

FGAI4H-P-046-A01

Helsinki, 20-22 September 2022

Source: TG-Dental drivers

Title: Att.1 – Presentation – Introduction to the 1st TG Dental Symposium

Purpose: Discussion

Contact: Falk Schwendicke E-mail: falk.schwendicke@charite.de

Joachim Krois E-mail: Joachim.krois@charite.de

Abstract: This PPT contains an introduction to the Dental Symposium that took place on 19 September 2022.



AI for Health
ITU-WHO Focus Group

2022/09/19

1st TG DENTAL SYMPOSIUM

BIOMEDICUM HELSINKI
THE ACADEMIC MEDICAL CENTER HELSINKI
HAARTMANINKATU 8, 00290 HELSINKI , FINLAND

[HTTPS://REMOTE.ITU.INT](https://remote.itu.int)

itu.int/go/fgai4h

Urgency contact
hamdanai4h@gmail.com



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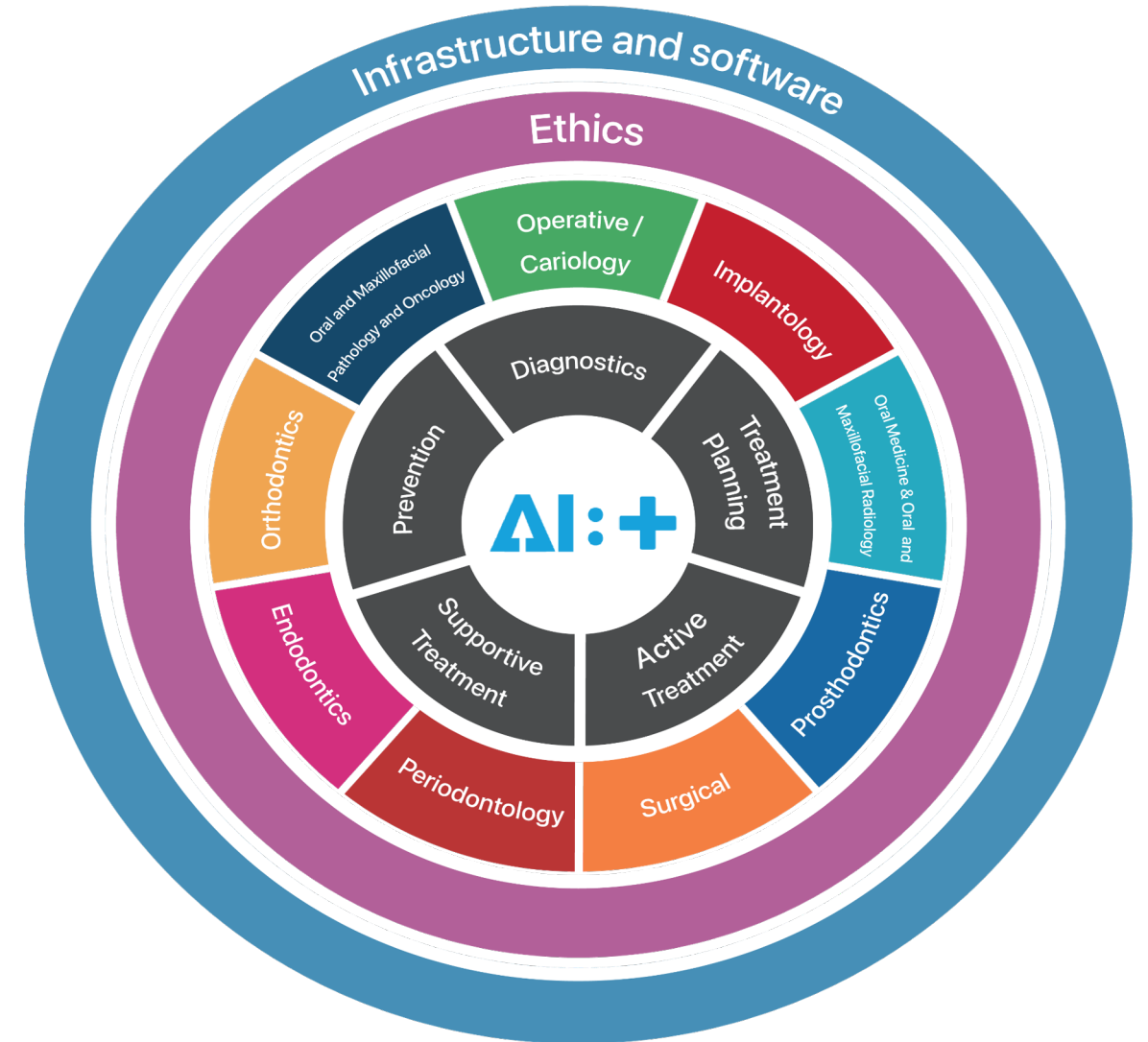


Who are we?

