

# CRISTY M. SCHADE, MD, PhD, PE



## Credentials



**Medical License:**  
Texas (F1971)

**Board Certification** | Anesthesia,  
*American Board of  
Anesthesiology, 1980*

**Board Certification** | Pain  
Management, *American Board of  
Anesthesiology, 1994, Recert 2015*

**Fellow** | Interventional Pain Practice

### DIPLOMATE:

- American Board of Anesthesiology | 1980
- American Board of Pain Medicine | 1984
- Academy of Integrative Pain Management | 1989
- American Board of Interventional Pain Physicians | 2006
- American Board of Disability Analysts | 1996

**Licensed Professional Engineer:**  
Colorado (PE.0012908) | 1974

## Contact:

[cmschade.com](http://cmschade.com)

Email: [cmschade@cpctx.com](mailto:cmschade@cpctx.com)

Fax: 972-534-1740

Mailing Address:

PO Box 850069

Mesquite, TX 75185

## Subject Matter Expert: *Pain Management & CRPS*

### Overview

With a career spanning five decades, Cristy M Schade, MD, PhD, PE, is a seasoned Pain Medicine practitioner. He practices in a multimodal, multidisciplinary pain clinic in the Dallas Metroplex, focusing on areas such as spinal cord stimulation and complex regional pain syndrome. In addition to his clinical practice, he serves as a biomedical consultant and a Pain Medicine expert witness.

Dr. Schade is ABA Board Certified in Pain Management, a Fellow of Interventional Pain Practice, and a Diplomate of the American Board of Anesthesiology, American Board of Pain Medicine, American Academy of Pain Management, American Board of Interventional Pain Physicians, and the American Board of Disability Analysts.

Dr. Schade has PhD's in Electrical Engineering and Computer Science from Stanford University and is a Licensed Professional Engineer for the state of Colorado. He taught Electrical Engineering and Computer Science at Stanford University and the USAF Academy.

Dr. Schade's commitment to public health is evident in his 10-year service in the United States Air Force, where he rose to the rank of LT. Colonel. His role as the USAF Surgeon General's medical toxicology consultant in Nuclear, Chemical, and Biological Warfare and as a Flight Surgeon Instructor at the USAF School of Aerospace Medicine highlights his leadership and expertise in this field.

Dr. Schade was the first Presiding Officer of the Texas State Board of Pharmacy's Prescription Monitoring Program Advisory Committee, and is a past president of the Texas Pain Society, and a TPS Board of Directors emeritus member. He has several decades of experience advocating for Pain Medicine at the Texas Legislature, representing the Texas Medical Association and the Texas Pain Society.

### Professional Positions

#### Licensed to practice medicine in:

State of Texas | 1978 - present

State of Nevada | 1978-2019

#### Licensed Professional Engineer,

State of Colorado Registration No. 12908 | 1974 – present

**Secretary & Treasurer, Board of Directors**, Complete Picture | 2019 – present

**Vice-Chair**, KAG Lung Awareness Foundation, Inc. | 2009 – present

**Director Emeritus**, Texas Pain Society | 2002 - present

#### Member,

Texas Medical Association Behavioral Health Committee | 2014-2023

**Presiding Officer**, Texas State Board of Pharmacy's Prescription Monitoring Program Advisory Committee | 2020-2023

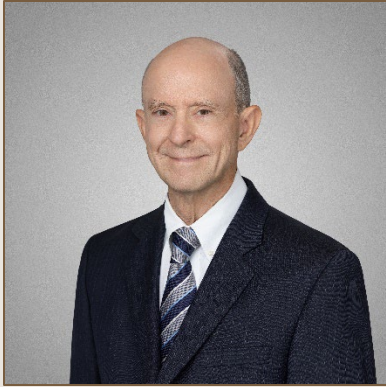
**Member**, TMA House of Delegates | 2000-2020

