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**"Best of" ASNR 2023 (Chicago) and "Sneak Peek" of ASNR 2024 (Las Vegas)**

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## “Best of” ASNR 2023 (Chicago) and “Sneak Peek” of ASNR 2024 (Las Vegas)

The ASNR held its 61st Annual Meeting from April 29 to May 3, 2023, in the organization’s hometown of Chicago, Illinois. As underscored by the ASNR 2023 Program Chair and President-Elect, Yvonne Lui, the 2023 meeting theme, “Transforming the Future of Neuroradiology,” reflected the rapidly evolving landscape of the field and the ongoing advancements that are shaping its trajectory. Attendees, both in-person and virtually, had the opportunity to learn about cutting-edge research, practice innovations, and technological advancements through educational sessions, subspecialty society symposia, study groups, scientific presentations, education exhibits, and social events.

ASNR 2023 showcased the breadth and depth of diagnostic and therapeutic neuroimaging with diverse topics spanning the gamut of its subspecialty societies. The content not only covered functional and advanced (American Society of Functional Neuroradiology [ASFNR]), head and neck (American Society of Head and Neck Radiology [ASHNR]), pediatric (American Society of Pediatric Neuroradiology [ASPNR]), spine (American Society of Spine Radiology [ASSR]), and neurointerventional imaging (Society of NeuroInterventional Surgery [SNIS]) but also included sessions on diversity and inclusion, education, professional development, artificial intelligence (AI), clinical workflow advances, multidisciplinary collaboration, and more.

Although ASNR 2023 only recently concluded, exciting plans are already in motion for the 62nd Annual Meeting in Las Vegas, Nevada, occurring May 18–22, 2024. The theme for ASNR 2024

is “Celebrating Neuroradiologists,” and the event will showcase and celebrate the accomplishments of neuroradiologists in all aspects of practice. In addition to the top-notch invited lectures, oral and electronic research presentations, exhibits, and social activities to which ASNR attendees are accustomed, the ASNR 2024 Program Chair and President-Elect, Max Wintermark, also plans to include “how-to” sessions and expert discussions of clinical vignettes among other innovative content.

The purpose of this article is to provide a day-by-day, image-rich summary of just some of the highlights of ASNR 2023, based on the clinical interests and subjective biases of our small group of coauthors, each representing a different neuroimaging subspecialty, as well as a sneak peek of what to look forward to in Las Vegas for ASNR 2024.

### Day 1: Saturday April 29, 2023 (Weekend Symposium)

The meeting “kicked off” with welcome remarks and announcements from the Program Chair Yvonne Lui, who emphasized the process of transformation and the importance of community. A remarkable “Virtual and Augmented Reality Symposium” session followed, which explored the disruptive potential of these technologies through various clinical and educational applications. For example, the use of patient-specific 3D models for surgical planning has been associated with increased technical success rates and decreased complication rates in a variety of settings,<sup>1</sup> and holographic navigation for placement of external ventricular drains has been associated with improved targeting compared with freehand insertion.<sup>2</sup> In the context of education, “digital twinning” of human anatomy allows realistic holograms that can be used to effectively teach anatomy more efficiently compared with cadaveric dissection.<sup>3,4</sup>

Following an excellent session discussing innovations in neuroradiology education, day 1 also highlighted “Advances in Multidisciplinary Head and Neck Imaging” through a simulated head and neck cancer tumor board (Fig 1). With each speaker focusing on a specific site of primary head and neck cancer (ie, oropharynx, David Zander; larynx, Alok Bhatt; paranasal sinuses, Tabby Kennedy), this session emphasized the importance of understanding clinical context. The speakers showed that by maintaining an awareness of the relevant management paradigm, radiologists are better equipped to report the specific imaging features most pertinent to the patient’s care. Attendees left feeling inspired to fully participate as valued members of the multidisciplinary team.

### Day 2: Sunday April 30, 2023 (Weekend Symposium)

On the second day of the weekend symposium, 2 compelling innovation-focused sessions were well-received by participants. The first, entitled “Pushing the Boundaries of AI Innovations,” included



**FIG 1.** David Zander conducts a simulated head and neck tumor board while lecturing on the oropharynx in Saturday’s Advances in Multidisciplinary Head and Neck Imaging session.



