AADOCR
American Association for Dental, Oral, and Craniofacial Research

August 1, 2022

Sharon Snyder, Unit Chief, Policy and Response Center Unit
Student and Exchange Visitor Program
U.S. Immigration and Customs Enforcement
500 12th Street SW, Stop 5600
Washington, DC 20536

RE: DHS Docket No. ICEB-2021-0011; RIN 1653–ZA23

Dear Ms. Snyder,

We are writing to nominate two individual Classification of Instructional Programs (CIP) codes and one four-digit code series for inclusion on the Department of Homeland Security's (DHS) STEM Designated Degree Program List.

AADOCR is a non-profit association representing more than 3,100 individual and more than 100 institutional members working throughout the country on dental, oral, and craniofacial research issues. Our mission is to drive dental, oral, and craniofacial research to advance health and well-being.

Currently, most healthcare-related disciplines, with CIP codes that begin with the number 51, are omitted from the STEM Optional Practical Training (OPT) program, a benefit that allows international students on F1 visas to remain in the U.S. following the completion of their studies to pursue additional training and employment related to their discipline.

While international graduate students in health fields can access the standard OPT benefit, they only have 12 months to find additional technical training post-graduation. If they were classified as STEM, however, foreign-trained physicians and dentists and medical/dental students would have a total of 29 months to secure a position while applying for a higher-level visa, such as the professional specialty worker (H-1B) visa.

Currently, there are no academic dental programs designated by DHS as STEM eligible despite a critical shortage of dentists in the U.S., particularly in rural areas. According to the Health Resources and Services Administration (HRSA), 64 million Americans live in dental healthcare shortage areas and an estimated 11,000 practitioners are needed to fill this gap.

Aspiring dental professionals are attempting to meet this challenge. The BLS projects employment in most dental occupations to grow faster than other occupations over the 2018–2028 decade, noting "demand for dental services is expected to increase as people recognize the link between oral health and overall health and as an aging population requires more dental work."

Many foreign-born dental students in the U.S., however, are unable to join their peers in the field. Upon graduating from accredited schools, they are unable to enroll in Ph.D. programs in the U.S. due to restrictions on their visas. Adding dental research programs to the STEM OPT extension list will serve as a valuable recruitment tool for academic institutions and help grow the dental workforce in the U.S.

AADOCR recommends adding the following programs of study and associated CIP codes to the 2023 DHS STEM Designated Degree Program List:

Title	**Definition**	**CIP Code**
Dental Materials (MS, PhD)	A program that focuses on the scientific study of the biomaterials and inert and active compounds used in dental procedures; the development of dental materials; and their effects on the living tissues of the oral cavity and systemic bodily health. Includes instruction in materials science, dental bioengineering, biocompatibility of materials, physics and mechanics of dental materials, elastic and plastic deformation, surface bonding, and applications to fixed and removable prostheses and restorative procedures.	51.0505
Dental Public Health and Education (Cert., MS/MPH, PhD/DPH)	A program that focuses on the scientific study of dental disease prevention and control, community dental health promotion, and prepares dentists and public health professionals to function as dental health specialists. Includes instruction in preventive dentistry, the relationship of oral disease to health and quality of life, patient and practitioner behavior, dental epidemiology, nutrition and dental health, dental care policy and delivery, oral health program planning and administration, biostatistics, and research methods.	51.0504
Dental Residency Programs	60.0101 Dental/Oral Surgery Specialty. 60.0102 Dental Public Health Specialty. 60.0103 Endodontics Specialty. 60.0104 Oral Pathology Specialty. 60.0105 Orthodontics Specialty. 60.0106 Pedodontics Specialty. 60.0107 Periodontics Specialty. 60.0108 Prosthodontics Specialty. 60.0109 Oral and Maxillofacial Radiology Residency Program. 60.0199 Dental Residency Program, Other.	60.01

“Dental Materials”, “Dental Public Health and Education” and “Dental Residency Programs” are academic programs that are consistent with the goals of the STEM OPT program. Under DHS’ Student and Exchange Visitor Program (SEVP) regulation *8 CFR 214.2(f)(10)(ii)(C)(2)*, the term “science, technology, engineering or mathematics field” refers to a “field within engineering,

biological sciences, mathematics, and physical sciences, or a related field", the latter of which involves "research, innovation, or the development of new technologies".

Dental academic and residency programs are highly quantitative and have many practical applications. In partnership with research funders like the National Institute of Dental and Craniofacial Research (NIDCR), dental schools have helped develop new and innovative preventive and therapeutic products and instrumentation. Dental and craniofacial research has also led to technological advances in orthodontics, cleft lip and palate treatments, and oro-facial reconstruction that improve patients' self-esteem and basic daily functioning.

Scientists with advanced degrees in Dental Materials have developed innovative biomaterials and technologies that have met a variety of clinical oral and dental challenges, from the repair and regeneration of dental oral tissues to the diagnosis and treatment of oral diseases. In recent years, bioactive materials (e.g., hydrogels, nanoparticles, injectable formulations, and scaffolds) have been developed for the structural and functional regeneration of teeth, the oral mucosa, and mandibular bone[1].

In addition, innovative technologies such as additive manufacturing, microfluidics, and biofabrication have been used to produce biomimetic scaffolds and tissue models for tissue engineering and disease treatment. Dental researchers are also using artificial intelligence to help diagnose and treat certain oral diseases. For example, machine learning algorithms have been used to diagnose periodontal disease and oral cancer[1]. These new biomaterials and technologies for dental and oral applications continue to be studied.

International students with F1 visas who graduate from U.S. dental schools should have the opportunity to apply for a 24-month STEM extension of the OPT period while they enroll in Ph.D. programs, assume teaching roles, or join laboratories. Designating dental research and residency programs of study as STEM eligible will help attract and retain global talent to the U.S. workforce, strengthen our economy, and improve our nation's oral health.

Thank you for considering our views and nomination of CIP codes 51.0505 and 51.0504 and the full 60.01 code series for STEM designation. If we can provide additional information or answer any questions, please contact AADOCR's Director of Government Affairs, Yehuda Sugarman, at ysugarman@iadr.org.

Sincerely,

Christopher H. Fox, DMD, DMSc
Chief Executive Officer

[1] https://www.frontiersin.org/research-topics/34840/emerging-biomaterials-and-technologies-for-oral-and-dental-applications