Topic group: Dental Diagnostics and Digital Dentistry

A topic group is a community of stakeholders from the medical and AI communities with a shared interest in a topic. The objectives of the topic group is manifold:

- to provide a forum for **open communication** among various stakeholders,
- to agree upon the **benchmarking tasks** of this topic and scoring metrics,
- to facilitate **the collection of high-quality labelled test data** from different sources,
- to clarify the input and output **format of the test data**,
- to define and set-up the **technical benchmarking infrastructure**, and



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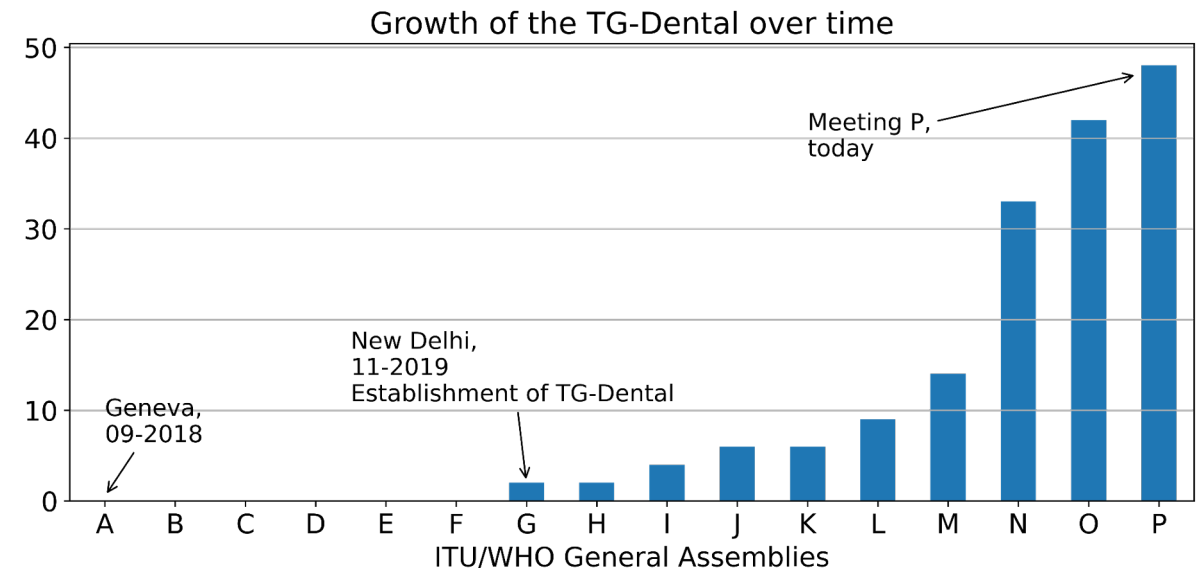
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48 members / 20 countries / 5 continents



Timetable

Breakout room B

Workshop Session I

13:00 - 13:05	Dr. Joachim Krois & Prof. Falk Schwendicke	Welcome
13:05 - 13:20	Assoc. Prof. Sergio Uribe	The Role of AI in Solving Translational and Implementation Research Challenges in Dentistry
13:20 - 13:35	Assoc. Prof. Ulrike Kuchler	AI in the Field of Oral Surgery
13:35 - 13:50	Dr. Olga Tryfonos	Periodontology and AI
13:50 - 14:05	Dr. Nielsen Pereira	Applications of AI in the Field of Radiology

14:05 - 14:50

Lunch Break - 45 minutes

Breakout room A

Workshop Session II

14:50 - 14:55	Dr. Joachim Krois & Prof. Falk Schwendicke	Welcome
14:55 - 15:10	Prof. Falk Schwendicke	AI in Dentistry: More Precise or Not?
15:10 - 15:25	Dr. Joachim Krois	The TG Dental - The Value of Benchmarking for Dental AI

