

C. M. SCHADE, MD, PhD, PE

ABA BOARD CERTIFIED IN PAIN MANAGEMENT

FELLOW OF INTERVENTIONAL PAIN PRACTICE

DIPLOMATE:

AMERICAN BOARD OF ANESTHESIOLOGY

AMERICAN BOARD OF PAIN MEDICINE

AMERICAN ACADEMY OF PAIN MANAGEMENT

AMERICAN BOARD OF INTERVENTIONAL PAIN PHYSICIANS

LICENSED PROFESSIONAL ENGINEER IN THE STATE OF COLORADO

P O Box 850069, Mesquite, TX 75185

C. M. Schade, M.D., Ph.D., P.E.

Curriculum Vitae

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1. EDUCATION:

B.S. Electrical Engineering and Computer Science	
University of California at Berkeley	1968
M.S. Electrical Engineering	
Stanford University	1969
Ph.D. Electrical Engineering	
Stanford University	1971
Ph.D. Computer Science (Minor)	
Stanford University	1971
P.E. Licensed Professional Engineer, Colorado	1974- Present
M.D. University of Miami School of Medicine, Miami, Florida	1976
Internship—Internal Medicine	
David Grant USAF Medical Center, Travis AFB, California	1976-1977
Residency—Anesthesiology	
Wilford Hall USAF Medical Center, Lackland AFB, Texas	1977-1979
Diplomate	
American Board of Anesthesiology	1980
American Academy of Pain Management	1989
American Board of Pain Medicine	1994
(Formerly: Fellow, American College of Pain Medicine)	
American Board of Interventional Pain Physicians	2006
Certificate of Added Qualifications in Pain Management	
American Board of Anesthesiology	1994 & 2004, 2014
Senior Disability Analyst and Diplomate	
American Board Disability Analysts	1996
Fellow of Interventional Pain Practice	2004
Certified in Controlled Substance Management	2005
Certified in Coding, Compliance and Practice Management	2005

2. PROFESSIONAL POSITIONS:

Digital Systems Engineer, Berkeley Scientific Laboratories	1965-1966
Assistant Research Engineer, Hewlett-Packard Laboratories	1965-1966
Digital Systems Engineering, Hewlett-Packard Company, Microwave Systems Group	1968-1969
Instructor of Electrical Engineering, Stanford University	1969-1971
Associate Professor of Electrical Engineering, U. S. Air Force Academy	1971-1974
United States Air Force, Lieutenant Colonel, MC, FS	1971-1981
Member, Board of Directors, Rocky Mountain Bioengineering Society	1971-1986
Licensed Professional Engineer, State of Colorado Registration No. 12908	1974-Present

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Technical Director of the Intensive Care Laboratory, Wilford Hall USAF Medical Center	1977-1981
Licensed to practice medicine in the:	
State of Texas	1978-present
State of Nevada (Inactive Status)	1978-present
Schade Anesthesiology Associates (dba)	1979-1981
Teaching Staff (part time), Wilford Hall USAF Medical Center	1979-1981
Medical Research Officer, USAF School of Aerospace Medicine	1979-1981
Anesthesia Consultants (dba)	1981-1988
Chairman, Emergency Room Committee, Charter Suburban Hospital	1981-1983
Member, Executive Committee, Charter Suburban Hospital	1981-1984
Director, Department of Anesthesiology, Charter Suburban Hospital	1981-1988
Vice Chief of Staff, Charter Suburban Hospital	1983-1984
Member, Board of Directors, Charter Suburban Hospital	1983-1984
Medical Director, Department of Physical Therapy, Charter Suburban Hospital	1986-1988
Medical Director, Advanced Orthopedic Services	1987-1988
Faculty, International Spine Injection Society	1992-1994
Member, Medical Executive Committee, Garland Community Hospital	1992-2001
Member, Board of Trustees, Garland Community Hospital	1993-2000
Chairman, Quality Management Committee, Garland Community Hospital	1994-1995
Chairman, Credentials Committee, Garland Community Hospital	1995-1998
Medical Director, Positive Pain Management	1995-1998
Faculty, Current Concept in Pain Management	1995-1997
Vice Chief of Staff, Garland Community Hospital	1996-1997
Chairman, Board of Directors, Patient Advocates of Texas	1996-2006
Chief of Staff, Garland Community Hospital	1998-1999
President-Elect, Texas Pain Society	1998-2000
Member TMA House of Delegates	2000-present
President, Texas Pain Society	2000-2002
Director Emeritus, Texas Pain Society	2002-present
Member, Board of Directors, Leland Medical Plaza	2002-2011
Chairman, Board of Directors, Vista Hospital of Dallas	2004-2011
Vice- Chair, KAG Lung Awareness Foundation, Inc.	2009-present
Pain Medicine Delegate Medicare Carrier Advisory Committee	2013-2017
Chief of Staff, University General Hospital of Dallas	2013-2014
Chairman, Board of Directors, University General Hospital of Dallas	2013-2014

