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San Luigi Gonzaga Hospital
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Department of Oncology - University of Turin
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15th INTERNATIONAL TECHNO-UROLOGY MEETING (TUM)

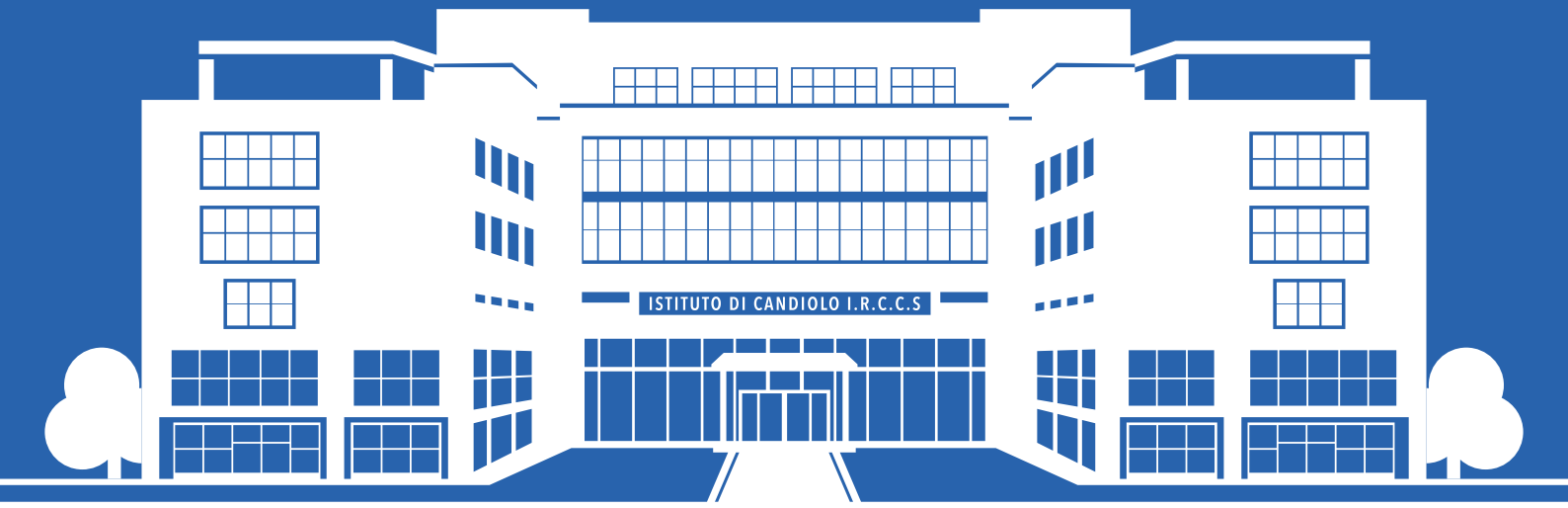
FROM AI COPILOT TO THE AGENTIC SURGERY ECOSYSTEM

The Virtual Bioengineer across the surgical workflow

28th - 29th January 2027

Chairman: Francesco Porpiglia

• Venue •
Auditorium Intesa Sanpaolo
Turin, Italy



INTRODUCTION

Over the years, the Techno-Urology Meeting has explored how emerging technologies can make surgery increasingly personalised, precise and responsive to the characteristics of each individual patient.

Three-dimensional anatomical models were first introduced to help surgeons understand complex anatomy and plan the operative strategy before entering the operating room.

These models subsequently evolved into patient-specific digital twins, immersive collaborative environments and augmented-reality tools designed to bring anatomical information closer to the surgical field.

Artificial intelligence represented the next step in this progression. During the previous editions, AI was used to analyse clinical and anatomical data, generate a patient-specific surgical profile and support the selection of the most appropriate operative strategy.

This concept became the central theme of TUM26, "The AI-guided Surgical Profiling Era," and was applied across different robotic procedures and platforms.

TUM27 aims to move beyond the idea of AI as a single assistant providing recommendations.