15:25 - 15:35

Pannel Discussion

15:35 - 15:50

Coffee Break - 45 minutes

Breakout room B

Workshop Session III

15:50 - 16:00	Dr. Teodora Karteva	Endodontics and AI
16:00 - 16:15	Dr. Rata Rokhshad	AI Applications in Dentistry: Ethical Considerations
16:15 - 16:30	Assoc. Prof. Jelena Roganovic	Are we (in Serbia) Ready to Embrace AI in Dental Practice?
16:30 - 16:45	Dr. Lubaina T. Arsiwala	Impact of Artificial Intelligence on Gaze Patterns of Dentists: A Randomized Controlled Trial
16:45 - 17:00	Dr. Nielsen Pereira	The use of AI in Dental Photography as an Important Tool for Improving Oral Health - Concept Project
17:00 - 17:15	Dr. Balazs Feher	Emulating Clinical Diagnostic Reasoning for Jaw Cysts with Machine Learning
17:15 - 17:20	Dr. Parul Khare	Machine Learning for Classification of Oral Epithelial Dysplasia and Diagnosis of Squamous Cell Carcinoma
17:20 - 17:35	Dr. Teodora Karteva & Assoc. Prof. Maxime Ducret	A Roadmap to Autodontics

17:35 - 17:45

Panel Discussion

17:45 - 17:50

Dr. Manal Hamdan

Concluding Remarks

Program

<https://www.autodontics.com/tgdentalsymposium>

Q&A

- If time permits after each presentation
- Otherwise panel discussion and/or during coffee breaks

How?

- [in person] Raise your hand
- [remote] Raise your virtual hand
- [all] Write down the question in the zoom chat and we try to accommodate

Get involved!

Contact

- Prof Falk Schwendicke, Charité – Universitätsmedizin Berlin, Germany
falk.schwendicke@charite.de
- Joachim Krois, dentalXrai, Germany
joachim.krois@dentalxr.ai



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CfTGP (TG-Dental): P-010-A02

ITU/WHO Focus Group on artificial intelligence for health (FG-AI4H)

Call for Topic Group Participation: Dental Diagnostics and Digital Dentistry

The International Telecommunication Union (ITU)/World Health Organization (WHO) Focus Group on "Artificial Intelligence for Health" (FG-AI4H; <https://itu.int/go/fgai4h>) seeks engagement from members of the medical and artificial intelligence (AI) communities (including clinicians, technologists, entrepreneurs, potential benchmarking data providers, machine learning experts, software developers, researchers, regulators, policy-makers, companies/institutions, and field experts) with a vested interest in shaping the benchmarking process of dental diagnostics and digital dentistry.

1 About FG-AI4H

Over the past decade, considerable resources have been allocated to exploring the use of AI for health, which has revealed an immense potential. Yet, due to the complexity of AI models, it is difficult to understand their strengths, weaknesses, and limitations. If the technology is poorly designed or the underlying training data are **biased** or incomplete, errors or problematic results can occur. AI technology can only be used with complete confidence if it has been quality controlled through a rigorous evaluation in a **standardized** way. Towards developing this standard assessment framework of AI for health, the ITU has established FG-AI4H in partnership with the WHO.

Thus far, FG-AI4H has established several topic groups, including AI and cardiovascular disease risk prediction, child growth monitoring, dermatology, falls among the elderly, histopathology, neuro-cognitive diseases, ophthalmology (retinal imaging diagnostics), psychiatry, radiotherapy, snakebite and snake identification, symptom assessment, tuberculosis, volumetric chest computed tomography, and dental diagnostics and digital dentistry.

Each topic group agrees upon representative benchmarking tasks in a pragmatic, best-practice approach, which can later be scaled and expanded to similar tasks. Every benchmarking task should address a health problem of relevance (e.g. impacting a large and diverse part of the global population or challenging to treat) and for which AI technology would provide a tangible improvement relative to the current practice (e.g. better care, results, and/or cost/time effectiveness).

For a rigorous and sound evaluation, undisclosed test data sets must be available (or have to be collected) for each task. All data must be of high quality and compliant with ethical and legal standards. In addition, the data must originate from a variety of sources so that it can be determined whether an AI algorithm can **generalize** across different conditions, locations, or settings (e.g. across different people, hospitals, and/or measurement devices). The format/properties of the data serving as input to the AI and of the output expected from the AI, as well as the benchmarking metrics are agreed upon and specified by the topic group.

Finally, the AI-to-be-evaluated will be benchmarked with the undisclosed test data on FG-AI4H computing infrastructure. Here, the AI will process single samples of the undisclosed test data set and predict output variables, which will be compared with the "ground truth." The results of the benchmarking will be provided to the AI developers and will appear on a (potentially anonymized) leaderboard.

