

CURRICULUM VITAE

**PETRA WILDER-SMITH,
BDS (Hons.), L.D.S. R.C.S. (Eng.),
Dr. med. Dent., Ph.D. (Habil.)**

Business Address

Beckman Laser Institute and Medical Clinic
University of California, Irvine
1002 Health Sciences Road East
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Personal

Home Address:

702 Double Tree Lane
Long Beach, CA 90815-4711
TEL 562-594-8556
Married, 2 children

Nationality: British and U.S.

Languages: English, German, French

Current Position and Experience

2003-present	Director of Dental Program and Associate Professor in Residence Beckman Laser Institute and Medical Clinic University of California, Irvine
1998-2003	Director of Dental Program and Adjunct Associate Professor Beckman Laser Institute and Medical Clinic University of California, Irvine
1997-present	Visiting Professor Aachen University Dental School Aachen, Germany
1995-present	Research Affiliate Chao Family Comprehensive Cancer Center University of California, Irvine
1993-present	Adjunct Lecturer Dept. of Endodontics Loma Linda University Dental School Loma Linda, CA
1995-1998	Director of Dental Program and Adjunct Assistant Professor Beckman Laser Institute and Medical Clinic University of California, Irvine

- 1993-1995 Associate Director of Dental Program and Adjunct Assistant Professor
Beckman Laser Institute and Medical Clinic
University of California, Irvine
- 1991-1993 Assistant Director of Dental Program
Beckman Laser Institute and Medical Clinic
University of California, Irvine
- 1986-90 Senior "Assistant" (Assistant Professor equivalent) and Director of
Research
Dept. of Periodontology Endodontics, Preventive, Conservative Dentistry
Heidelberg University Dental School
Heidelberg, Germany
- 1985-86 Senior House Officer
Departments of: Oral Medicine, Oral Pathology and Immunology,
Periodontology, Conservative and Preventive Dentistry, Dental
Emergency, Prosthodontics
Edinburgh University Dental Hospital, Scotland, U.K.
- 1983-84 Part-time dental practice
Dr. A. Fullemann
Hilterfingen, Switzerland
- 1983-84 "Assistant" (Junior faculty)
Dept. of Conservative, Preventive and Children's Dentistry
Bern University Dental School, Switzerland
- 1983 Locum Tenens in General Dental Practice of
Dr. W. Chan
Battersea, London, U.K.
- 1983 Assistant House Surgeon
Dept. of Oral Medicine and Immunology
Guy's Hospital
London University, U.K.

Education

- 1979 Second Bachelor of Dental Surgery, Guy's Hospital, London, U.K.
- 1980-83 Third Bachelor of Dental Surgery, Parts I-V
with Honours and Distinction in Dental Surgery
Guy's Hospital, London University, U.K.
- 1983 Licentiate in Dental Surgery of The Royal College of Surgeons of England
- 1984 Doctorate Bern University, Switzerland (Summa cum Laude)
- 1999 Ph.D. (Habilitation), Aachen University, Germany

Honors and Awards

- September 1983:* Honours and Distinction in Dental Surgery: B.D.S. (Hons.)(Dental Degree); Guy's Hospital, London, U.K.
- September 1983:* L.D.S. R.C.S. (Eng.); Licentiate in Dental Surgery of the Royal College of Surgeons of Great Britain

- October 1984:* Dr. Med. Dent., Bern University, Switzerland, Summa cum Laude
March 1987: European Society of Endodontology Research Prize
October 1988: Best Clinician Award, Heidelberg University, Germany
May 1989: Stauffenberg Award (Research Prize), Heidelberg University, Germany
October 1989: Best Lecturer, Heidelberg University, Germany
April 1995: Best Poster Presentation Award
American Society for Laser Medicine and Surgery
San Diego, California, USA
April 1996: 3x Best Poster Presentation Awards
American Society for Laser Medicine and Surgery
Orlando, Florida, USA
April 1997: Basic Science Award
American Society for Laser Medicine and Surgery
Phoenix, Arizona, USA
April 1997: Clinical Research Award
American Society for Laser Medicine and Surgery
Phoenix, Arizona, USA
March 2002: Procter and Gamble Innovative Research Award,
International Association for Dental Research
San Diego, California, USA
August 2002-present: Fellow, American Society for Lasers in Surgery and Medicine
May 2009: Poster of Distinction Award, American Gastroenterological Association
June 2009: Poster of Distinction Award, Digestive Diseases Week
May 2010: Chancellor's Award for Excellence in Fostering Undergraduate Research,
University of California, Irvine
July 2010: Member, Institute for Clinical and Translational Science (ICTS) Council
of Mentors, University of California, Irvine (Mentors wrote a proposal to
NIH which awarded a 5-year, \$20 million grant to fund a Clinical and
Translational Science Center at UC Irvine.)
August 2011: Faculty Mentor of the Month, Undergraduate Research Opportunities
Program (UROP), University of California, Irvine

Contracts and Grants

Active - Principal Investigator

Agency: NIH

Title: Stress history is recorded in tooth enamel

Role: Principal Investigator of UCI subcontract (collaboration with UCLA)

Amount: \$110,000 (Contract total amount: \$250,000)

Dates: 07/01/11-06/30/13

Agency: NIH R03 EB014852

Title: A low-cost simple oral cancer screening device for low-resource settings

Role: Co-Principal Investigator (with Zhongping Chen) with separately funded collaborative partner Dr. M. Abraham Kuriakose of Mazumdar Shaw Cancer Center, Bangalore, India

Amount: \$230,000

Dates: 07/01/12-06/30/14

Agency: University of California Cancer Research Coordinating Committee

Title: Reversal of cancer-therapy-induced mucositis by human gingival-derived mesenchymal stem cells

Role: Principal Investigator

Amount: \$54,940

Dates: 07/01/12-06/30/13

Agency: NIH (NIDCR)

Title: Low-cost, non-invasive method to assess pulpal vitality

Role: Co-PI with Bernard Choi

Amount: \$986,500

Dates: 07/01/13-06/30/16

Agency: Livionex

Title: Safety and efficacy of Livionex Dental Gel in reducing plaque, gingival inflammation and gingival bleeding

Role: Principal Investigator

Amount: \$10,000

Dates: 05/01/12-06/30/13

Agency: American Society for Laser Medicine and Surgery

Title: A minimally-invasive approach to the challenge of oral neoplasia

Role: Principal Investigator

Amount: \$5,000

Dates: 07/01/12-06/30/13

Agency: AFOSR

Title: In-vivo detection and monitoring of smoke and chemical agent injuries of the upper airways

Role: PI of Project 1

Amount: \$140,000 (Contract total amount: \$2,000,000)

Dates: 07/91/12-06/30/13

Past - Principal Investigator

Agency: UCI School of Medicine Research Program

Title: Prevalence of very early caries in community living adults

Role: Co-Principal Investigator (with Jennifer Holtzman)

Amount: \$6,700

Dates: 04/01/10-06/30/12

Agency: UCI School of Medicine Research Program
Title: Mitigation of cancer therapy-induced mucositis by mesenchymal stem cells
Role: Principal Investigator
Amount: \$7,000
Dates: 04/01/10-06/30/12

