



OTdigital **Deep Dive**

The potential of AI in Orthopaedics

AI- Data Analytics - Education

16th October 2026 - Bologna, Italy



IRCCS
ISTITUTO ORTOPEDICO RIZZOLI

PRELIMINARY PROGRAM

<https://otdigital.eu/bologna-2026/>



OTdigital Deep Dive

The potential of AI in Orthopaedics

IRCCS
ISTITUTO ORTOPEDICO RIZZOLI



Dear colleagues and digital innovators,
Welcome to the OTdigital Deep Dive – a focused one-day meeting dedicated to the practical impact of artificial intelligence in orthopaedics. The event will bring together experts from orthopaedics, research, and industry for a compact series of sessions, case discussions, and panel exchanges. We will highlight current developments in AI driven surgical planning, enabling technologies in the OR, and data based decision making, with a strong focus on real world application, innovation, and industry collaboration.
We are looking forward to welcoming you in Bologna.

SCIENTIFIC DIRECTORS



Prof. Paolo Domenico Parchi, M.D., Ph.D.



Prof. Stefano Zaffagnini, M.D.

ABOUT OT DIGITAL

The OTdigital community is a European platform for digital innovation in orthopaedics and traumatology, connecting healthcare professionals, industry, and technology experts. Started in 2022, our mission is to advance digital solutions that improve patient care across prevention, diagnosis, treatment, and rehabilitation. Through scientific exchange, collaboration, and dedicated events, we foster the adoption of digital technologies in clinical practice.



Prof. David Back, M.D., MBA



OTdigital Deep Dive

The potential of AI in Orthopaedics

IRCCS
ISTITUTO ORTOPEDICO RIZZOLI

SCIENTIFIC RATIONALE

Orthopaedics represents one of the clinical-surgical fields where technological innovation has experienced the most significant growth in recent years, particularly through the introduction of surgical robotics systems, advanced navigation platforms, and solutions based on artificial intelligence (AI). These technologies are progressively redefining standards in surgical planning, execution, and outcome evaluation, with a particularly strong impact on joint arthroplasty (hip, knee, shoulder) and complex reconstructive procedures.

The integration of robotics and AI now enables an increasingly data-driven approach to orthopaedic surgery: from personalized pre-operative planning based on advanced imaging and predictive models, to real-time intraoperative support, and post-operative analysis of clinical and functional outcomes. In particular, AI algorithms allow the correlation of anatomical, kinematic, and clinical patient data, contributing to improved implant positioning accuracy, biomechanical alignment, and procedural reproducibility.

Despite their potential benefits, the adoption of these technologies presents important challenges in terms of surgeon training, learning curve management, economic sustainability, and integration into hospital workflows. Furthermore, new requirements are emerging regarding the clinical validation of AI-based solutions, the management and protection of healthcare data, the cybersecurity of connected medical devices, and compliance with current regulatory frameworks (including the MDR and related guidelines).

This congress aims to provide an updated and critical overview of the role of robotics and artificial intelligence in orthopaedics, with the objective of equipping participants with practical tools for the informed, effective, and safe adoption of these technologies in daily clinical practice.

The educational activity is intended for orthopaedic surgeons, clinical engineers, healthcare professionals, and stakeholders involved in technological innovation in the musculoskeletal field, with the following objectives:

- To update scientific knowledge on the state of the art of robotics and AI in orthopaedics;
- To analyse clinical evidence in terms of outcomes, patient's and surgeon's benefits;
- To explore adoption models and key success factors for proper related innovation management in healthcare institutions;
- To examine ethical and regulatory implications (including data management and cybersecurity);
- To promote multidisciplinary exchange among clinicians, engineers, and innovation stakeholders.

The scientific program will include dedicated sessions on robot-assisted surgery in knee and hip arthroplasty, the use of AI for surgical planning and outcome evaluation, as well as presentations of clinical studies, case applications, and testimonials from high-experience centres.

In a context where orthopaedic medicine is increasingly oriented toward personalized and evidence-based care models, this congress aims to contribute to the development of a culture of responsible innovation, capable of combining technological advancement, healthcare system sustainability, and improved clinical outcomes, while maintaining the central role of the surgeon's clinical decision-making.

The OTdigital Deep Dive 2026 event will be held in Bologna (Italy) organized with highly represented scientific committee and event chairs which expertise and visions allowed to invite a very important panel of speakers and faculty.