2 Topic group: Dental Diagnostics and Digital Dentistry

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<https://www.itu.int/en/ITU-T/focusgroups/ai4h/Pages/default.aspx>

Automatic Translation: English عربي 中文 Español Français Русский

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Meetings and Related Events | Focus Group News | Focus Group Videos

Workshop and Meeting "P"

University of Helsinki, Finland,
19-22 Sep. 2022

- Register (required - deadline 5 Sep. on-site participation, 17 Sep online participation). Use your free ITU account, instructions here and indicate whether attending in-person or remotely
- Logistics (practical information for the participants)
- Travel grant eligibility and application (deadline 15 Aug)

Attend and contribute... (click to expand)

Future meetings:

- Q: Winter 2022 (TBC)

All meetings >

AI for Health Webinar Series

- 22 June 2022 at 15:00 CEST with John Brownstein (Boston Children's Hospital)
- 6 July 2022 at 17:00 CEST with Stevie Chancellor (University of Minnesota)
- 7 September 2022 at 17:00 CEST with Enzo Ferrante (Argentina's National Research Council (CONICET)), Maia Hightower (University of Utah)
- 8 November 2022 at 15:00 CET with Karandeep Singh (University of Michigan)
- See past sessions here

PARTICIPATING

- Collaboration site (ITU account needed)
- **Onboarding document**
- Newsletters, Reports, PPT | Liaison Statements
- View and join the available general and TG mailing lists (ITU account needed): Experts | Step-by-step

Available mailing lists:

Key current output documents

- FG-AI4H Whitepaper
- Deliverable 1: Ethics and governance of AI for health **New**
- O-102: Updated call for proposals: use cases, benchmarking, and data
- F-103: Updated FG-AI4H data acceptance and handling policy
- C-104: Thematic classification scheme
- F-105: ToRs for the WG-Experts and call for experts
 - Application form; Conflict of interest form
- F-106: Guidelines on FG-AI4H online collaboration tools
- M-107: Onboarding FG-AI4H document
- M-200: Updated list of FG-AI4H deliverables
- TG-Dental Output 1: Artificial Intelligence in dental research: A checklist for authors and reviewers **New**
- AHG-DT4HE Output 1: Guidance on digital technologies for COVID health emergency

Onboarding document

ITUTech

AI : +

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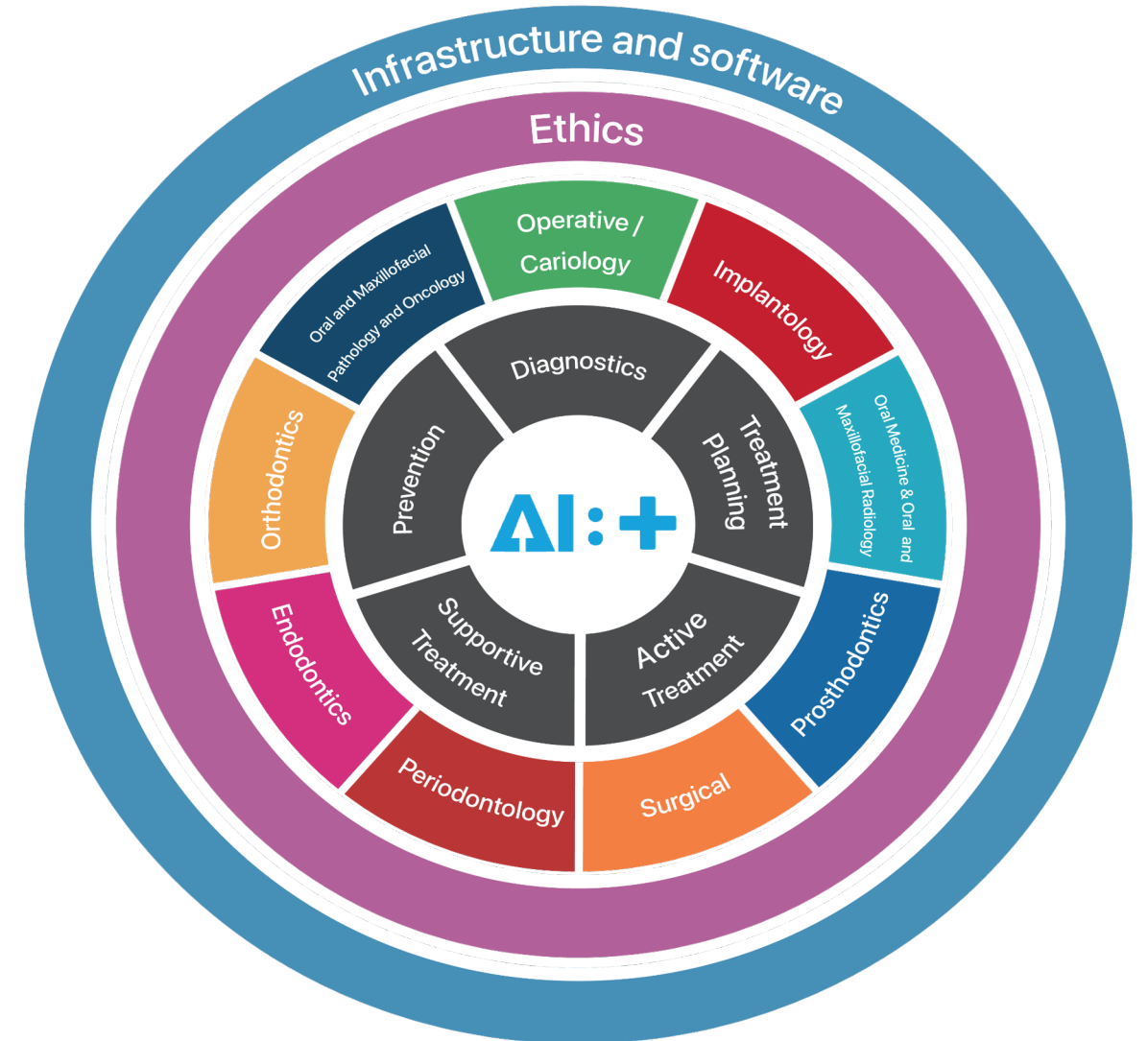


