

## **CURRICULUM VITAE**

**Norman W. Kettner, DC, DACBR, DCBCN, FICC**

**Name:** Norman W. Kettner

**Residence:** 970 Somerfor Place  
Creve Coeur, Missouri 63141

**Date of Birth:** September 1, 1950

**Marital Status:** Married, 1 child

**Education:**

**High School**  
Wisconsin Lutheran High School  
Milwaukee, Wisconsin  
September 1964 – June 1968

**College**  
University of Wisconsin - Milwaukee  
January 1971 – December 1972

Logan College of Chiropractic, B.S.  
January 1977 – April 1978

Logan College of Chiropractic, D.C.  
January 1977 – December 1979

**Work History**

Aulers  
Milwaukee, WI  
January 1969 – December 1969

Mind Dynamics (Self Employed)  
Indianapolis, IN  
January 1970 – December 1970

Karate Unlimited (Self Employed)  
South Milwaukee, WI  
April 1973 – December 1976

Logan College of Chiropractic  
Chesterfield, MO  
January 1980 – Present

**Chiropractic Licensure:** Missouri

**Residency Training:** Diagnostic Radiology  
Logan Health Centers  
January 1980 – December 1981

**Board Qualifications:**

Diplomate  
American Chiropractic Board of Radiology  
April 1984

Fellow  
College Board of Chiropractic Neurology  
July 2002

Advanced Fellow  
College Board of Chiropractic Neurology  
July 2003

Diplomate  
College Board of Chiropractic Neurology  
April 2004

**Hospital Affiliation:**

Chiropractic Service, Des Peres Hospital, 1992-2011

**Major Areas of Interest:**

Magnetic Resonance Imaging, Ultrasonography, Chronic pain,  
Clinical Biomechanics, Neurology, Chiropractic Education

**Awards:**

1. Dean's List, University of Wisconsin, Milwaukee 1970-1972
2. Dean's List, Logan College 1977-1979
3. Cum Laude, Logan College 1980
4. Instructor of the Year, Logan College 1984
5. Distinguished Service Award for Clinical Science Division, Logan College 1985
6. Distinguished Service Award for Clinical Science Division, Logan College 1986
7. Instructor of the Year, Logan College 1987
8. Special Recognition Award for Chiropractic Education and Research 1988
9. Instructor of the Year, Logan College 1988
10. Certificate of Appreciation from the Student Doctors Council, Logan College 1988
11. Distinguished Service Award for Clinical Science Division, Logan College 1989
12. Fellow International College of Chiropractors 1992
13. Missouri State Chiropractors Association Certificate of Appreciation for Promotion and Protection of Chiropractic in the State of Missouri August 2000
14. Governor's Award for Excellence in Teaching December 2001
15. Distinguished Service Award - Alumni Association Logan College of Chiropractic June 2002

- |     |   |                    |
|-----|---|--------------------|
| 16. | Teacher of the Year Award<br>Missouri State Chiropractor's Association  | August 3, 2002     |
| 17. | Academician of the Year<br>American Chiropractic Association  | September 26, 2005 |
| 18. | Researcher of the Year<br>American Chiropractic Association   | September 21, 2008 |
| 19. | Outstanding Missouri Chiropractic Physician<br>Award: Missouri House of Representative<br>Ninety-Fourth General Assembly  | October 9, 2008    |
| 20. | Distinguished Service Award<br>Alumni Association<br>Logan College of Chiropractic<br>For Meritorious and Illustrious Service<br>to the Chiropractic Profession | June 11, 2010      |
| 21. | Emerson Award for Excellence in Teaching<br>St. Louis, MO   | November 13, 2011  |

**Academic Appointments:**

1. Professor of Clinical Science  
Logan College of Chiropractic  
September, 1993 - Present
2. Instructor  
Postgraduate Division  
Northwestern College of Chiropractic  
March, 1993 - Present
3. Instructor  
Postgraduate Division  
Los Angeles College of Chiropractic  
January, 1993
4. Tenured Faculty Member  
Logan College of Chiropractic  
September, 1989 - Present
5. Associate Professor of Clinical Science  
Logan College of Chiropractic  
September, 1987
6. Chairman  
Department of Radiology  
Logan College of Chiropractic  
August, 1984 - Present
7. Director Radiology Residency  
Logan College of Chiropractic  
August, 1984 - Present

8. Assistant Professor of Clinical Science  
Logan College of Chiropractic  
August, 1983
9. Instructor  
Department of Basic Science  
Logan College of Chiropractic  
November 1981
10. Instructor  
Postgraduate Division  
Logan College of Chiropractic  
November 1981
11. Instructor  
Department of Clinical Science  
Logan College of Chiropractic  
January 1980
12. Clinician  
Logan College of Chiropractic  
January 1980

**Other Professional Appointments:** Co-Chair  
Complementary and Alternative Medicine (CAM) Special Interest  
Groups (SIG)  
American Pain Society  
May 2013 – Current

Faculty Representative  
Presidential Search Advisory Committee  
Logan College of Chiropractic  
October 2012 – February 2013

American Chiropractic Association  
2011 Academic Awards Committee  
August 2011

Ad Hoc Hearing Committee  
Logan College of Chiropractic  
Thursday, April 21, 2011

Canadian Institute for the Relief of Pain and Disability (CIRPD)  
Scientific Committee  
Conference on Musculoskeletal Disorders and Chronic Pain: Evidence-  
based approaches for clinical care, disability prevention and claims  
management.  
Los Angeles, CA  
February 10-11, 2011

American Chiropractic Association  
Committee Member  
Annual Awards  
August 1, 2010 - Current

American Chiropractic Association  
Committee Member  
Radiological Health Advisory Committee  
February 1, 2010 - Current

NIH/NCCAM  
Special Emphasis Panel  
Basic Science  
Study Section, ad hoc committee  
Bethesda, MD  
March 1-3, 2009

NIH/NCCAM  
Special Emphasis Panel  
Basic Science  
Study Section, ad hoc committee  
Bethesda, MD  
March 9-11, 2008

NIH/NCCAM  
Special Emphasis Panel  
Basic Science  
Study Section, ad hoc committee  
Bethesda, MD  
October 17-19, 2007

NIH/NCCAM  
Special Emphasis Panel  
Basic Science  
Study Section, ad hoc committee  
Bethesda, MD  
March 11-13, 2007

NIH/NCCAM  
Special Emphasis Panel  
Basic Science  
Study Section, ad hoc committee  
Bethesda, MD  
October, 2006

National Board of Chiropractic Examiners  
Part IV Diagnostic Imaging Workshop Agenda  
Greeley, CO  
March 30 – April 1, 2005

Past President, American Chiropractic  
College of Radiology, 1994-95

Past President, American Chiropractic  
College of Radiology, 1993-94

Proposal Review Team, Consortium for  
Chiropractic Research, 1992

President, American Chiropractic College  
of Radiology, 1991 - 1992

Vice-President, American Chiropractic  
College of Radiology, 1989 - 1990

Grant Reviewer, Foundation for  
Chiropractic Education and Research, 1989

**Ad Hoc Reviewer:**

Global Journal of Health Sciences  
Journal of Manipulative and Physiological Therapeutics  
Journal of the American Chiropractic Association  
Pain  
Journal of Pain Medicine  
Evidence-Based Complementary and Alternative Medicine  
Synapse Journal  
Journal of Alternative and Complementary Medicine

**Editorial Board:**

Journal of Manipulative and Physiological Therapeutics  
March 15, 2012 – Current

Journal of Chiropractic Medicine  
January 2007 - Current

Guest Editor Journal of the Neuromusculoskeletal System (JNMS)  
A Journal of the American Chiropractic Association  
Volume 10, Number 2  
Summer 2002

Journal of the American Chiropractic Association (JACA)  
Editorial Committee  
September 10, 2001 – December 2005

In Practice.  
1995-96

Journal of Neuromusculoskeletal System  
1992 - 2002

Topics in Diagnostic Radiology and Advanced Imaging  
1992

D.C. Tracts  
1989 – 2001

Editorial Board, Chiropractic Sports  
Medicine, 1989 – 1998

**Other Activities:**

Faculty Representative  
Presidential Search Advisory Committee  
Logan College of Chiropractic  
October 2012 – February 2013

Master of Ceremonies  
Logan College of Chiropractic/University Programs  
Graduation  
Chesterfield, Missouri  
August 25, 2012

Search Committee  
Assessment Center Director  
Logan College of Chiropractic  
Chesterfield, MO  
November 2011 – April 2012

Master's Program in Nutrition and Human Performance  
Thesis Committee  
Committee Chair  
Logan College of Chiropractic  
Chesterfield, MO  
September 2011 - Current

Search Committee  
Anatomy Instructor  
Logan College of Chiropractic  
Chesterfield, MO  
July-August 2011

Examiner – Doctor of Philosophy Thesis  
The University of Queensland  
Center for Advanced Imaging  
Brisbane Queensland Australia  
January 2011 – February 2011

Master of Ceremonies  
Logan College of Chiropractic Graduation  
Chesterfield, Missouri  
December 18, 2010

Co-Chair  
The Higher Learning Commission of the North Central Association of  
Colleges and Schools Steering Committee, Criterion Four  
November 2009 – September 2011

Master of Ceremonies  
Logan College of Chiropractic Graduation  
Chesterfield, Missouri  
August 22, 2009

Master of Ceremonies  
Logan College of Chiropractic Graduation  
Chesterfield, Missouri  
April 21, 2007

Master of Ceremonies  
Logan College of Chiropractic Graduation  
St. Louis, Missouri  
August 20, 2005

Chair, Search Committee for Director of Research  
Logan College of Chiropractic  
July 2003

Keynote Speaker  
Logan College of Chiropractic  
Graduation  
April 2002

Master of Ceremonies  
Logan College of Chiropractic  
Graduation  
December 2001

Search Committee for Director of Research  
Chairman  
Logan College of Chiropractic  
May 2000

Faculty Representative  
NCMIC Insurance Group Visit and Meeting  
Logan College of Chiropractic  
May 16, 2000

Site Coordinator  
First National Symposium on Complementary and Alternative  
Geriatric Health Care  
April 29-30, 2000

Faculty Representative  
International College of Chiropractors. Inc.  
September 1999

Committee Member  
MSCA  
AD HOC - Practice Act Revisions  
1999 - 2000

Co-Chair  
MSCA Task Force on Managed Care  
July 1997

Program Director  
Council on Diagnostic Imaging Spring Symposium 1997  
Annual Convention  
“Radiology Online: Exploring the Tools of Cyberspace”  
Logan College of Chiropractic  
April 5-6, 1997

Faculty Representative  
Partnership University of Missouri - St. Louis and  
Logan College of Chiropractic  
June 1996

Member  
ACCR Ultrasound Task Force  
1995-96

Member  
Missouri Department of Health  
Committee for Process, Utilization, and  
Outcome indicators  
1995-96

Chairperson  
Missouri State Chiropractic Association  
Practice Guidelines Committee  
1994 - 1995

Coordinator  
Chiropractic Health Care Delivery Project  
Educational Conference  
August 1995

Secretary  
Missouri Chiropractic Health Reform Task Force  
1993 - 1994

Program Director  
American Chiropractic College of Radiology Annual  
Workshop and Symposium, "Images for the Nineties",  
1993

Participant, Mercy Conference  
Guidelines for Chiropractic Quality Assurance and  
Standards of Practice, 1992

Chairman, Practice Guidelines Committee  
Missouri State Chiropractic Association, 1992 – 1993

Faculty Representative  
Logan College Presidential Search Committee, 1992

MSCA Hospital Task Force, 1991  
Program Director  
American Chiropractic College of Radiology Annual  
Workshop and Symposium, "Images for the Nineties",  
1990

**Grants:**

Site Coordinator  
HRSA Geriatric Education Grant  
St. Louis University School of Medicine  
Division of Geriatrics  
July 1, 2010 – June 30, 2011

Site Coordinator  
HRSA Geriatric Education Grant  
St. Louis University School of Medicine  
Division of Geriatrics  
July 1, 2009 – June 30, 2010

Site Coordinator  
HRSA Geriatric Education Grant  
St. Louis University School of Medicine  
Division of Geriatrics  
July 1, 2008 – June 30, 2009

Grant Consultant  
NIH CERC P01  
Brain Mechanisms for Acupuncture-Induced Autonomic Modulation  
in Chronic Pain  
Athinoula A Martinos Center for Biomedical Imaging  
Massachusetts General Hospital, Harvard Medical School  
January 2008

Site Coordinator  
HRSA Geriatric Education Grant  
St. Louis University School of Medicine  
Division of Geriatrics  
September 1, 2007 – June 30, 2008

Grant Consultant  
Awarded  
NIH NCCAM R01 Brain Plasticity in Carpal Tunnel Syndrome  
and its Responses to Acupuncture  
Athinoula A Martinos Center for Biomedical Imaging  
Massachusetts General Hospital, Harvard Medical School  
Vitaly Napadow, PhD (PI)  
This grant provided expanded imaging samples with  
additional control arm to study effects of carpal tunnel  
syndrome.  
September 15, 2008 – May 31, 2013

Grant Consultant  
NIH NCCAM R21  
Acupuncture Effects on Neuroplasticity in Carpal  
Tunnel Syndrome using fMRI  
Vitaly Napadow, PhD (PI)  
This grant is a pilot study to evaluate cortical and subcortical  
responses to a course of acupuncture in a sample of carpal tunnel  
syndrome patients.