Agency: Colgate Palmolive
Title: Clinical research study to evaluate the effects of prototype dentifrices on soft-tissue architecture
Role: Principal Investigator
Amount: \$16,000
Dates: 10/1/09-9/30/10

Agency: UCI Multi Investigator Faculty Research Grant (CORCL)
Title: Multimodal Theragnostics: Pinpointed and synergistic photohyperthermic and chemotherapy for early oral cancer using stimuli-transforming gold nanoparticles
Role: Co-Principal Investigator
Amount: \$9,000
Dates: 10/09-9/10

Agency: Air Force Office of Scientific Research
Title: Detecting in vivo the effects of smoke inhalation injury and treatment in the upper airway using a fiberoptic probe.
Role: P.I. of this component of this multi-component center grant
Amount: \$90,000
Dates: 01/01/09 –01/01/10

Agency: National Institutes of Health
Title: Recruitment, Mentoring and Empowering the Next Generation of Academic Dentists
Role: Co-investigator
Amount: \$20,000
Dates: 09/01/08-08/31/10

Agency: Air Force Office of Scientific Research
Title: Acute Inhalation Injury Diagnostics Using High Resolution Optical Technologies: Oral-Nasal Cavity 2
Role: Co-P.I. of this component of this multi-component center grant
Amount: \$120,000
Dates: 01/01/08 –03/31/09

Agency: Zila Pharamaceuticals
Title: PDT using TBO in an animal model
Role: P.I.

Amount: \$35,000

Dates: 01/01/08-03/31/09

Agency: TATRICK-Department of Defense

Title: New Diagnostic and Treatment Technologies for Oral Health Care

Role: P.I., subcontract

Amount: \$90,000

Dates: 01/01/08-12/31/09

Agency: GlaxoSmithKline

Title: An Optical Approach to the Salivary Pellicle

Role: Principal Investigator

Amount: \$170,000

Dates: 9/01/06-08/31/09

Agency: University of California, Irvine Cancer Center

Title: A Combined Molecular Biological and Imaging Approach to Oral Malignancy

Role: Principal Investigator

Amount: \$15,000

Dates: 6/01/06-05/31/09

Agency: Lantis Laser Inc.

Title: Optical Coherence Tomography (OCT) For the Detection and Diagnosis of Occlusal Decay II

Role: Principal Investigator

Amount: \$40,000

Dates: 01/01/08-01/01/09

Agency: Lantis Laser Inc.

Title: Evaluation of OCT for the detection and diagnosis of occlusal decay

Role: Principal Investigator

Amount: \$4,000

Dates: 09/30/07-6/30/08

Agency: Tobacco-Related Disease Research Program Research Grant

Title: A Novel, 3-D Approach to Non-invasive Diagnostics

Role: Principal Investigator

Amount: \$100,000

Dates: 10/01/05-09/30/07

Agency: Department of Defense

Title: An Investigation into Wound Biofilm

Role: PI: Component of Center Grant

Amount: \$200,000

Dates: 01/01/04-12/31/07

Agency: Department of Defense

Title: Acute Inhalation Injury Diagnostics Using High Resolution Optical Technologies

Role: Co-PI: Component of Center Grant

Amount: \$200,000

Dates: 01/01/04-12/31/07

Agency: Cancer Research and Prevention Foundation Research Grant

Title: Non-Invasive Screening For Oral Cancer In High-Risk Populations

Role: Sole P.I.

Amount: \$70,000

Dates: 07/15/05-07/14/07

Agency: California Cancer Research Program Research Grant

Title: Non-invasive Diagnosis of Premalignancy and Malignancy

Role: Principal Investigator

Amount: \$719,511

Dates: 07/01/00-07/01/04

Agency: Cancer Research and Prevention Foundation Research Grant

Title: Early Detection of Cancer- an in vivo Model

Role: Sole P.I.

Amount: \$70,000

Dates: 07/15/03-07/14/05

Agency: Loma Linda University

Title: A Radiographic and Clinical Evaluation of the Effects of CO₂ Laser Pulpotomy in Dog's Teeth

Role: Principal Investigator

Amount: \$5,000

Dates: 9/15/93-9/14/94

Agency: Medical Optics, Inc.

Title: Soft Tissue Laser Surgery At 9 .3um

Role: Principal Investigator

Amount: \$5,000

Dates: 12/13/93-3/12/94

Agency: Office of Naval Research Medical Free Electron Laser Program

Title: Absorption Properties of Root Canal Walls

Role: Principal Investigator, Component of Center Grant

Amount: \$6,000

Dates: 6/1/95-8/31/95

Agency: Medical Optics, Inc
Title: Optimal Parameters For Soft- Tissue Laser Surgery At 9.3um
Role: Principal Investigator
Amount: \$20,000
Dates: 6/30/95-12/29/95

Agency: Office of Naval Research Medical Free Electron Laser Program
Title: Laser Applications in Endodontics – A Preclinical Study
Role: Principal Investigator: Component of Center Grant
Amount: \$36,341
Dates: 6/1/95-2/28/97

Agency: Lasermedics, Inc.
Title: Low Level Laser Therapy for Prevention or Treatment of Chemotherapy-Induced Mucositis.
Role: Principal Investigator
Amount: \$233,000
Dates: 12/1/96-11/31/97

Agency: Jacobsen Trust Research Fund
Title: Localised Pulp Surgery using Laser Irradiation at 10.6µm.
Role: Principal Investigator
Amount: \$75,000
Dates: 12/15/96-3/14/97

Agency: Luxar Corporation
Title: Laser Tooth Whitening
Role: Principal Investigator
Amount: \$48,020
Dates: 2/10/97-7/28/97

Agency: Jacobsen Trust Research Fund
Title: A Radiographic and Clinical Evaluation of the effects of CO₂ Laser Pulpotomy in Dog's Teeth
Role: Principal Investigator
Amount: \$115,000
Dates: 3/1/98-5/31/98

Agency: Charles E. Culpeper Foundation Research Grant
Title: Early, Non-invasive Detection of Malignant Changes in the Oral Cavity
Role: Principal Investigator
Amount: \$70,649
Dates: 01/01/98-12/31/98

Agency: National Institutes of Health Phase 1 SBIR Grant
Title: Optical Measurement of Dental and Orofacial Structures
Role: Principal Investigator, Subcontract
Amount: \$33,000
Dates: 05/01/98-10/31/98

Agency: Tobacco-Related Disease Research Program Research Grant
Title: Fluorescence-based Diagnosis and Monitoring of Oral Neoplasia
Role: Principal Investigator
Amount: \$74,901
Dates: 07/01/98-06/30/00

Agency: National Institutes of Health Phase 1 SBIR Grant
Title: Optical Sensor for Photodynamic Diagnosis of Oral Cancer
Role: Principal Investigator, Subcontract
Amount: \$35,438
Dates: 06/13/00-06/12/02

Agency: Cancer Research Foundation of America Research Grant
Title: Early Cancer Detection Using in vivo Fluorescence: An Alternative to Surgical Biopsy
Role: Principal Investigator
Amount: \$35,000
Dates: 07/15/00-07/14/01

Agency: National Institutes of Health Phase 1 SBIR Grant
Title: Fiberoptic Periodontal Microprobe
Role: Principal Investigator, Subcontract
Amount: \$24,000
Dates: 01/01/01-7/31/01

Agency: National Institutes of Health R21 Grant
Title: Fluorescence-based Detection and Diagnosis of Malignancy
Role: Principal Investigator
Amount: \$122,680
Dates: 05/01/00-04/30/02

Agency: National Institutes of Health Phase 2 SBIR Grant
Title: Fiberoptic Endodontic Microprobe
Role: Principal Investigator, Subcontract
Amount: \$24,000
Dates: 05/01/00-11/01/02

Agency: National Institutes of Health Phase 2 SBIR Grant

Curriculum Vitae - Petra Wilder-Smith

Title: Optical Sensor for Photodynamic Diagnosis of Oral Cancer.