The new objective is to create an integrated and interactive environment in which different AI tools, patient-specific data and visualisation technologies work together throughout the surgical workflow.

This transition is captured by the concept of the Agentic Surgery Ecosystem: an ecosystem in which artificial intelligence can understand the surgeon's request, identify the appropriate digital resource, perform a predefined action and return the required information in a clinically meaningful form.

At the centre of this ecosystem is the Virtual Bioengineer.

Starting from the patient's CT or MRI images, an AI-powered workflow can support the rapid generation of a detailed three-dimensional model, with the organ, tumour, arterial and venous anatomy, collecting system and other relevant structures segmented and organised as independent digital components.

The aim is to progressively reduce the complex technical work traditionally required to produce patient-specific models, moving towards a streamlined process in which an anatomically detailed digital twin can be created and made available to the surgical team with minimal manual interaction.

However, the real innovation does not lie only in the automated creation of the model.

It lies in how the surgeon can interact with it.

Through a conversational interface, the Virtual Bioengineer is designed to receive questions or commands in natural language and translate them into dynamic actions on the three-dimensional anatomy.

The surgeon may ask the system to rotate the model, isolate a specific artery, hide the renal parenchyma, highlight the relationship between the tumour and the collecting system, display a vascular territory or recreate the anatomical perspective expected during a particular surgical step.

The response is therefore not limited to a textual explanation or a predefined video: it becomes an immediate visual interaction with the patient-specific anatomy.

The same interaction can accompany different phases of the procedure.

During preoperative planning, it can help the surgical team explore anatomy, compare approaches and define the operative strategy.

During surgery, it can retrieve and display the anatomical information required at a specific moment, supporting orientation and communication within the operating room.

The development pathway discussed with the bioengineering team therefore combines automated model generation, granular anatomical labelling, real-time 3D manipulation, natural-language interaction and vocal feedback within a single environment.

The visible interface may be represented by a digital avatar acting as an AI copilot, while the underlying agent coordinates the tools and data required to answer each request.

Its role is to make advanced bioengineering support faster, more accessible and more responsive to the surgeon's needs, while preserving human supervision and clinical responsibility.

TUM27 will therefore explore the evolution from AI copilot to the Agentic Surgery Ecosystem: a connected environment in which artificial intelligence no longer simply analyses the surgical case, but helps generate, organise and interactively present patient-specific information across the entire surgical workflow.

The surgeon no longer adapts to the 3D model.

The 3D model responds to the surgeon.





Francesco Porpiglia



DEPARTMENT OF ONCOLOGY, SCHOOL OF MEDICINE, UNIVERSITY OF TURIN

The Department of Oncology at the University of Turin is composed of professionals engaged in activities ranging from preclinical research to translational research and clinical care for oncological diseases.

The Department is based at San Luigi Hospital and the IRCCS Candiolo Cancer Institute.

The Urology team, which is part of the Department of Oncology, manages all uro-oncological conditions as well as other genitourinary diseases.

The most advanced and up-to-date technologies are available for the diagnosis and treatment of these conditions.

Robotic and laparoscopic surgery have been extensively developed in recent years.

The Urology Divisions of the IRCCS Candiolo Cancer Institute and San Luigi Hospital are recognised as pioneering centres for many techniques, particularly in the field of translational surgery.

Alongside clinical activity, teaching also plays a primary role, with the Department serving as the Centre for the Urology Residency Programme.

Our staff are continuously involved in, and invited to participate in, the most prestigious national and international meetings.

Our intensive scientific and research activity is widely recognised, as demonstrated by publications in leading international peer-reviewed journals.