Data and Safety Monitoring Committee  
Musculoskeletal and Obstetric Management Study (MOMS)  
HRSA  
Funded October 2006

Principal Investigator  
Toward the Elimination of Polypharmacy in the Geriatrics  
A proposal submitted to Consortium of Chiropractic Research  
April 2001

Principal Investigator  
The Impact of rTMS on Cognitive Function in  
Alzheimer's disease  
A proposal submitted to NIH/NCCAM  
August 1999

Co- Investigator  
R21 Proposal: Effects TMS on Memory in Mice  
A proposal submitted to NIH/NCCAM  
August 1999

Principal Investigator  
Preventing Polypharmacy in the Geriatric: A CAM Model  
A proposal submitted to Consortium of Chiropractic Research  
February 1999

Site Coordinator  
HRSA Geriatric Education Grant  
St. Louis University School of Medicine  
Division of Geriatrics  
1997-2000

Co-Investigator  
Alternative Therapies and the Treatment of Chronic Pain  
NIH/NCCAM  
1994

**Invited Speaker:**

“Functional Imaging Techniques Current Status and Future Directions”

Course: Evaluation Process for Alternative Skills  
Saint Louis University School of Medicine  
St. Louis, MO  
December 12, 2012, 1:00 pm – 2:00 pm

“Acupuncture: From the Needle to the Brain”

American Chiropractic Association  
Council of Chiropractic Acupuncture Symposium  
St. Louis, MO  
Saturday, September 29, 2012

“The Biomechanics of Cervical Spondylosis”

Orthopedic Associates Special Presentation of Importance of Spinal Alignment in Spine and joint Surgery  
Orthopedic Associates  
1050 Old Des Peres Road  
Des Peres, MO  
Tuesday, May 29, 2012, 6:00 pm

“Imaging Cortical Neuroplasty”

American Chiropractic College of Radiology (ACCR)  
Minneapolis, MN  
September 28, 2011 - October 1, 2011

“Integration of Diagnostic Ultrasound: The Logan Experience”

American Chiropractic College of Radiology (ACCR)  
Minneapolis, MN  
September 28, 2011 - October 1, 2011

“Neurobiology of Chronic Pain”

Faculty Development Workshop  
Logan College of Chiropractic  
Chesterfield, MO  
June 6, 2011 11:00 am – 12:00 pm

“Functional Imaging Techniques Current Status and Future Directions”

Course: Evaluation Process for Alternative Skills  
Saint Louis University School of Medicine  
St. Louis, MO  
January 19, 2011, 1:00 pm – 2:00 pm

“The Topology of Cognitive Networks or What’s a Memory?”

4<sup>th</sup> National Symposium on Complementary and Alternative Geriatric Health Care: Cognitive Decline in Older Persons  
Logan College of Chiropractic  
Chesterfield, MO  
October 28, 2010

“Physiology of Pain: From the Periphery to the Cortex”  
3<sup>rd</sup> Annual Decatur Joint Chiropractic Neurosurgical Spine  
Conference  
Decatur Neurosurgery Associates Meeting  
Decatur, IL  
September 9, 2010

“Functional Imaging Techniques Current Status and Future  
Directions”  
Logan College of Chiropractic 75<sup>th</sup> Anniversary  
Annual Homecoming Event 2010  
Chesterfield, MO  
June 11, 2010

2010 Workshop Session  
Workshop title: From Needle Insertion to Neural Cascade:  
What Can Brain Imaging Tell Us About Acupuncture Mechanisms?  
“Functional Neuroanatomy of the Brain”  
Society for Acupuncture Research  
Chapel Hill, NC  
March 17-21, 2010

“Physiology of Pain: From the Periphery to the Cortex”  
American Chiropractic College of Radiology (ACCR)  
Ocean City, MD  
September 30, 2009 - October 4, 2009

“Physiology of Pain: From the Periphery to the Cortex”  
3<sup>rd</sup> National Symposium on Complementary and Alternative  
Geriatric Health Care: Integrative Pain Management  
Logan College of Chiropractic  
Chesterfield, MO  
September 24-25, 2009

2009 Workshop Session  
“The Pain Matrix as a Neuroimaging Target for Chiropractic  
Research”  
North American Research Conference on Complementary &  
Integrative Medicine (NARCCIM)  
Minneapolis, MN  
May 12-16, 2009

“Nociception, Pain and Placebo”  
American Association of Acupuncture and Oriental Medicine  
(AAAOM) 2009 Expo  
Hyatt-Regency Sacramento  
Sacramento, CA  
April 24, 2009

“Pain, Antinociception and Placebo in the Athlete”  
ACA Sports Council Sports Symposium  
William D Purser, DC Center  
Logan College of Chiropractic  
July 25-27, 2008

“MRI Case Studies of the Cervical Spine and Shoulder”  
National University of Health Sciences  
Adams Mark Hotel  
St. Louis, MO  
April 5, 2008

“Imaging the Brain in Pain: The Role of Functional Neuroimaging”  
Inaugural Joseph W Howe Oration in Diagnostic Imaging  
Logan College of Chiropractic  
Chesterfield, MO  
April 3, 2008

“Neuroimaging for Acupuncture Research”  
Society for Acupuncture Research Annual Conference 2007  
The Status and Future of Acupuncture Research: 10 years post-  
NIH Consensus Conference  
University of Maryland at Baltimore  
November 8-11, 2007

“Imaging for the Chiropractic Physician”  
Activator Methods, Inc.  
Hilton Airport  
St. Louis, MO  
September 22, 2006

“Imaging for the Chiropractic Physician”  
Activator Methods, Inc.  
Hilton Airport  
St. Louis, MO  
September 30, 2005

“Differential Diagnosis and Imaging Techniques for Spinal Pain”  
Missouri State Chiropractic Association  
2005 Summer Convention Agenda  
Tan-Tar-A Resort, Osage Beach, MO  
July 27-31, 2005

“Functional Imaging of the Neuromusculoskeletal System”  
Logan College of Chiropractic Homecoming 2005  
St. Louis, MO  
June 11, 2005

“Functional Neuroimaging Techniques in Manual Therapy Research:  
Current Status and Future Directions”  
NIH - National Center for Complementary and Alternative Medicine  
Conference on the Biology of Manual Therapies  
Bethesda, MD  
June 8-10, 2005

“The Biomechanical and Neurophysiological Correlates of  
Chiropractic Care”  
Human Anatomy & Physiology Society  
2005 Annual Conference  
Monday, May 30, 2005

Toftness Group  
“Functional Magnetic Resonance Imaging”  
Logan College of Chiropractic  
Chesterfield, MO  
March 5, 2005

American Chiropractic College of Radiology  
“An Introduction to Functional MRI”  
Annual Meeting  
Dallas, TX  
September 17, 2004

Complementary Medicine Panel  
St. Louis University School of Medicine  
April 19, 2004

Chiropractic Research and Risks Associated with Chiropractic  
American Family Insurance Company Nurses  
Logan College of Chiropractic  
Chesterfield, Missouri  
June 24, 2004

OB-Gyn Department Grand Rounds  
St. John’s Mercy Hospital  
Neuroimaging of Acupuncture  
November 13, 2002

Invited Panelist  
Brainstorm 2002  
The Future of Neuroimaging  
Massachusetts General Hospital Massachusetts Institute of  
Technology, Harvard Medical School  
Athens, Greece  
September 19-21, 2002

St. Louis University School of Medicine  
2001 Summer Geriatric Institute  
“Complementary and Alternative Medicine: Promoting Wellness in  
the Elderly”  
St. Louis, MO  
June 13, 2001

St. Louis University School of Medicine  
2000 Summer Geriatric Institute  
“Complementary and Alternative Medicine: Promoting Wellness in  
the Elderly”  
St. Louis, MO  
June 14, 2000

St. Louis University School of Medicine  
1999 Summer Geriatric Institute  
“The Aging Spine: Methods for Improving Function and Quality of  
Life”  
St. Louis, MO  
June 9–12, 1999

Washington University, Student Organization  
“Chiropractic Education”  
May 1999

The Walter Reed Health Care System Low Back Pain Symposium  
In conjunction with the 15<sup>th</sup> Annual AMEDD Physical Medicine and  
Rehabilitation Short Course  
“Low Back Pain: The Chiropractic Perspective”  
Washington, DC  
April 27, 1999

Scott Air Force Base 375<sup>th</sup> Medical Group’s Family Practice  
Chiropractic Health Care Demonstration Project  
Grand Rounds  
June 17, 1998

ICPC  
“MRI of the Knee”  
Des Moines, IA  
November 21<sup>st</sup>, 1998

St. Louis Society of Occupational Nurses  
“Injury Prevention in the Spinal Column”  
St. Louis, MO  
1998

St. Louis University School of Medicine  
1998 Summer Geriatric Institute  
“The Pathomechanics of Spinal Degeneration”  
St. Louis, MO  
June 3-5, 1998

Chiropractic Education and Research  
“Question and Answer Session”  
State Farm Insurance Representatives  
St. Louis, MO  
November 20, 1997

St. Louis Metropolitan Medical Society  
St. Louis Surgical Society  
“Chiropractic Physicians: Winners in Medicare?”  
St. Louis, MO  
November 11, 1997

St. Louis University School of Medicine  
Mid-America Congress on Aging  
“The Pathomechanics of Spinal Degeneration”  
St. Louis, MO  
June 18, 1997

St. Elizabeth Medical Center  
“Chiropractic Management Principles”  
Cincinnati, OH  
May 14, 1997

St. Louis University School of Medicine  
“Pathomechanics of Spinal Pain”  
St. Louis, MO  
March 12, 1997

Chiropractic Policy Health Conference  
“Clinical Update”  
St. Louis, MO  
January 20-21, 1997

Chiropractic Education and Research  
“Chiropractic Physicians and Managed Care”  
St. Louis, MO  
October 23, 1996

Jefferson Memorial Hospital  
“Pathomechanics of Spinal Pain”  
Festus, MO  
April 2, 1996

St. Louis University School of Medicine  
"Pathomechanics of Spinal Pain"  
St. Louis, MO  
April 22, 1996

American Chiropractic College of Radiology  
"Diagnostic Imaging of the Shoulder"  
Chicago, Illinois  
October 1995

Chiropractic Centennial Foundation  
"Horizons in Diagnostic Imaging"  
"Normal Anatomy of the Spine: A Multimodality  
Perspective"  
Washington, DC  
July, 1995

American Chiropractic College of Radiology  
"Diagnostic Imaging of the Shoulder"  
Las Vegas, Nevada  
October 1994

Practical Anatomy Workshop  
"Diagnostic Imaging of the Spine"  
St. Louis, Missouri  
January 1994

MRI of Indiana  
"Clinical Decisions in MR Imaging"  
1993

Council of Diagnostic Imaging Annual Symposium  
"The Radiology of Sports Injury"  
1993

International Conference on Spinal Manipulation,  
Panel Participant "The Usefulness of Plain Film  
Radiography"  
1992

Federation of State Licensing Boards  
"Assessment in Clinical Competency"  
1985

## **Membership in Professional Societies:**

1. American Chiropractic Association
2. Council of Diagnostic Imaging
3. American Chiropractic College of Radiology
4. Missouri Chiropractor's Association
5. American Association for the Advancement of Science
6. Organization for Human Brain Mapping
7. International Association for the Study of Pain
8. Society for Neuroscience
9. American Pain Society

## **Postgraduate Training:**

American Pain Society  
32<sup>nd</sup> Annual Scientific Meeting  
Ernest N. Morial Convention Center  
New Orleans, LA  
May 8-11, 2013

American Roentgen Ray Society (ARRS)  
2013 Annual Meeting  
Washington Marriott Wardman Park Hotel  
Washington, DC  
April 13, 2013 – April 19, 2013

Association of Chiropractic Colleges Educational and  
Research Agenda Conference  
Washington Hilton  
Washington, DC  
March 14-17-2013

Radiologic Society of North America  
Annual Meeting  
Chicago, IL  
November 24, 2012 – November 30, 2012

International Congress for Educators in Complementary &  
Integrative Medicine  
Georgetown University Hotel & Conference Center  
Washington, DC  
October 24-26, 2012

Society for Neuroscience  
Neuroscience 2012 Annual Meeting  
New Orleans, LA  
October 13, 2012 – October 17, 2012

Neurobiology of Disease Workshop (NDW): Persistent Pain:  
Too Much Plasticity?  
Society for Neuroscience  
Neurobiology of Disease Workshop  
New Orleans, LA  
Friday, October 12, 2012

Logan College of Chiropractic  
Annual Homecoming Convention  
License Renewal  
June 21-24, 2012

23<sup>rd</sup> Annual Saint Louis University Summer Geriatric Institute  
Saint Louis University School of Medicine  
Margaret McCormick Doisy Learning Resources Center  
June 12, 2012

MSKUS Diagnostics  
Musculoskeletal Ultrasound 101  
16 SDMS CME Credits  
Logan College of Chiropractic  
June 11-12, 2012

International research Congress on Integrative Medicine and  
Health 2012 (IRCIMH)  
Sponsored by: Consortium of Academic Health Center for  
Integrative Medicine  
Portland, OR  
May 15-18, 2012

American Roentgen Ray Society (ARRS)  
2012 Annual Meeting  
Vancouver Convention and Exhibition Centre  
Vancouver, BC, Canada  
April 29, 2012 – May 4, 2012

Association of Chiropractic Colleges Educational and  
Research Agenda Conference  
Las Vegas, NV  
March 15-18, 2012

Radiologic Society of North America  
Annual Meeting Chicago, IL  
November 26, 2011 – December 2, 2011

Society for Neuroscience  
41<sup>th</sup> Annual meeting 2011  
Washington, DC  
November 11, 2011 – November 16, 2011

American Society of Neurorehabilitation (ASNR)  
2011 ASNR Satellite: The New Science of Brain Repair and  
Rehabilitation  
Walter E. Washington Convention Center Room 151AB  
November 11, 2011 8:30am – 2:00pm  
Washington, DC

CPR Workshop  
Logan College of Chiropractic  
Chesterfield, MO  
October 12, 2011

American Chiropractic College of Radiology  
Annual Meeting  
Minneapolis, MN  
September 28 – October 1, 2011 – Annual Attendance

MSKUS Diagnostics  
Musculoskeletal Ultrasound 101  
16 SDMS CME Credits  
Logan College of Chiropractic  
September 19-20, 2011

MSKUS Diagnostics  
Musculoskeletal Ultrasound 101  
16 SDMS CME Credits  
Logan College of Chiropractic  
August 18-19, 2011

The Organization for Human Brain Mapping  
Educational Course: Computational Neuroscience and  
Modeling of Neurodynamics  
Quebec City, Canada  
July 26, 2011

The Organization for Human Brain Mapping  
17<sup>th</sup> Annual Meeting  
Quebec City, Canada  
June 26-July 1, 2011