Role: Principal Investigator, Subcontract

Amount: \$35,438

Dates: 06/13/00-06/12/02

Agency: Cancer Research Foundation of America Research Grant

Title: Optimizing Early Cancer Detection

Role: Sole P.I.

Amount: \$40,000

Dates: 07/15/01-07/14/02

Agency: Univ. of Calif. Irvine Center for Future Health Professionals

Title: Open Wide, Trek Inside

Role: Co-P.I. with Jennifer Holtzman

Amount: \$600

Dates: 12/01/10-06/30/11

Pending

Agency: NIH Phase I SBIR

Title: Gold-Polymer Nanoparticles with Hydrophobic Reservoirs for Synergistic Non-Invasive Detection and Targeted Chemotherapeutic Treatment of Cancer

Role: PI of subcontract

Amount: \$40,000

Dates: TBD

Agency: NIH

Title: Reversal of mucositis by GMSC-based therapy

Role: PI of subcontract

Amount: \$455,000

Dates: TBD

Faculty mentor grants

Agency: University of California, Irvine

Undergraduate Research Opportunities Program (UROP), Summer Undergraduate Research Grant (SURP) and Interdisciplinary Summer Undergraduate Research Experience (ID-SURE)

Marcos Magar (2002); Roman Zorin (2002), Kristina Messeih (2003); Goldwyn Jequinto (2003); Vi Nguyen (2004); Ashley Nga (2004); Ani Sarkassian (2004); Joseph Morcos (2005); Vi Nguyen (2005); Kulginder Sran (2006); Hilari Kawakami-Wong (2006); Kenneth Lee (2007); Kulginder Sran (2007); Joseph Morcos (2007); Flora Trang (2007); Jessica Pharar (2007); Travis Tucker (2008); Jaclyn Barrera (2008); Kinh LaPham (2008); Mike DeCoro (2008) Jessica Pharar (2008); Andrew Vu (2008); Diana Vu (2009); Travis Tucker (2009); Holly Aguigam (2010); Joseph Youssef (2010); Diana Vu (2010); Travis Tucker (2010); Michael Hoang (2010); Leiza Walia (2011); Amin Sarraf (2012); Mohammad Dadkhah (2012); Alden Calantog (2012); Janet Ajdaharian (2013); Na Eun Chung (2013); Lucy Hallajian (2013); Leina Rizzo (2013); Tasneem Nabelsi (2013); Stephanie Mansour (2013); Amin Sarraf (2013); Erfan Nazeri (2014); Brian Jow (2014); Daniel Kohanchi (2014); Gregory Chan (2014)

Amount: \$300-\$2000/per student

Agency: University of California, Irvine

2012-2013 Multidisciplinary Design Program (MDP)

Title: Design of a Dental Blood-Flow Sensing Probe

Role: Co-Mentor to Ashley Hoang and Tiffany Bui (with Dr. Bernard Choi)

Agency: American Society for Laser Medicine and Surgery

Student Research and Travel Awards: Marcos Magar (2001);, Kristina Messeih (2002); Goldwyn Jequinto (2002); Vi Nguyen (2002); Ashley Nga (2004); Ani Sarkassian (2004); Joseph Morcos (2004); Vi Nguyen (2005); Kulginder Sran (2007); Hilari Kawakami-Wong (2007); Kenneth Lee (2007) (2009); Flora Trang (2007); Jessica Pharar (2007); Kinh LaPham

(2009); Mike DeCoro (2009); Charles Stoianovici (2010); Richa Mittal (2012-13); Janet Ajdaharian (2013)

Amount: \$800-5,000/per student

Agency: International Association for Dental Research

Student Research Award

Goldwyn Jequinto (2002); Kristina Messeih (2002); Vi Nguyen (2003); Jun Zhang (2007); JungRae Chung (2007); Mike DeCoro (2009)

Amount: \$3000/per student

Agency: Eurofond (EUCM-2037-4) (Career Mentoring for Aspiring Dental Academics)

Title: An Imaging-Based Approach to Oral Diagnosis

Role: Mentor to Dr. Maziar Mir

Amount: \$240,000

Dates: 01/01/08-12/31/10

Grant Reviewer

1997-present:

American Endodontic Society

1999-present:

The Engineering and Physical Sciences Research Council of Great Britain

2000-present:

American Society for Laser Medicine and Surgery

2003-present:

National Institutes of Health: Biomedical Imaging study section; Mineralized tissues study section; Oral, Dental and Craniofacial Sciences Study Section; Oral and Dental: Small Business Study Section; Musculoskeletal, Oral and Skin Sciences:

2005-present:

Cancer Research and Prevention Foundation

2006-present:

EUROPEAN COMMISSION: 7th Framework Programme for Research, Technological Development and Demonstration

2006-present:

Singapore Agency for Science, Technology and Research (A*STAR)

2006-present:

The American Institute of Biological Sciences

2007-present:

Technology Foundation STW, Netherlands

2010-present:

National Institutes for Health (NIH), Small Business Innovation Research (SBIR) and Technology Transfer (STTR)

2011-present:

National Institutes for Health (NIH), Special Emphasis Panel ZRG1 MOSS K(11) for Oral, Dental and Craniofacial, Small Business Innovation Research (SBIR) and Technology Transfer (STTR) (R43, R44, R41, R42)

July 2011: grants); ZRG1 DTCS-U 81 S for Clinical and Translational Imaging Applications
Reviewer, Department of Veteran Affairs, Cooperative Studies Program

October 22, 2012: National Institutes for Health (NIH), Special Emphasis Panel/Scientific Review Group 2013/01 ZRG1 DTCS-A (81) S meeting

Editorial and Literature Review Activities

Editorial Activities

July 1995-present: Editorial Board, Lasers in Surgery and Medicine
January 2001-present: Editorial Board, Journal of the European Society for Lasers in Oral Medicine
2013 Guest Editor, special edition , International Journal of Dentistry

Journal Reviewer

Journal of Dental Research	J Clinical Cancer Research
Caries Research	Scanning Microscopy International
Lasers in Surgery & Medicine	Deutsche Zahnärztliche Zeitschrift
Journal of Biomedical Optics	Biofouling
Lasers in the Life Sciences	Journal of Periodontology
Laser Focus World	Journal of Endodontics
Laser in Medical Science	British Dental Journal
International Journal of Cancer	Journal of Cell Biochemistry
Journal of Photochemistry and Photobiology	Spectroscopy Letters
B: Biology.	Medical Science Monitor
Cancer	Annals of Biomedical Engineering
Oral Oncology	Future Oncology
Photomedicine and Laser Surgery	Technology in Cancer Research and Treatment
Head & Neck	Bioinformation
Odontology	Journal of Laser Applications
Pharmaceutics	Special Care in Dentistry

