

CURRICULUM VITAE

Kerstin M. Galler

PERSONAL INFORMATION

Name Kerstin Martina Galler

Date and Place of Birth March 25, 1975, Mainz, Germany

Address Department of Restorative Dentistry and Periodontology
University of Regensburg
Franz-Josef-Strauss-Allee 11
93053 Regensburg, Germany
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EMPLOYMENT

Present Associate Professor
Department of Conservative Dentistry and Periodontology,
University of Regensburg, Germany
Deputy of the Department Chair
Section Leader "Endodontology and Dental Traumatology"

EDUCATION

2014 Specialization in Endodontology,
German Association of Endodontology and Dental Traumatology (DGET)

2011 Habilitation
Title: "Bioengineering of Dental Stem Cells in Functionalized Protein- and Peptide-Based Hydrogel Scaffolds"
*Department of University of Restorative Dentistry and Periodontology
University of Regensburg, Germany*

2006 - 2009 Ph.D. in Biomedical Engineering,
Title: "Self-Assembling Hydrogels Targeted for Dental Tissue Regeneration"
*Department of Bioengineering
Rice University, Houston, Texas, USA*

Post-Doctoral Fellow
*Department of Biomedical Sciences
Baylor College of Dentistry, Texas A&M, Dallas, Texas, USA*

- April 2006 – Mai 2006** Post-doctoral Fellow,
Department of Chemistry
Rice University, Houston, Texas
- 2004 - 2006** Post-Doctoral Fellow
Department of Orthodontics
University of Texas Health Science Center at Houston, Texas, USA
- 2002** Doctoral Degree in Dentistry
Title: “Accuracy of electronic apex locators in comparison to actual length“
Ludwig-Maximilians-Universitaet, Munich, Germany
- 2000** D.D.S. (Doctor of Dental Surgery), State Board Examination in Dentistry
Ludwig-Maximilians-Universitaet, Munich, Germany

AWARDS AND HONORS

- 2017** Research Award of the German Association of Dentistry (DGZMK)
- 2015** Research Award of the German Association for Restorative and Regenerative Conservative Dentistry (DGR²Z)

DGZMK/BZÄK/Dentsply-Award, Mentor of Dr. Matthias Widbiller, Ph.D. student
- 2013** Award of the German Association of Endodontology (DGET)
„Best International Publication in Endodontics“
- 2012** Award for “Best Habilitation” at the University of Regensburg for 2011

Walkhoff-Award of the German Association of Restorative Dentistry (DGZ)
„Best International Publication“
- 2011** ESE Annual Research Grant

Young Investigator Award
“Freier Verband deutscher Zahnärzte”

Award for Best Oral Presentation, AfG (Association of Basic Science in Dentistry)
- 2010** Travel Award ICCBMT,
“International Conference for the Chemistry and Biology of Mineralized Tissues”
Scottsdale, Arizona, USA

ReForM B Fellowship, University of Regensburg:
12-month exemption from clinical and teaching duties to focus on research activities
- 2009/2010** Norton Ross Fellowship, CED-IADR , IADR 2010, Barcelona, Spain
- 2009** Travel Award, Mineralized Tissue Group, IADR 2009, Miami, USA

2006	Travel Award, Pulp Biology Group, IADR 2006, Brisbane, Australia
2005/ 2006	Post Doctoral Scholarship German Academic Exchange Service (DAAD), Germany
2005	International Young Investigator Award Dentin Pulp Complex Meeting, Düsseldorf, Germany

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS

Continental European Division of the International Association of Dental Research (CED-IADR)
Pulp Biology and Regeneration Group of IADR (PBRG)
European Society of Endodontology (ESE)
German Association of Endodontology and Dental Traumatology (DGET)
German Association of Basic Research in Dentistry (Arbeitsgemeinschaft für Grundlagenforschung, AfG)
German Association of Restorative Dentistry (Deutsche Gesellschaft für Zahnerhaltung, DGZ)
Association of Regenerative Medicine (Transdisziplinärer Arbeitskreis für Regenerative Medizin, TAKRegMed)

RESEARCH INTEREST

Dental Pulp Regeneration and Dental Pulp Tissue Engineering (TE)

Functionalized Biomaterials for In situ Pulp TE

Dental Stem Cells

Dentin Matrix Proteins

Effects of Dentin Matrix Proteins and LPS on different pulp cell populations

Isolation and characterization of dental pulp stem cells

Evaluation of different hydrogel systems as matrices for dental stem cells

Customization of protein-based hydrogels for dental pulp tissue engineering by incorporation of bioactive motifs and growth factors

Cell culture and *in vivo* transplantation of dental pulp stem cells in protein-based hydrogels, In situ TE