Logan College of Chiropractic  
Annual Homecoming Convention  
License Renewal  
June 23-26, 2011

Association of Chiropractic Colleges Educational and  
Research Agenda Conference  
Las Vegas, NV  
March 17-20, 2011

Canadian Institute for the Relief of Pain and Disability  
(CIRPD)  
Scientific Committee  
Conference on Musculoskeletal Disorders and Chronic Pain:  
Evidence-based approaches for clinical care, disability  
prevention and claims management.  
Los Angeles, CA  
February 10-11, 2011

MSKUS Diagnostics  
Musculoskeletal Ultrasound 101  
16 SDMS CME Credits  
Logan College of Chiropractic  
January 24-15, 2011

Radiologic Society of North America  
Annual Meeting Chicago, IL  
November 27, 2010 – December 3, 2010

MSKUS Diagnostics  
Musculoskeletal Ultrasound 101  
16 SDMS CME Credits  
Logan College of Chiropractic  
November 22-23, 2010

Society for Neuroscience  
40<sup>th</sup> Annual meeting 2010  
San Diego, CA  
November 13 – November 18, 2010

Society for Neuroscience Short Course  
Analysis and Function of Large-Scale Brain Networks  
San Diego, CA  
November 12, 2010

4<sup>th</sup> National Symposium on Complementary and  
Alternative Geriatric Health Care: Preventing Cognitive  
Decline in Older Adults  
Logan College of Chiropractic  
Chesterfield, MO  
October 28, 2010

MSKUS Diagnostics  
Musculoskeletal Ultrasound 101  
16 SDMS CME Credits  
Logan College of Chiropractic  
October 28-29, 2010

American Chiropractic College of Radiology  
Annual Meeting  
St. Louis, MO  
September 15 – September 19, 2010 – Annual Attendance

3<sup>rd</sup> Annual Decatur Joint Chiropractic Neurosurgical Spine  
Conference  
Decatur Neurosurgery Associates Meeting  
Decatur, IL  
September 9, 2010

International Association for the Study of Pain (IASP)  
13<sup>th</sup> World Congress on Pain  
Montreal, Quebec, Canada  
August 29, 2010 – September 3, 2010

MSKUS Diagnostics  
Musculoskeletal Ultrasound 101  
16 SDMS CME Credits  
Logan College of Chiropractic  
August 12-13, 2010

MSKUS Diagnostics  
Musculoskeletal Ultrasound 101  
16 SDMS CME Credits  
Logan College of Chiropractic  
June 29-30, 2010

Logan College of Chiropractic  
Annual Homecoming Convention  
License Renewal  
June 10-13, 2010

Association of Chiropractic Colleges Educational and  
Research Agenda Conference  
Las Vegas, NV  
March 18-21, 2010

Neuroscience Seminar  
Washington University  
Imaging pain and its relief in controls and chronic pain  
patients. By Dr. Irene Tracey  
March 4, 2010

MSKUS Diagnostics  
Musculoskeletal Ultrasound 101  
16 SDMS CME Credits  
Logan College of Chiropractic  
February 19-20, 2010

Radiologic Society of North America  
Annual Meeting Chicago, IL  
November 28, 2009 – December 4, 2009

12<sup>th</sup> International Conference on the Mechanisms and  
Treatment of Neuropathic Pain  
San Francisco, CA  
November 18-22, 2009

MSKUS Diagnostics  
Musculoskeletal Ultrasound 101  
16 SDMS CME Credits  
Logan College of Chiropractic  
November 10-11, 2009

American Chiropractic College of Radiology  
Annual Meeting  
Ocean City, MD  
September 30, 2009 – October 4, 2009 - Annual Attendance

3<sup>rd</sup> National Symposium on Complementary and  
Alternative Geriatric Health Care: Integrative Pain  
Management  
Logan College of Chiropractic  
Chesterfield, MO  
September 24-25, 2009

MSKUS Diagnostics  
Musculoskeletal Ultrasound 101  
16 SDMS CME Credits  
Logan College of Chiropractic  
August 7-8, 2009

MSKUS Diagnostics  
Musculoskeletal Ultrasound 101  
16 SDMS CME Credits  
Logan College of Chiropractic  
June 26-27, 2009

The Organization for Human Brain Mapping  
15<sup>th</sup> Annual Meeting  
San Francisco, CA  
June 18-23, 2009

Human Brain Mapping: Frontiers in Imaging of  
Neurodegenerative Disease: A Biotechnology National  
Research Resource (NCRR)  
San Francisco, CA  
June 18, 2009

Logan College of Chiropractic  
Annual Homecoming Convention  
License Renewal  
June 11-14, 2009

Summer Geriatric Institute  
Saint Louis University School of Medicine  
St. Louis, MO  
June 3, 2009

North American Research Conference on Complementary &  
Integrative Medicine (NARCCIM)  
Minneapolis, MN  
May 12-16, 2009

Association of Chiropractic Colleges Educational and  
Research Agenda Conference  
Las Vegas, NV  
March 11-15, 2009

MSKUS Diagnostics  
Musculoskeletal Ultrasound 101  
16 SDMS CME Credits  
Logan College of Chiropractic  
February 20-21, 2009

Radiologic Society of North America  
Annual Meeting Chicago, IL  
November 29 – December 5, 2008

Society for Neuroscience  
Annual Meeting  
Washington, DC  
November 15-19, 2008

MSKUS Diagnostics  
Musculoskeletal Ultrasound 101  
16 SDMS CME Credits  
Logan College of Chiropractic  
November 10-11, 2008

BASIC Workshop on the Neurobiology of Consciousness  
Washington University School of Medicine  
Department of Radiology  
October 24-25, 2008

American Chiropractic College of Radiology  
Annual Meeting  
San Francisco, CA  
October 15-19, 2008- Annual Attendance

MSKUS Diagnostics  
Musculoskeletal Ultrasound 101  
16 SDMS CME Credits  
Logan College of Chiropractic  
October 10-11, 2008

Field Day Faculty Development Workshop  
Logan College of Chiropractic  
Chesterfield, MO  
October 8, 2008

MSKUS Diagnostics  
Musculoskeletal Ultrasound 101  
16 SDMS CME Credits  
Logan College of Chiropractic  
September 29-30, 2008

2<sup>nd</sup> National Symposium on Complementary & Alternative  
Geriatric Health Care: Promoting Balance & Fall Prevention  
And the 23<sup>rd</sup> Annual Geriatric Research, Education & Clinical  
Center Symposium  
Logan College of Chiropractic  
September 20-21, 2008

International Association for the Study of Pain (IASP)  
12<sup>th</sup> World Congress on Pain  
Glasgow, Scotland, UK  
August 17-22, 2008

MSKUS Diagnostics  
Musculoskeletal Ultrasound 101  
16 SDMS CME Credits  
Logan College of Chiropractic  
July 28, 2008

ACA Sports Council Sports Symposium  
William D Purser, DC Center  
Logan College of Chiropractic  
July 25-27, 2008

Logan College of Chiropractic  
Annual Homecoming Convention  
License Renewal  
June 17-20, 2008

MSKUS Diagnostics  
Musculoskeletal Ultrasound 101  
16 SDMS CME Credits  
Logan College of Chiropractic  
June 16-17, 2008

International Society for Magnetic Resonance in Medicine  
16<sup>th</sup> Annual Meeting  
Toronto, Canada  
May 2-9, 2008

Association of Chiropractic Colleges Educational and  
Research Agenda Conference  
Washington, DC  
March 13-17, 2008

MSKUS Diagnostics  
Musculoskeletal Ultrasound 101  
16 SDMS CME Credits  
Logan College of Chiropractic  
March 7-8, 2008

MSKUS Diagnostics  
Musculoskeletal Ultrasound 101  
16 SDMS CME Credits  
Logan College of Chiropractic  
February 10-11, 2008

Radiologic Society of North America  
Annual Meeting Chicago, IL  
November 24 - November 30, 2007

Society for Acupuncture Research Annual Conference 2007  
The Status and Future of Acupuncture Research: 10 years post-  
NIH Consensus Conference  
University of Maryland at Baltimore  
November 8-11, 2007

Society for Neuroscience Annual Meeting  
San Diego, CA  
November 3-7, 2007

MSKUS Diagnostics  
Musculoskeletal Ultrasound 101  
16 SDMS CME Credits  
Chesterfield, MO  
October 26-27, 2007

Fascia Research Congress  
Basic Science and Implications for Conventional and  
Complementary Health Care, Harvard Medical School  
October 3-5, 2007

MSKUS Diagnostics  
Musculoskeletal Ultrasound 101  
16 SDMS CME Credits  
Chesterfield, MO  
September 21-22, 2007

The Organization for Human Brain Mapping  
13<sup>th</sup> Annual Meeting  
Chicago, IL  
June 10-14, 2007

Logan College of Chiropractic  
Annual Homecoming Convention  
License Renewal  
June 7-10, 2007

International Society for Magnetic Resonance in Medicine  
15<sup>th</sup> Annual Meeting  
Berlin, Germany  
May 19-25, 2007

MSKUS Diagnostics  
Musculoskeletal Ultrasound 101  
16 SDMS CME Credits  
Logan College of Chiropractic  
April 9-11, 2007

Relationship of Sleep and Anesthesia  
The Nineteenth CR Stephen Lecture  
Dr. Cliff Saper  
Department of Neurology  
Washington University, St. Louis, MO  
March 29, 2007 - 4:00 pm

Association of Chiropractic Colleges Educational and  
Research Agenda Conference  
Phoenix, Arizona  
March 15-18, 2007

Radiologic Society of North America  
Annual Meeting Chicago, IL  
November 26-December 1, 2006

Society for Neuroscience Annual Meeting  
Atlanta, GA  
October 14-19, 2006

American Chiropractic College of Radiology  
Annual Meeting  
Atlanta, GA  
October 11-13, 2006- Annual Attendance

Foundation for Chiropractic Education and Research  
Conference  
Chicago, IL  
September 15-16, 2006

The Organization for Human Brain Mapping  
12<sup>th</sup> Annual Meeting  
Florence, Italy  
June 11-15, 2006

Multi-Modal Functional Neuroimaging Meeting  
Massachusetts General Hospital, Massachusetts Institute of  
Technology. Harvard Medical School  
Cortona, Italy  
June 9-10, 2006

Consortium of Academic Health Centers for Integrative  
Medicine - North American Research Conference on  
Complementary & Integrative Medicine  
Edmonton, Alberta, Canada  
May 24-27, 2006

Association of Chiropractic Colleges Educational and  
Research Agenda Conference  
Washington, DC  
March 16-19, 2006

Radiologic Society of North America  
Annual Meeting Chicago, IL  
November 28-December 2, 2005 - Annual Attendance

NIH - National Center for Complementary and Alternative  
Medicine  
Neurobiological Correlates of Acupuncture  
Bethesda, MD  
November 17-18, 2005

Society for Neuroscience Annual Meeting  
Washington, DC  
November 12-16, 2005

American Chiropractic College of Radiology  
Annual Meeting  
Minneapolis, MN  
October 19-22, 2005

27<sup>th</sup> Annual International Conference of the IEEE  
Engineering in Medicine and Biology Science (EMBS).  
Shanghai International Conference Center  
Shanghai, China, September 1-4, 2005

The Organization for Human Brain Mapping  
11<sup>th</sup> Annual Meeting  
Toronto, Ontario Canada  
June 12-16, 2005

The Organization for Human Brain Mapping  
Electromagnetic MEG/EEG Brain Mapping Course  
Toronto, Ontario, Canada  
June 12, 2005

Logan College of Chiropractic  
Annual Homecoming Convention  
License Renewal  
June 2005

NIH - National Center for Complementary and Alternative  
Medicine Conference on the Biology of Manual Therapies  
Bethesda, MD  
June 8-10, 2005

International Society for Magnetic Resonance in Medicine  
13<sup>th</sup> Annual Meeting  
Miami Beach, FL  
May 9 -13, 2005

International Society for Magnetic Resonance in Medicine  
Continuing Education  
Current Debates and Recent Advances in Functional MRI  
Miami Beach, FL  
May 8, 2005

International Society for Magnetic Resonance in Medicine  
Continuing Education  
Methods and Applications of Clinical Spectroscopy  
Miami Beach, FL  
May 7, 2005  
Association of Chiropractic Colleges Educational and  
Research Agenda Conference  
Las Vegas, NV, March 16-20, 2005.

Radiologic Society of North America  
Annual Meeting  
November 27-December 3, 2004 - Annual Attendance

Society for Neuroscience Annual Meeting  
San Diego, CA  
October 22-28, 2004

American Chiropractic College of Radiology  
Annual Meeting  
Dallas, TX  
September 15-19, 2004

Logan College of Chiropractic  
Annual Homecoming Convention  
License Renewal  
June 10-13, 2004

International Society for Magnetic Resonance in Medicine  
12<sup>th</sup> Annual Meeting  
Kyoto, Japan  
May 14-21, 2004

Molecular Mechanisms and Neural Substrates for the  
Behavioral Effects of General Anesthetics: Clinical  
Implications  
Washington University School of Medicine  
Mervyn Maze, MD, ChB, FRCP  
April 15, 2004

Neurology Seminar  
Review and Board Exam  
Logan College of Chiropractic  
March 27-28, 2004

Association of Chiropractic Colleges Educational and  
Research Agenda Conference  
Las Vegas, NV  
March 10-14, 2004

Neurology Seminar  
Nutrition for the Brain  
Logan College of Chiropractic  
February 28-29, 2004

Neurology Seminar  
Nociception, Placebo and Pain Management  
Logan College of Chiropractic  
January 24-25, 2004

Radiologic Society of North America  
Annual Meeting  
November 29 – December 5, 2003- Annual Attendance

Neurology Seminar  
Normal Neurology Development – Milestones  
Logan College of Chiropractic  
November 22-23, 2003

Neurology Seminar  
Vascular Disorders of CNS/PNS – Stroke  
Logan College of Chiropractic  
October 25-26, 2003

Neurology Seminar  
Infectious Diseases  
Logan College of Chiropractic  
September 27-28, 2003

Annual Leonard Berg Symposium  
Early Detection of Alzheimer's Disease  
Washington University School of Medicine  
September 19-20, 2003

American Chiropractic College of Radiology  
Annual Meeting  
Nashville, TN  
September 10-14, 2003

Neurology Seminar  
Degenerative Disorders  
Logan College of Chiropractic  
August 23-24, 2003

Neurology Seminar  
Neurologic Trauma  
Logan College of Chiropractic  
July 26-27, 2003

International Society for Magnetic Resonance in Medicine  
11<sup>th</sup> Annual Meeting  
Toronto, Ontario, Canada  
July 10-16, 2003

Neurology Seminar  
Diplomate Neurology Review Course  
Logan College of Chiropractic  
June 28-29, 2003

Logan College of Chiropractic  
Annual Homecoming Convention  
License Renewal  
June 5-8, 2003

Neurology Seminar  
Neuroimaging II  
Logan College of Chiropractic  
May 31 – June 1, 2003

Neurology Seminar  
Diplomate Neurology Review Course  
Logan College of Chiropractic  
April 26-27, 2003

Association of Chiropractic Colleges Educational and  
Research Agenda Conference  
New Orleans, LA  
March 11-16, 2003.