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	SCREEN #1	SCREEN #2
8.00 - 9.15	**WELCOME AND OPENING**	
9.15 - 10.30	***Panelists*** *Riccardo Autorino, Riccardo Campi, Alessandro Larcher* ***DA VINCI MP*** *Copilot AI Ecosystem-powered* ***RAPN*** Andrea Minervini	***Panelists*** *Sisto Perdonà, Stefano Puliatti, Nazareno Suardi* ***TOUMAI MP*** BROADCASTED *Copilot AI Ecosystem-powered* ***RARP*** Bernardo Rocco
10.30 - 11.45	***Panelists*** *Elisa De Lorenzis, Michele Marchioni, Ashutosh Tewari* ***DA VINCI MP*** *Copilot AI Ecosystem-powered* ***RP RAPN / RECONSTRUCTIVE SURGERY*** Alessandro Antonelli	***Panelists*** *Fabrizio Dal Moro, Paolo Dell'Oglio, Francesco Esperto* ***DA VINCI SP*** *Copilot AI Ecosystem-powered* ***RARP*** Ahmed Ghazi
11.45 - 13.00	***Panelists*** *Riccardo Campi, Andrea Minervini, Savio Domenico Pandolfo* ***DA VINCI MP*** *Copilot AI Ecosystem-powered* ***COMPLEX RAPN*** Ravi Barod	***Panelists*** *Simone Albisinni, Giancarlo Marra, Riccardo Schiavina* ***DA VINCI MP*** *Copilot AI Ecosystem-powered* ***URETHRAL-SPARING RARP*** Karen Fransis
13.00 - 14.15	***Panelists*** *Ruben De Groote, Cosimo De Nunzio, Silvia Secco* ***DA VINCI V*** SEMILIVE *Copilot AI Ecosystem-powered* ***PELVIC SURGERY*** Riccardo Autorino	***Panelists*** *Aldo Brassetti, Ahmed Ghazi, Giacomo Novara* ***DA VINCI SP*** BROADCASTED *Copilot AI Ecosystem-powered* ***RAPN*** Sisto Perdonà
14.15 - 15.30	***Panelists*** *Alessandro Antonelli, Elisa De Lorenzis, Gaëlle Margue* ***DA VINCI MP*** *Copilot AI Ecosystem-powered* ***RAPN*** Riccardo Schiavina	***Panelists*** *Simone Albisinni, Giorgio Gandaglia, Giuseppe Simone* ***DA VINCI SP*** *Copilot AI Ecosystem-powered* ***HEMI-PROSTATECTOMY*** Francesco Porpiglia
15.30 - 16.45	***Panelists*** *Niccolò Buffi, Rocco Papalia, Carlo Terrone* ***DA VINCI MP*** *Copilot AI Ecosystem-powered* ***RASP*** Fabrizio Dal Moro	***Panelists*** *Paolo Dell'Oglio, Savio Domenico Pandolfo, Fabio Zattoni* ***DA VINCI MP*** *Copilot AI Ecosystem-powered* ***COMPLEX RAPN*** Ruben De Groote
16.45 - 18.00	***Panelists*** *Giorgio Gandaglia, Lorenzo Masieri, Stefano Puliatti* ***DA VINCI MP*** SEMILIVE *Copilot AI Ecosystem-powered* ***RARP WITH HYDRO-DISSECTION*** Ashutosh Tewari	***Panelists*** *Michele Talso, Giacomo Novara, Cristian Fiori* ***DA VINCI SP*** *Copilot AI Ecosystem-powered* ***RAPN*** Giuseppe Simone
18.00 - 18.30	**Lecture: Early treatment intensification in advanced prostate cancer: who, when and how?** **Francesco Porpiglia**	