ACRONYMS

OR: Operating Room

HTO: High Tibial Osteotomy

AI: Artificial Intelligence

OTdigital Deep Dive

The potential of AI in Orthopaedics

IRCCS
ISTITUTO ORTOPEDICO RIZZOLI



PRELIMINARY PROGRAM

08:30

Registration

08:50-09:10

Welcome and Introduction

Stefano Zaffagnini 

Paolo Domenico Parchi 

David Back 

09:10-10:10

SESSION 1: AI for Surgical Planning & Performance in the OR

Session Chairs: M. Gouyard , *L. Nečas* 

09:10-09:25

How Robotic Surgery Can Support Data Analytics

B. Rath 

09:25-09:40

AI Driven Planning for Custom Implant in HTO?

C. Belvedere , *A. Leardini* 

09:40-09:55

AI and Ethics

M. Montali 

09:55-10:10

Discussion

10:10-10:40

Coffee break

10:40-11:45

SESSION 2: The Future of AI: How to Maximize Innovation Impact

Session Chairs: D. Dallari , *A. Leardini* 

10:40-10:55

The European Value for Health Data Space

S. Zaffagnini 

10:55-11:15

Enabling Technologies in 2026 - Big Deal or Big Hype?

L. Nečas 

11:15-11:30

What's Next in Digital Surgery?

A. Clavé 

11:30-11:45

Discussion

OTdigital Deep Dive

The potential of AI in Orthopaedics

IRCCS
ISTITUTO ORTOPEDICO RIZZOLI



11:45-12:45

SESSION 3: Real-World User Experiences with AI in Clinical Practice

Session Chairs: S. Zaffagnini , A. Clavé 

11:45-12:00

Navigation and Robotics: Instruments in Surgeon's Hand

D. Notafrancesco 

12:00-12:15

Lesson Learned in More Than 20 Years of Enabling Technologies

N. Confalonieri 

12:15-12:30

The digital doctor will see you now

W. van der Weegen 

12:30-12:45

Discussion

12:45-13:45

Lunch Break

13:45-14:45

SESSION 4: AI in Training and Education Pathways

Session Chairs: P. Parchi , D. Back 

13:45-14:00

Simulation and Training the Role for Innovation Adoption

S. Zaffagnini 

14:00-14:15

Adoption Strategies in Clinical Settings

S. Nicoletti 

14:15-14:30

Outcomes of the REPAIR project - Recommendation for Evidence-based Preoperative AI-controlled virtual Reduction and osteosynthesis of complex fractures

D. Back 

14:30-14:45

Discussion

14:45-15:45

PANEL DISCUSSION: AI in Orthopaedics - From Potential Value to Acceptance in Clinical Practice

NO CME SESSION

Session Chairs: C. Paggetti , D. Back 

Panelists: F. Agnoloni , A. MacLeod , M. Rimaud , E. Tamburini 

CONFERENCE CLOSING

OTdigital
Deep Dive
The potential of AI
in Orthopaedics

 **IRCCS**
ISTITUTO ORTOPEDICO RIZZOLI

FACULTY

FRANCESCO **AGNOLONI**, MBA,
Medea S.r.l., Florence, Italy

DAVID ALEXANDER **BACK**, M.D., MBA, Prof.,
Center for Musculoskeletal Surgery, Charité
Universitätsmedizin Berlin, Berlin, Germany

CLAUDIO **BELVEDERE**, Ph.D.,
Movement Analysis Laboratory,
IRCCS Rizzoli Orthopaedic Institute, Bologna,
Italy

ARNAUD **CLAVÉ**, M.D, Ph.D.
Orthopaedics and Traumatology Department,
Clinique Saint George, Nice, France
Laboratory of Medical Information
Processing, Brest, France

NORBERTO **CONFALONIERI**, M.D., Prof.,
Orthopaedic and Trauma Surgeon, Milano, Italy

DANTE **DALLARI**, M.D.,
Complex Orthopaedics and Traumatology
Department, IRCCS Rizzoli Orthopaedic
Institute, Bologna, Italy

MATHIEU **GOUYARD**, M.D.,
OrthoCentre Berry, Saint-Doulchard, France

ALBERTO **LEARDINI**, M.Eng., Ph.D.,
Movement Analysis Laboratory,
IRCCS Rizzoli Orthopaedic Institute, Bologna,
Italy