Neurology Seminar  
Peripheral/myopathies Neuromuscular Disorders  
Logan College of Chiropractic  
February 22-23, 2003

Neurology Seminar  
PNS Disorders  
Logan College of Chiropractic  
Chesterfield, MO  
January 25-26, 2003

Radiologic Society of North America  
Annual Meeting  
November 26 – December 1, 2002 - Annual Attendance

Neurology Seminar  
Normal Neuro Develop-Milestones  
Logan College of Chiropractic  
Chesterfield, MO  
November 22-23, 2002

American Chiropractic College of Radiology  
Annual Meeting  
Atlanta, GA  
October 23-27, 2002

Neurology Seminar  
Neuroimaging  
Logan College of Chiropractic Post Graduate Seminar  
Chesterfield, MO  
October 18-19, 2002

Neurology Seminar  
Degenerative/demyelinating diseases  
Logan College of Chiropractic Post Graduate Seminar  
Chesterfield, MO  
September 28-29, 2002

Brainstorm 2002  
The Future of Neuroimaging  
Massachusetts General Hospital, Massachusetts Institute of  
Technology. Harvard Medical School  
Athens, Greece  
September 19-21, 2002

Neurology Seminar  
Neoplastic Disorders  
Logan College of Chiropractic Post Graduate Seminar  
Chesterfield, MO  
August 24-25, 2002

Neurology Seminar  
Autonomic Nervous System  
Logan College of Chiropractic Post Graduate Seminar  
Chesterfield, MO  
July 27-28, 2002

Neurology Seminar  
Review Module  
Logan College of Chiropractic Post Graduate Seminar  
Chesterfield, MO  
June 29-30, 2003

Protection of Human Research Subjects  
NIH Office of Human Subjects Research  
Computer-based training  
Certificate of Completion  
July 23, 2002

Human Participant Protections Education for Research Terms  
National Institutes of Health (NIH)  
Certificate of Completion  
July 23, 2002

NIH-IRB Members  
NIH Office of Human Subjects Research  
Computer-based training  
Certificate of Completion  
July 22, 2002

Logan College of Chiropractic  
Annual Homecoming Convention  
License Renewal  
June 13-16, 2002

International Society for Magnetic Resonance in Medicine  
Tenth Scientific Meeting and Exhibition  
Honolulu, HI  
May 18-24, 2002

Neurology Seminar  
Motor System  
Logan College of Chiropractic Post Graduate Seminar  
Chesterfield, MO  
April 27-28, 2002

International Scientific Conference on Complementary  
Alternative & Integrative Medicine Research  
Harvard Medical School  
Boston, MA  
April 12-14, 2002

Neuroscience Seminar  
Towards understanding the role of prefrontal cortex in  
working memory: Evidence from functional MRI studies  
Washington University School of Medicine  
April 5, 2002

Neurology Seminar - Cerebellum  
Logan College of Chiropractic Post Graduate Seminar  
Chesterfield, MO  
March 23-24, 2002

Association of Chiropractic Colleges Educational and  
Research Agenda Conference  
New Orleans, LA  
March 13-16, 2002

Neurology Seminar  
Brain Stem  
Logan College of Chiropractic Post Graduate Seminar  
Chesterfield, MO  
February 23-24, 2002

Neurology Seminar  
Spinal Cord  
Logan College of Chiropractic Post Graduate Seminar  
Chesterfield, MO  
January 26-27, 2002

Anatomy and Neurobiology Departmental Seminar  
“What does the cerebellum contribute to cognition?”  
Washington University  
January 11, 2002

Neurology Seminar  
Peripheral Nervous System  
Logan College of Chiropractic Post Graduate Seminar  
Chesterfield, MO  
December 15-16, 2001

Radiologic Society of North America  
Annual Meeting  
Chicago, IL  
November 24-30, 2001-Annual Attendance

Recent Developments in Cerebellar Research  
Eric P. Newman Education Center  
Washington University School of Medicine  
St. Louis, MO  
November 15-18, 2001

Neurology Seminar  
The Neuron/Receptor  
Logan College of Chiropractic Post Graduate Seminar  
Chesterfield, MO  
October 27-28, 2001

Neurology Seminar  
Development of the Central Nervous System  
Logan College of Chiropractic Post Graduate Seminar  
Chesterfield, MO  
September 29-30, 2001

Logan College of Chiropractic  
Annual Homecoming Convention  
License Renewal  
June 15-18, 2001

The Harvard program in Neuroscience Annual Spring  
Symposium. Simple rules, complex systems emerging  
principles of neural and neural-like systems.  
By: Simon Laughlin, University of Cambridge, Barbara  
Finlay, Cornell University, James Ferrell, Stanford  
University, Dario Floreano, Swiss Federal Institute of  
Technology. Harvard Medical School  
May 3, 2001

The Thirteenth Annual C.R. Stephen Lecture  
“How Do General Anesthetics Work? – Light at the End of  
the Tunnel”  
March 15, 2001

Radiologic Society of North America  
Annual Meeting  
November 26 – December 1, 2000 - Annual Attendance

Mapping Function and Anatomy in the Human Brain  
Michigan State University  
Radiology Building  
East Lansing, MI  
November 3-5, 2000

American Chiropractic College of Radiology  
Annual Meeting  
Scottsdale, AZ  
September 27-October 1, 2000

Wisconsin Board Review Course in Geriatric Medicine  
September 20-23, 2000  
Delavan, WI

Chiropractic Research  
Research Agenda V  
Implication for Practice, Policy, and Professional Development  
Research Agenda Conference IV  
Chicago, IL  
July 20-23, 2000

Logan College of Chiropractic Homecoming Convention  
License Renewal  
June 15-18, 2000

Harvard Medical School  
Clinical Functional MRI 2000  
23 Credit Hours  
Boston, MA  
May 22-24, 2000

HDL and the Elderly  
Third Annual Conference  
Saint Louis University Division of Geriatric Medicine  
St. Louis Frontenac Hilton  
Saturday, May 13, 2000

Division of Geriatric Medicine, Department of Internal  
Medicine – Saint Louis University School of Medicine  
Total Quality Improvement (TQI) Grand Rounds Schedule  
Attended Weekly Conferences  
1998 - 1999

Washington University in St. Louis  
School of Medicine  
“The Neurochemistry of Acute and Persistent Pain”  
March, 23, 2000

Radiologic Society of North America  
Annual Meeting  
Annual Attendance  
November 27 – December 3, 1999

American Chiropractic College of Radiology  
Annual Meeting  
Philadelphia, PA  
October 20-24, 1999

Washington University School of Medicine  
Alzheimer’s Disease Symposium  
St. Louis, MO  
October 1-2, 1999

Logan College of Chiropractic Homecoming Convention  
License Renewal  
June 17-20, 1999

GEC DADPHP  
Las Vegas, NV  
June 1999

Chiropractic Research  
Implication for Practice, Policy, and Professional Development  
Research Agenda Conference IV  
Arlington Park, IL  
July 1999

American Roentgen Ray Society  
Annual Meeting  
New Orleans, LA  
May 10-14, 1999

GEC DADPHP  
Las Vegas, NV  
June 7-11, 1998

Radiologic Society of North America  
Annual Meeting  
November 28 – December 4, 1998 - Annual Attendance

American Chiropractic College of Radiology  
Annual Meeting  
Columbus, OH  
September 23-27, 1998

Michigan State University  
Department of Radiology  
Functional Neuroradiology of Human Cognition  
Saturday, October 17, 1998  
East Lansing, Michigan

Chiropractic Research  
Research Agenda Conference III  
Washington, DC  
June 19-21, 1998

Logan College Alumni Homecoming Convention  
License Renewal Annual Meeting  
June 18-21, 1998

Radiologic Society of North America  
Annual Meeting  
Nov-Dec 1997 - Annual Attendance

American Chiropractic College of Radiology  
Annual Meeting  
Denver, CO  
September 17-20, 1997 - Annual Attendance

Logan College Alumni Homecoming Convention  
License Renewal  
1997 - Annual Attendance

Radiologic Society of North America  
Annual Meeting  
1996 - Annual Attendance

American Chiropractic College of Radiology  
Annual Meeting  
1996 - Annual Attendance

Logan College Alumni Homecoming Convention  
License Renewal  
1996 - Annual Attendance

Radiologic Society of North America  
Annual Meeting  
1995 - Annual Attendance

American Chiropractic College of Radiology  
Annual Meeting  
1995 - Annual Attendance

Logan College Alumni Homecoming Convention  
License Renewal  
1995 - Annual Attendance

Radiologic Society of North America  
Annual Meeting  
1994 - Annual Attendance

American Chiropractic College of Radiology  
Annual Meeting  
1994 - Annual Attendance

Logan College Alumni Homecoming Convention  
License Renewal  
1994 - Annual Attendance

Radiologic Society of North America  
Annual Meeting  
1993 - Annual Attendance

American Chiropractic College of Radiology  
Annual Meeting  
1993 - Annual Attendance

Logan College Alumni Homecoming Convention  
License Renewal  
1993 - Annual Attendance

MRI Spectroscopy  
Sponsored by the University of California – San Francisco  
April 1991

American Chiropractic College of Radiology  
Annual Meeting  
1987 - Annual Attendance

Thermography Training Program of  
Thermographic Medical Associates  
1984

Radiological Society of North America  
Annual Meeting  
1982 - Annual Attendance

Computed Tomography of the Spine  
Medical College of Wisconsin  
Milwaukee, Wisconsin  
1982

**Poster Sessions:**

1. Wiegand R, Brahee D, Marquina N, Kettner, N: Cervical degenerative disease: identifying factors of pathomechanical stress, location, frequency, age, and gender within a symptomatic group. Logan College of Chiropractic, Chesterfield, MO. Association of Chiropractic Colleges Educational and Research Agenda Conference, March 2001.
2. Hui KKS, Napadow V, Liu J, Makris N, Kettner NW, Kwong KK, Hui KS: Acupuncture modulatory effects by whole brain fMRI: deqi versus pain. Logan College of Chiropractic, Chesterfield, MO, and Department of Neurology, Massachusetts General Hospital, Charlestown, MA. Alternative and Integrative Medicine Research, April 12-14, 2002.
3. Napadow V, Liu J, Makris N, Kettner NW, Kwong KK, Hui KS: The effects of manual and electroacupuncture on the human brain as measured by fMRI. Logan College of Chiropractic, Chesterfield, MO, and Department of Neurology, Massachusetts General Hospital, Charlestown, MA. International Society for Magnetic Resonance in Medicine. Honolulu, HI June 2002.
4. Hui KKS, Napadow V, Liu J, Makris N, Kettner NW, Kwong KK, Hui KS: Acupuncture modulatory effects by whole brain fMRI: deqi versus pain. Logan College of Chiropractic, Chesterfield, MO, and Department of Neurology, Massachusetts General Hospital, Charlestown, MA. Human Brain Mapping, Sendai, Japan, June 2002.
5. Ryan AH, Napadow V, Kettner NW, Hui KKS, Audette JF: The effect of acupuncture on carpal tunnel syndrome. Spaulding Rehabilitation Hospital, Boston, MA, Radiology, Massachusetts General Hospital, Charlestown, MA, Radiology, Logan College of Chiropractic, Chesterfield, MO. 40th Annual Association of Academic Physiatrists (AAP) Educational Conference, Hyatt Regency, Albuquerque, NM, February 24-29, 2004.
6. Kettner NW, Mrozek IB, Payne RP, Reynolds JM, Rogers G, Zhang J: The effect of thoracic spinal manipulation on heart rate variability and heart rate. Logan College of Chiropractic, Chesterfield, MO. Association of Chiropractic Colleges Educational and Research Agenda Conference, March 11-14, 2004.

