Approved by the Regents
May 19, 2022

PROMOTION RECOMMENDATION
THE UNIVERSITY OF MICHIGAN
MEDICAL SCHOOL
DEPARTMENT OF OTOLARYNGOLOGY-HEAD AND NECK SURGERY

David A. Zopf, M.D., assistant professor of otolaryngology-head and neck surgery, Department of Otolaryngology-Head and Neck Surgery, Medical School, is recommended for promotion to associate professor of otolaryngology-head and neck surgery, with tenure, Department of Otolaryngology-Head and Neck Surgery, Medical School.

Academic Degrees:

M.D.	2009	Indiana University
M.S.	2005	Purdue University
B.S.	2003	Purdue University

Professional Record:

2015 - present	Assistant Professor of Otolaryngology-Head and Neck Surgery, University of Michigan

Summary of Evaluation:

Teaching: Dr. Zopf has been both prolific and successful as a mentor, with a reach to the broader university. He has inspired a broad group of learners, including engineering students, graduate students, medical students, residents, and fellows. His collaborations with mentees have been highly successful, resulting in many publications and helping to lay the foundation for the future success of his mentees. Dr. Zopf is universally regarded as an outstanding teacher to a breadth of learners, from undergraduate engineering students to fellows in pediatric otolaryngology. He has been active in our educational mission, including serving as a co-director for the national annual otolaryngology bootcamp. A focus of Dr. Zopf's teaching is in the area of 3D printing for high fidelity surgical simulation, with the national pre-fellowship complex pediatric otolaryngology dissection course an exemplar of this work. As a recognition of the quality and innovative nature of this work, Dr. Zopf was awarded the Provost Teaching Innovation Prize in 2020.

Research: Dr. Zopf's research focuses on additive manufacturing, or 3D printing, to deliver clinically impactful innovation. With his significant and ongoing collaboration with biomedical engineering, his work has been instrumental in the development of the lifesaving 3D printed airway splint for children with life threatening tracheobronchomalacia. Subsequently, he has established his own focus in the development and application of medical and 3D printing in the areas of tissue engineering for craniofacial cartilage and for medical device development. This work has resulted in several successful patent applications, such as development of a unique nasopharyngeal airway for management of upper airway obstruction in hypotonia. This work has resulted in funding through an NIH R61/R33 single site clinical trial. Dr. Zopf has also received numerous intramural grants to support his work and has a submitted and pending NIH-DHHS-US-21 grant. In recognition of his work, he received the Dean's Award for Innovation and Commercialization in 2018. Dr. Zopf has published 58 peer-reviewed articles, and has been invited to present his research both nationally and internationally.

Recent and Significant Publications:

Brennan JR, Cornett A, Chang B, Crotts SJ, Nourmohammadi Z, Lombaert I, Hollister SJ, Zopf DA: Preclinical assessment of clinically streamlined, 3D-printed, biocompatible single- and two-stage

tissue scaffolds for ear reconstruction. *J Biomed Mater Res B Appl Biomater*. 2021 Mar;109(3):394-400. doi: 10.1002/jbm.b.34707. Epub 2020 Aug 24. PMID: 32830908

Chang B, Cornett A, Nourmohammadi Z, Law J, Weld B, Crotts SJ, Hollister SJ, Lombaert IMA, Zopf DA: Hybrid three-dimensional-printed ear tissue scaffold with autologous cartilage mitigates soft tissue complications. *Laryngoscope*. 2020 Oct 6. PMID: 33022112

Chang B, Powell A, Ellsperman S, Wehrmann D, Landry A, Jabbour N, Goudy S, Zopf D: Multicenter Advanced Pediatric Otolaryngology Fellowship Prep Surgical Simulation Course with 3D Printed High-Fidelity Models. *Otolaryngol Head Neck Surg*. 2020 May;162(5):658-665. doi: 10.1177/0194599820913003. Epub 2020 Apr 14. PMID: 32286159

Les AS, Ohye RG, Filbrun AG, Ghadimi Mahani M, Flanagan CL, Daniels RC, Kidwell KM, Zopf DA, Hollister SJ, Green GE: 3D-printed, externally-implanted, bioresorbable airway splints for severe tracheobronchomalacia. *Laryngoscope*. 2019 Aug;129(8):1763-1771. PMID: 30794335; PMCID: PMC6662576

