dr. Baron was dedicated to building bridges between radiologists across the globe. He worked closely with radiology associations around the world, building a roster of lifelong personal and professional relationships along the way.

Among his many accolades, Dr. Baron received the Medal of Honor and honorary membership in the French Radiological Society in 2015, the Gold Medal of the Asian Oceanian Society of Radiology in 2014, and honorary membership in the European Society of Radiology earlier this year.

Dr. Baron spent the latter part of his career at the University of Chicago (UC), serving as professor of radiology from 2002 until the time of his passing. He served as UC chair of the Department of Radiology from 2002 to 2011 and as dean for clinical practice from 2011 to 2013. At the University of Pittsburgh, he served as chair of the Department of Radiology from 1992 to 1999, and as founding president and CEO of the University of Pittsburgh Physicians from 1997 to 2002.

Dr. Baron's research focused on diagnostic imaging of liver disease and he served as an international authority on imaging in chronic liver disease and liver tumors. At RSNA 2016, Dr. Baron organized a special Liver Symposium where experts from across the globe met to discuss this critical area of research.

He joined the RSNA Board of Directors in 2008 and served as the Board liaison for education and international affairs. In his RSNA 2016 President's Address, "Beyond Imaging: Ensuring Radiology Impact in Clinical Care and Research," Dr. Baron offered valuable insight on the future of the specialty he devoted his life to building.





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# INSPIRE | INNOVATE | INVEST

## *The Campaign*

for Funding Radiology's Future®

When we consider the meeting's theme to "Explore. Invent. Transform." as our community gathers for RSNA 2017, it is clear to see that the work of the R&E Foundation is at the heart of that message. Through our robust grant program, the R&E Foundation identifies talented investigators and provides them with resources to explore new territory, create knowledge and translate that information to treatment protocols that will improve patient outcomes.

This year, the Foundation awarded \$4 million to researchers and educators at 50 institutions, representing a 30 percent funding rate, a figure that is nearly three times greater than the rate from the NIH. As our applications continue their steady climb, the support of our entire community is critical for our continued success.

The R&E Foundation launched *Inspire-Innovate-Invest: The Campaign for Funding Radiology's Future®* at RSNA 2014 with the goal of raising \$17.5 million dollars to support the future of our specialty. As the end of the Campaign draws near, we are grateful for all of the individuals, private practice colleagues and corporate friends who have made an investment in our future—and as we narrow in on our goal, we invite everyone to join us.

If you see value in your field, if you want to help your colleagues succeed, if you want to help the next generation maintain intellectual leadership in medical imaging and image-guided therapy, *support the Campaign by making a donation today at the R&E Foundation Booth, Lakeside Center, Level 3.*

Thank you.

*N. Reed Dunnick, MD*

Chair, R&E Foundation Board of Trustees



*N. Reed Dunnick, MD*

### WAYS TO GIVE

- Stop by the booth and make a donation of \$300 or more to enjoy the benefits of the Donor Suite

- Become a Presidents Circle donor with a gift of \$1,500 or more

- Learn more about becoming a Centennial Pathfinder at [RSNA.org/Campaign](http://RSNA.org/Campaign)

**\$17.5  
Million**



**THANK YOU FOR SUPPORTING THE R&E FOUNDATION AND THE FUTURE OF RADIOLOGY.**

# General Information

The RSNA® Scientific Assembly and Annual Meeting is the official meeting of the Radiological Society of North America. RSNA is a registered trademark of the Radiological Society of North America.

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## Accreditation and Designation Statements

The Radiological Society of North America (RSNA) is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians.

The RSNA designates this live activity for a maximum of 98.50 *AMA PRA Category 1 Credits™*. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

The Commission on Accreditation of Medical Physics Education Programs (CAMPEP) has approved the direct transfer of *AMA PRA Category 1 Credit™* to Medical Physics Continuing Education Credit (MPCEC) on a credit-for-credit basis for medical physicists.

RSNA is an ARRT®-approved Recognized Continuing Education Evaluation Mechanism Plus (RCEEM+) and will provide Category A/A+ continuing education credits for radiologic technologists and radiologist assistants.

## Continuing Education

### CE Credit

In order to record and obtain Category A/A+ continuing education (CE) credits, all ARRT registered technologists and radiologist assistants must follow ARRT guidelines. Failure to do so will result in no credits being awarded.

- ARRT requires that all registrants seeking Category A/A+ credit must be present and attentive for 50 minutes of every scheduled hour of a live CE activity. If you arrive late, leave early or slip out of the meeting room for a break, that time is deducted from your attendance.
- The beacon technology on your badge tracks your attendance in all educational sessions; pink cards will no longer be used. Please wear your badge at all times and stay for the entire session.
- Any attendee that opts out of the beacon technology on their meeting badge will not obtain credit.
- In addition to ARRT requirements, you must evaluate your RSNA 2017 courses online at [Meeting.RSNA.org](http://Meeting.RSNA.org).
- RSNA will email certificates to ARRT-registered radiologic technologists and radiologist assistants who followed these ARRT guidelines in mid-December.