ALISDAIR **MACLEOD**, M.Eng., Ph.D.,
Orthoscape, 3D Metal Printing LTD; University
of Bath, Bath, UK

MARCO **MONTALI**, M.Eng., Prof.,
Faculty of Engineering, University of Bolzano,
Bolzano, Italy

LIBOR **NEČAS**, M.D.,
Slovakian Arthroplasty Registry and University
Department of Orthopaedic
Surgery, University Hospital Martin, Slovakia

SIMONE **NICOLETTI**, M.D.,
Azienda Unità Sanitaria Locale Toscana
Centro, Florence, Italy

DONATO **NOTAFRANCESCO**, Prof.,
Orthopaedic and Trauma Surgeon, Salerno,
Italy

CRISTIANO **PAGGETTI**, Ph.D., Prof.,
Orthokey S.r.l., Florence, Italy

PAOLO DOMENICO **PARCHI**, M.D., Ph.D.,
Prof., Orthopaedics and Traumatology
Department, University of Pisa, Pisa, Italy

BJOERN **RATH**, M.D., Prof.,
Orthopaedic Department,
Klinikum Wels-Grieskirchen GmbH, Wels,
Austria

MATHIEU **RIMAUD**,
Twinsight, Grenoble, France

TAMBURINI **ELENA**, Ph.D.,
Medea S.r.l., Florence, Italy

WALTER **VAN DER WEEGEN**, Ph.D.,
Sports and Orthopaedics Research Center,
Anna Hospital, Geldrop, Netherlands

STEFANO **ZAFFAGNINI**, M.D., Prof.
Orthopaedics and Traumatology Clinic,
IRCCS Rizzoli Orthopaedic Institute, Bologna,
Italy

OTdigital Deep Dive

The potential of AI in Orthopaedics

IRCCS
ISTITUTO ORTOPEDICO RIZZOLI



GENERAL INFORMATION

CHAIRS AND SCIENTIFIC DIRECTORS:

Stefano Zaffagnini, M.D., Prof.
Parchi Paolo Domenico, M.D., Ph.D., Prof.

SCIENTIFIC COMMITTEE:

Stefano Zaffagnini, M.D., Prof.
Parchi Paolo Domenico, M.D., Ph.D., Prof.
David A. Back, M.D., MBA, Prof.

CONGRESS MANAGER:

Veronica Bollieri

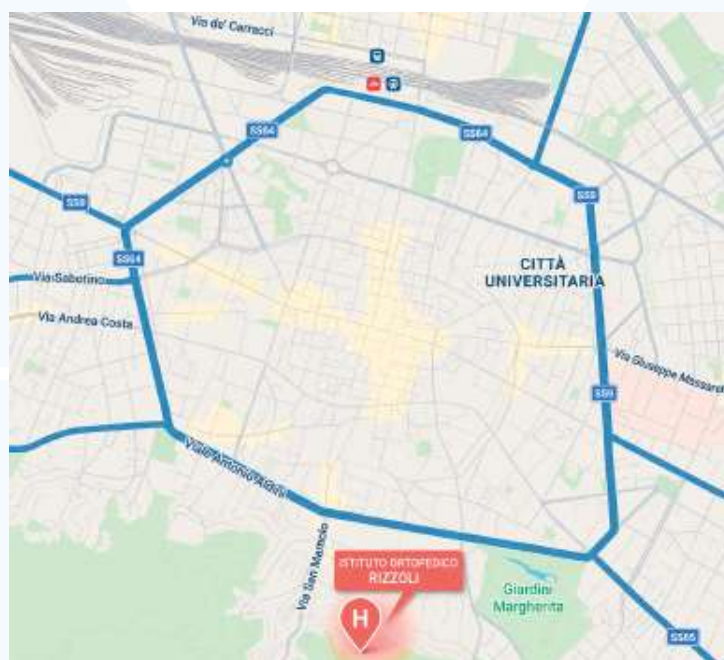
CONGRESS SECRETARY:

A.I.C. Asti Incentives & Congressi Srl
Provider ID: 5468
P.zza San Uomobono, 30
56126 Pisa, Italy

REGISTER NOW



Scan the QR code and
follow the steps
to register for the event.