Gauger VT, Rooney D, Kovatch KJ, Richey L, Powell A, Berhe H, Zopf DA: A multidisciplinary international collaborative implementing low cost, high fidelity 3D printed airway models to enhance Ethiopian anesthesia resident emergency cricothyroidotomy skills. *Int J Pediatr Otorhinolaryngol*. 2018 Nov; 114:124-128. PMID: 30262349; PMCID: PMC6170009

Service: Dr. Zopf has provided important service both locally and nationally. He serves as an interviewer for the Medical School, and on institutional fire safety and ICU hand-off committees. Nationally, he has been an active contributor to several professional organizations, serving on the American Academy of Otolaryngology-Head and Neck Surgery pediatric otolaryngology education committee, the American Cleft Palate Craniofacial Association family service committee, and the Vascular Anomalies Taskforce research committee. The quality of his service has been recognized with his selection as chair-elect of the Society for Ear, Nose, and Throat Advancement in Children young members committee. Dr. Zopf is an outstanding clinician, bringing significant expertise to Michigan Medicine. In addition to what would be considered a "typical" practice in complex pediatric otolaryngology, Dr. Zopf has actively built and led clinical programs in the areas of microtia, complex pediatric sleep apnea, velopharyngeal insufficiency, and vascular anomalies. All of these programs are multi-disciplinary in nature and help differentiate Michigan Medicine by providing care not available in the community.

External Reviewers:
Reviewer A: "In terms of his excellence in teaching, scholarship, and research at the local and national level, and clinical care, Dr. David Zopf, I believe is at the top one percentile of his colleagues at the level of Assistant Professor in terms of his research scholarships, publications, patents and research grants. In his [early] career, he is recognized as an international leader in the field of 3D printing and simulation and is a leader in translating this for personalized patient care."

Reviewer B: "Dr[.] Zopf has established a sustained national, and international reputation as an innovator in the use of 3-D printing for the treatment of airway anomalies. His teaching, scholarship and innovation have clearly improved the care of important and challenging conditions in pediatric otolaryngology. His use of simulation for airway teaching has carved him a national and international reputation…Based on the quality and strength of his dossier, as well as his international reputation and solid scholarly contributions, I have no hesitancy in giving Dr Zopf my strongest recommendations for

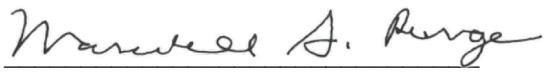
promotion to Associate Professor with Tenure. He is well deserving of this honor. As a member of the Pediatric Surgery promotions committee at [my institution], I am certain that he would have achieved the equivalent rank at our institution."

Reviewer C: "Dr. Zopf's biomedical background, publications and drive to innovate places him as one of the [sic] pediatric otolaryngology's current leaders. Besides being a research pioneer, he has leveraged his 3D printing knowledge to create simulation models to train the next generation of pediatric otolaryngologists. I am currently on our department's promotion committee. Dr. Zopf's dossier exceeds our requirements for Associate Professor. He would be approved unanimously."

Reviewer D: "Upon my independent review, I am confident that Dr. Zopf meets these Tenure criteria. He has achieved a national reputation in the field of 3D printing and tissue engineering for surgical applications in otolaryngology. He has been invited and actively participated in several national and international lectureships and panels involving this topic."

Reviewer E: "His track record as a PI or co-PI on numerous institutional and foundation grants, in addition to the many patents he holds, are outstanding accomplishments, and shows that he has both the creativity, experience, and sustained motivation to secure and maintain independent NIH research funding in the near future…In summary, Dr. Zopf's overall record thus far in his career has been outstanding and more than adequate to justify promotion to Associate Professor with tenure."

Summary of Recommendations:
Dr. Zopf has made a significant impact in the field of pediatric otolaryngology-head and neck surgery through his innovative incorporation of 3D printing in the areas of education and surgical simulation, clinical care, and discovery and translational science. He has successfully secured independent funding to advance his line of work and is poised for ongoing success. I am pleased, therefore, to recommend David A. Zopf, M.D. for promotion to associate professor of otolaryngology-head and neck surgery, with tenure, Department of Otolaryngology-Head and Neck Surgery, Medical School.



Marschall S. Runge, M.D., Ph.D.
Executive Vice President for Medical Affairs
Dean, Medical School

May 2022