	SCREEN #1	SCREEN #2
8.00 - 9.15	***Panelists*** *Salvatore Micali, Carlotta Palumbo, Véronique Phé* ***DA VINCI MP*** *Copilot AI Ecosystem-powered* ***ROBOTIC SACROCOLPOPEXY*** **Giuseppe Carrieri**	***Panelists*** *Antonio Galfano, Carlo Introini, Francesco Soria* ***DA VINCI SP*** *Copilot AI Ecosystem-powered* ***RA-NUT*** **Simone Crivellaro**
9.15 - 10.30	***Panelists*** *Roberto Contieri, Andrea Mari, Reza Mehrazin* ***DA VINCI MP*** *Copilot AI Ecosystem-powered* ***RAPN*** **Alberto Breda**	***Panelists*** *Riccardo Giuseppe Bertolo, Antonio Celia, Bernardo Rocco* ***DA VINCI SP*** *Copilot AI Ecosystem-powered* ***RETR*** **Zhenjie Wu**
10.30 - 11.45	***Panelists*** *Lorenzo Bianchi, Jean-Christophe Bernhard, Angelo Territo* ***ROBOTIC MP*** *Copilot AI Ecosystem-powered* ***BROADCASTED*** ***RADICAL NEPHRECTOMY WITH CAVAL THROMBECTOMY*** **Linhui Wang**	***Panelists*** *Ketan Badani, Edoardo Beatrici, Francesco Prata* ***EDGE MP*** *Copilot AI Ecosystem-powered* ***RAPN / RARP*** **Francesco Porpiglia**
11.45 - 13.00	***Panelists*** *Giuseppe Carrieri, Ugo Giovanni Falagario, Marco Paciotti* ***DA VINCI MP*** *Copilot AI Ecosystem-powered* ***ROBOTIC URINARY SPHINCTER IMPLANTATION*** **Véronique Phé**	***Panelists*** *Roberto Contieri, Filippo Turri, Alessandro Volpe* ***DA VINCI SP*** *Copilot AI Ecosystem-powered* ***RAPN*** **Antonio Galfano**
13.00 - 14.15	***Panelists*** *Riccardo Giuseppe Bertolo, Francesco Soria, Peter Wiklund* ***DA VINCI MP*** *Copilot AI Ecosystem-powered* ***RARP*** **Reza Mehrazin**	***Panelists*** *Michele Di Dio, Nina Harke, Marco Moschini* ***DA VINCI MP*** *Copilot AI Ecosystem-powered* ***COMPLEX RAPN*** **Jean-Christophe Bernhard**
14.15 - 15.30	***Panelists*** *Alberto Breda, Giovannalberto Pini, Gianluca Spena* ***ROBOTIC MP*** *Copilot AI Ecosystem-powered* ***RAPN*** **Juan Manuel Gaya**	***Panelists*** *Simone Crivellaro, Vito Pansadoro, Ettore Di Trapani* ***HUGO RAS MP*** ***BROADCASTED*** *Copilot AI Ecosystem-powered* ***RAPN*** **Rocco Papalia**
15.30 - 16.45	***Panelists*** *Andrea Gallioli, Pietro Piazza, Giorgio Ivan Russo* ***DA VINCI MP*** *Copilot AI Ecosystem-powered* ***RAPN*** **Alessandro Volpe**	***Panelists*** *Francesco Del Giudice, Matteo Ferro, Nicola Pavan* ***DA VINCI SP*** *Copilot AI Ecosystem-powered* ***RAPN*** **Ketan Badani**
14.45 - 18.00	***Panelists*** *Ugo Giovanni Falagario, Luigi Schips, Alessandro Sciarra* ***DA VINCI MP*** *Copilot AI Ecosystem-powered* ***RARP*** **Peter Wiklund**	***Panelists*** *Guglielmo Mantica, Giuseppe Morgia, Maria Chiara Sighinolfi* ***DA VINCI MP*** *Copilot AI Ecosystem-powered* ***RAPN*** **Nina Harke**
18.00 - 18.15	**Lecture: BPH and OAB: one pathway, two clinical syndromes** **Cristian Fiori**	
18.15 - 18.30	**Lecture: BPH beyond obstruction: inflammation, chronic prostatitis and disease progression** **Daniele Amparore**	

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OFFICIAL LANGUAGE

The official language of the Congress is English.

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Until September 30th 2026: ..... €. 500,00
Between September 30th 2026 and December 15th 2026: ..... €. 600,00
After December 15th 2026: ..... €. 700,00

Trainee/Residents:
Until September 30th 2026: ..... €. 200,00
Between September 30th 2026 and December 15th 2026: ..... €. 300,00
After December 15th 2026: ..... €. 400,00

The registration fee includes scientific program, lunches, and coffee breaks during the event.

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