7. Kettner NW, Zhang J, Delicath T, Hagen M, Day L, Boesch R: Spinal manipulation and the Stroop Task. Logan College of Chiropractic, Chesterfield, MO. Association of Chiropractic Colleges Educational and Research Agenda Conference, March 11-14, 2004.
8. Napadow V, Liu J, Ryan A, Li M, Kwong KK, Kettner NW, Audette J, Hui KKS: Effect of acupuncture on carpal tunnel syndrome with fMRI assessment of cortical somatotopy. Massachusetts General Hospital, Charlestown, MA, Radiology, Logan College of Chiropractic, Chesterfield, MO., Spaulding Rehabilitation Hospital, Boston, MA, . International Society for Magnetic Resonance in Medicine. Kyoto, Japan - May 15-21, 2004.
9. Napadow V, Makris N, Liu J, Kettner NW, Kwong KK, Hui KKS: Effects of Electroacupuncture vs. Manual Acupuncture on the Human Brain as Measured by fMRI. Radiology, Massachusetts General Hospital, Charlestown, MA, Radiology, Logan College of Chiropractic, Chesterfield, MO. Human Brain Mapping, Budapest, Hungary, June 14-17, 2004.
10. Napadow V, Liu J, Ryan A, Li M, Kwong KK, Kettner NW, Audette J, Hui KKS: Acupuncture Treatment for Carpal Tunnel Syndrome with fMRI Assessment of Cortical Somatotopy. Radiology, Massachusetts General Hospital, Charlestown, MA, Radiology, Logan College of Chiropractic, Chesterfield, MO. Society for Neuroscience, San Diego, CA October 22-28, 2004.
11. Ryan AH, Napadow V, Kettner NW, Hui KKS, Audette JF The Effect of Acupuncture on Carpal Tunnel Syndrome. Spaulding Rehabilitation Hospital, Boston, MA, Radiology, Massachusetts General Hospital, Charlestown, MA, Radiology, Logan College of Chiropractic, Chesterfield, MO. SAR Conference, San Francisco, CA September 28 – October 3, 2004.
12. V. Napadow, J. Liu, A. Ryan, M. Li, N. Kettner, K.K. Kwong, J. Audette, and K.K.S. Hui. Massachusetts General Hospital, Boston, MA; Logan College of Chiropractic, Chesterfield, MO., Spaulding Rehabilitation Hospital, Medford, MA U.S.A. Somatosensory Cortical Plasticity in Carpal Tunnel Syndrome – a Cross-sectional fMRI Evaluation. Human Brain Mapping, Toronto, Canada; June 13-17, 2005
13. V. Napadow, J. Liu, A. Ryan, M. Li, N. Kettner, K.K. Kwong, J. Audette and K.K.S. Hui. Massachusetts General Hospital, Boston, MA; Logan College of Chiropractic, Chesterfield, MO., Spaulding Rehabilitation Hospital, Medford, MA U.S.A. Somatosensory Cortical Plasticity in Carpal Tunnel Syndrome – a Longitudinal fMRI Evaluation of Acupuncture. Human Brain Mapping, Toronto, Canada; June 13-17, 2005

14. Napadow V, Liu J, Li M, Kwong KK, Kettner N, Hui KKS, Audette J. Radiology, Massachusetts General Hospital, Charlestown, MA, USA; Radiology, Logan College of Chiropractic, Chesterfield, MO, USA; Spaulding Rehab Hosp., Medford, MA, USA. An fMRI Assessment of Cortical Plasticity in Carpal Tunnel Syndrome Treated with Acupuncture. Consortium of Academic Health Centers for Integrative Medicine – North American Research Conference on Complementary & Integrative Medicine. Edmonton, Alberta, Canada. May 24-27, 2006
  
15. V. Napadow, K.K.S. Hui, J. Audette, N. Kettner, K.K. Kwong, Radiology, Massachusetts General Hospital, Charlestown, MA, USA Radiology, Logan Col. of Chiropractic, Chesterfield, MO, USA Spaulding Rehab Hosp., Medford, MA, USA. Central Processing of Acupuncture in Carpal Tunnel Syndrome. Consortium of Academic Health Centers for Integrative Medicine – North American Research Conference on Complementary & Integrative Medicine. Edmonton, Alberta, Canada. May 24-27, 2006
  
16. V. Napadow, J. Liu, N. Kettner, K.K. Kwong, N. Makris, J. Audette, K. K. Hui, Radiology, Massachusetts General Hospital, Charlestown, MA, Radiology, Logan College of Chiropractic, Chesterfield, MO Neurology, Massachusetts General Hospital, Charlestown, MA, Spaulding Rehabilitation Hospital, Boston, MA Acupuncture processing in limbic brain regions by carpal tunnel syndrome patients. No. 445.2. Society for Neuroscience Annual Meeting, Atlanta, GA October 14-19, 2006.
  
17. Vitaly Napadow<sup>1,2</sup>, Norman Kettner<sup>2</sup>, Angela Ryan<sup>3</sup>, Ken K Kwong<sup>1</sup>, Joseph Audette<sup>3</sup>, Kathleen KS Hui<sup>1</sup> Martinos Center for Biomedical Imaging, Massachusetts General Hospital, Boston, MA<sup>2</sup>Department of Radiology, Logan College of Chiropractic, Chesterfield, MO<sup>3</sup>Spaulding Hospital for Rehabilitation, Boston, MA Central Processing of Acupuncture in carpal tunnel syndrome patients versus healthy adults. Human Brain Mapping, Chicago, IL: June 10-14, 2007.
  
18. Rupali Dhond<sup>1,2</sup>, Thomas Witzel<sup>1</sup>, Norman Kettner<sup>2</sup>, Calvin Yeh<sup>1</sup>, Vitaly Napadow<sup>1,2</sup> <sup>1</sup>MGH/MIT/HMS Martinos Center for Biomedical Imaging, Charlestown, MA, USA <sup>2</sup>Dept. of Radiology Logan College of Chiropractic, Chesterfield, MO, USA Spatiotemporal Dynamics of Neuronal Responses Supporting Acupuncture Human Brain Mapping, Chicago, IL: June 10-14, 2007.
  
19. R.P. Dhond<sup>1,2</sup>, T. Witzel<sup>1</sup>, C. Yeh<sup>1</sup>, N. Kettner<sup>2</sup>, V. Napadow<sup>1,2</sup> <sup>1</sup>Dept. Of Radiology, MGH/MIT/HMS Martinos Center for Biomedical Imaging, Charlestown, MA, USA <sup>2</sup>Dept. of Radiology, Logan College of Chiropractic, Chesterfield, MO, USA: Spatiotemporal mapping of acupuncture effects with MEG. Society for Neuroscience Annual Meeting. San Diego, CA November 2-7, 2007.

20. RP Dhond<sup>1,2</sup>, Yeh C<sup>1</sup>, Park K<sup>1,3</sup>, Kettner NW<sup>2</sup>, Napadow V<sup>1,2</sup>: <sup>1</sup>Martinos Center for Biomedical Imaging, Charlestown, MA, United States/<sup>2</sup>Logan College of Chiropractic, Chesterfield, MO, United States/<sup>3</sup>Kyunghee University, Yongin, South Korea. Acupuncture modulates resting state connectivity in default and sensorimotor brain networks. 14<sup>th</sup> Annual Meeting of the Organization for Human Brain Mapping, Melbourne, Australia, June 15-19, 2008.
  
21. Napadow V<sup>1,2</sup>, Dhond RP<sup>1,2</sup>, Park K<sup>1</sup>, Kettner NW<sup>2</sup>: <sup>1</sup>Dept. Of Radiology, MGH/MIT/HMS Martinos Center for Biomedical Imaging, Charlestown, MA, USA <sup>2</sup>Dept. of Radiology, Logan College of Chiropractic, Chesterfield, MO, USA: Acupuncture Increases Resting Brain Functional Connectivity in the Default Mode and Sensorimotor Networks – An fMRI Study. International Association for the Study of Pain. 12<sup>th</sup> World Congress on Pain. Glasgow, Scotland, August 17-22, 2008.
  
22. Napadow<sup>1,2</sup>, Jieun Kim<sup>1,3</sup>, Rupali Dhond<sup>1,2</sup>, Lauren Lacount<sup>1</sup>, Mark Vangel<sup>1</sup>, Norman Kettner<sup>2</sup>, Kyungmo Park<sup>1,3</sup> <sup>1</sup>MGH/MIT/HMS Martinos Center for Biomedical Imaging, Boston, MA; <sup>2</sup>Department of Radiology, Logan College of Chiropractic, Chesterfield, MO; <sup>3</sup>Department of Biomedical Engineering, Kyunghee University, Yongin, Republic of Korea: Brain encoding of acupuncture sensation – a Percept fMRI study. Society for Neuroscience Annual Meeting. Washington, DC November 15-19, 2008.
  
23. K. Park<sup>1,3</sup>, R.P. Dhond<sup>1,2</sup>, J. Kim<sup>1,3</sup>, L. LaCount<sup>1</sup>, M. Vangel<sup>1,4</sup>, R.E. Harris<sup>5</sup>, N. Kettner<sup>2</sup>, V. Napadow<sup>1,2</sup> <sup>1</sup>MGH/HMS/MIT Martinos Center for Biomedical Imaging, <sup>2</sup>Department of Radiology, Logan College of Chiropractic, <sup>3</sup>Department of Biomedical Engineering, Kyunghee University, <sup>4</sup>MGH GCRC Biomedical Imaging Core, <sup>5</sup>Chronic Pain and Fatigue Research Center, Department of Anesthesiology, University of Michigan. Brain Encoding of Acupuncture Sensation – A Percept-related fMRI Study. 15<sup>th</sup> Annual Meeting of the Organization for Human Brain Mapping, San Francisco, CA, June 18-22, 2009.
  
24. Yumi Maeda, Jeungchan Lee, Steve Cina, Lauren LaCount, Jieun Kim, Ang Li, Claire McManus, Cristina Malatesta, Kyungmo Park, Norman Kettner, Joseph Audette and Vitaly Napadow: Differential Brain Response to Local and Distal Acupuncture in Carpal Tunnel Syndrome – an fMRI study. Society for Acupuncture Research Chapel Hill, NC - March 17-21, 2010
  
25. Ang Li, Yumi Maeda, Jeungchan Lee, Steve Cina, Lauren LaCount, Jieun Kim, Claire McManus, Cristina Malatesta, Norman Kettner, Joseph Audette, Kyungmo Park and Vitaly Napadow: Brain correlates of acupuncture-induced orienting and defense response in Carpal Tunnel Syndrome patients – a combined autonomic and fMRI study. Society for Acupuncture Research Chapel Hill, NC - March 17-21, 2010

26. Rupali P. Dhond<sup>1,2</sup>, Thomas Witzel<sup>1</sup>, Mark Vangel<sup>1</sup>, Matti Hämäläinen<sup>1</sup>, Norman Kettner<sup>2</sup>, Vitaly Napadow<sup>1,2</sup> <sup>1</sup>Martinos Center for Biomedical Imaging, Massachusetts General Hospital, Boston, MA <sup>2</sup>Department of Radiology, Logan College of Chiropractic, Chesterfield, MO Changes in somatosensory cortical oscillations during acupuncture. Society for Acupuncture Research Chapel Hill, NC. March 17-21, 2010
27. Yumi Maeda<sup>1</sup>, Jeungchan Lee<sup>2</sup>, Jameson Holden<sup>3</sup>, Steve Cina<sup>4</sup>, Lauren LaCount<sup>5</sup>, Jieun Kim<sup>5</sup>, Ang Li<sup>4</sup>, Claire McManus<sup>6</sup>, Cristina Malatesta<sup>6</sup>, Kyungmo Park<sup>2</sup>, Mark Tommerdahl<sup>3</sup>, Norman Kettner<sup>7</sup>, Joseph Audette<sup>8</sup>, Vitaly Napadow<sup>4</sup> <sup>1</sup>MGH/MIT/HMS Martinos Center for Biomedical Imaging, charlestown, MA, <sup>2</sup>Department of Biomedical Engineering, Kyunghee University, Yongin, Korea, Republic of, <sup>3</sup>Department of Biomedical Engineering, University of North Carolina School of Medicine, Chapel Hill, NC, <sup>4</sup>MGH/MIT/HMS Martinos Center for Biomedical Imaging, Department of Radiology, Massachusetts General H, charlestown, MA, <sup>5</sup>MGH/HMS/MIT Martinos Center for Biomedical Imaging, Massachusetts General Hospital, Boston, MA, <sup>6</sup>Department of Physical Medicine and Rehabilitation Spaulding Rehabilitation Hospital, medford, MA, <sup>7</sup>Logan College of Chiropractic, Chesterfield, MO, <sup>8</sup>Department of Pain Medicine, Harvard Vanguard Medical Associates, Atrius Health, boston, MA. MRI compatible vibrotactile finger stimulation device for mapping SI somatotopy in Carpal Tunnel Syndrome. 16<sup>th</sup> Annual Meeting of the Organization for Human Brain Mapping, Barcelona, Spain. June 6-10, 2010
28. Jieun Kim<sup>1</sup>, Kyungmo Park<sup>2</sup>, Lauren LaCount<sup>1</sup>, Jeungchan Lee<sup>2</sup>, Steve Cina<sup>3</sup>, Norman Kettner<sup>4</sup>, Vitaly Napadow<sup>3</sup> <sup>1</sup>MGH/HMS/MIT Martinos Center for Biomedical Imaging, Massachusetts General Hospital, Boston, MA, <sup>2</sup>Department of Biomedical Engineering, Kyunghee University, Yongin, Korea, Republic of, <sup>3</sup>MGH/MIT/HMS Martinos Center for Biomedical Imaging, Department of Radiology, Massachusetts General H, charlestown, MA, <sup>4</sup>Logan College of Chiropractic, Chesterfield, MO. Functional Brain Connectivity is Modulated Both During and After Electro-acupuncture. 16<sup>th</sup> Annual Meeting of the Organization for Human Brain Mapping, Barcelona, Spain. June 6-10, 2010
29. Rupali Dhond<sup>1</sup>, Thomas Witzel<sup>1</sup>, Norman Kettner<sup>2</sup>, Matti Hamalainen<sup>3</sup>, Vitaly Napadow<sup>4</sup> <sup>1</sup>Martinos Imaging Center (MGH/HMS), Charlestown, MA, <sup>2</sup>Logan College of Chiropractic, Chesterfield, MO, <sup>3</sup>MGH, Cambridge, MA, <sup>4</sup>MGH/MIT/HMS Martinos Center for Biomedical Imaging, Department of Radiology, Massachusetts General H, Charlestown, MA. Acupuncture Stimulation Activates a Distributed Cortical Network – an MEG study. 16<sup>th</sup> Annual Meeting of the Organization for Human Brain Mapping, Barcelona, Spain. June 6-10, 2010