**FIG 2.** Kim Seifert and Risto Filippi participate in the Neurorad Password Game Show.



**FIG 3.** Attendees socialize with friends and colleagues in the exhibit hall while also having the opportunity to visit with meeting exhibitors during the Opening Reception and Reunion Night.

compelling talks on worklist prioritization (David Kim), health equity (Noushin Yahyavi), research trends (Evan Calebrese), and FDA regulations regarding AI monitoring (Gabriela Rodal). In the second session, entitled “Innovations in Image-Guided Therapeutics,” attendees learned about innovations across a broad range of topics, including theranostics (Michael Veronesi) and multiple applications of focused ultrasound (neuro-oncology, Kazim Narsinh; movement disorders, Timothy Kaufmann; and back pain, Lubdha Shah).

Sunday also featured the “Neurorad Password Game Show,” an entertaining and educational session hosted by Rick Wiggins and Yvonne Lui that challenged participants’ radiologic knowledge through a game show format (Fig 2). Four pairs of

contestants (Risto Filippi/Kim Seifert, Pat Rhyner/Sachin Gujar, Misla Yuhasz/Doug Phillips, and Tanya Rath/Sohil Patel) faced off against one another with impressive displays of teamwork and radiology acumen.

Immediately following the Neurorad Password Game Show, the Opening Reception and Reunion Night was held in the exhibit hall among the vendor booths. The turnout was great, and the exhibit hall location allowed attendees to not only socialize with friends and colleagues, both old and new, but also to learn about many of the latest and greatest products offered by the meeting exhibitors (Fig 3). Finally, a new addition to the exhibit hall for ASNR 2023 was an assortment of lawn games, including Cornhole and Lifesize Connect 4.

### **Day 3: Monday May 1, 2023**

Monday morning’s plenary session, “Unpacking the Stars: Luminaries Share Their Cases and Analyses,” featured eminent neuroradiologists discussing their diagnostic approaches to some of their favorite cases. The case mix spanned the spectrum from bread and butter to dramatic and exceedingly rare, with each presented case including multiple practical teaching points. Speakers included Pam Schaefer (brain, Fig 4A), David Hackney (spine), Laurie Loevner (head and neck), and Ellen Grant (pediatric neuroradiology, Fig 4B). This packed session was a favorite of many attendees.

Following the weekend symposium and the Monday morning plenary session, day 3 of ASNR 2023 transitioned to the first day of parallel sessions. Two noteworthy, standing-room-only parallel

sessions were “DECT in Neuroradiology: Where We Are and What Lies Ahead” and “Imaging and the Glymphatic System.”

In the dual-energy CT (DECT) session, Aaron Sodickson summarized the basic principles and underlying physics, Shobhit Mathur discussed specific applications (20+) in neuroradiology, and Nicolas Murray summarized implementation challenges and potential solutions. With the advent of photon-counting CT, which will be highlighted at ASNR 2024, interest in and applications of multienergy CT are expected to increase.

The glymphatic system session featured Maiken Nedergaard, one of the scientists who first described this system,<sup>5</sup> who explained the basic functions of the system. Subsequently, Risto Filippi summarized imaging of glymphatic flow, Giuseppe





**FIG 4.** Pam Schaefer (A) and Ellen Grant (B) share some of their favorite cases and provide associated teaching points in Monday morning's plenary session, Unpacking the Stars: Luminaries Share Their Cases and Analyses.



**FIG 5.** Selected photos from Monday evening's Committee Orientation and Meet-Up Reception.

Barisano discussed approaches to perivascular space quantification and the associated clinical relevance, and Meng Law outlined the various disease states for which the perivascular spaces and glymphatics have implications (eg, neurodegeneration, traumatic brain injury, stroke, epilepsy, sleep apnea, coronavirus disease 2019 [COVID-19], and demyelinating and autoimmune diseases).

