

## TEAM Project

### Technologically Enabled Advancements in Dental Medicine

#### WP2 - Strengthening the host institution's research capacity

#### D2.2. Report on training activities

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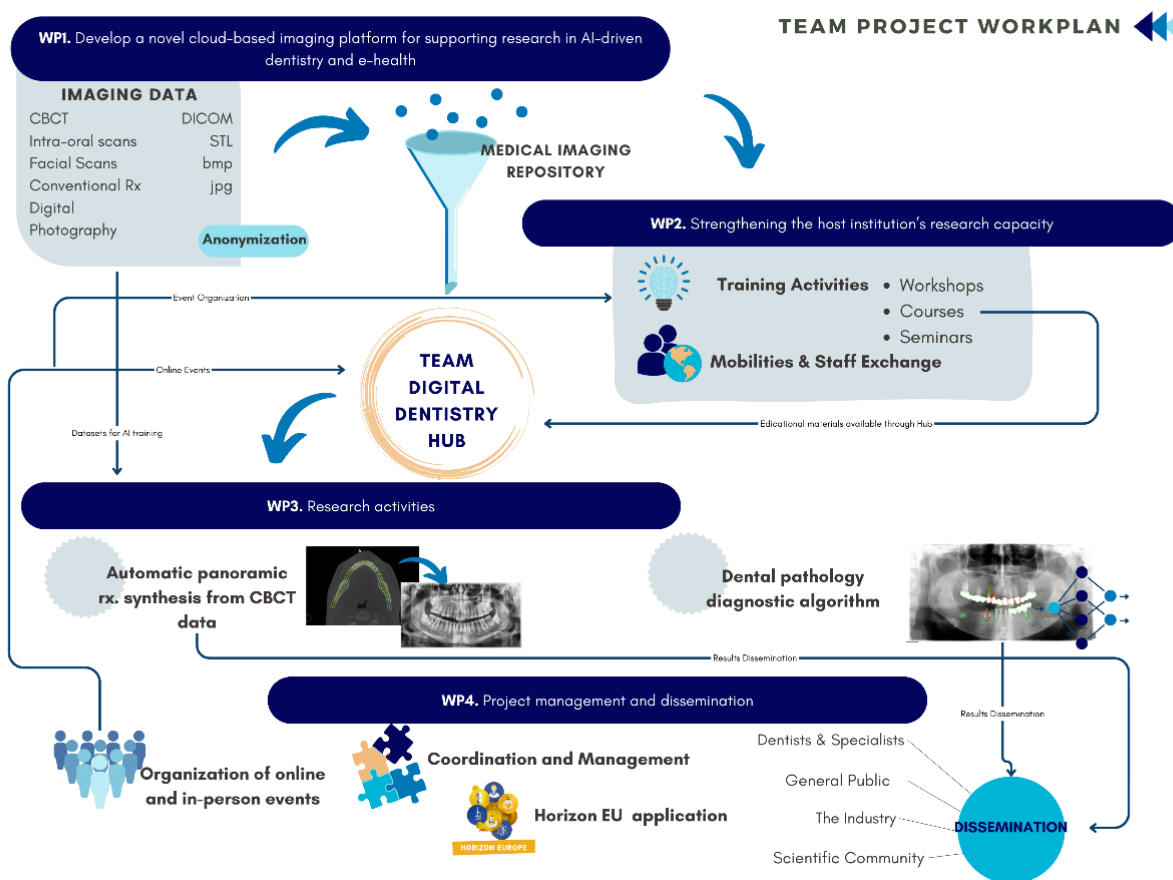
This document presents the training and educational activities carried out within the TEAM Project – Technologically Enabled Advancements in Dental Medicine. The report summarizes the courses, workshops, scientific events, mobility actions and educational resources developed throughout the project.

The activities aimed to strengthen research and educational capacity in the fields of digital dentistry, dentomaxillofacial imaging, artificial intelligence, and advanced medical technologies, while supporting the professional development of early-career researchers.

## I. Objectives

The objective of Workpackage 2 - Educational Activities was to strengthen the research and educational capacity of the host institution through the organization of training activities, the development of educational resources, the support of doctoral and postdoctoral researchers, and the integration of digital technologies into the undergraduate curriculum.

As part of this workpackage, a plan was developed for the creation and dissemination of educational materials through the project website and DentiHub platform. Educational resources included books, courses, video materials, and external learning resources. A series of short educational video presentations (Knowledge Clips) was planned, focusing on topics such as Artificial Intelligence - General Concepts, Clinical Applications of Artificial Intelligence in Dentistry, and the Virtual Patient.