30. Yumi Maeda<sup>1,5</sup>, Jeungchan Lee<sup>2</sup>, Jameson Holden<sup>3</sup>, Stephen Cina<sup>1</sup>, Lauren LaCount<sup>1</sup>, Jieun Kim<sup>1</sup>, Ang Li<sup>1</sup>, Claire McManus<sup>4</sup>, Cristina Malatesta<sup>4</sup>, Kyungmo Park<sup>2</sup>, Mark Tommerdahl<sup>3</sup>, Norman Kettner<sup>5</sup>, Joseph Audette<sup>6</sup>, Vitaly Napadow<sup>1,5</sup> <sup>1</sup>Martinos Center for Biomedical Imaging, MGH, Charlestown, MA, <sup>2</sup>Dept of Biomedical Engineering, Kyunghee University, Yongin, Korea, Republic of, <sup>3</sup>Dept of Biomedical Engineering, UNC School of Medicine, Chapel Hill, NC, <sup>4</sup>Dept of Physical Medicine and Rehabilitation Spaulding Rehabilitation Hospital, Medford, MA, <sup>5</sup>Logan College of Chiropractic, Chesterfield, MO, <sup>6</sup>Dept of Pain Medicine, Harvard Vanguard Medical Associates, Atrius Health, Boston, MA: Optimization of vibrotactile stimulation for functional MRI evaluation of somatotopy in carpal tunnel syndrome patients. Society for Neuroscience - 40<sup>th</sup> Annual meeting 2010, San Diego, CA November 13 – November 18, 2010
31. Haun DW, Cho JCS, Kettner NW: Symptomatic Plantar Fibroma with Unique Sonographic Characteristics. Association of Chiropractic Colleges Educational and Research Agenda Conference, Las Vegas, NV. March 17-20, 2011.
32. Haun DW, Cho JCS, Kettner NW: Symptomatic Plantar Fibroma with Unique Sonographic Characteristics. American Institute of Ultrasound in Medicine (AIUM). New York, NY, April 14-17, 2011.
33. Kaeser MA, Haun DW, Kettner NW: Normative brachial artery diameter dilatation following reactive hyperemia. American Society of Hypertension, INC. ASH 2011 Twenty-Sixth Annual Scientific Meeting and Exposition. New York, NY. May 21-24, 2011.
34. Yumi Maeda, Jieun Kim, Jameson Holden, Steve Cina, Ang Li, Cristina Malatesta, Pia Hugus, Leslie Morse, Mark Tommerdahl, Norman Kettner, Joseph Audette, Vitaly Napadow Affiliates; MGH/MIT/HMS Martinos Center for Biomedical Imaging, Department of Radiology, Massachusetts General Hospital, Charlestown, MA 02129, USA, Department of Radiology Logan College of Chiropractic, Chesterfield, MO, USA, Department of Biomedical Engineering, University of North Carolina School of Medicine, Chapel Hill, NC, USA, Department of Pain Medicine, Harvard Vanguard Medical Associates, Atrius Health, Boston, MA 02215, Department of Physical Medicine and Rehabilitation Spaulding Rehabilitation Hospital, Medford, MA 02155. Cortical adaptation is correlated to SI digit somatotopy in Carpal Tunnel Syndrome. 17<sup>th</sup> Annual Meeting of the Organization for Human Brain Mapping, Quebec City, Canada. June 26-30, 2011.

35. Kyungmo Park<sup>1</sup>, Jeungchan Lee<sup>1</sup>, Jieun Kim<sup>2</sup>, Stephan Cina<sup>2</sup>, Yumi Maeda<sup>2</sup>, Riccardo Barbieri<sup>2</sup>, Norman Kettner<sup>3</sup>, Vitaly Napadow<sup>2</sup>  
<sup>1</sup>Kyung Hee University, Yongin, Korea, Republic of, <sup>2</sup>Martinos Center for Biomedical Imaging, Massachusetts General Hospital, Boston, MA, United States, <sup>3</sup>Logan College of Chiropractic, Chesterfield, United States. Neural Correlates of Defense and Orienting Response to Acupuncture Stimulation: an er-fMRI Study. 17<sup>th</sup> Annual Meeting of the Organization for Human Brain Mapping, Quebec City, Canada. June 26-30, 2011.
36. Emily Ruzich<sup>1</sup>, Thomas Witzel<sup>2</sup>, Norman Kettner<sup>3</sup>, Matti Hämäläinen<sup>2</sup>, Vitaly Napadow<sup>2</sup>, Rupali Dhond<sup>2</sup> <sup>1</sup>Harvard Medical School - MGH; Martinos Center for Biomedical Imaging, Charlestown, MA, USA, <sup>2</sup>Harvard Medical School - MGH, Martinos Center for Biomedical Imaging, Charlestown, MA, USA, <sup>3</sup>Logan College of Chiropractic, Chesterfield, MO, USA. Cortical Alpha and Beta Oscillations during Somatosensory Stimulation. 17<sup>th</sup> Annual Meeting of the Organization for Human Brain Mapping, Quebec City, Canada. June 26-30, 2011.
37. Kaeser MA, Haun DW, Perillat MM, Kettner NW: Thyroid hemiagenesis: a sonographic diagnosis. Association of Chiropractic Colleges Educational and Research Agenda Conference Las Vegas, NV. March 15-18, 2012.
38. Reckelhoff KE, Spath D, Bonic EE Haun DW, Kettner NW: Neglected partial achilles tendon tear: monitoring with us-mri fusion technology and serial us imaging Association of Chiropractic Colleges Educational and Research Agenda Conference Las Vegas, NV. March 15-18, 2012.
39. Haun DW. Bonic EE, Clark TB, Kettner NW: Grayscale and doppler ultrasound in carpal tunnel syndrome: a case report. Association of Chiropractic Colleges Educational and Research Agenda Conference Las Vegas, NV. March 15-18, 2012.
40. Kaeser MA, Chai W, Cizel AB, Kettner NW: Vascular Risk Factors in Ethnic Subjects: A Pilot Study. Society for Vascular Medicine 23<sup>rd</sup> Annual Scientific Sessions. Minneapolis, MN. June 14-16, 2012.
41. Kettner NW 1, Maeda Y1,2, Kim J 2, Cina S2, Malatesta C3, Mcmanus C3, Ongsutherland R 3, Hugus P3, Im J2, Gerber J2, Morse L4, Audette J5, Napadow V1,2; 1Radiology, Logan Health. Center., Chesterfield, MO; 2Radiology, MGH/MIT/HMS Martinos Ctr. for Biomed. Imaging, Massachusetts Gen. Hosp., Charlestown, MA; 3Physical Med. and Rehabil., Spaulding Rehabil. Hosp., Medford, MA; 4Physical Med. and Rehabil., Massachusetts Gen. Hosp., Boston, MA; 5 Pain Med., Harvard Vanguard Med. Associates, Atrius Hlth., Boston, MA: Reduced S1 gray matter volume in CTS is correlated with median nerve conduction velocity. Society for Neuroscience. Neuroscience 2012 Meeting. New Orleans, LA. October 13-17, 2012

42. Maeda Y<sup>1,3</sup>, Kim J<sup>1</sup>, Cina J<sup>1</sup>, Im J<sup>1</sup>, McManus C<sup>2</sup>, Malatesta C<sup>2</sup>, Hugus P<sup>2</sup>, Morse L<sup>1</sup>, Gerber J<sup>1</sup>, Ong-Sutherland R<sup>2</sup>, Kettner N<sup>3</sup>, Audette J<sup>1</sup>, Napadow V<sup>1</sup> 1. MGH/MIT/HMS Martinos Center for Biomedical Imaging, Radiology, Massachusetts General Hospital, 2. Spaulding Rehabilitation Hospital 3. Logan College of Chiropractic, Department of Radiology: Brain response to acupuncture stimulation predicts clinical pain improvement following a longitudinal course of acupuncture therapy in Carpal tunnel syndrome. International Association for the Study of Pain. IASP 2012 Conference. Milan, Italy. August 26, 2012 – September 3, 2012
43. Reckelhoff KE, Clark TB, Kettner NW: The Sonographic Squeeze Test: Assessing Reliability of the Dorsal Scapholunate Ligament. Association of Chiropractic Colleges Educational and Research Agenda Conference Washington, DC March 14-17, 2013
44. Kaeser MA, Li J, Kettner NW: Thyroid carcinoma: incidental finding while assessing cervical lymphadenopathy Association of Chiropractic Colleges Educational and Research Agenda Conference Washington, DC March 14-17, 2013
45. Kaeser MA, Battaglia P, Kettner NW: Diagnosis and serial sonography of a proximal fifth metatarsal stress fracture. Association of Chiropractic Colleges Educational and Research Agenda Conference Washington, DC March 14-17, 2013
46. Yumi Maeda, PhD<sup>1,2</sup>; Norman Kettner, DC<sup>2</sup>; Jieun Kim, PhD<sup>1</sup>; Stephen Cina<sup>1</sup>; Cristina Malatesta, MD<sup>3</sup>; Jessica Gerber<sup>1</sup>; Claire McManus<sup>3</sup>; Pia Mezzacappa<sup>1</sup>; Leslie Morse, MD<sup>4</sup>; Joseph Audette, MD<sup>5</sup>; Vitaly Napadow, PhD<sup>1,2</sup> 1. Athinoula A. Martinos Center for Biomedical Imaging, Department of Radiology, Massachusetts General Hospital, Charlestown, MA, 02129, USA 2. Department of Radiology, Logan College of Chiropractic/University Programs, Chesterfield, MO, 63017, USA 3. Department of Physical Medicine and Rehabilitation, Spaulding Rehabilitation Hospital, Medford, MA, 02155, USA 4. Department of Physical Medicine and Rehabilitation, Harvard Medical School, Spaulding Rehabilitation Hospital, Boston, MA, 02114, USA 5. Department of Pain Medicine, Harvard Vanguard Medical Associates, Atrium Health, Boston, MA, 02215, USA: Acupuncture evoked response in prefrontal cortex predicts pain reduction in carpal tunnel syndrome The Organization for Human Brain Mapping - OHBM 2013 Washington State Convention Center Seattle, WA – June 16-20, 2013

47. Norman Kettner<sup>1</sup>; Yumi Maeda<sup>1,2</sup>; Jameson Holden<sup>3</sup>; Jeungchan Lee<sup>4</sup>; Jieun Kim<sup>2</sup>; Stephen Cina<sup>2</sup>; Cristina Malatesta<sup>5</sup>; Jessica Gerber<sup>2</sup>; Claire McManus<sup>5</sup>; Jaehyun Im<sup>2</sup>; Alexandra Libby<sup>2</sup>; Pia Mezzacappa<sup>1</sup>; Rebecca Ong-Sutherland<sup>5</sup>; Leslie R. Morse<sup>6</sup>; Kyungmo Park<sup>4</sup>; Joseph Audette<sup>7</sup>; Mark Tommerdahl<sup>3</sup>; Vitaly Napadow<sup>1,2</sup>
1. Department of Radiology, Logan College of Chiropractic/University Programs, Chesterfield, MO, 63017, USA
  2. Athinoula A. Martinos Center for Biomedical Imaging, Department of Radiology, Massachusetts General Hospital, Charlestown, MA, 02129, USA
  3. Department of Biomedical Engineering, University of North Carolina at Chapel Hill, Chapel Hill, NC 27599, USA
  4. Department of Biomedical Engineering, Kyung Hee University, Yongin, Korea
  5. Department of Physical Medicine and Rehabilitation, Spaulding Rehabilitation Hospital, Medford, MA, 02155, USA
  6. Department of Physical Medicine and Rehabilitation, Harvard Medical School, Spaulding Rehabilitation Hospital, Boston, MA, 02114, USA
  7. Department of Pain Medicine, Harvard Vanguard Medical Associates, Atrium Health, Boston, MA, 02215, USA
- Sensory discrimination and adaptation reflect reorganization in primary somatosensory cortex in carpal tunnel syndrome. Society for Neuroscience Annual Meeting, 2013  
San Diego Convention Center, San Diego, CA  
November 9, 2013 – November 13, 2013

## **Platform Presentations:**

1. Osterhouse MD, Tepe R, Kettner NW, McVey MJ: Reliability study of the Penning method for cervical intersegmental motion assessment. Logan College of Chiropractic, Chesterfield, MO. Association of Chiropractic Colleges Educational and Research Agenda Conference, New Orleans, LA, March 13-16, 2002.
2. Kettner NW, Vianin M, Gardner T, Ward K, Drake K, Nosco D: Clinical utilization of advanced imaging at Logan College of Chiropractic. Logan College of Chiropractic, Chester, MO. Association of Chiropractic Colleges Educational and Research Agenda Conference, New Orleans, LA, March 11-16, 2003.
3. Norman Kettner, DC, Vitaly Napadow, PhD, Jing Liu, LicAc, Angela Ryan, MD, Ming Li, LicAc, Ken Kwong, PhD, Kathleen Hui, MD, Joseph Audette, MD Logan College of Chiropractic, Chesterfield, MO. Martinos Center for Biomedical Imaging, Dept of Radiology, Massachusetts General Hospital & Harvard Medical School, Boston, MA. Spaulding Rehabilitation Hospital, Medford, MA. Effect of Acupuncture on Carpal Tunnel Syndrome with fMRI Assessment of Cortical Somatotopy. Association of Chiropractic Colleges Educational and Research Agenda Conference, Las Vegas, NV, March 16-20, 2005.
4. Rupali Dhond, PhD , Patrick Purdon, PhD, Norman Kettner, DC, Nikos Makris, MD, PhD, Ken Kwong, PhD, Kathleen Hui, MD Logan College of Chiropractic, Chesterfield, MO. Martinos Center for Biomedical Imaging, Dept of Radiology, Massachusetts General Hospital & Harvard Medical School, Boston, MA. Correlating Acupuncture fMRI in the Human Brain stem with Heart Rate Variability. 27<sup>th</sup> Annual International Conference of the IEEE Engineering in Medicine and Biology Science (EMBS). Shanghai International Conference Center, Shanghai, China, September 1-4, 2005.
5. V. Napadow, J. Liu, A. Ryan, M. Li1, K.K. Kwong, N. Kettner, J. Audette, K.K.S. Hui. 1. Radiology, Massachusetts General Hospital, Charlestown, MA, USA 2. Radiology, Logan Col. of Chiropractic, Chesterfield, MO, USA3. Spaulding Rehab Hosp., Medford, MA, USA. Evidence of Cortical Plasticity in Carpal Tunnel Syndrome Treated with Acupuncture--An fMRI Assessment. Program No. 15.11, Washington, DC: Society for Neuroscience, 2005.
6. V. Napadow, J. Liu, A. Ryan, M. Li1, K.K. Kwong, N. Kettner, J. Audette, K.K.S. Hui. 1. Radiology, Massachusetts General Hospital, Charlestown, MA, USA 2. Radiology, Logan Col. of Chiropractic, Chesterfield, MO, USA3. Spaulding Rehab Hosp., Medford, MA, USA. Evidence of Cortical Plasticity in Carpal Tunnel Syndrome Treated with Acupuncture. Bethesda, MD: NIH - National Center for Complementary and Alternative Medicine. Neurobiological Correlates of Acupuncture, November 17-18, 2005.