Anima I model for In situ Pulp Tissue Engineering

SCIENTIFIC REVIEW ACTIVITIES

SCIENTIFIC JOURNALS

ACS Applied Nanomaterials

Cells Tissues Organs

Clinical Oral Investigations

Dental Traumatology
European Journal of Oral Sciences
Journal of Dental Research
Journal of Endodontics
Journal of Material Science
Journal of Biomaterials Science Polymer Edition
Journal of Periodontology
International Endodontic Journal
PLOS ONE
Regenerative Medicine
Tissue Engineering Part A

Reviewer for intramural funding

University of Münster, Germany
University of Düsseldorf, Germany

Reviewer for

ISF (Israel Science Foundation), Israel
French National Research Agency, France

FURTHER ACTIVITIES

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| 2018 | Member of the committee for the scientific report of the German Association for Endodontology and Dental Traumatology on Vital Pulp Therapies |
| 2017 | Member of the committee for the scientific report of the German Association for Conservative Dentistry on caries excavation |
| 2016 | Invited Speaker at the PBRG-IADR satellite meeting in Nagoya, Japan
“Scaffolds for Cell-free Approaches to Dental Pulp Tissue Engineering” |
| 2015 - 2016 | Head and member of the board for a position statement on Regenerative Endodontic Procedures for the European Society for Endodontology (ESE) |
| 2014 – 2015 | President of the Pulp Biology and Regeneration Group (PBRG) of IADR |
| 2014 | Symposium Organisation “Dental Pulp Regeneration” at the General Session of the Society for Endodontology (ESE), Barcelona 2015 |
| 2013 | Organisation of the Oral Session „Pulp Defense and Regeneration“ at the IADR General Session in Seattle, USA |
| 2013 | Organisation des Pulp Biology and Regeneration Group (PBRG) Symposiums „Pulp Regeneration – Translational Opportunities“ im März in San Francisco, USA |

2012	Head and Board Member of the work group for a new dental curriculum (NKLZ) Topic: "Pulpal and periradicular disease"
Since 2012	Member of the work group „Pulp Biology“ of the German Association of Restorative Dentistry (DGZ)
2011 – 2013	Secretary of the German Association of Basic Research in Dentistry (Arbeitsgemeinschaft für Grundlagenforschung, AfG) Arrangement of the annual meeting
2011	Lecturer for the Sino-German Postgraduate Summer School Xi'an, China, August 2011
2010	Co-Organizer of the Pulp Biology and Regeneration Group (PBRG) Symposium „Tissue Injury and Pulp Regeneration“, Geneva, Switzerland

SUMMARY OF SPECIFIC SCIENTIFIC CONTRIBUTIONS

Dr. Kerstin Galler is a Full Professor, Deputy and Section Leader of Endodontology at the Department of Restorative Dentistry and Periodontology, University of Regensburg, Germany. Her time is divided between clinical work (endodontology, dental traumatology and restorative dentistry), teaching and research, which she runs in her own laboratory. Dr. Galler combines an expertise in dentistry, specifically in pulp biology, and tissue engineering, and has been working on tunable hydrogels in combination with pulp-derived stem cells for dental pulp tissue engineering for more than a decade. Her work contributed to the development of custom-made scaffolds specifically for pulp regeneration, and she has suggested criteria for scaffolding systems for this purpose in several review articles. Dr. Galler has, for several years, envisioned and proposed a clinical protocol for pulp regeneration following a cell-homing approach. She works and publishes on smart biomaterials and on the release and incorporation of endogenous growth factors from root canal dentin into those biomaterials in order to optimize regenerative approaches. Her latest advancements report on an animal model with tooth roots for In situ TE of dental pulp, which might open the possibility for first clinical studies. Dr. Galler formed the ESE committee for a position statement on revitalization, which was published in 2016. Furthermore, her group has developed a training model for revitalization procedures, which can aid clinicians in learning the technique. Her activities as president of the Pulp Biology and Regeneration Group (PBRG) of IADR, the organization of PBRG symposia, the arrangement of symposia and oral sessions in scientific and clinical meetings have raised awareness for the field of dental pulp tissue engineering and regeneration. She has lectured extensively on dental pulp regeneration and tissue engineering, and her keynote talks and presentations have brought experts, both scientifically and clinically, together. Her efforts focus on advancing clinical procedures for regenerative endodontic procedures and advocating biology-based treatment approaches to maintain or restore pulp vitality clinically.

BIBLIOGRAPHY

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- (2) Widbill M, Eidt A, Wölflick M, Lindner SR, Schweikl H, Hiller KA, Buchalla W, **Galler KM**. Interactive effects of LPS and dentine matrix proteins on human dental pulp stem cells. *Int Endod J*. 2018 [Epub ahead of print].
- (3) Schmalz G, Widbill M, **Galler KM**. Signaling Molecules and Pulp Regeneration. *J Endod*. 2017 Sep;43(9S):S7-S11.
- (4) **Galler KM**, Widbill M. Perspectives for cell-homing approaches to engineer dental pulp. *J Endod*. 43(9S):S40-45 (2017).