Memberships in Professional Societies

British Dental Association, 1983-1988
German Dental Association, 1986-1990
European Society of Endodontics, 1986-1989
International Association for the Study of Pain, 1988-1989
International Association for Dental Research, 1988-present
American Dental Association, 1991-present
California Dental Association, 1991-present
Orange County Dental Association, 1991-present
Orange County Women's Dental Association, 1991-present

American Society for Photobiology, 1994-present
American Society for Lasers in Surgery and Medicine, 1995-present
American Association of Endodontists, 1995-present
World Federation of Laser Dentistry, 2005-present
Society for Clinical and Translational Sciences, 2010-present

Organizational Service

1994-present: Program Committee, Orange County Society of Women Dentists
1996-1998: Program Committee International Society for Optical Engineering
1998-1999: Awards Committee, American Society for Laser Medicine and Surgery
1999-2000: Research and Development Committee, American Society for Laser Medicine and Surgery
1999-2000: Publications Committee, American Society for Laser Medicine and Surgery
2000-2002: Chair, Program Committee, Orange County Society of Women Dentists
2000: Co-Chair, Diagnostics Section, International Association for Dental Research
2000-2002: Basic Science Research Committee, American Society for Laser Medicine and Surgery
2004: Chair, Diagnostics Section, International Association for Dental Research
2002-2006: Independent Advisory Committee, UCLA School of Dentistry Dept of Oral Medicine
2006-present Chair, American Dental Association working group on Dental Lasers and Governmental Liaison
2006-present Medical Advisory Board, Cancer Research and Prevention Foundation
2006-2010: Member-at-Large of the Diagnostic Systems Group, International Association for Dental Research
2006-2010: Executive Committee, International Association for Dental Research
2006-present: Board Member, American Society for Laser Medicine and Surgery
2006-2008: Chair, Program Committee, Orange County Society of Women Dentists
2006-2010: Constitution and Bylaws Committee of the Diagnostic Systems Group, International Association for Dental Research
2009-present: Judge, Orange County Science and Engineering Fair (OCSEF)
2010: Membership Committee, American Society for Laser Medicine and Surgery
2010-2014: International Affairs Committee, American Society for Laser Medicine and Surgery
2012-present: Advisory Board Member, Dental Hygiene Program, West Coast University, Anaheim, CA
2012-present: Advisory Board Member, School of Dental Hygiene, Concorde Career College, Garden Grove, CA
2012-2013: Nominating Committee, American Society for Laser Medicine and Surgery
2012-2014: Chair, International Affairs Committee, American Society for Laser Medicine and Surgery
2013-present: Member, American Dental Association Standards Committee on Dental Products (SCDP), “Working Group for Dental Lasers”
2013-present: President-elect, Diagnostics Sciences Group, International Association for Dental

Research (IADR)

Conference Organization

- 1996: Co-Chair, Dental Session, American Society for Laser Medicine and Surgery
1997: Chair, Dental Session, American Society for Laser Medicine and Surgery
1997: Co-Chair, Wound Healing Session, International Association for Dental Research
1998: Chair, Research Session, German Society for Lasers in Dentistry
2001: Chair, Diagnostics Session, International Association for Dental Research
2002: Chair, Dental Session, American Society for Laser Medicine and Surgery
2002: Chair, Diagnostics Session, International Association for Dental Research
2003: Chair, European Society for Oral Laser Applications
2003: Chair, Diagnostics Session, International Association for Dental Research
2004: Chair, Diagnostics Session, International Association for Dental Research
2005: Co-Chair, Diagnostics Session, International Association for Dental Research
2005: Co-Chair, Dental Session, American Society for Laser Medicine and Surgery
2006: Organizing Committee, International Association for Dental Research
2007: Organizing Committee, Federation Dental International
2008: Chair, Diagnostics Session, World Federation of Laser Dentistry
2009: Co-Chair, Dental Session, American Society for Laser Medicine and Surgery
2010: Co-Chair, Dental Session, American Society for Laser Medicine and Surgery
2013: Oral Session Chair, Diagnostics Session, International Association for Dental Research
2014: Co-organizer, World Federation of Laser Dentistry, Sao Paolo, Brazil

Patents and Disclosures

- 1992-294-1 Use of Lasers for Treatment of Endodontically Discolored Teeth
1994-152-1 Laser Irradiation: An Alternative to Root Canal Treatment
1995-164-1 Photodynamically Induced Inactivation of Helicobacter Pylori
1996-325-1 A Device for the Non-invasive Measurement of Pulpal Blood Flow in Teeth
1999-386-1 Non-Invasive Determination of Dental Blood Flow
2002-026-1 Photodynamic Diagnosis of Oral Cancer
2002-88-1 Use of Hypericin (St. John's Wort) as photosensitizer for detection and/or treatment of oral precancer and cancer
2003-480-1 Use of Low-Level Light for the Prevention of Chemotherapy-Induced Oral Mucositis

- 2004-425-1 Use of OCT and PS-OCT for the detection and diagnosis of oral premalignancy, malignancy, dysplasia and other soft tissue lesions.
- 2004-440-1 Use of Laser-Induced Fluorescence for determination of root canal pathology and for the detection and localization of pathological tissues to facilitate and guide endodontic therapy.
- 2004-441-1 Early Detection of Dental Caries using OCT
- 2005- 676-1 Use of Optical Coherence Tomography (OCT), Optical Doppler Tomography (ODT), Polarization-sensitive OCT (PS-OCT) and Fourier Domain OCT (FD-OCT) for comprehensive intra-oral diagnostics.
- 2009-621-1 Combined Multi-Modal Therapy for Cancer Using Stimuli-Transforming Nanoparticles with Simultaneous Optical Imaging
- 2010-686-1 Assessment of Pulpal Vitality Using Laser Speckle Imaging
- 2011-102 An Imaging-based Biomarker for Childhood Stressors
- 2011-054-2 Optical Determination of Dry Mouth-Specifically, to Monitor the Effectiveness of Dry Mouth Intervention Using Spectral and OCT Data

Publications

- J1. Wilder-Smith P and Prpic G. *Erfolgreiche Endodontische Therapie (Successful Endodontic Therapy)*. Quintessenz 1: 27-33, 1987.
- J2. Wilder-Smith P and Frosch P. *Die "Laser-Doppler Flowmetry": Eine Methode Zur Bestimmung Der Paradontalen Durchblutung (Laser-Doppler Flowmetry: A New Method for the Determination of Periodontal Blood Flow)*. Dtsch. Zahnärztl. Z. 43: 004-997, 1988.
- J3. Wilder-Smith P. *A New Method for the Non-Invasive Measurement of Pulpal Blood Flow*. Int. Endod. J. 21: 307-312, 1988.
- J4. Wilder Smith P. *The Soft Laser: Therapeutic Tool or Popular Placebo?* Oral Surg. Oral Med. Oral Pathol. 66: 654-658, 1988.
- J5. Wilder-Smith P. *Untersuchungen Zur Wirksamkeit Eines Softlasers (Investigation into the Therapeutic Effectiveness of the Soft Laser)*. ZWR 97: 964-966, 1988.
- J6. Wilder-Smith P and Zimmermann M. *Analgesie Mittels Transkutaner Elektrischer Nervenstimulation (TENS) Bei Akuten Und Behandlungsinduzierten Schmerzen*