## LEARNING OBJECTIVES

**AT THE CONCLUSION OF THIS LIVE ACTIVITY,  
PARTICIPANTS WILL BE ABLE TO:**

1. Access the results of new research, and assess their potential applications to clinical practice.
2. Improve basic knowledge and skills relevant to clinical practice.
3. Practice new techniques.
4. Assess the potential of technological innovations and advances to enhance clinical practice and problem solving.
5. Apply principles of critical thinking to ideas from experts and peers in the radiologic sciences.

### CME Disclosure

The ACCME requires that RSNA, as an accredited provider of continuing medical education, obtain signed disclosure statements from annual meeting faculty, including committee members, program planners, presenters, and authors. The intent of this policy is not to prevent an individual with a financial relationship from participating; however, in accordance with ACCME standards, RSNA has developed policies and procedures to manage identified conflicts of interest.

The ACCME further requires that RSNA provide disclosure information to all attendees prior to the educational activity. Individuals who have or have had an affiliation or financial relationship with any commercial interest (within the previous 12 months or at the time the research was conducted) are noted with a star (★) after their names in the program book. Financial disclosure statements for these individuals are reported after each individual's name in the disclosure index at the back of the program book (p 289). All other individuals have indicated they have nothing to disclose.

### CME Credit

#### Science and Plenary Sessions and Education Courses

All sessions/courses have been approved for *AMA PRA Category 1 Credit™*. To register attendance, claim credit, and evaluate the sessions, visit the RSNA's Credit Eval Claim Center.

#### Science Posters, Education Exhibits and Quality Storyboards

*AMA PRA Category 1 Credit™* is available for digital poster presentations, quality storyboards, and selected education exhibits on Sunday, 12:30–1:30 PM, and Monday–Thursday, 12:15–1:15 PM. At the conclusion of discussions with the presenters, document your attendance by using the RSNA's Credit Eval Claim Center.

Education exhibits at RSNA 2017 will include the popular Cases of the Day feature. Each day, from Sunday through Thursday, a new



# General Information

## EMERGENCY INFORMATION

### MCCORMICK PLACE CONVENTION CENTER EMERGENCY PROCEDURES FOR ALL EMERGENCIES

- FIRE, POLICE, AND MEDICAL - DIAL 1-312-791-6060 OR 6060 FROM ANY HOUSE PHONE.

**AFTER NOTIFYING EMERGENCY PERSONNEL, NOTIFY RSNA SECURITY AT 1-312-808-2102 OR 2102 FROM ANY HOUSE PHONE.**

**FULLY EQUIPPED FIRST AID STATIONS, STAFFED BY LICENSED MEDICAL PROFESSIONALS, ARE LOCATED IN THE GRAND CONCOURSE, LEVEL 2.5, WEST OF THE BUSINESS CENTER AND THE LAKESIDE CENTER EAST, LEVEL 1, BEHIND THE BANK OF TELEPHONES.**

**FACILITIES FOR NURSING MOTHERS** ARE AVAILABLE AT EITHER FIRST AID STATIONS OR AT CAMP RSNA, SOUTH BUILDING, LEVEL 1, ROOM S106A.

case in each of 15 categories will be posted. Attendees will be able to submit a diagnosis for each case on the computer presentation system, at nearby Internet Zone computers, or via any Web browser. For each correct diagnosis submitted online, participants will earn .50 AMA PRA Category 1 Credit™.

The “CME Learning Checkpoint”—9 award-winning hard copy exhibits from RSNA 2016 will be featured. Attendees can study the hard copy exhibit and then access a corresponding quiz on their mobile device or laptop. Attendees receive 0.5 AMA PRA Category 1 Credit™ for each completed quiz.

## References to Abstracts in the Online 2017 RSNA Meeting Program

To cite an abstract from the 2017 online meeting program, go to [RSNA2017.RSNA.org](http://RSNA2017.RSNA.org) to access the complete online program. Search for and access the text of the specific abstract you wish to cite, and then click on the box labeled “Cite this Abstract” to access the specific abstract citation information for that particular online abstract.

The general format for citing an online RSNA 2017 abstract is as follows:

Author XX, Author XX, Author XX, et al. Title of the Specific Abstract. Presented at: Radiological Society of North America 2017 Scientific Assembly and Annual Meeting, November 27–December 2, 2017, Chicago, IL. [archive.rsna.org/2017/00000000.html](http://archive.rsna.org/2017/00000000.html). Accessed Month day, 2017.