OFFICIAL LANGUAGE:

English

MEETING DATE:

16th October 2026

EVENT VENUE:

ISTITUTO ORTOPEDICO RIZZOLI
Via Giulio Cesare Pupilli, 1, 40136 Bologna BO



OTdigital Deep Dive

The potential of AI in Orthopaedics

IRCCS
ISTITUTO ORTOPEDICO RIZZOLI

Participation in the Congress is subject to a registration fee. Please consult the participation fees below.

OTDIGITAL DEEPDIVE 2026 – PARTICIPATION FEES

	EARLY BIRD REGISTRATION Until 31 st August 2026	REGULAR REGISTRATION From the 1 st to the 30 th of September	LATE / ON-SITE REGISTRATION From the 1 st October, and On Site	ONLINE PARTICIPATION (Available only for non-Italians)
Physician / Researcher / Healthcare Professional***	€150,00	€200,00	€250,00	€100,00
Other Healthcare Professional	€100,00	€125,00	€150,00	€70,00
Students / Medical resident	free	€40,00	€50,00	€30,00

TRAINING HOURS:

About 4h 30'

CME ACCREDITATION:

The Congress (ECM ID: 5468_____) is currently undergoing accreditation by the Italian Ministry of Health and will provide 4 CME credits for the following healthcare professions and medical specialties:

- Physician (MD):
 - Orthopaedics and Traumatology
 - Sports Medicine
 - Medical Oncology
- Nurse
- Orthopaedic Technician

ASSESSMENT AND GENERAL INFORMATION

Attendance will be monitored through mandatory registration of participants' entry and exit by signature.

Participants are required to sign both upon arrival and departure. Failure to complete either attendance record will result in the loss of eligibility for the awarding of CME credits.

OTdigital Deep Dive

The potential of AI in Orthopaedics

IRCCS
ISTITUTO ORTOPEDICO RIZZOLI



CME LEARNING ASSESSMENT AND DOCUMENTATION

At the end of the event, participants must complete and submit the required CME documentation to the Organizing Secretariat.

The awarding of CME credits is subject to the fulfilment of the following requirements:

- **Attendance of at least 90% of the total duration of the accredited event**, as verified through the official attendance records.
- **Achievement of a minimum score of 75% in the CME learning assessment questionnaire**, which will be provided to participants before the conclusion of the event.
- **Completion and submission of the participant evaluation questionnaire.**

CME credits will be awarded exclusively to participants who have fulfilled all the above requirements and whose attendance has been duly verified.

EDUCATIONAL OBJECTIVE

TECHNOLOGICAL INNOVATION: ASSESSMENT AND OPTIMIZATION OF MANAGEMENT PROCESSES FOR BIOMEDICAL, CHEMICAL, PHYSICAL TECHNOLOGIES AND MEDICAL DEVICES – HEALTH TECHNOLOGY ASSESSMENT (HTA) .

CME CERTIFICATE

Following verification of the attendance and assessment requirements, the CME certificate will be sent to the email address provided on the registration form.

CATERING

Refreshments will be served in the designated catering areas at the times indicated in the Congress programme.

Participants are kindly requested to notify the Organising Secretariat promptly of any food allergies and/or intolerances.

CONGRESS REGISTRATION INCLUDES

- Access to the scientific programme: Admission to all lectures, round-table discussions and plenary sessions.
- Congress materials: Name badge for access to the lecture halls and exhibition area, congress materials, notepad, pen and, where applicable, sponsors' promotional items.
- Certificate of Attendance: An official certificate confirming participation in the Congress.
- Catering services: Coffee breaks and working lunches as scheduled in the Congress programme.
- Congress Proceedings: Upon request, presentation slides and abstracts will be sent by email after the Congress, subject to the authors' permission for distribution.

CME PROVIDER

A.I.C. Asti Incentives & Congressi S.r.l. – National CME Provider ID 5468



ASTI INCENTIVES & CONGRESSI
Piazza San Uomobono, 30 - Pisa
tel. 050 598808 / cell. 339 577 4333
veronicaboller@aicgroup.it
<https://aicgroup.it/>

OTdigital
Deep Dive
The potential of AI
in Orthopaedics

 **IRCCS**
ISTITUTO ORTOPEDICO RIZZOLI



**WITH THE SUPPORT OF
AN UNRESTRICTED EDUCATIONAL GRANT FROM**





OTdigital

www.OTdigital.eu