- (Transcutaneous Electrical Nerve Stimulation for the Suppression of Acute and Treatment-Induced Pain)*. Schweiz Monatsschr. Zahnmed. 99: 653-657, 1989.
- J7. Wilder-Smith P. *Untersuchungen Zur Schmerzunterdrückung Mittels Transkutaner Elektrischer Nervenstimulation (TENS) (An Evaluation of TENS-Induced Pain Suppression)*. Dtsch. Zahnärztl. Z 45: 356-359, 1990.
- J8. Wilder-Smith P. *Principles of Laser-Tissue Interactions and their Applications in Dentistry*. Réalités Cliniques 53: 275-281, 1994.
- J9. Arrastia AM, Machida, T, Wilder-Smith P and Matsumoto K. *A Comparative Study on the Thermal Effects of Four Semiconductor Lasers on Enamel and Pulp Chamber of a Human Tooth*. Lasers in Surgery and Medicine 15: 382-389, 1994.
- J10. Machida, T, Wilder-Smith P, Arrastia AM, Liaw LH and Berns MW. *Root Canal Preparation Using the Second Harmonic KTP-YAG Laser: A Thermographic and SEM Study*. J. Endodontics 21: 88-91, 1995.
- J11. Wilder-Smith P, Arrastia AM, Liaw LH, Grill G and Berns MW. *Effects of Nd:YAG Laser Irradiation and Root Planing on Root Surface*. J. Periodontology 66: 1032-1039, 1995.
- J12. Torabinejad M, Wilder-Smith P, Kettering JD and Ford TP. *Comparative Investigation of Marginal Adaptation of Mineral Trioxide Aggregate and Other Commonly Used Root End Filling Materials*. J. Endodontics 21: 295-299, 1995.
- J13. Wilder-Smith P, Arrastia A, Liaw LH and Berns MW. *Incision Properties and Thermal Effects of 3 CO₂ Lasers in Soft Tissue*. Oral Surgery, Oral Medicine, Oral Pathology 79: 685-691, 1995.
- J14. Arrastia A, Wilder-Smith P and Berns MW. *Thermal Effects of CO₂ Laser on the Pulpal Chamber and Enamel of Human Primary Teeth: an in vitro Investigation*. Lasers in Surgery and Medicine 16: 343-350, 1995.
- J15. Abedi H, Van Mierlo B, Wilder-Smith P and Torabinejad M. *Effects of Ultrasonic Root-End Cavity Preparation on the Root Apex*. Oral Surgery, Oral Medicine, Oral Pathology 80: 207-213, 1995.
- J16. Wilder-Smith P, Arrastia A, Liaw LH and Berns MW. *Incision Properties and Thermal Effects of 3 CO₂ Lasers in Soft Tissue*. Mosby Year Book of Dentistry: 456-457, 1996.
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- A150. Sabokpey S, Biren-Fitz J, Dadkhah M, Liaw LH, Wilder-Smith P. *In vivo study of the effects of a novel dental gel on enamel re-mineralization after acid erosion*. 33rd American Society for Laser Medicine and Surgery Annual Conference, Boston, MA, April 3-7, 2013.

Popular Articles

- PA1. Le D, Le A, Holtzman J, Epstein J, Wilder-Smith P. Optical imaging in the oral cavity: innovative and emergent imaging techniques. *Laser*, Jahr: 2011 Ausgabe: 03, pp. 24-29.
- PA2. Le D, Le A, Holtzman J, Epstein J, Wilder-Smith P. Optical imaging in the oral cavity: innovative and emergent imaging techniques. Reprint of PA1 in *LASER*, North America edition, international C.E. Magazine of Laser Dentistry, February 10, 2012 (first edition of the new year).

Invited Lectures and Symposia (International and National)

- PLI1. French Dental Society. *Laser Basics and their Applications in Dentistry*. Nice, France, 10/92
- PLI2. Annual Meeting of the California Dental Association. *Lasers in Dentistry*. Anaheim, CA, 4/28 - 5/2/93
- PLI3. International Society for Laser Dentistry. *Thermal and Morphologic Effects of Long and Short Pulsed Nd:YAG Irradiation*. Rome, Italy, 8/94
- PLI4. Deutsche Gesellschaft fuer Zahnmedizin und Laser (German Society for Lasers in Dentistry). *Outcome of CO2 Laser Treatment for Partial Pulpectomy*. Frankfurt, Germany, 3/98
- PLI5. Aachen University Annual Science Symposium. *Principles of Fluorescence-Based Detection of Premalignancy and Malignancy*. Aachen, Germany, 6/99.
- PLI6. Tobacco-Related Diseases Research Program Annual Symposium. *Early Detection of Oral Cancer*. San Francisco, CA, 12/4/99
- PLI7. International Dental Management Association. *Lasers in Dentistry*. Vancouver, Canada, 10/00
- PLI8. Gesellschaft fuer Zahnmedizin und Laser (German Society for Lasers in Dentistry). *Principles of Fluorescence-Based Detection of Premalignancy and Malignancy*. Aachen, Germany, 9/01
- PLI9. Zurich University. *Laser-Induced Fluorescence for Early Detection and Diagnosis of Neoplasia*. Zurich, Switzerland, 12/01
- PLI10. Geneva University. *Endodontic Diagnosis Using Endogenous Laser-Induced Fluorescence*. Geneva, Switzerland, 12/01

- PLI11. Annenberg Foundation. *Lasers in Dentistry*. Palm Springs, CA, 1/02
- PLI12. American Society for Laser Medicine and Surgery Annual Symposium. *Lasers in Veterinary Dentistry: An Overview of Applications and Horizons*. Atlanta, GA, 4/02
- PLI13. American Society for Laser Medicine and Surgery Annual Symposium. *Detection of Oral Premalignancy and Malignancy*. Atlanta, GA, 4/02
- PLI14. California Dental Association. *Science and Clinical Practice: Where Do They Meet?* San Francisco, CA, 7/02
- PLI15. Swiss Federal Institute of Technology (ETH). *Non-invasive Diagnostics in the Oral Cavity*. Zurich, Switzerland, 8/03
- PLI16. Inselspital, Bern University Medical and Dental School. *Photodynamics- Where Diagnostics and Therapy Meet*. Bern, Switzerland, 8/03
- PLI17. Aachen University Annual Science Symposium. *Light-Based Detection of Premalignancy and Malignancy*. Aachen, Germany, 8/03
- PLI18. Gesellschaft fuer Zahnmedizin und Laser (German Society for Lasers in Dentistry). *Improving Oral Cancer Screening*. Aachen, Germany, 9/03.
- PLI19. University of California, Los Angeles, School of Dentistry. *A Novel Approach to Head and Neck Cancer*. Los Angeles, CA, 11/03
- PLI20. Orange County Women's Dental Association: *Multimodality Diagnostics in the Oral Cavity*. Newport Beach, CA, 2/04
- PLI21. Annual Meeting of the California Dental Association. *Dentistry: Lighting the Way to the Future*. Anaheim, CA, 4/04
- PLI22. Annenberg Foundation. *Detecting and Treating Oral Disease- What's New In Dentistry?* Palm Springs, CA, 5/04
- PLI23. University of California, Irvine Head and Neck Cancer Symposium. *New Non-invasive Diagnostic Methods*. Irvine, CA, 5/04
- PLI24. American Dental Association. *Photodestruction of Oral Pathogens*. Washington, DC, 6/04
- PLI25. Zurich University. *Symposium on Non-invasive Diagnostics in the Head and Neck*. Zurich, Switzerland, 7/04