The social event of Monday evening was the Committee Orientation and Meet-Up Reception. New for ASNR 2023, this gathering was held to acknowledge and thank committee volunteers for their service. Tables designated for each ASNR committee were arranged throughout the event space, where committee chairs and vice-chairs welcomed new members and reconnected with continuing members in a fun, relaxed environment. Some selected photos from the Meet-Up Reception are shown in Fig 5.

#### **Day 4: Tuesday May 2, 2023**

Following the J. Arliss Pollock Memorial Award Lecture plenary session ("Rethinking US Health Care: Facts and Fallacies" delivered by Amy Finkelstein), parallel sessions resumed Tuesday morning.

The highlight of the day was "Women in Neuroradiology: Improving Diversity and Achieving Success." Organized by Aparna Singhal and Niky Farid, this first-of-its-kind, standing-room-only session included inspiring talks from 5 accomplished neuroradiologists, including 2 ASNR Presidents (Tina Young Poussaint, Erin Simon Schwartz) and 1 Department Chair (Vijay Rao). Attendees ranged from trainees to luminaries in the field, including the first 2 female ASNR Presidents, Anne Osborne and Pat Rhyner. The session tackled important topics relevant to both sexes, including sex diversity, becoming a leader, creating a Women in Radiology group, advice for the young neuroradiologist, and work-life balance. Attendees left with a sense of how far neuroradiology has come with respect to sex equity and of the work left to make neuroradiology and the ASNR a welcoming place for all.<sup>6</sup>

The President's Appreciation Gala was held Tuesday evening and featured live music from a local Chicago band (Fig 6) and honored the recipients of the ASNR 2023 Annual Awards, including Gordon Sze (Gold Medal, Fig 7A), Pedro Lylyk (Honorary Member, Fig 7B), Ric Harnsberger (Outstanding Contributions in Neuroradiology Education, Fig 7C), and Greg Zaharchuk (Outstanding Contributions in Research, Fig 7D), among others. Outgoing *American Journal of Neuroradiology* (AJNR) Editor Jeff Ross (Fig 8) was also recognized for his dedicated service to the journal. New this year, the event was open to all attendees who purchased a ticket. Some selected additional photos from the gala are shown in Fig 9.

#### **Day 5: Wednesday May 3, 2023**

The final day of ASNR 2023 kicked off with a plenary session entitled "Innovations of Our Field: Historical Perspectives and Where We Are Headed," which featured



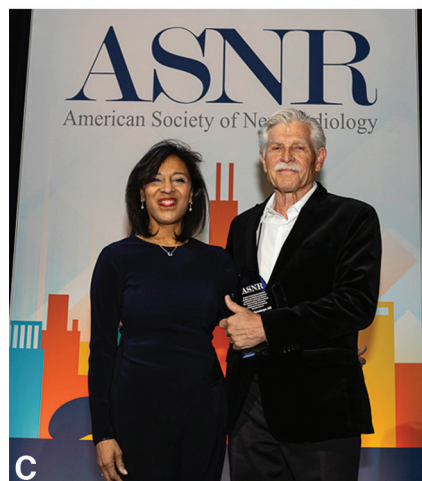
neuroradiology superstars reflecting on challenges and rewards of an academic career (Bill Dillon), global health and neuroradiology outreach (Anne Osborn), health policy (Josh Hirsch),



**FIG 6.** Local Chicago musicians providing live music at Tuesday evening's President's Appreciation Gala.

medical journalism (Jeff Ross), and education (Rick Wiggins). This engaging session simultaneously offered reflections on the past as well as strategies for meeting current and future challenges.

Among Wednesday's parallel sessions, one highlight was "The Changing Neuroradiology Practice: Opportunities and Challenges." Organized by the Diversity and Inclusion Committee, this session focused on the shift to hybrid workflow (ie, mix of on-site and remote work). When considered through the lens of diversity, equity, and inclusion, the secular trend toward hybrid models affects all neuroradiologists and offers opportunities to build better, more equitable systems if thoughtfully designed and executed. Following talks from Sean Pierce ("Neuroradiology Workforce Changes: A Leadership Worldview"), Ashley Aiken ("Medical Education and Radiology Training in the Hybrid Environment"), Haris Sair ("Challenges and Pitfalls of Hybrid Neuroradiology"), and Alex Norbash ("Hybrid Neuroradiology: How It Can Work"), attendees participated in a lively discussion and productive question-and-answer session.