## II. Organization of Training Activities

During the implementation of the TEAM Project, several educational and scientific activities were organized to support training in digital dentistry, dentomaxillofacial imaging, artificial intelligence, and virtual surgical planning.

### 1. TEAM Project Kickoff and Pitch Meeting

Held on 25 March 2024 in Cluj-Napoca, Romania, this event marked the official launch of the project and facilitated scientific networking and collaboration between participants.

### 2. Head and Neck Imaging Course

Organized between 14-18 April 2024 in Cluj-Napoca, Romania, the course focused on advanced imaging techniques and clinical applications in dentomaxillofacial radiology. Speaker: Prof. Dr. Hedeșiu Mihaela.



### 3. National Congress of Oral and Maxillofacial Surgery

Held between 12-15 June 2024 in Cluj-Napoca, Romania, the congress included several educational sessions and workshops organized within the TEAM Project framework. The program included the following training sessions:

- Osteosynthesis Systems in Maxillofacial Surgery - Lecturers: Prof. Dr. Mari-Roig Antonio, Prof. Dr. Dinu Cristian, Prof. Dr. Costan Victor
- Radiological Interpretation in CBCT - Lecturer: Prof. Dr. Hedeșiu Mihaela
- Oral Implantology Workshop - Dentis OneQ - Lecturers: Prof. Dr. Bran Simion, Assist. Prof. Dr. Armencea Gabriel

The workshop program included theoretical and practical sessions delivered across multiple time slots throughout the day, covering advanced techniques in maxillofacial osteosynthesis, CBCT interpretation, and implantology.

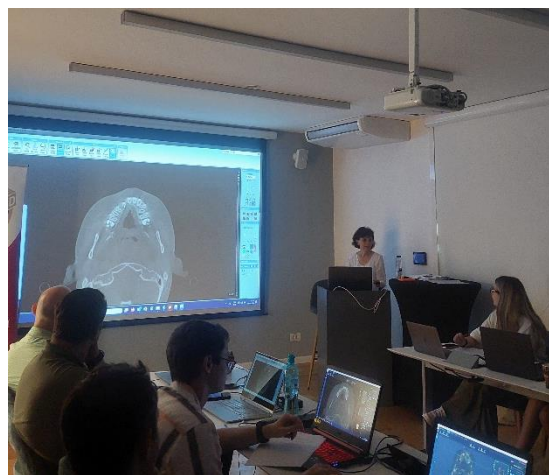


4. **CBCT Imaging Courses and Workshops: “The New Standard in Dental Imaging: From 2D to 3D”**

A series of three courses and workshops focused on CBCT image interpretation and digital imaging technologies were organized in Cluj-Napoca, Brașov, and Oradea. The courses were presented by Prof. Dr. Mihaela Hedeșiu. An additional CBCT Imaging Course (in collaboration with CMDR Bistrița) was organized on 21 September 2024 at Hotel Codrișor, Bistrița, Romania. The course addressed CBCT imaging applications and interpretation in dental

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5. **Workshop on Anatomical Structure Segmentation Using 3D Slicer**

Held on 19 July 2024 in Bucharest, Romania, the workshop provided hands-on training in digital segmentation and medical image processing. Speaker: Dr. Alexandru Burde.



6. **Round Table: Innovative Procedures in the Management of Temporomandibular Disorders**

Organized on 2 December 2024 in Cluj-Napoca, Romania. Organized by Prof. Dr. Smaranda Buduru, Assoc. Prof. Dr. Oana Almășan, and Assist. Prof. Dr. Manuela Tăut.

7. **Round Table: Advances in Osteo-Cartilaginous Regeneration**

Organized on 4 December 2024 in Cluj-Napoca, Romania. Organized by Prof. Dr. Mihaela Băciuț, Prof. Dr. Ondine Lucaciu, and Assoc. Prof. Dr. Horea Benea.

### 8. Hands-on Workshop: Materialise Mimics

Organized by Dr. Alexandru Burde on 21–22 March 2025 in Cluj-Napoca, Romania, focusing on digital planning and 3D medical image analysis and segmentation using Materialize Mimmics.



### 9. Round Table: Innovation and Personalization in Dentistry: From AI-Assisted Imaging to Telemedicine

Organized on 9 October 2025 in Cluj-Napoca, Romania, as part of the “Iuliu Hațieganu” University Days. Organised by Prof. Dr. Cristian Dinu, Prof. Dr. Mihaela Hedeșiu, and Prof. Dr. Mihaela Băciuț.