- PLI26. National Institutes of Health Symposium on Bioimaging. *Photodetection of Oral Pathologies*. Washington, DC 2/05
- PLI27. Annenberg Foundation. *Advances in Cancer Detection and Therapy*. Palm Springs, CA, 5/05
- PLI28. Colorado Photonics Industry Assoc., University of Colorado Medical School, Dental School, School of Engineering. *Non-invasive diagnostics in the oral cavity*. 10/05.
- PLI29. UCLA School of Dentistry. *A Non-Invasive Optical Approach to In Vivo Oral Diagnosis*. Los Angeles, CA, 10/05
- PLI30. University of California, Los Angeles, School of Dentistry. *Oral Imaging*. Los Angeles, CA, 11/05
- PLI31. Harvard University Dental School. *Predictors of Oral Malignancy*. Boston, MA, 10/05
- PLI32. Tufts University School of Dentistry. *An Overview of Non-invasive Oral Diagnosis*. Boston, MA, 10/05
- PLI33. California Dental Association. *What's New in Oral Cancer?* 4/06
- PLI34. Gesellschaft fuer Zahnmedizin und Laser (German Society for Lasers in Dentistry). *Optical Diagnosis*. Berlin, Germany, 5/06
- PLI35. Annenberg Foundation. *Chemoprevention*. Palm Springs, CA, 5/06
- PLI36. Planning committee on research priorities at the National Institute for Dental and Craniofacial Research. *Non-invasive Imaging in the Oral Cavity: Current Status and Future Potential*. 6/06
- PLI37. American Dental Association. *What's New in Oral Cancer?* Las Vegas, NV, 10/06
- PLI38. International Association for Dental Research. *The future of oral and craniofacial diagnosis*. 04/07
- PLI39. American Academy of Oral Medicine. *3-D Visual Technologies for Oral Medicine*. 04/07
- PLI40. The Academy of Laser Dentistry: *How will advances in imaging affect clinical dental practice in the next 5 years?* 3/08
- PLI41. The World Federation of Laser Dentistry meeting: *What's New In Oral Diagnosis?* 06/08

- PLI42. European Endodontic Society: *Light-based diagnostics* 07/08
- PLI43. UCI Cancer Center Symposium. *A Combined Molecular Biological and Imaging Approach to Oral Malignancy*. 11/08
- PLI44. American Academy of Oral Medicine. *Oral Imaging*. 04/09
- PLI45. Orange County Dental Society. *What's New in Oral Diagnosis?* 05/09
- PLI46. UCLA School of Dentistry. *A Non-Invasive Optical Approach to Oral Diagnosis*. Los Angeles, CA, 9/09
- PLI47. Annenberg Foundation. *What Can We Do To Prevent Oral Cancer?* 9/09
- PLI48. UCLA School of Dentistry and Dept. of Bioengineering. *Emerging Technologies in Oral Diagnosis*. Los Angeles, CA, 2/18/10
- PLI49. Orange County Dental Hygienists Society. *Emerging Technologies in Oral Cancer Detection*. 3/24/10
- PLI50. City of Hope, Department of Molecular Pharmacology. *Non-invasive Imaging for Oral Diagnosis and Monitoring*. Duarte, CA, 7/8/10
- PLI51. Annenberg Foundation. *New Dental Non-Invasive Digital Imaging Modalities*. Palm Springs, CA, 10/6/10
- PLI52. Long Beach Dental Society. *Emerging Technologies in the Oral Cavity*. Long Beach, CA, 10/7/10
- PLI53. UCLA Dept. of Biomedical Engineering. *Imaging-based Technologies in Oral Diagnosis*. Los Angeles, CA, 2/18/11
- PLI54. UCLA School of Dentistry. *Optical Diagnosis in the Oral Cavity: State of the Art*. Los Angeles, CA, 4/4/11
- PLI55. American Society for Laser Medicine and Surgery Newsletter. *Parade of Specialties*. December 2011
- PLI56. Vanderbilt University Dental School. *Intelligent Imaging*. Nashville, TN, March 28, 2012.
- PLI57. City of Hope. *Diagnostic Imaging and Its Prognostic Potential in Oral Dysplasia and Cancer*. Duarte, CA, April 4, 2012.

- PL158.City of Hope. *Monitoring Oncotherapy Response and Side-effects using Innovative Imaging Approaches*. Duarte, CA, April 6, 2012.
- PL159.Nova Southeastern University Dental School. *Oral Health Screening: Emergent Approaches*. Miami, FL, April 19, 2012.
- PL160.Orange County Dental Hygienists Society. *Emerging Technologies in Oral Diagnosis*. Orange County, CA, June 24, 2012.
- PL161.Annenberg Foundation. *What Can We Do about Oral Cancer?* Palm Springs, CA, September 21, 2012.
- PL162.UC San Francisco School of Dentistry. *Light-based Approach to Oral Diagnosis and Therapy*. San Francisco, CA, October 17, 2012.
- PL163.American Academy of Oral Medicine. *Oral Imaging*. Chicago, IL, November 2, 2012.
- PL164.National University of Singapore School of Dentistry. *Emerging Technologies in Oral Diagnosis*. Singapore, January 4, 2013.
- PL165.Los Gatos Biomedical Technology Transfer Investment Group. *New Approaches to Non-invasive Diagnostics and Interventions*. Los Gatos, CA, January 26, 2013.
- PL166.American Academy of General Dentistry. *New Technologies in Dentistry*. San Francisco, CA, January 27, 2013.
- PL167.Annual Meeting of SPIE. Invited oral presentation: *Delineation of Clinical Needs and Device Determinant Parameters for Oral Applications of Optical Techniques*. San Francisco, CA, February 3, 2013.
- PL168.City of Hope. *Recurrence after Oral Cancer Therapy—Emergent Tools for Monitoring High-Risk Patients*. Duarte, CA, February 5, 2013.
- PL169.Concorde Career College. *Emergent Diagnostic Technologies in Dentistry*. Garden Grove, CA, March 15, 2013.
- PL170.Annual Meeting of the International Association for Dental Research. Invited oral presentation: *Quantification of Occlusal caries Depth with Conventional Optical Coherence Tomography*. Seattle, WA, March 23, 2013.
- PL171.Imperial College. *Photodynamic Techniques in the Oral Cavity*. London, UK, April 23, 2013.

PL172.King's College, London University. *Laser-based Oral Surgery*. London, UK, April 24, 2013.

PL173.Oxford University. *Oral Diagnosis*. Oxford, UK, April 26, 2013.