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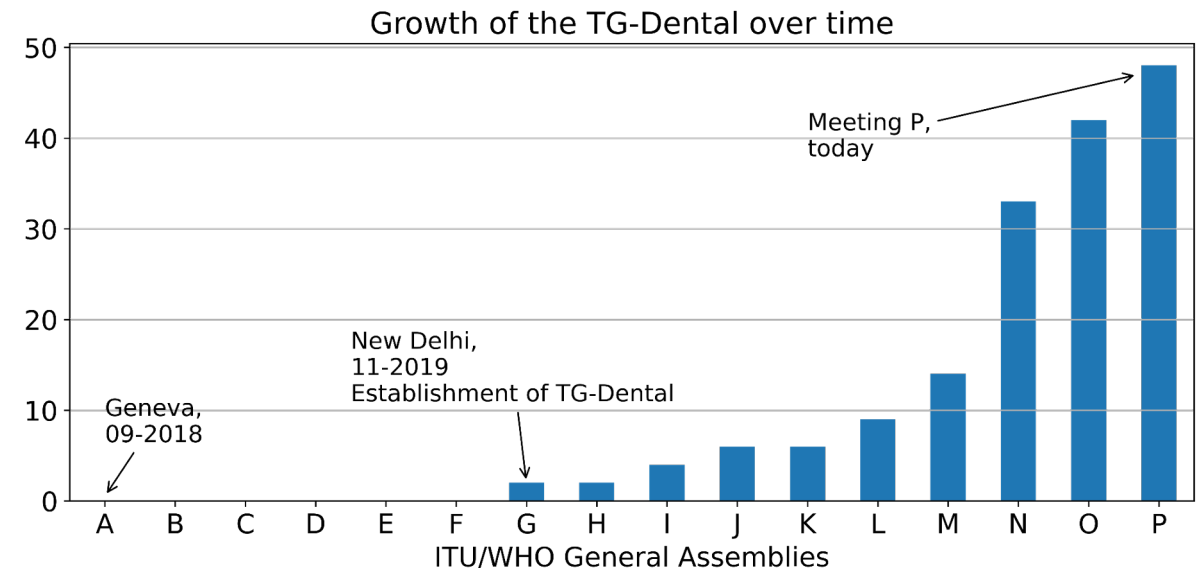
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Keynote speakers

Prof Falk Schwendicke
Charité – Universitätsmedizin Berlin, Germany



*AI in Dentistry: More precise
or not?*

Dr rer nat Joachim Krois
dentalXrai, Germany



*TG Dental – The value of
benchmarking for Dental AI*



AI for Health
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Lunch break

Reconvening at 14:50 EEST

Breakout room A

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Program

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Coffee break

Reconvening at 15:50 EEST

Breakout room B

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