## III. Development of Educational Resources

The project contributed to the development and dissemination of multiple educational resources, including:

- Video materials
- Lecture slides
- Book chapters
- External resources

Educational materials were available through the project website (<https://dentihub.ro/education/>) and Dentihub Youtube channel (<https://www.youtube.com/@Dentihub>).

## IV. Integration of Digital Dentistry into the Undergraduate Curriculum

One of the major educational outcomes of the TEAM Project was the development and implementation of a new undergraduate course entitled: “Digital Technologies and Artificial Intelligence in Dentistry and Maxillofacial Surgery”. The course was introduced into the undergraduate curriculum of the “Iuliu Hațieganu” University of Medicine and Pharmacy beginning with the 2025-2026 academic year.

The discipline covers advanced topics including:

- Digital imaging (CBCT and MRI)
- Artificial intelligence in dentistry
- 3D modeling and CAD/CAM technologies
- AI-assisted implant planning
- Virtual and augmented reality
- Digital simulators and telemedicine

The course contributes to the modernization of dental education and supports the integration of emerging digital technologies into clinical and research practice.

Additional information regarding the discipline is available on the official university website: <https://umfcluj.ro/meddent/facultate/departamente/departamentul-1/tehnologii-digitale-ia-medicina-dentara-chirurgia-maxilo-faciala/>

## V. PhD and Postdoctoral Training

The TEAM Project contributed to the development of advanced research and academic training through the support of doctoral and postdoctoral activities. These activities aimed to strengthen research capacity and support the professional development of early-career researchers.

During the project, the following activities were supported:

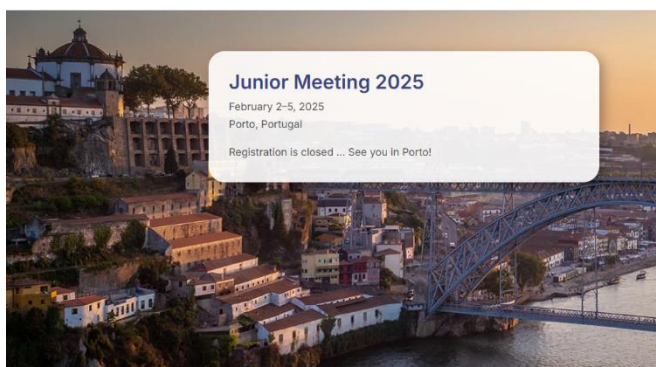
- 8 doctoral theses;
- 3 postdoctoral research projects;



One doctoral thesis was successfully defended during the implementation of the project by Dr. Sorana Eftimie (Mureșanu), under the scientific supervision of Prof. Dr. Mihaela Hedeșiu. The thesis, entitled “Digital Medicine Applications in Dentistry” was defended on 29 October 2025 at the Pavlov Amphitheatre, “Iuliu Hațieganu” University of Medicine and Pharmacy, Cluj-Napoca.

## VI. Mobilities

To support professional development and international collaboration, the project facilitated two research training mobilities. The first mobility was undertaken by PhD student Sorana Eftimie, who completed a six-month research stay at KU Leuven, Belgium, in 2024. The research activities were carried out within the Department of Imaging and Pathology (OMFS-IMPACT), under the supervision of Reinhilde Jacobs. During the mobility, the participant attended specialized training activities, contributed to joint research projects, participated in networking and scientific events, and attended a PhD defense. The collaboration also resulted in the co-authorship of two scientific publications.



A second mobility was done by PhD student Daria Pîslă, who attended the 9th EADMFR Junior Meeting in Porto, Portugal, February 2–5, 2025. The event aimed to promote DentoMaxilloFacial Radiology in Europe, and to increase engagement in the academy and interest in the field of DentoMaxilloFacial Radiology among colleagues in specialist training, MSc- and PhD-studies. During the meeting, the participant gained advanced knowledge in dentomaxillofacial radiology, including radiation dose optimization, evidence-based radiology, ultrasound applications in head and neck imaging, TMJ imaging, and MRI in dentistry. The training also included hands-on ultrasound practice, CBCT and panoramic radiograph interpretation sessions, scientific paper writing, and participation in scientific discussions and presentations focused on current research and specialist training in Europe.

These activities contributed to the skill development of early-career researchers and strengthened international academic collaboration.

**Table 1 - Summary of Training Activities**

<b>Activity Type</b>	<b>Number</b>
Courses	4
Hands-on workshops	6
Round tables	3
Doctoral theses completed	1
Doctoral theses in progress	8
Postdoctoral projects	3
Conference mobilities	23
Research mobilities	2