7. Napadow V, Liu J, Li M, Kwong KK, Kettner N, Hui KKS, Audette J. Radiology, Massachusetts General Hospital, Charlestown, MA, USA; Radiology, Logan College of Chiropractic, Chesterfield, MO, USA; Spaulding Rehab Hosp., Medford, MA, USA. An fMRI Assessment of Cortical Plasticity in Carpal Tunnel Syndrome Treated with Acupuncture. Consortium of Academic Health Centers for Integrative Medicine – North American Research Conference on Complementary & Integrative Medicine. Edmonton, Alberta, Canada. May 24-27, 2006.
8. V. Napadow, K.K.S. Hui, J. Audette, N. Kettner, K.K. Kwong, Radiology, Massachusetts General Hospital, Charlestown, MA, USA Radiology, Logan Col. of Chiropractic, Chesterfield, MO, USA Spaulding Rehab Hosp., Medford, MA, USA. Central Processing of Acupuncture in Carpal Tunnel Syndrome. Human Brain Mapping, Florence, Italy. June 11-15, 2006.
9. Norman W. Kettner, DC, Kathleen K.S., Hui, MD, Angela Ryan, MD, Kenneth K. Kwong, PhD, Joseph Audette, MD, Vitaly Napadow, PhD, Logan College of Chiropractic, Massachusetts General Hospital, Spaulding Rehabilitation Hospital, fMRI of Cortical and Subcortical Brain Response to Acupuncture in CTS Patients. Foundation for Chiropractic Education and Research Conference, Chicago, IL September 15-16, 2006.
10. Kettner NW, Dhond R, Napadow V, Logan College of Chiropractic, Athinoula A. Martinos, Center for Biomedical Imaging, MEG Response to Electroacupuncture Stimulation: A Case Study. Association of Chiropractic Colleges Educational and Research Agenda Conference, Phoenix, AZ March 16-18, 2007.
11. Kettner NW, Dhond R, Napadow V, Logan College of Chiropractic, Athinoula A. Martinos, Center for Biomedical Imaging, Acupuncture effects on the resting state networks of the human brain. Association of Chiropractic Colleges Educational and Research Agenda Conference, Washington, D.C. March 13-16, 2008.
12. Haun DW, Clark TB, Kettner NW: The use of musculoskeletal diagnostic ultrasound in a chiropractic teaching clinic: a retrospective case series. Association of Chiropractic Colleges Educational and Research Agenda Conference, Washington, D.C. March 13-16, 2008.
13. Kettner NW<sup>1</sup>, Napadow, V<sup>1,2</sup>, Kin, J<sup>2</sup>, Dhond R<sup>1,2</sup>, Lacount L<sup>2</sup>, Vangel M<sup>2</sup>, Park K<sup>2</sup> <sup>1</sup>Radiology, Logan College of Chiropractic, Chesterfield, MO <sup>2</sup>Radiology, Massachusetts Gen. Hosp., Charlestown, MA: Cortical Processing of Acupuncture Sensations. Association of Chiropractic Colleges Educational and Research Agenda Conference, Las Vegas, NV. March 11-15, 2009.

14. Haun DW, Kettner NW, Clark T: Normative cross-sectional area of the brachial plexus and subclavian artery using ultrasonography. Association of Chiropractic Colleges Educational and Research Agenda Conference, Las Vegas, NV. March 11-15, 2009.
15. Napadow V, Kaptchuk TJ, Kettner NW: Martinos Center for Biomedical Imaging, Massachusetts General Hospital, Harvard Medical School, Logan College of Chiropractic: Neuroimaging in translational research on complementary and integrative medicine. North American Research Conference on Complementary & Integrative Medicine (NARCCIM) Minneapolis, MN, May 12-16, 2009.
16. Dhond RP, Kettner NW, Napadow V, Witzel T: Massachusetts General, Harvard Medical School, Logan College of Chiropractic: Modulation of cortical somatosensory rhythms by acupuncture stimulation. North American Research Conference on Complementary & Integrative Medicine (NARCCIM) Minneapolis, MN, May 12-16, 2009.
17. Cina S, Kettner N, Kim J, LaCount L, Lee JC, Markin S, Napadow V, Park KM, Ye D. Martinos Center for Biomedical Imaging, MGH, Harvard, Logan College of Chiropractic: Brain and autonomic response to acupuncture—an event-related fMRI study. North American Research Conference on Complementary & Integrative Medicine (NARCCIM) Minneapolis, MN, May 12-16, 2009.
18. K. Park<sup>1,3</sup>, R.P. Dhond<sup>1,2</sup>, J. Kim<sup>1,3</sup>, L. LaCount<sup>1</sup>, M. Vangel<sup>1,4</sup>, R.E. Harris<sup>5</sup>, N. Kettner<sup>2</sup>, V. Napadow<sup>1,2</sup> <sup>1</sup>MGH/HMS/MIT Martinos Center for Biomedical Imaging, <sup>2</sup>Department of Radiology, Logan College of Chiropractic, <sup>3</sup>Department of Biomedical Engineering, Kyunghee University, <sup>4</sup>MGH GCRC Biomedical Imaging Core, <sup>5</sup>Chronic Pain and Fatigue Research Center, Department of Anesthesiology, University of Michigan. Brain Encoding of Acupuncture Sensation – A Percept-related fMRI Study. 15<sup>th</sup> Annual Meeting of the Organization for Human Brain Mapping, San Francisco, CA, June 18-22, 2009.
19. Cho JCS, Haun DW, Kettner NW, Clark T, Scali F: Normative Evaluation of the Cross-Sectional Area of the Greater Occipital Nerve and the Obliquus Capitis Inferior Muscle Using Ultrasonography. Association of Chiropractic Colleges Educational and Research Agenda Conference, Las Vegas, NV. March 18-21, 2010.
20. Kettner NW, Meade Y, Napadow V: Mapping cerebral activation of tactile stimuli using fMRI. Association of Chiropractic Colleges Educational and Research Agenda Conference, Las Vegas, NV. March 18-21, 2010.
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Society for Acupuncture Research  
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24. Vitaly Napadow, Jeungchan Lee, Steve Cina, Jieun Kim, Lauren LaCount, Yumi Maeda, Di Ye, Norman Kettner and Kyungmo Park "Event-related fMRI for the Evaluation of Brain and Autonomic Response to Electroacupuncture"  
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29. Bonic EE, Haun DW, Cho JCS, Clark TB, Kettner NW: Sonography of the normal anterior talofibular ligament. Association of Chiropractic Colleges Educational and Research Agenda Conference Las Vegas, NV. March 15-18, 2012.
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Anterior Talofibular Ligament Thickness in Injured Ankles  
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March 29, 2012 – April 1, 2012
32. Kettner N<sup>1</sup>, Maeda Y<sup>1,2</sup>, Sheehan J<sup>3</sup>, Kim J<sup>2</sup>, Cina S<sup>2</sup>, Malatesta C<sup>4</sup>, Gerber J<sup>2</sup>, McManus C<sup>4</sup>, Hugus P<sup>2</sup>, Morse L<sup>4</sup>, Audette J<sup>4,5</sup>, Napadow V:<sup>1,2</sup> 1. Department of Radiology Logan College of Chiropractic/University Programs, Chesterfield, MO 63017, USA 2. Athinoula A. Martinos Center for Biomedical Imaging, Department of Radiology, Massachusetts General Hospital, Charlestown, MA 02129, USA 3. Department of Gastroenterology, Massachusetts General Hospital, Charlestown, MA 02129, USA 4. Department of Physical Medicine and Rehabilitation Spaulding Rehabilitation Hospital, Medford, MA 02155 5. Department of Pain Medicine, Harvard Vanguard Medical Associates, Atrius Health, Boston, MA 02215: Altered brain morphometry in carpal tunnel syndrome is associated with peripheral nerve pathology. Association of Chiropractic Colleges Educational and Research Agenda Conference  
Washington, DC March 14-17, 2013
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Washington, DC March 14-17, 2013
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Washington, DC March 14-17, 2013

## Workshop Lectures:

1. Napadow V, Kaptchuk TJ, Kettner NW: Martinos Center for Biomedical Imaging, Massachusetts General Hospital, Harvard Medical School, Logan College of Chiropractic: Neuroimaging in translational research on complementary and integrative medicine. North American Research Conference on Complementary & Integrative Medicine (NARCCIM) Minneapolis, MN, May 12-16, 2009.
2. "From Needle Insertion to Neural Cascade: What Can Brain Imaging Tell Us About Acupuncture Mechanisms?"  
Speakers: Richard E Harris, PhD, University of Michigan;  
Vitaly Napadow, PhD, Martinos Imaging Center,  
Massachusetts General Hospital; Norman Kettner, DC,  
Logan College of Chiropractic/University Programs  
American Research Conference on Complementary & Integrative  
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11. Napadow V, Kettner NW, Harris, RE: Neuroimaging: A Window into Human Brain Mechanisms Supporting Acupuncture Effects (Chapter xx) *Medical Acupuncture*, 2ed. Filshie, White & Cummings - Elsevier Limited. Registered Office: The Boulevard, Langford Lane, Kidlington, Oxford, OX5 1GB, United Kingdom, 2013. pgs. xx-xx.

**Abstracts:**

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3. Rupali Dhond<sup>1,2</sup>, Thomas Witzel<sup>1</sup>, Norman Kettner<sup>2</sup>, Calvin Yeh<sup>1</sup>, Vitaly Napadow<sup>1,2</sup> <sup>1</sup>MGH/MIT/HMS Martinos Center for Biomedical Imaging, Charlestown, MA, USA<sup>2</sup>Dept. of Radiology, Logan College of Chiropractic, Chesterfield, MO, USA: Spatiotemporal Dynamics of Neuronal Responses Supporting Acupuncture. Human Brain Mapping. Chicago, Illinois, June 10-14, 2007.

4. Dhond RP<sup>1,2</sup>, Witzel T<sup>1</sup>, Yeh C<sup>1</sup>, Kettner N<sup>2</sup>, Napadow V<sup>1,2</sup>: MGH/MIT/HMS Martinos Center for Biomedical Imaging, Charlestown, MA, USA<sup>2</sup>Dept. of Radiology, Logan College of Chiropractic, Chesterfield, MO, USA: Mapping the Neural Correlates of Acupuncture with Magnetoencephalography. *Journal of Alternative and Complementary Medicine*. October 2007. 13(8): 859.
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7. Kyungmo Park<sup>3\*</sup>, Jeungchan Lee<sup>1,3</sup>, Jieun Kim<sup>1</sup>; Steve Cina<sup>1</sup>; Yumi Maeda<sup>1</sup>; Riccardo Barbieri<sup>4,5</sup>; Norman Kettner<sup>2</sup>, Vitaly Napadow<sup>1,2\*</sup>, <sup>1</sup>MGH/MIT/HMS Martinos Center for Biomedical Imaging, Charlestown, MA, USA <sup>2</sup>Dept. of Radiology, Logan College of Chiropractic, Chesterfield, MO, USA. Neural Correlates of Defense and Orienting Response to Acupuncture Stimulation: an fMRI study: *The Organization of Human Brain Mapping*. 17<sup>th</sup> Annual Meeting. Quebec City, Canada, June 26-30, 2011.
8. Emily Ruzich<sup>1</sup>, Thomas Witzel<sup>1</sup>, Norman Kettner<sup>1</sup>, Matti Hamalainen<sup>1</sup>, Vitaly Napadow<sup>1</sup>, Polly Dhond<sup>1</sup> <sup>1</sup>MGH/MIT/HMS Martinos Center for Biomedical Imaging, Charlestown, MA, USA Induced Cortical Alpha and Beta Oscillations during Somatosensory Stimulation. *The Organization of Human Brain Mapping*. 17<sup>th</sup> Annual Meeting. Quebec City, Canada, June 26-30, 2011.

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13. Kaeser MA, Chai W, Cizel AB, Kettner NW: Vascular Risk Factors in Ethnic Subjects: A Pilot Study. *Society for Vascular Medicine 23<sup>rd</sup> Annual Scientific Sessions*. Minneapolis, MN. June 14-16, 2012.