**Pain Medicine Delegate**, Medicare Carrier Advisory Committee | 2013-2017

#### Chairman, Board of Directors,

University General Hospital of Dallas | 2013-2014

# CRISTY M. SCHADE, MD, PhD, PE



## 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**



**Doctor of Medicine**  
University of Miami School of Medicine, 1976



**Internship, Internal Medicine**  
David Grant USAF Medical Center, Travis AFB, CA  
1976-1977



**Residency, Anesthesiology**  
Wilford Hall USAF Medical Center, Lackland AFB, TX  
1977-1979



**United States Air Force Flight Surgeon**  
School of Aerospace Medicine  
Brooks AFB, Medical Toxicology Specialist for nuclear, biological, and chemical agents | 1979-1981

## Professional Positions Continued ...

**Chief of Staff, University General Hospital of Dallas** | 2013-2014  
**Chairman, Board of Directors, Vista Hospital of Dallas** | 2004-2011  
**Member, Board of Directors, Leland Medical Plaza** | 2002-2011  
**Chairman, Board of Directors, Patient Advocates of Texas** | 1996-2006  
**President, Texas Pain Society** | 2000-2002  
**Member, Medical Executive Committee, Garland Community Hospital** | 1992-2001  
**President-Elect, Texas Pain Society** | 1998-2000  
**Member, Board of Trustees, Garland Community Hospital** | 1993-2000  
**Chief of Staff, Garland Community Hospital** | 1998-1999  
**Chairman, Credentials Committee, Garland Community Hospital** | 1995-1998  
**Medical Director, Positive Pain Management** | 1995-1998  
**Vice Chief of Staff, Garland Community Hospital** | 1996-1997  
**Faculty, Current Concept in Pain Management** | 1995-1997  
**Chairman, Quality Management Committee, Garland Community Hospital** | 1994-1995  
**Faculty, International Spine Injection Society** | 1992-1994  
**Medical Director, Advanced Orthopedic Services** | 1987-1988  
**Medical Director, Department of Physical Therapy, Charter Suburban Hospital** | 1986-1988  
**Director, Department of Anesthesiology, Charter Suburban Hospital** | 1981-1988  
**Anesthesia Consultants (dba)** | 1981-1988  
**Member, Board of Directors, Rocky Mountain Bioengineering Society** | 1971-1986  
**Vice Chief of Staff, Charter Suburban Hospital** | 1983-1984  
**Member, Board of Directors, Charter Suburban Hospital** | 1983-1984  
**Chairman, Emergency Room Committee, Charter Suburban Hospital** | 1981-1983  
**Member, Executive Committee, Charter Suburban Hospital** | 1981-1984  
**Schade Anesthesiology Associates (dba)** | 1979-1981  
**Teaching Staff (part-time), Wilford Hall USAF Medical Center** | 1979-1981  
**Medical Research Officer, USAF Surgeon General's Consultant in CNBW, Flight Surgeon Instructor, USAF School of Aerospace Medicine** | 1979-1981  
**Technical Director of the Intensive Care Laboratory, Wilford Hall USAF Medical Center** | 1977-1981  
**United States Air Force, Lieutenant Colonel, MC, FS** | 1971-1981  
**Associate Professor of Electrical Engineering, U. S. Air Force Academy** | 1971-1974  
**Instructor of Electrical Engineering, Stanford University** | 1969-1971  
**Digital Systems Engineer, Hewlett-Packard Company, Microwave Systems Group** | 1968-1969  
**Assistant Research Engineer, Hewlett-Packard Laboratories** | 1965-1966  
**Digital Systems Engineer, Berkeley Scientific Laboratories** | 1965-1966

