

ICPO THERANOSTICS VIRTUAL SUMMIT 2026

SCIENTIFIC & EDUCATIONAL HIGHLIGHTS

GROWING PATIENT ACCESS: ADOPTING NEW RADIOPHARMACEUTICAL THERAPIES AND PLANNING FOR CLINICAL TRIALS

12 & 13 November 2026

1. SUMMIT OVERVIEW

Chaired by **Professors Richard P. Baum, Frederik L. Giesel and Rudolf A. Werner**, the ICPO Theranostics Virtual Summit 2026 brought together over 700 participants from more than 40 countries to explore scientific advances, emerging clinical applications and strategies to expand patient access to radiopharmaceutical therapies worldwide.

Under the theme ***"Growing Patient Access: Adopting New Radiopharmaceutical Therapies and Planning for Clinical Trials,"*** the two-day program explored two interconnected priorities for every Theranostics center, whether high-volume or still emerging: advancing innovative radiopharmaceutical therapies and strengthening the clinical research capabilities needed to translate scientific progress into patient care.

Day 1 focused on emerging radionuclides, molecular targets and radiopharmaceutical design, while Day 2 addressed clinical development, patient recruitment, artificial intelligence (AI) and the challenges of making innovative treatments more widely accessible.

Across both days, a central message emerged: **scientific innovation must be accompanied by robust clinical evidence, multidisciplinary collaboration and sustainable pathways to patient access.**

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ICPO SUMMIT 2026: SCIENTIFIC & EDUCATIONAL HIGHLIGHTS

2. DAY 1 | ADOPTING NEW RADIOPHARMACEUTICALS AT YOUR THERANOSTICS CENTER

2.1. Next-Generation Radionuclides

The Summit explored the expanding therapeutic potential of radionuclides beyond established beta emitters such as lutetium-177 (Lu-177) and yttrium-90 (Y-90).

Emerging approaches include terbium-161 (Tb-161), whose additional short-range electron emissions may offer advantages in treating small tumor deposits, and alpha emitters such as actinium-225 (Ac-225), astatine-211 (At-211), and lead-212 (Pb-212), which offer opportunities for highly localized radiation delivery.

While these radionuclides have distinct therapeutic characteristics, their broader clinical application requires further evidence along with solutions for toxicity management, dosimetry, production capacity and availability.

Discussions also addressed combining or sequencing alpha and beta therapies, emphasizing **the importance of preclinical research** to evaluate new radiopharmaceuticals and to support their clinical development. **Bringing these innovations into clinical practice across Theranostics centers** requires robust scientific evidence, with radionuclide selection guided by tumor biology, clinical indication, and individual patient needs.

2.2. Expanding Molecular Targets

Emerging molecular targets are creating opportunities to extend Theranostics into additional cancer indications and patient benefits.

Fibroblast activation protein (FAP) attracted particular attention due to its expression in cancer-associated fibroblasts across multiple malignancies. While FAP-targeted imaging has demonstrated promising diagnostic capabilities, therapeutic applications remain limited by challenges such as tumor retention and treatment efficacy. Improved ligand designs are being investigated to address these limitations.

Further developments in **PSMA-targeted compounds**, alternative imaging approaches and emerging targets such as carbonic anhydrase IX (CAIX) may improve molecular characterization and treatment selectivity.

A key conclusion was that **promising imaging results do not automatically translate into therapeutic benefit**. Clinical success requires appropriate tumor targeting, sufficient retention and evidence of meaningful patient outcomes.

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2.3. Optimizing Radiopharmaceutical Design

Radiopharmaceutical design remains essential for balancing therapeutic efficacy and healthy-organ exposure.

Small molecules and peptides offer rapid tissue penetration and clearance, while antibodies provide different targeting opportunities but may result in prolonged circulation and increased radiation exposure.

Pre-targeting strategies, which separate tumor targeting from radionuclide administration, were discussed as a potential approach to improving tumor-to-background ratios.

Overall, the discussions demonstrated that progress depends not only on discovering new targets or radionuclides, but also on optimizing pharmacokinetics, treatment delivery and clinical applicability at every Theranostics center.

3. DAY 2 | PLANNING AND NAVIGATING CLINICAL TRIALS AT YOUR THERANOSTICS CENTER

3.1. Emerging Clinical Strategies and Precision Approaches

Building on landmark studies such as NETTER-1 and VISION, ongoing clinical trials are exploring radioligand therapy (RLT) in earlier treatment settings, new indications and novel therapeutic combinations.

Combination therapies and personalized dosimetry offer opportunities to optimize patient treatment outcomes, although further clinical evidence is needed to establish their efficacy, safety and optimal application.

Emerging approaches, including **Tc-99m-based PSMA imaging combined with Re-188 therapy**, may improve accessibility in settings with limited PET infrastructure. Novel targets such as **uPAR**, alongside the integration of molecular profiling with PET imaging, could further expand treatment options and improve patient selection.

Together, these developments highlight the importance of translating innovation into clinical practice through robust, evidence-based trials.

3.2. Strengthening Clinical Trial Design and Evidence

Theranostics trials require the early integration of **imaging, dosimetry, radiation protection and radiopharmacy** into clinical development.

Standardized and traceable data collection, scanner qualification and imaging harmonization are essential for every Theranostics center to generate reliable evidence, particularly in multicenter studies.

