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Study Explores AI-based Tooth Prognosis for Treatment Planning

Alexandria, VA, USA, June 17, 2022 – A study of the potential for artificial intelligence (AI) to successfully determine tooth and dentition prognosis to guide treatment planning will be presented by Dahee Chung of Harvard University at the [100th General Session and Exhibition of the IADR](#), to be held in conjunction with the 5th Meeting of the IADR Asia Pacific Region. The Interactive Talk presentation, “Development of Artificial Intelligence-based Tooth-Prognosis Decision Module for Treatment Planning”, will take place on **Thursday, June 23rd, 2022 at 11 a.m. China Standard Time (UTC+08:00)** during the “Applications of Artificial Intelligence in Dentistry” session.

The objective of the investigation was to establish an effective artificial intelligence-based module that can help dentists and students for their clinical decisions on tooth prognosis. The study utilized various AI machine learning methods including gradient boosting classifier, decision tree classifier, and random forest classifier. The determining 17 factors for clinical decisions on tooth prognosis include hard tissue condition, periodontal condition, endodontic condition for total 94 patient cases with 2359 teeth. For the first model, the training data used the prognosis predicted from faculty, predoctoral students and foreign trained dentists. For the second model, training data used prognosis predicted from predoctoral students and other dentists. Then, both were tested with gold standard data.

The authors concluded that the first model achieved better accuracy compared to the second model. Also, decision tree classifier got the best accuracy among the three methods.

[View this Interactive Talk in the IADR General Session Virtual Experience Platform.](#)

About IADR

The International Association for Dental Research (IADR) is a nonprofit organization with over 10,000 individual members worldwide, with a Mission to drive dental, oral and craniofacial research to advance health and well-being worldwide. To learn more, visit www.iadr.org.

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