

# CENTER *For* PAIN CONTROL

-A CARF ACCREDITED FACILITY-

## **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

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

#### ***Curriculum Vitae***

***December 31, 2010***

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#### **1. EDUCATION:**

|  |             |
|--|-------------|
| B.S. Electrical Engineering and Computer Science<br>University of California at Berkley    | 1968        |
| M.S. Electrical Engineering<br>Stanford University   | 1969        |
| Ph.D. Electrical Engineering<br>Stanford University  | 1971        |
| Ph.D. Computer Science (Minor)<br>Stanford University                                      | 1971        |
| P.E. Registered Professional Engineer  | 1974        |
| M.D. University of Miami School of Medicine, Miami, Florida                                | 1976        |
| Internship—Internal Medicine<br>David Grant USAF Medical Center, Travis AFB, California    | 1976-1977   |
| Residency—Anesthesiology<br>Wilford Hall USAF Medical Center, Lackland AFB, Texas          | 1977-1979   |
| Diplomate<br>American Board of Anesthesiology  | 1980        |
| American Academy of Pain Management  | 1989        |
| American Board of Pain Medicine<br>(Formerly: Fellow, American College of Pain Medicine)   | 1994        |
| American Board of Interventional Pain Physicians   | 2006        |
| Certificate of Added Qualifications in Pain Management<br>American Board of Anesthesiology | 1994 & 2004 |
| Senior Disability Analyst and Diplomate<br>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        |

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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    |
| Professional Engineer, State of Colorado Registration No. 12908                       | 1974-present |
| 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   | 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    |
| Medical Director, Center for Pain Control   | 1981-present |
| 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    |
| Medical Director, Positive Pain Management  | 1995-1998    |
| Faculty, Current Concept in Pain Management   | 1995-1997    |
| Chief of Staff--Elect, 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                                      | 2002-2004    |
| Chairman, Board of Directors, Vista Hospital of Dallas                                | 2004-present |

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3. **RECENT PROFESSIONAL MEETINGS AND REVIEW COURSES:**

|   |      |
|---|------|
| BioChallenger-Diagnosis & treatment of Biological Exposure<br>The Virtual Lecture Hall                | 2005 |
| TEXMED 2005 Pain Medicine, Dallas, TX   | 2005 |
| ASIPP Competency Certification Review Course in Coding Compliance and Practice Mgmt<br>Washington, DC | 2005 |
| 22 <sup>nd</sup> Annual Pain Symposium Lubbock, Texas   | 2005 |
| TMA Winter Conference, Austin, TX   | 2006 |
| TEXMED 2006 Pain Medicine, Houston, TX  | 2006 |
| 23 <sup>rd</sup> Annual Pain Symposium Lubbock, Texas   | 2006 |
| TMA Fall Conference, Austin, TX   | 2006 |
| TMA-Texas Pain Society Regional Meeting on Pain Mgmt  | 2006 |
| Update in Pain Mgmt with Cadaver Workshop, Dallas, TX   | 2007 |
| TEXMED 2007 Pain Medicine, Dallas, TX   | 2007 |
| VHA Texas Risk Avoidance Program, Richardson, TX  | 2007 |
| Pain Grand Rounds: SCS and Prescription Opioid Abuse & Opioid Use for Non-Malignant Pain              | 2007 |
| 24 <sup>th</sup> Annual Pain Symposium, Lubbock, TX   | 2007 |
| TMA - Worker's Compensation 2007, Austin, TX  | 2007 |
| TMA Winter Conference, Austin, TX   | 2008 |
| Update in Pain Management with Cadaver Workshop   | 2008 |
| TMA - Worker's Compensation 2008, Dallas, TX  | 2008 |
| Update in Pain Mgmt with Cadaver Workshop, Dallas, TX   | 2009 |
| TMA Red Flag Rules Audio Conference   | 2008 |
| 2008 TMA Fall Conference  | 2008 |
| Texas Medical Association; Red Flag Rules Audio Conference  | 2009 |
| TMA; 2009 Learn @ Lunch: The Human Resources Series: Recruitment                                      | 2009 |
| TexMed 2009   | 2009 |
| MedScape  | 2009 |
| Texas Medical Association; Human Resources Series Employment Recruitment                              | 2009 |
| 25 <sup>th</sup> Annual Pain Symposium  | 2009 |
| TMA Fall Conference General Session   | 2009 |
| Texas Medical Board Expert Panelist Tutorial and Examination  | 2009 |
| TSA 2009 Annual Meeting   | 2009 |
| 59 <sup>th</sup> Annual Obesity & Associated Conditions Symposium                                     | 2009 |
| Texas Pain Society 1 <sup>st</sup> Annual Scientific Meeting  | 2009 |
| The Doctor's Company; Litigation Education Retreat  | 2009 |
| Winter Conference General Session   | 2010 |
| TEXMED 2010   | 2010 |
| Take Charge: Media/Message Training   | 2010 |
| TMB Outreach Lecture  | 2010 |
| TTUHSC 27 <sup>th</sup> Annual Pain Symposium   | 2010 |

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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-present |
| Richardson Regional Medical Center, Richardson, Texas                             | 2003-present |
| Vista Hospital of Dallas, Garland, Texas  | 2003-present |
| The Spine Hospital, San Antonio, Texas  | 2005-2006    |
| Baylor Surgicare at North Garland, Garland, Texas                                 | 2005-present |

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  
Texas Medical Association  
Dallas County Medical Society  
American Academy of Pain Management  
International Spinal Injection Society  
Texas Medical Foundation, Lifetime member  
American Academy of Pain Medicine  
American Pain Society  
Texas Pain Society  
American Society of Addiction Medicine  
American Neuromodulation Society, Inc.  
National Forum of Independent Pain Clinicians  
Association of Pain Management Anesthesiologists  
American Society of Interventional Pain Physicians  
American Board of Pain Medicine  
Honorary Member, Texas Spine Society  
World Institute of Pain  
2004 Healthcare Education Hero of the Year Award  
American Board of Interventional Pain Physicians

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                                   | 1968-69 |
| President's Undergraduate Fellow, University of California at Berkeley | 1967-68 |

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8. **PUBLICATIONS :**

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, 13<sup>th</sup> 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, 12<sup>th</sup> 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*

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

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<sub>z</sub> 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.

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.