- (5) **Galler KM**, Brandl F, Kirchhof S, Widbiller M, Eidt A, Buchalla W, Goepferich A, Schmalz G. Suitability of different natural and synthetic biomaterials for dental pulp tissue engineering. *Tissue Eng Part A*. 2017 May 24. Epub ahead of print.
- (6) Widbiller M, Ducke S, Eidt A, Buchalla W, **Galler KM**. A training model for revitalisation procedures. *Int Endod J*. 2017 Mar 21. Epub ahead of print.
- (7) Schmalz G, **Galler KM**. Biocompatibility of biomaterials - Lessons learned and considerations for the design of novel materials. *Dent Mater*. 33: 382-393 (2017).
- (8) Widbiller M, Eidt A, Lindner SR, Hiller KA, Schweikl H, Buchalla W, **Galler KM**. Dentine matrix proteins: isolation and effects on human pulp cells. *Int Endod J*. 2017 Feb 17. Epub ahead of print.
- (9) Widbiller M, Eidt A, Hiller KA, Buchalla W, Schmalz G, **Galler KM**. Ultrasonic activation of irrigants increases growth factor release from human dentine. *Clin Oral Investig*. 21: 879-888 (2017).
- (10) **Galler KM**, Krastl G, Simon S, Van Gorp G, Meschi N, Vahedi B, Lambrechts P. European Society of Endodontology position statement: Revitalization procedures. *Int Endod J*. 49: 717-23 (2016).
- (11) **Galler KM**. Clinical procedures for revitalization: current knowledge and considerations. *Int Endod J*. 49: 926-36 (2016).
- (12) Schmalz G, Widbiller M, **Galler KM**. Material Tissue Interaction--From Toxicity to Tissue Regeneration. *Oper Dent*. 41: 117-31 (2016).
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- (14) **Galler KM**, Widbiller M, Buchalla W, Eidt A, Hiller KA, Hoffer PC, Schmalz G. EDTA conditioning of dentine promotes adhesion, migration and differentiation of dental pulp stem cells. *Int Endod J*. 2015 Jun 25. [Epub ahead of print].
- (15) **Galler KM**, Buchalla W, Hiller KA, Federlin M, Eidt A, Schiefersteiner M, Schmalz G. Influence of root canal disinfectants on growth factor release from dentin. *J Endod*. 41:363-8 (2015).
- (16) **Galler KM**, Simon SR. Proceedings of the Pulp Biology and Regeneration Group Symposium 2013: pulp regeneration-translational opportunities. *J Endod*. 40(4 Suppl):S1 (2014).
- (17) **Galler KM**, Eidt A, Schmalz G. Cell-free approaches for dental pulp tissue engineering. *J Endod*. 40(4 Suppl):S41-5 (2014).
- (18) Hecker S, Hiller KA, **Galler KM**, Erb S, Mader T, Schmalz G. Establishment of an optimized *in vitro* system for artificial root canal infection evaluated by use of sodium hypochlorite and the photodynamic therapy. *Int Endod J*. 46:449-57 (2013).
- (19) **Galler KM**, Hartgerink JD, Cavender AC, Schmalz G, D'Souza RN. A Customized Self-Assembling Peptide Hydrogel for Dental Pulp Tissue Engineering. *Tissue Eng Part A*. 18:176-84 (2012).
- (20) **Galler KM**, D'Souza RN, Federlin M, Cavender AC, Hartgerink JD, Hecker S, Schmalz G. Dentin conditioning codetermines cell fate in regenerative endodontics. *J Endod*. 37:1536-41 (2011).
- (21) **Galler KM**, Schmalz, G. Tissue Injury and Pulp Regeneration. *J Dent Res*. 90:828-9 (2011).

- (22) **Galler KM**, D'Souza RN, Hartgerink JD, Schmalz G. Scaffolds for Dental Tissue Engineering. *Adv Dent Res.* 23:333-9 (2011).
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- (24) **Galler KM**, Cavender AC, Koeklue U, Suggs LJ, Schmalz G, D'Souza RN. Bioengineering of dental stem cells in a PEGylated fibrin gel. *Regen Med.* 6:191-200 (2011).
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- (26) **Galler KM**, D'Souza RN, Hartgerink JD. Biomaterials and their Potential Applications for Dental Tissue Engineering. *J Mater Chem.* 20: 8730-8746 (2010).
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- (29) **Galler KM**, Aulisa L, Regan K, D'Souza, RN and Hartgerink JD. Self-assembling Multidomain Peptide Hydrogels: Designed Susceptibility to Enzymatic Cleavage Allows Enhanced Cell Migration and Spreading. *J Am Chem Soc.* 132:3217-23 (2010).
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BOOK CHAPTERS

Galler KM. Scaffolds for Pulp Repair and Regeneration. In: Goldberg M. (Editor). *The Dental Pulp. Biology, Pathology and Regenerative Therapies.* Springer, Heidelberg. 251-66 (2014).