# CRISTY M. SCHADE, MD, PhD, PE

## *Education Continued ...*

**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**, Interventional Pain Practice | 2004

**Certified**, Controlled Substance Management | 2005

**Certified**, Coding, Compliance, and Practice Management | 2005

### Fellowships:

**Air Force Institute of Technology Postdoctoral (36-13) Program**, University of Miami School of Medicine | 1974-76

**National Science Foundation Fellow**, Stanford University | 1969-1971

**Tau Beta Pi Fellow**, Stanford University | 1968-1969

**Stanford Fellow**, Stanford University | 1968-1969

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

### Accolades:

- Graduated with "Highest Honors" at the University of California at Berkeley
- Graduated "First-in-Class", Electrical Engineers at the University of California at Berkeley
- Phi Kappa Psi Fraternity
- Phi Beta Kappa
- Tau Beta Pi (Vice President, 1968)

## *Professional Memberships & Awards*

- American Medical Association
- American Society of Anesthesiologists
- Texas Medical Association
- Texas Society of Anesthesiologists
- American College of Medical Toxicology
- 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
- Consumers Research Council of America – America's Top Physicians - Pain Medicine 2005
- American Board of Interventional Pain Physicians
- 2012 Texas Physician Practice Quality Improvement Award
- Consumers Research Council of America – America's Top Physicians - Pain Medicine 2012
- International Association for the Study of Pain (IASP) – CRPS Special Interest Group (SIG)
- Texas Medical Association - House of Delegates 2020 - 2024
- American Society of Interventional Pain Physicians – Outstanding Service Award 2016
- Texas Monthly- Super Doctors 2016, 2017
- Advanced Pain Solutions - Award of Excellence 2019
- D Magazine – Pain Medicine Best Doctors 2022
- Texas Pain Society - Lifetime Achievement Award 2022
- Best in Texas Medicine – Pain Medicine Top Doc 2023
- Best in Texas Magazine – Excellence in Medicine 2023



# CRISTY M. SCHADE, MD, PhD, PE



## 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 for the operating physician as well as the patient.

## Memberships on Hospital Staff

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 | 2005-2018  
North Texas Team Care Ambulatory Surgery Center | 2012 – present  
University General Hospital of Dallas | 2013-2014

## Recent Professional Presentations

Texas Medical Board, Opioid Risk Evaluation and Mitigation Strategy CME Speaker | 2014  
TPS CDC Opioid Guidelines CME Speaker | 2016  
Texas Pain Society Annual Scientific Meeting - Speaker | 2014-2020  
TMA CME Requirements for Opioid Prescribing – Speaker | 2020  
Texas Pain Foundation Pain Management & Prescription Opioids – CME Speaker | 2020  
Texas Pain Society 13th Annual Scientific Meeting - OPIOD Regulations Speaker | 2021  
TPS Annual Meeting: Complex Regional Pain Syndrome – Speaker | 2021  
TPS Annual Meeting: Spinal Cord Stimulation – Speaker | 2021  
The Opioid Crisis-Not Just Opioids Anymore – Author DMJ | 2022  
A Review of the 2022 Newly Revised CDC Guidelines TPS CME Speaker | 2022  
TPS First Annual C Stratton Hill, MD Advocacy CME Lecture | 2023  
Texas Pain Society Annual Scientific Meeting – Speaker | 2022-2023

## Publications

Complex Regional Pain Syndrome (CRPS) – Review and Update- Speaker, Texas Pain Society 13th Annual Scientific Meeting 10-23-2021  
Spinal Cord Stimulation – Review and Update- Speaker, Texas Pain Society 13th Annual Scientific Meeting 10-22-2021  
Texas Medical Board Education Requirements for Opioid Prescribing – Texas Medical Association CME Speaker, (15,000+ subscribers 2020-2024)  
Pain Management & Prescription Opioids – Texas Pain Foundation CME Speaker | 2020  
Opioid Overdoses: Not a Prescribing Crisis – An Addiction Crisis. C M Schade, MD, PhD, PE, Dallas Medical Journal, January 2019 16-17  
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



## CRISTY M. SCHADE, MD, PhD, PE

### *Publications Continued ....*

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) trials (#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, Speaker Worldwide Pain Conference - San Francisco, CA, July 2000

Active Electrode Screening for Low Back Pain, Speaker 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 + Gz 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.