

# SDM Shout Out

Weekly News Updates for SDM Faculty, Staff and Students

## SDM's Dr. Stefan Ruhl's Research Lays Groundwork for Improving the Success of Medical and Dental Implants



Dr. Stefan Ruhl, Professor, Department of Oral Biology

### Dental Implant Surfaces Play Major Role in Tissue Attachment, Warding Off Unwanted Bacteria

By Marcene Robinson  
UB Communications

When dental implants are inserted, saliva or blood plasma immediately coat them. The implants adsorb a thin layer of proteins from these fluids that help gum tissue attach, but also allow microorganisms – including potentially harmful bacteria – to grow on the implant surface.

The surface of implants, as well as other medical devices, plays a significant role in the adsorption of oral proteins and the colonization by unwanted microorganisms (a process known as biofouling), according to a new study led by the University at Buffalo and the University of Regensburg.

The research, published in the *Journal of Dental Research*, sought to increase scientists' understanding of this complex biological process by examining the makeup of the oral protein layer and how it can be controlled by chemically modifying the biomaterial surface. The findings lay the groundwork for improving the success of medical and dental implants, says co-lead investigator Stefan Ruhl, DDS, PhD, professor of oral biology in the UB School of Dental Medicine.

"It is often this protein layer, rather than the biomaterial surface, that is encountered by colonizing bacteria or attaching tissue cells. These proteins help determine the biological or pathological consequences that result in either long-term survival of the implant or its failure along with irreversible damage to the surrounding tissues from infection," says Ruhl. "Therefore, it is important to determine how adsorption might be controlled through chemical modification of the biomaterial surface to achieve a desired outcome."

[Click here to read full article](#)

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## American Dental Association (ADA) Upcoming Workshop

### How to Conduct and Publish Systematic Reviews and Meta-Analyses: An Online Workshop

**November 11–13, 2021**

Register at [ADA.org/SRworkshop](https://ada.org/SRworkshop)

Learn to conduct, write, and publish systematic reviews and meta-analyses from experts in the field of dental research, including the editor of the *Journal of the American Dental Association*. Gain firsthand experience searching for research, appraising this evidence, and considering its application in clinical scenarios.

After attending this online workshop hosted by the American Dental Association's Center for Evidence-Based Dentistry, clinicians and researchers will be able to:

- Create a research question and define outcomes for a review.
- Use software to conduct screening, data extraction, and analysis.
- Implement meta-analytic techniques and interpret main summary estimates.
- Use the GRADE approach to assess evidence quality.
- Effectively structure a manuscript.
- Understand how journal editors prioritize scientific articles.
- Avoid typical mistakes researchers make when reporting their findings.

Attendees will earn 11 continuing education (CE) credits. Course tuition is \$500 for ADA members and \$700 for non-ADA members.

For more information and **to register, visit** [ADA.org/SRworkshop](https://ada.org/SRworkshop) or e-mail [EBD@ADA.org](mailto:EBD@ADA.org).

*ADA EBD educational activities are supported by an unrestricted educational grant from Colgate.*

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If you have any news you would like to share, please contact Kelli at [natale@buffalo.edu](mailto:natale@buffalo.edu).

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