**FIG 7.** Recipients of ASNR 2023 Annual Awards, including Gordon Sze (A, pictured with Erin Simon Schwartz), Gold Medal; Pedro Lylyk (B, pictured with Yvonne Lui), Honorary Member; Ric Harnsberger (C, pictured with Tina Young Poussaint), Outstanding Contributions in Neuroradiology Education; and Greg Zaharchuk (D, pictured with Tina Young Poussaint), Outstanding Contributions in Research.

### ASNR 24 Sneak Peek

With ASNR 2023 behind us, we now eagerly look forward to ASNR 2024, which will take place May 18–22 in Las Vegas. Plans are actively underway and continue to evolve; however, we are excited to offer a sneak peek of some of what to expect, noting that part of what follows may be subject to change. Specifically, the weekend symposium will feature several cutting-edge topics, including but not limited to AI ("We're All In"), genetic therapies (emerging novel treatments, varied delivery routes such as cisterna magna puncture, and future impact), health policy commission programming (ie, "New Frontiers in Work Models," such as remote interpretation, staffing shortages, and the Relative Value Scale Update Committee [RUC]), and international attendee sessions. Furthermore, members of the neuroradiology community have submitted their own ideas for ASNR 2024 didactic sessions in addition to research abstracts.

A plenary session highlighting dementia ("New Era of Dementia Therapy") will include topics such as the following: 1) "Imaging and Blood-Based Biomarkers in Dementia," 2) "Brief History of Alzheimer Disease Treatment with a Focus on Recent Pivotal Clinical Trials," and 3) "Rehearsing your ARIA: How to Prepare for Imaging Patients on Anti-Amyloid Therapies."



**FIG 8.** ASNR President (2022–2023) Erin Simon Schwartz honors outgoing *AJNR* Editor-in-Chief Jeff Ross for his service to the Journal at Tuesday evening's President's Appreciation Gala.



**FIG 9.** Selected photos of attendees at Tuesday evening's President's Appreciation Gala.

Additional sessions will focus on psychiatry ("Toward Personalized Measures of Psychiatric Disease Using Advanced Neuroimaging"); novel technologies, such as photon-counting CT and magnetic particle imaging (a new noninvasive imaging method that detects iron oxide nanoparticles to produce 2D and 3D images, more sensitive and substantially faster than MR imaging or PET); and virtual reality. ASNR 2024 will also again highlight study groups for DTI/fMRI, PET, and vessel wall imaging.

Joint sessions from ASNR-affiliated societies (eg, ASFNR, ASHNR, ASPNR, ASSR) and other related societies (Sociedad Ibero Latino Americana de Neurorradiología Diagnóstica y Terapéutica [SILAN]; Asian-Oceanian Society of Neuroradiology and Head & Neck Radiology [AOSNHNR]; and, for the first time, the American Society of Emergency Radiology [ASER]) will also be featured, as well as sessions on computer science and

informatics (including the "hot topic" of Chat Generative Pre-trained Transformer [Chat-GPT]), epilepsy, section chief sessions on economics and recruitment, and sessions covering diversity, equity, and inclusion.

Finally, participants should expect the following: 1) sessions on emerging topics such as cryptogenic stroke, head and neck, and spine, 2) "pitch your idea" interactive sessions for facilitating innovative neuroimaging approaches, and 3) educational case vignettes.

## CONCLUSIONS

ASNR 2023 attendees learned about the latest clinical innovations, technological advancements, and cutting-edge research. Perhaps as important, the meeting also provided ample opportunities for reconnecting with old friends and fostering new social bonds, within the backdrop of the organization's "hometown."

We know that the ASNR's brightest days are ahead, and we look forward to Celebrating Neuroradiologists with you in Las Vegas at ASNR 2024!

Disclosure forms provided by the authors are available with the full text and PDF of this article at [www.ajnr.org](http://www.ajnr.org).

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