High-quality clinical, imaging and radiopharmacy datasets can also support future research, registries and AI applications.

Reliable clinical evidence begins with reliable clinical data.

3.3. Patient-Centered Clinical Research and Trial Access

Patient perspectives reinforced that treatment success extends beyond tumor response and survival. **Quality of life, symptom burden, safety and long-term follow-up** must remain central to clinical research.

Patient advocates highlighted the importance of accessible information, meaningful informed consent and greater patient involvement in study design.

Improving trial participation requires **multidisciplinary collaboration**, structured referral pathways and closer coordination between nuclear medicine, oncology and referring physicians.

Digital trial-finding platforms may further help patients identify suitable studies and improve access to clinical research.

Patient access depends not only on treatment availability, but also on awareness, communication, coordination and trust.

3.4. Artificial Intelligence in Theranostics

AI offers opportunities across the Theranostics pathway, from **image analysis, dosimetry and treatment monitoring** to clinical trial identification and management.

AI-supported tools may streamline patient matching, study documentation and regulatory workflows, while automated extraction of clinical information can support the development of structured research datasets.

The ICPO-supported ARCHE project illustrated progress in AI-driven clinical data integration and opportunities for broader research collaboration.

Despite promising developments, **data quality, standardization, clinical validation and human oversight** remain essential for reliable implementation.

AI can support healthcare professionals at any Theranostics center regardless of maturity, but cannot replace clinical expertise, essential infrastructure or high-quality data.

ICPO SUMMIT 2026: SCIENTIFIC & EDUCATIONAL HIGHLIGHTS

4. FINAL ROUNDTABLE | GROWING GLOBAL PATIENT ACCESS

The ICPO Summit 2026 concluded with recommendations for expanding patient access to Theranostics over the coming years.

Multidisciplinary collaboration was identified as essential, with experienced Theranostics centers providing specialized treatments while regional and local hospitals support patient identification and referral.

International trial databases and collaborative networks could improve patient access to clinical research, particularly in low- and middle-income countries where infrastructure, workforce capacity and radionuclide availability remain significantly limited.

The discussions also called for more **consistent, evidence-based radiation safety requirements**, particularly for emerging alpha therapies, alongside further investigation of new indications, including selected pediatric malignancies.

Education and professional training were recognized as critical for sustainable growth, with greater emphasis on clinical trial methodology, Good Clinical Practice and research ethics.

International organizations and professional societies, including **IAEA, WHO, EANM, SNMMI, WFNMB and the ICPO Foundation** can contribute through education, capacity building, scientific collaboration and regulatory dialogue.

The overarching conclusion was that **expanding patient access at every Theranostics center around the world requires coordinated progress in research, infrastructure, education and international cooperation**.

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5. SIX KEY TAKEAWAYS

a. Advancing Radiopharmaceutical Innovation

New radionuclides, molecular targets and radiopharmaceutical designs are expanding therapeutic opportunities, but require robust clinical validation.

b. Optimizing Treatment Strategies

Combination therapies, earlier treatment and personalized dosimetry may improve outcomes and represent important areas for future research.

c. Strengthening Clinical Evidence

High-quality trials depend on harmonized imaging, dosimetry, standardized data and multidisciplinary research capabilities.

d. Integrating Artificial Intelligence

AI can support imaging, data processing and clinical trial workflows, provided that reliability, clinical validation and human oversight are maintained.

e. Prioritizing Patient-Centred Care

Quality of life, informed participation, multidisciplinary collaboration and structured referral pathways are essential for improving patient access.

f. Expanding Global Access

Education, infrastructure development, regulatory harmonization and international cooperation are fundamental to making innovative treatments more widely available.

6. OUTLOOK

The ICPO Theranostics Virtual Summit 2026 demonstrated the rapidly expanding scientific and clinical potential of radiopharmaceutical therapies.

Translating these innovations into meaningful patient benefits will require robust evidence, coordinated clinical research and sustained investment in healthcare capabilities.

Through international collaboration, education, capacity building and research support, the **ICPO Foundation continues to advance its mission of improving access to radiomolecular precision oncology worldwide**.

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7. SUMMIT RECORDINGS

All ICPO Summit attendees can revisit the scientific presentations and panel discussions till February 15, 2027, using their login credentials.

8. CHAIRS, CONTRIBUTING SPEAKERS AND PANELISTS

Chairs:

Professors Richard P. Baum, Frederik L. Giesel and Rudolf A. Werner

Keynote Speakers:

Michael Hofman, Ken Herrmann.

ICPO Summit Speakers 2026:

Richard P. Baum, Erik Briers, Jens Cardinale, Cecilia Carreras, Désirée Deandreis, Anna Karmann, Andreas Kjaer, Jason Lewis, Cristina Mueller, Masato Murakami, Elisabetta Perrone, Vikas Prasad, Igor Rakovic, Danielle Ralic, Steven Rowe, Mike Sathekge, Michael Schultz, Lalith Sundar, Johannes Tran-Gia, Sam Vohra, Tadashi Watabe, Damian Wild, Ralph Wirtz.

Additional panelists:

Akram Al-Ibraheem, Meredith Cummins, Ebrahim Delpassand, Tiphaine Locqueneux, Sherly Mosessian.

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