3. *RECENT PROFESSIONAL MEETINGS AND REVIEW COURSES:*

Texas Pain Society 5 th Annual Meeting	2013
TMA Winter Conference	2014
TexMed Pain Medicine	2014
TSA Annual Meeting	2014
Texas Pain Society 6 th Annual Meeting	2014
TMA Winter Conference	2015
TSA Annual Meeting	2015
TMA Fall Conference	2015
Ironman Sports Medicine Conference	2015
Texas Pain Society 7th Annual Meeting	2015
TPS Symposium; Intrathecal Management of Chronic Pain	2015
TMA Winter Conference	2016
TexMed Pain Medicine	2017
TSA Annual Meeting	2017
TMA Fall Conference	2017
TMA Winter Conference	2018

4. *MEMBERSHIP ON HOSPITAL STAFFS:*

David Grant USAF Medical Center, Travis AFB, California	1976-1977
Wilford Hall USAF Medical Center, Lackland AFB, Texas	1977-1981
Medina Memorial Hospital, Hondo, Texas	1979-1981
Medical Center Hospital, Conroe, Texas	1979-1981
Frio Hospital, Pearsall, Texas	1979-1981
Charter Suburban Hospital, Mesquite, Texas	1981-1989
Leland Medical Plaza formerly known as Garland Community Hospital, Garland, Texas	1982-2003
Garland Memorial Hospital, Garland, Texas	1989-1993
Medical Center at Terrell, Terrell, Texas	2001-2004
Baylor Medical Center, Garland, Texas	2001-2018
Methodist Richardson Medical Center, Richardson, Texas	2003-2017
Vista Hospital of Dallas, Garland, Texas	2003-2011
The Spine Hospital, San Antonio, Texas	2005-2006
Baylor Surgicare at North Garland, Garland, Texas	2005-present
North Texas Team Care Ambulatory Surgery Center	2012-present
University General Hospital of Dallas	2013-2014

5. *REFERENCES:*

Furnished upon request

6. *HONORS AND PROFESSIONAL MEMBERSHIPS:*

Graduated with "Highest Honors" at the University of California at Berkeley
Graduated number one in my class of Electrical Engineers at the University of California at Berkeley
Phi Kappa Psi Fraternity
Phi Beta Kappa
Tau Beta Pi (Vice President, 1968)
American Medical Association
American Society of Anesthesiologists
Texas Medical Association
Texas Society of Anesthesiologists
Dallas County Medical Society
American Academy of Pain Management
International Spine intervention Society
Texas Medical Foundation, Lifetime member
American Academy of Pain Medicine
Texas Pain Society
American Society of Interventional Pain Physicians
American Board of Pain Medicine
Honorary Member, Texas Spine Society
2004 Healthcare Education Hero of the Year Award
American Board of Interventional Pain Physicians
2012 Texas Physician Practice Quality Improvement Award
International Association for the Study of Pain (IASP)
-CRPS Special Interest Group (SIG)

7. *FELLOWSHIPS:*

Air Force Institute of Technology Postdoctoral (36-13) Program,	
University of Miami School of Medicine	1974-76
National Science Foundation Fellow, Stanford University	1969-71
Tau Beta Pi Fellow, Stanford University	1968-69

Stanford Fellow, Stanford University
President's Undergraduate Fellow, University of California at Berkeley

1968-69
1967-68

8. *PUBLICATIONS:*

Evidence Based Pain Medicine: A Primer for Primary Care Physicians by the Texas Pain Foundation. Graves Owen, MD; Brian Bruel, MD, MBA; C M Schade, MD, PhD, FIPP; Maxim Eckmann, MD; Erik Hustak, MD; Mitchell Engle, MD, PhD, Baylor University Medical Center Proceedings, January 2018

Urine Drug Testing: Current Recommendations and Best Practices. Graves T. Owen, MD, Allen W. Burton, MD Cristy M. Schade, MD, PhD and Steve Passick, PhD, Pain Physician 2012;15-ISSN 1533-3159

Automatic Adaptation of Neurostimulation Therapy in Response to Changes in Patient Position: Results of the Posture Responsive Spinal Cord Stimulation (PRS) Research Study
Cristy Schade, MD, PhD, PE; David Schultz, MD; Nancy Tamayo, DC; Sudha Iyer, PhD; Eric Panken, MS, Pain Physician 2011; 14:407-417-ISSN 1533-3159

The Story of the Texas Pain Society: Formation and Function of the of a Regional Pain Society – Co Author, Pain Practice 2011, Volume 12, Issue 1, 2012, 57-65