PL174.European Conferences on Biomedical Optics. Invited oral presentation: *Optical Detection of Cancer and Precancerous Lesions of the Upper Aerodigestive Tract—Methods for Assessment of Vertical Extensions*. Munich, Germany, May 12, 2013.

PL175.University of Nevada Las Vegas School of Dentistry. *Applications of Light in the Oral Cavity*. Las Vegas, NV, June 14, 2013.

PL176.University of Arizona. *Emerging Approaches to Oral Cancer Detection*. Tucson, AZ, June 20, 2013.

PL177.Computer-assisted Radiology and Surgery 27th International Congress. Invited oral presentation: *Light-based tumor mapping*. Heidelberg, Germany, June 29, 2013.

Proceedings

- P1. Wilder-Smith P, Phan T, Liaw LH and Berns MW. *Effects of XeCl Excimer Lasers and Fluoride Application on Artificial Caries Lesions*. SPIE 2128: 333-340, 1994.
- P2. Wilder-Smith P, Arrastia A.M, Grill G, Liaw LH and Berns MW. *Thermal and Microstructural Effects of Nanosecond Pulsed Nd:YAG Laser Irradiation on Tooth Root Surface*. Biomedical Optics 2394: 170-178, 1995.
- P3. Wilder-Smith P, Arrastia AM, Liaw LH and Berns MW. *Incision Properties and Thermal Effects of Two CO2 Lasers in Soft Tissue*. Biomedical Optics 2394: 2-10, 1995.
- P4. Lee J, Cheung E, Wilder-Smith P, Desai TJ, Liaw LH and Berns MW. *Thermal, Ablative and Physicochemical Effects of XeCl Laser on Dentin*. Biomedical Optics 2394: 188-195, 1995.
- P5. Kimura Y, Wilder-Smith P, Krasieva T, Arrastia-Jitosho AM, Liaw LH, Matsumoto M and Berns MW. *Visualization and quantification of healthy and carious dentin structure using confocal laser scanning microscopy*. SPIE 2672:64-72, 1996.
- P6. Zang DY, Millerd JE, Wilder-Smith P and Arrastia AM. *A Novel Laser Doppler Flowmeter for Pulpal Blood Flow Measurements*. SPIE 2672:21-26, 1996.
- P7. Wilder-Smith P, Arrastia A, Dang J, Liaw LH and Berns MW. *Effects of Diverse Laser Parameters at 9.3um on Soft Tissue and Bone*. SPIE 2672:11-20, 1996.
- P8. Nguyen A, Wilder-Smith P, Lin S, Arrastia AM and Berns MW. *Effects of cavity*

preparation using a nano-second pulsed Nd:YAG laser on tooth/restoration interface.
Proceedings of the International Society for Optical Engineering 2672:11-20, 1996.

- P9. Neev J, Huynh DS, Carrasco WA, Wilder-Smith P, Da Silva LB, Feit MD, Perry MD, Rubenchik AM and Stuart BC. *Thermal and Noise Level Characteristics of Hard Dental Tissue Ablation with 350fs Pulse Laser.* SPIE:2672:262-270, 1996.
- P10. Wilder-Smith P, Arrastia-Jitosho AMA, Peavy GM and Kurosaki T. *Effect of laser parameters and mode on pulp surgery outcome.* SPIE 13(4): 1997.
- P11. Wilder-Smith P, Peavy GM, Nielsen D, Arrastia-Jitosho AMA and Berns MW. *Preliminary report on the use of CO2 laser treatment of traumatic pulpal exposures in dogs: a clinical study.* SPIE 2673(4): 1997.
- P12. Wilder-Smith P, Choi S and Kurosaki T. *Parameter-Dependence of Marginal Microleakage in Er:YAG Laser Ablated and Modified Dental Preparations.* International Society for Optical Engineering 14(3):1998.

Protocols

Human

93-414: *A Randomized Trial of Laser Effects on Oral Mucositis in Patients Receiving Chemotherapy*

P.I.: Petra Wilder-Smith, DDS, PhD

Approved: 1.28.94 – 1.31.95

95-227: *A Safe Alternative to Formocresol Pulpotomy in Primary Teeth*

P.I.: Petra Wilder-Smith, DDS, PhD

Approved: 10.16.96 – present

96-623: *Tooth Whitening*

P.I.: Petra Wilder-Smith, DDS, PhD

Approved: 11.19.96 – 11.18.97

97-32: *A Phase II Trial of Laser Effects on Oral Mucositis in Patients Receiving Chemotherapy*

P.I.: Petra Wilder-Smith, DDS, PhD

Approved: 5.12.99 - present

99-1245: *Optical Sensor for Photodynamic Detection of Oral Cancer*

P.I.: Petra Wilder-Smith, DDS, PhD

Approved: 5.12.99 - present

99-2248: *Fiberoptic Periodontal Probe*

P.I.: Petra Wilder-Smith, DDS, PhD

Approved 11.10.99-11.09.00

2000-1014: *Tobacco Control by Dentists: A Survey*

P.I.: Petra Wilder-Smith, DDS, PhD

Approved: 2.10.00 – 2.9.03

2000-1204: *Fiberoptic Endodontic Probe*

P.I.: Petra Wilder-Smith, DDS, PhD

Approved 2.2.00 – 2.1.03

2001-1690: *Oral Biofilms: Imaging and Therapy*

P.I.: Petra Wilder-Smith, DDS, PhD

Approved: 05.11.0 –present

2002-2085: *Optical Sensor for Photodynamic Detection of Oral Cancer*

P.I. Petra Wilder-Smith, DDS, PhD

Approved: 04.18.03-03.31.2017

Optical Sensor for Photodynamic Detection of Oral Cancer

P.I. Petra Wilder-Smith, DDS, PhD

Approved: UCI GCRC

2006-5108: *Analysis of Biofilms in Wound Tissue*

P.I. Petra Wilder-Smith, DDS, PhD

Approved: 09.06.2006-present

AFOSR-2005-0005A: *Analysis of Biofilms in Wound Tissue*

P.I. Petra Wilder-Smith, DDS, PhD

Approved: USAF Human Research Programs, Division of Biomedical Research & Compliance, 09.06.2006-09.05.2007

2008-6355: *The Investigation of a Fluorescence/Elastic Scattering Spectroscopy (F-ESS) Device for Oral Tissue Characterization*

P.I.: Petra Wilder-Smith, DDS, PhD

Approved 2.2.2000 – present

2010-7886: *Diet, Oral Quality of Life, and Hormone Replacement Therapy*

P.I.: Petra Wilder-Smith, DDS, PhD

Approved 12.13.2011 – present

2011-8243: *Collection of Oral Tissue Pathology Related to Cancer in India Population for Developing Optical Coherence Tomography (OCT)*

P.I.: Petra Wilder-Smith, DDS, PhD

Approved 10.15.2012 - present

Animal

94-1579: *A Radiographic and Clinical Evaluation of the Effects of Carbon Dioxide Laser*