To obtain permission to reprint abstracts from the *RSNA Meeting Program*, go to <http://www2.rsna.org/rsnarights>. For additional information, contact [permissions@RSNA.org](mailto:permissions@RSNA.org), or send a fax to 1-630-590-7724. Direct inquiries by mail to Permissions, RSNA, 820 Jorie Blvd, Oak Brook, IL 60523. Requests should include the title, first author, year of meeting presentation, and intended use of the material.

## RSNA 2017 Virtual Meeting

The meeting is not only at McCormick Place. The RSNA 2017 Virtual Meeting allows users to experience the world's premier medical imaging event from anywhere in the world via the Internet with a computer or mobile device. Participants can access over 100 live streaming courses, digital posters and cases of the day. CME credit is available during the live sessions, plus a select number of CME-eligible courses on demand! “On demand” is available through February 28, 2018. Visit [RSNA2017.RSNA.org](http://RSNA2017.RSNA.org) to register.

## Subspecialty Content

Customizing your RSNA 2017 itinerary is easy through the enhanced sorting capability of the online *RSNA Meeting Program*. Go to [RSNA2017.RSNA.org](http://RSNA2017.RSNA.org) and click on Meeting Program to search for scientific presentations and other events by radiologic subspecialty. Choose a subspecialty of interest to you, view all of the meeting content in that subspecialty, and build your schedule in My Agenda. Printed specialty brochures will also be available onsite at the convention center.



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A list of the Past Presidents of the RSNA is available online at: [http://www.rsna.org/RSNA\\_Past\\_Presidents.aspx](http://www.rsna.org/RSNA_Past_Presidents.aspx).



# Gold Medalists



**George S. Bisset III, MD**  
*Houston, TX*



**J. William Charboneau, MD**  
*Rochester, MN*



**Roderic I. Pettigrew, PhD, MD**  
*Bethesda, MD*



**Richard L. Baron, MD**  
*(Posthumous)*

See a list of past Gold Medalists at: [RSNA.org/Awards.aspx](http://RSNA.org/Awards.aspx)

# Honorary Members



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*São Paulo, Brazil*



**Hassen Gharbi, MD, PhD**  
*Tunis, Tunisia*



**Katrine Riklund, MD, PhD**  
*Umeå, Sweden*

See a list of past Honorary Members at: [RSNA.org/Awards.aspx](http://RSNA.org/Awards.aspx).



# Plenary Sessions



**Richard L. Ehman, MD**

Sunday, November 26 at 8:30 AM

**President's Address:**  
"Is it Time to Reinvent  
Radiology?"



**Roderic I. Pettigrew,  
PhD, MD**

Sunday, November 26 at 8:30 AM

**Opening Session:**  
"Tomorrow's Radiology"



**Elias A. Zerhouni, MD**

Sunday, November 26 at 8:30 AM

**Opening Session:**  
"Imaging Innovation in 21st  
Century Biomedicine: Challenges  
and Opportunities"



**Daniel Sodickson,  
MD, PhD**

Monday, November 27 at 1:30 PM

**New Horizons Lecture:**  
"A New Light: The Birth, and  
Rebirth, of Imaging"



**Keith Dreyer, DO, PhD**

Tuesday, November 28 at 10:30 AM

**RSNA/AAPM  
Symposium:**  
"Harnessing Artificial  
Intelligence"



**Antonio Criminisi, PhD**  
Tuesday, November 28  
at 10:30 AM

**RSNA/AAPM  
Symposium:**  
"Assistive AI for Cancer  
Treatment"



**Jonathan B. Kruskal,  
MD, PhD**  
Tuesday, November 28 at 1:30 PM

**Annual Oration in  
Diagnostic Radiology:**  
"Strategies for Radiology to  
Thrive in the Value Era"



**Daphne A.  
Haas-Kogan, MD**  
Wednesday, November 29  
at 1:30 PM

**Annual Oration in  
Radiation Oncology:**  
"Personalized Medicine and  
Radiation Oncology"



**Robert Herjavec**  
from *Shark Tank* on Thursday,  
November 30 at 2 PM

**Plenary Speaker:**  
"Fast Forward and Focused"



# Outstanding Researcher/Educator Awards

The RSNA Outstanding Researcher Award and Outstanding Educator Award annually recognize and honor one individual in each award category who has made significant contributions to the field of radiology or radiologic sciences throughout a career of research, or teaching and education.

The RSNA Board of Directors is proud to present the 2017 Outstanding Researcher Award to **Mitchell D. Schnall, MD, PhD**, and the 2017 Outstanding Educator Award to **Dorothy I. Bulas, MD**.

The awards will be presented during the opening session of the RSNA Scientific Assembly and Annual Meeting, Sunday at 8:30 am in the Arie Crown Theater, Lakeside Center, Level 2.



**Mitchell D. Schnall, MD,  
PhD**

*Philadelphia, PA*



**Dorothy I. Bulas, MD**

*Washington, DC*



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