Abstract: Physical Activity and Patient Programmer Usage in Spinal Cord Stimulation Patients Cristy Schade, MD, PhD, PE1; David Schultz, MD2; Nancy Tamayo, DC1; Sudha Iyer, PhD3; Eric Panken, MS3
1Center For Pain Control, Garland, TX; 2MAPS Applied Research Center, Edina, MN;3 Medtronic, Inc., Minneapolis, MN

Schade CM, Sasaki J., Schultz D.M., Tamayo N. et al Assessment of Patient Preference for Constant Voltage and Constant Current Spinal Cord Stimulation. Neuromodulation 2010; 13: 210-217

C.M. Schade, MD, D. Schultz MD, N. Tamayo, DC et al Adaptation of Spinal Cord Stimulation (SCS) Intensity in Response to Posture Changes, 2009, Neuromodulation Society, 13th Annual Meeting 2009; Ref Type: Abstract

Schade,C, Sasaki J, Schultz D et al. Voltage versus current stimulation pulse trains in patients undergoing spinal cord stimulation (SCS) trial. North American Neuromodulation Society, 12th Annual Meeting 2008; Ref Type: Abstract

Sasaki J, Schade C, Shultz, D et al. American Academy of Pain Medicine Annual Meeting Abstracts: Preference for voltage or current stimulation pulse trains is not consistent in patients undergoing spinal cord stimulation (SCS) trial (#161). Pain Medicine 2009; 10(1):228

Prevention of Mechanical Failures in Implanted Spinal Cord Stimulation Systems, Neuromodulation, Volume 9, Number 3, 2006, 183-191, co-author.

Pain Management: A Handbook for Texas Physicians, Texas Medical Association, 2006, co-author.

Super Stim – Treating Chronic Neck Pain, MD News, 2005

Spinal Cord Stimulation – Best Practices – Reducing Common Complications, Medtronic DVD, 2005
co-author

Review Article, COADMINISTRATION OF AN OPIOID AGONIST AND ANTAGONIST FOR PAIN CONTROL,2005 World Institute of Pain, Pain Practice, Volume 5, Issue, 2005 11-17 – co-author

Successful SCS Trials Targeting Chronic Pain in the Low Back, Medtronic 2004, co-author

FLUROSCOPIC SAFETY, Worldwide Pain Conference
San Francisco, CA, July 2000

Active Electrode Screening for Low Back Pain, Worldwide Pain Conference
San Francisco, CA, July 2000

Pursuing Advanced Indications: Complex Back and Leg Pain. The Art and Science of
Neuromodulation, Medtronic, 1999, co-author

Guidelines for Implantation of a Percutaneous Spinal Cord Stimulator, 1993.

"Women's G Tolerance," Aviation Space Environmental Medicine, 57: 745-53, 1986, co-author.

"Women's + G_z Tolerance," In: Preprints of the Aerospace Medical Association Annual Scientific
Meeting, Washington, D.C., Aerospace Medical Association, 982:24-5, co-author.

"Nitrous Oxide-Oxygen Sedation: USAF Dental Guideline," Aeromedical Review, USAF School
of Aerospace Medicine, Brooks AFB, Texas, November, 1981, co-author.

"Processing of the Leg Volume Data Obtained on the MO92 Skylab Missions," Instrumentation
Laboratory Report, Department of Electrical Engineering, United States Air Force Academy,
Colorado, 1974, co-author.

"Manuals for Medical Instrumentation," Instrument Society of American Draft Standard, 1973, co-
author.

"The Adaptive Control of Therapeutic Procedures," Research Animals in Medicine, National Heart
and Lung Institute, DHEW Publication No. (NIH) 72-333, 1973, co-author.

"Optimal Regulation of Physiological Systems via Real Time Adaptive Model Synthesis,"
(TRNo.6792-2), Stanford Electronics Laboratories, Stanford, California, 1971.

"Introduction to Heuristics of Invention and Discovery," SU-DMS-70-T-14, Stanford University,
1969, co-author.

"ADAC-An Automatic System for Measuring Hall Effect in Semiconductors," Hewlett-Packard
Journal, November 1966, co-author.

First Interim Technical Report, "Solid State Image Intensifier Panels," DA-44-009-AMC-1250 (T),
U. S. Army, Fort Belvoir, Virginia, 1966, co-author.

9. *PATENTS:*

I filed for a Photon Amplifier patent in 1966, and it was patented December 23, 1969, as
#3,486,028.

This invention relates to an electronic circuit for amplifying an incident photon signal by taking
advantage of the non-linear unidirectional conductivity characteristics of an electroluminescent
diode.

In March 1970, Dr. E. E. Loebner and I disclosed an invention relating to a coding for multi-digit
number indicating scales for use with time, angular, or linear measuring and/or recording devices.

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In October 1993, I filed patent application number 08/453,570 for a surgical x-ray instrument for use in doing cervical discograms. Patent 5531737 was issued on July 2, 1996 for this instrument, which increases safety to the operating physician as well as the patient.