P.I.: Petra Wilder-Smith, DDS, PhD

Approved: 16.7.95 – 6.30.97

95-1657: *Laser Pulp Treatment*

P.I.: Petra Wilder-Smith, DDS, PhD

Approved: 16.7.95 – 6.30.97

97-1972: *Non-Invasive, Early Detection Of Malignant Changes In The Oral Cavity*

P.I.: Petra Wilder-Smith, DDS, PhD

Approved: 17.17.97 – present

98-1579: *A Radiographic and Clinical Evaluation of CO2 Laser Pulpotomy in Dog's Teeth*

P.I.: Petra Wilder-Smith, DDS, PhD

Approved: 19.10.98 – 9.30.00

2004-2547: *Pilot Study for Determining the Effects of Vesicant Agents on Hamster Oral Mucosa*

P.I.: Petra Wilder-Smith, DDS, PhD

Approved: 19.10.04 – present

AFOSR-2005-0004A: *Pilot Study for Determining the Effects of Vesicant Agents on Hamster Oral Mucosa*

P.I.: Petra Wilder-Smith, DDS, PhD

Approved: USAF Animal Research Programs, Division of Biomedical Research & Compliance, 19.10.04 – 1.27.07

2007-2706: *An Optical Approach to the Temporomandibular Disorders*

P.I.: Petra Wilder-Smith, DDS, PhD

Approved: 21.2.07-20.2.08

2007-2745: *An optical approach to the periodontal tissue changes under Diabetes mellitus*

P.I.: Petra Wilder-Smith, DDS, PhD

Approved: 10.31.07 – present

Teaching

Undergraduate Teaching

- 1985: Edinburgh University: clinical student supervision, all departments during rotation.
- 1986-1990: Heidelberg University Dental School: lectures and coursework, conservative dentistry, esthetic dentistry, endodontics, oral medicine.
- 1986-1990: Heidelberg University Dental School: clinical student supervision.
- 1995-present: Beckman Laser Institute, University of California, Irvine: Biosciences 130, Photomedicine
- 1995-present: Beckman Laser Institute, University of California, Irvine: Basics of dentistry, Dental Histopathology
- 1997-present: Aachen University, Germany: Biomedical Optics; Endodontics: undergraduate, graduate and postgraduate students- 3 weeks block lectures every summer
- 1999- present: Teaching, mentoring of CAMMP students
- 2001-present: Teaching, mentoring of Excellence in Research Students
- 2002-present: Teaching, mentoring of UC Leads Students
- 2002-present: Teaching, mentoring of SURP and UROP Students

Graduate Teaching

- 1993-2000: Loma Linda University, Dental School, Dept of Endodontics: Graduate and postgraduate student lectures
- 1997-present: Aachen University, Germany: Biomedical Optics; Endodontics: Undergraduate, graduate and postgraduate students- 3 weeks block lectures every summer
- 2001-present: Cancer Center University of California, Irvine: Biology of Cancer Working Group
- 2001-present: Cancer Center University of California, Irvine, Grand Rounds
- 2001-present: Otolaryngology: University of California, Irvine, Grand Rounds

Faculty Advisor

- 1995-present: Undergraduate Research Opportunities Program: 37 students
- 1999- present: CAMMP students: Gina Betita, Daniel Rodriguez, Rohana Khan, Jaclyn Barrera
- 2001-present: Excellence in Research Students: Dorothy Lin, Sirintra Charoenbanpachon, Tzu-Ling Chen, Ani Sarkassian, Vi Nguyen, Joseph Morcos, Kulginder Sran, Jaclyn Barrera, Kenneth Lee, Jessica Pharar, Mike DeCoro, Kinh LaPham, Michael Hoang, Joseph Youssef, Tasneem Nabelsi, Stephanie Mansour, Lucy Hallajian, Leina Rizzo
- 2002-present: Summer Undergraduate research program
- 2004: UC Leads program: Vi Nguyen
- 2006: UC Leads program: Flora Trang
- 2009-present: UC Irvine Council of Mentors
- 2011: UCI Medical Student Research Project (under joint mentorship with Dr. George Chaudry: David Tehrani, Martin Hoffman, Christina Castillo, Siobhan Poling
- 2012-2013: Graduate Student Mentor: Sara Sabokpey, John Biren-Fitz, Mohammad Dadkhah

Dental Fellow Supervisor

1993-95	Rod Tartaryn, DDS
1993-96	Hamid Abedi, DDS
1994-96	Ken Tiddle, DDS
1994-96	August Tang, DDS
1994-96	Bradley Van Mierlo, DDS
1994-96	Arthur Gage, DDS
1997-99	Luciana Ventura de Camargo, DDS
1998-00	Joon Chung, DDS
2000-02	Mary Stephens, DDS
2003-05	Kostas Kosirakis, DDS, PhD
2003-06	Shuweda Tessin, DDS, PhD
2005-07	David Kwon, DDS, PhD
2006-08	Rochelle Dinas, DDS, PhD

Ph.D. Student Supervisor

1999-2002	Hank Sciberras, University of Western Australia. (Co-Advisor: Ian Constable, M.D., Ph.D., University of Western Australia)- completed
2002-2006	Joseph Kunnil, Dept of Astronomy and Physics, Univ. of Canterbury, Christchurch, New Zealand. (Co-Advisor: Dr. Lou Reinisch, Canterbury University)- completed
2008-2010	Chang Soo Kim, Beckman Laser Institute, University of California, Irvine (joint advisor with Drs. Chen, Brenner, Kwon)
2011	Richa Mittal

Postdoctoral Fellow Supervisor

2006-8	Qingyuan Zhu, Beckman Laser Institute, University of California, Irvine
2006-2009	Julia Voronets, Bern University Switzerland (joint supervisor with Dr C Wilder-Smith)
2008-	Adriano Burcheri, Oxford University, UK (Joint supervisor with Dr Golding)
2009-	Jennifer Holtzman, USC

Visiting Fellow Supervisor

1993-94	Takashi Machida, DDS, PhD	Showa University Dental School, Tokyo, Japan
1994-96	Yuichi Kimura, DDS, PhD	Showa University Dental School, Tokyo, Japan
1995-96	Kostas Kosirakis, DDS, PhD	Athens University Dental School, Athens, Greece
1999-2001	Arata Ebihara, DDS, PhD	Tokyo University, Japan
2000-2001	Joon Chung, DDS, PhD	Loma Linda University, USA
2002	Arata Ebihara, DDS, PhD	Tokyo University, Japan
2006-2008	Jae Ho Baek, DDS, PhD	Pusan University, S. Korea
2007-2009	Maziar Mir, DDS, PhD	Aachen University, Germany
2008-2009	Laurent Lamard, DDS, PhD	Liege University, Belgium

University Service

1995-1998:	Session Chair, University of California, Irvine, Undergraduate Student Research Symposium
1995-1996:	Director of Continuing Education and Research Symposia, Seminars in Biomedical Optics and Photomedicine, University of California, Irvine
1995-present:	Medical Student Admissions Interviews, University of California, Irvine
2004-2008:	Budget Committee, Beckman Laser Institute, University of California, Irvine
2004-present:	Shared Resources Committee, Beckman Laser Institute, University of California, Irvine
2009-present:	Mentor Fellow, UC Irvine Institute for Clinical & Translational Science
2010-present:	Member, Institutional Biosafety Committee (IBC), University of California, Irvine
2011:	Chair, Excellence in Research Biological Sciences Symposium, University of California, Irvine, April 11, 2011