14. Maeda Y<sup>1,3</sup>, Kim J<sup>1</sup>, Cina J<sup>1</sup>, Im J<sup>1</sup>, McManus C<sup>2</sup>, Malatesta C<sup>2</sup>, Hugus P<sup>2</sup>, Morse L<sup>1</sup>, Gerber J<sup>1</sup>, Ong-Sutherland R<sup>2</sup>, Kettner N<sup>3</sup>, Audette J<sup>1</sup>, Napadow V<sup>1</sup> 1. MGH/MIT/HMS Martinos Center for Biomedical Imaging, Radiology, Massachusetts General Hospital, 2. Spaulding Rehabilitation Hospital 3. Logan College of Chiropractic, Department of Radiology: Brain response to acupuncture stimulation predicts clinical pain improvement following a longitudinal course of acupuncture therapy in Carpal tunnel syndrome. International Association for the Study of Pain. IASP 2012 Conference. Milan, Italy. Aug 26, 2012 – Sept 3, 2012.
15. Norman Kettner<sup>1</sup>; Yumi Maeda<sup>1,2</sup>; Jameson Holden<sup>3</sup>; Jeungchan Lee<sup>4</sup>; Jieun Kim<sup>2</sup>; Stephen Cina<sup>2</sup>; Cristina Malatesta<sup>5</sup>; Jessica Gerber<sup>2</sup>; Claire McManus<sup>5</sup>; Jaehyun Im<sup>2</sup>; Alexandra Libby<sup>2</sup>; Pia Mezzacappa<sup>1</sup>; Rebecca Ong-Sutherland<sup>5</sup>; Leslie R. Morse<sup>6</sup>; Kyungmo Park<sup>4</sup>; Joseph Audette<sup>7</sup>; Mark Tommerdahl<sup>3</sup>; Vitaly Napadow<sup>1,2</sup> 1. Department of Radiology, Logan College of Chiropractic/University Programs, Chesterfield, MO, 63017, USA 2. Athinoula A. Martinos Center for Biomedical Imaging, Department of Radiology, Massachusetts General Hospital, Charlestown, MA, 02129, USA 3. Department of Biomedical Engineering, University of North Carolina at Chapel Hill, Chapel Hill, NC 27599, USA 4. Department of Biomedical Engineering, Kyung Hee University, Yongin, Korea 5. Department of Physical Medicine and Rehabilitation, Spaulding Rehabilitation Hospital, Medford, MA, 02155, USA 6. Department of Physical Medicine and Rehabilitation, Harvard Medical School, Spaulding Rehabilitation Hospital, Boston, MA, 02114, USA 7. Department of Pain Medicine, Harvard Vanguard Medical Associates, Atrium Health, Boston, MA, 02215, USA: Sensory discrimination and adaptation reflect reorganization in primary somatosensory cortex in carpal tunnel syndrome. Society for Neuroscience Annual Meeting, 2013 San Diego Convention Center, San Diego, CA November 9, 2013 – November 13, 2013

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107. Chai W, Davidson, R, Kaeser MA, Kettner NW: Serum levels of 25-hydroxyvitamin D and parathyroid hormone and bone mineral density among African Americans and Whites from a college community. J Manipulative Physiol Ther. (Submitted November 2012)
108. Maeda Y, Kettner N, Kim J, Cina S, Gerber J, Mezzacappa, P, Morse L, Audette J, Napadow V: Acupuncture evoked response in contralateral somatosensory cortex reflects peripheral nerve pathology of carpal tunnel syndrome. Medical Acupuncture. (In Press, April 2013)
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110. Battaglia P, Kettner NW, Kaeser MA,: Diagnosis and serial sonography of a proximal fifth metatarsal stress fracture. Journal of Chiropractic Medicine. (Submitted April 2013)

**Postdoctoral Seminars: (1983 - 1986)**

Bone Pathology - 1	St. Louis, MO	12/17/83
Bone Pathology - 2	St. Louis, MO	01/21/84
Bone Pathology - 3	St. Louis, MO	02/18/84
Skeletal Oncology	St. Louis, MO	04/28/84
The joints, part 1	St. Louis, MO	09/15/84
The joints, part 2	St. Louis, MO	10/20/84
Anomalies	St. Louis, MO	11/10/84
Intro to the Chest - 1	St. Louis, MO	01/19/85
Intro to the Chest - 2	St. Louis, MO	02/23/85
Intro to the Chest - 3	St. Louis, MO	03/23/85
Intro to the Chest - 4	St. Louis, MO	04/13/85
Intro to the Chest - 5	St. Louis, MO	05/04/85
Intro to the Chest - 6	St. Louis, MO	09/21/85
Intro to the Chest - 7	St. Louis, MO	09/21/85
Chiropractic Roentgenology - 4	West Palm Beach, FL	04/19/85
Chiropractic Roentgenology - 9	West Palm Beach, FL	05/18/85
Chiropractic Roentgenology - 10	West Palm Beach, FL	06/29/85
Chiropractic Roentgenology - 11	West Palm Beach, FL	07/27/85
Chiropractic Roentgenology - 12	West Palm Beach, FL	08/24/85
Chiropractic Roentgenology - 13	West Palm Beach, FL	09/28/85
Chiropractic Roentgenology - 14	West Palm Beach, FL	10/26/85
Chiropractic Roentgenology - 15	West Palm Beach, FL	11/23/85
Chiropractic Roentgenology - 16	West Palm Beach, FL	12/14/85
Chiropractic Roentgenology - 17	West Palm Beach, FL	01/25/86
Chiropractic Roentgenology - 18	West Palm Beach, FL	02/22/86
Chiropractic Roentgenology - 19	West Palm Beach, FL	03/22/86
Chiropractic Roentgenology - 20	West Palm Beach, FL	05/24/86
Chiropractic Roentgenology - 21	West Palm Beach, FL	06/28/86
Chiropractic Roentgenology - 22	West Palm Beach, FL	07/26/86
Chiropractic Roentgenology - 23	West Palm Beach, FL	08/23/86
Chiropractic Roentgenology - 24	West Palm Beach, FL	09/27/86
Chiropractic Orthopedics	St. Louis, MO	10/12/85
Chiropractic Orthopedics	St. Louis, MO	11/09/85
Chiropractic Orthopedics	St. Louis, MO	01/11/86
Chiropractic Orthopedics	St. Louis, MO	05/10/86
Trauma	St. Louis, MO	11/16/85
The Abdomen GI Tract	St. Louis, MO	01/18/86
Independent Chiropractic Examiner	Detroit, MI	02/08/86
Independent Chiropractic Examiner	St. Louis, MO	05/17/86
Independent Chiropractic Examiner	Columbia, SC	06/21/86
Independent Chiropractic Examiner	Detroit, MI	10/11-12/86
Independent Chiropractic Examiner	St. Louis, MO	11/1-2/86
Independent Chiropractic Examiner	St. Louis, MO	12/6-7/86
GI/GU System	St. Louis, MO	02/15/86
Chiropractic Roentgenology	St. Louis, MO	03/15/86
Chiropractic Roentgenology	Orlando, FL	10/25-26/86
Chiropractic Roentgenology	West Palm Beach, FL	12/13-14/86
Differential Diagnosis	Jackson, MS	09/20/86

**Postdoctoral Seminars: (1986 - 1990)**

Radiological Evaluation of Spinal and Pelvic Pain	Birmingham, AL	10/18-19/86
Chiropractic Radiology	St. Louis, MO	01/17-18/87
Chiropractic Radiology	St. Louis, MO	02/21-22/87
Chiropractic Radiology	St. Louis, MO	03/14-15/87
Chiropractic Radiology	St. Louis, MO	04/25-26/87
Chiropractic Radiology	St. Louis, MO	06/13-14/87
Chiropractic Radiology	St. Louis, MO	09/12-13/87
Chiropractic Radiology	St. Louis, MO	10/10-11/87
Chiropractic Radiology	St. Louis, MO	01/16-17/88
Chiropractic Radiology	St. Louis, MO	01/23-24/88
Chiropractic Radiology	St. Louis, MO	02/13-14/88
Chiropractic Radiology	St. Louis, MO	03/12-13/88
Chiropractic Radiology	St. Louis, MO	03/19-20/88
Chiropractic Radiology	St. Louis, MO	04/16-17/88
Chiropractic Radiology	St. Louis, MO	05/14-15/88
Chiropractic Radiology	St. Louis, MO	09/10-11/88
Chiropractic Radiology	St. Louis, MO	10/08-09/88
Chiropractic Radiology	St. Louis, MO	11/12-13/88
Chiropractic Radiology	St. Louis, MO	12/10-11/88
Chiropractic Radiology	St. Louis, MO	01/21-22/89
Chiropractic Radiology	St. Louis, MO	02/11-12/89
Chiropractic Radiology	St. Louis, MO	03/11-12/89
Chiropractic Radiology	St. Louis, MO	04/08-09/89
Chiropractic Radiology	St. Louis, MO	05/20-21/89
Chiropractic Radiology	St. Louis, MO	06/10-11/89
Advanced Imaging	Newark, NJ	01/28-29/89
AI of Spinal Column	Mobile, AL	01/24-25/87
AI Chronic Pain Syndromes	Jackson, MS	08/27-28/88
AI Chronic Pain Syndromes	Cape Girardeau, MO	10/22-23/88
Chiropractic Orthopedics	Baton Rouge, LA	05/16-17/87
Chiropractic Orthopedics	Baton Rouge, LA	06/27-28/87
Chiropractic Orthopedics	Baton Rouge, LA	10/17-18/87
DDX: Spinal and Pelvic Pain	Columbia, MO	02/20-21/88
Tumor & Tumor-like Lesions	St. Louis, MO	02/27-28/88
Tumor & Tumor-like Lesions	Bloomfield, NJ	09/16-17/89
Tumor Recognition	Bloomfield, NJ	10/14-15/89
Trauma of the Axial Skeleton	St. Louis, MO	07/08-09/89
Infections of Skeleton	Bloomfield, NJ	11/18-19/89
Infections of Skeleton	Miami, FL	03/10-11/90
Orthopedic Radiology	St. Louis, MO	12/02-03/89
Orthopedic Radiology	St. Louis, MO	01/20-21/90
Orthopedic Radiology	Columbia, SC	12/01-02/90
Metabolic Bone Disease	Bloomfield, NJ	12/09-10/89
Metabolic Bone Disease	Bloomfield, NJ	01/13-14/90
Metabolic Bone Disease	Miami, FL	04/28-29/90
Metabolic Bone Disease	Miami, FL	05/12-13/90
Dysplasias, Anomalies & Vascular Disorders	Bloomfield, NJ	02/17-18/90

**Postdoctoral Seminars: (1990-1993)**

Dysplasias, Anomalies & Vascular Disorders	Miami, FL	06/23-24/90
Appendicular Skeletal Trauma	Bloomfield, NJ	03/17-18/90
Pathomechanical Syndromes	St. Louis, MO	06/15-16/90
Skeletal Radiology	Newark, NJ	11/11-12/90
Orthopedic Radiology	Columbia, SC	01/12-13/91
Orthopedic Radiology	Wichita, KS	01/19-20/91
Orthopedic Radiology	Columbia, SC	02/02-03/91
Orthopedic Radiology	Wichita, KS	02/16-17/91
Orthopedic Radiology	Wichita, KS	03/16-17/91
Orthopedic Radiology	Richmond, VA	04/06-07/91
Orthopedic Radiology	Richmond, VA	05/04-05/91
Orthopedic Radiology	Richmond, VA	06/01-02/91
DI: Spinal Pathology	St. Louis, MO	02/09-10/91
Radiology Cervical Spine Trauma	Miami, FL	05/14-15/91
Neuro Diagnostic Imaging	St. Louis, MO	05/18-19/91
Neuro Diagnostic Imaging	St. Louis, MO	09/14-15/91
Neuro Diagnostic Imaging	St. Louis, MO	10/26-27/91
Imaging of Unstable Cervical Sp.	Orlando, FL	08/23-24/91
Pathomechanics of Upper Extrem.	Atlantic City, NJ	09/28-29/91
Pathomechanics of Upper Extrem.	Atlantic City, NJ	03/07-08/92
Tumor & Tumor-like Lesions of Bone	St. Louis, Mo	11/23-24/91
Tumor & Tumor-like Lesions of Bone	St. Louis, MO	12/21-22/91
Tumor & Tumor-like Lesions of Bone	St. Louis, MO	01/18-19/92
Tumor & Tumor-like Lesions	Tulsa, OK	03/13-14/93
Tumor & Tumor-like Lesions	Tulsa, Ok	03/20-21/93
Advanced Imaging of Spinal Pain	St. Louis, MO	12/12-13/91
Sports Injuries	Phoenix, AZ	12/14-15/91
Sports Radiology	Pittsburgh, PA	04/04-05/92
Sports Radiology	St. Louis, MO	06/13-14/92
Sports Radiology	Huntsville, AL	06/20-21/92
Soft Tissue Injury Cervical Spine	Miami, FL	02/08-09/92
Pediatric Sports Injury	Minneapolis, MN	02/22-23/92
Advanced Imaging for Chiropractor	St. Louis, MO	08/18-19/92
Diagnostic Imaging for Chiro.	St. Louis, MO	09/19-20/92
Diagnostic Imaging of Sports Inj.	Ft. Lauderdale, FL	10/17-18/92
Diagnostic Imaging	St. Louis, MO	01/09-10/93
Certified Chiro. Sports Phys.	Coraopolis, PA	10/31-01/92
Certified Chiro. Sports Phys.	St. Louis, MO	02/12-14/93
Skeletal Radiology	St. Louis, MO	11/14-15/92
Diplomate Chiro. Sports Inj. #13	St. Louis, MO	04/24-25/93
Diplomate Chiro. Sports Inj.	Minneapolis, MN	03/27-28/93
Diplomate Chiro. Sports Inj. #4	Columbia, SC	09/18-19/93
ABCA Practice Guidelines	St. Louis, MO	08/20-21/93
Degenerative Joint Disease	Elizabeth, NJ	09/11-12/93
Degenerative Joint Disease	Elizabeth, NJ	10/16-17/93
DI: Destructive Lesions	Elizabeth, NJ	10/23-24/93
DI: Destructive Lesions	St. Louis, MO	11/06-07/93
DI: Soft Tissue Injuries	Newark, NJ	11/20-21/93

**Postdoctoral Seminars: (1994-1996)**

Diagnostic Imaging	St. Louis, MO	01/08-09/94
Diagnostic Imaging	St. Louis, MO	01/15-16/94
Diagnostic Imaging	Lake of Ozarks, MO	02/05-06/94
Certified Chiropractic Sports Phy.	Phoenix, AZ	03/05-06/94
Certified Chiropractic Sports Phy.	Altoona, PA	03/26-27/94
Diagnostic Imaging	St. Louis, MO	3/31-4/1/94
Sports Radiology	Kenner, LA	04/09-10/94
Sports Radiology	Ft. Lauderdale, FL	04/16-17/94
Sports Radiology	Bethesda, MD	04/23-24/94
Manipulation under Anesthesia	St. Louis, MO	05/21-22/94
Diagnostic Imaging	Pittsburgh, PA	07/09-10/94
Diagnostic Imaging	Pittsburgh, PA	07/23-24/94
Diagnostic Imaging for Chiro	Shreveport, LA	08/27-28/94
Diplomate Chiropractic Orthopedics	St. Louis, MO	09/17-18/94
Manipulation under Anesthesia	St. Louis, MO	10/02/94
Orthopedic Radiology	St. Louis, MO	10/08-09/94
Diagnostic Imaging	Little Rock, AR	11/05-06/94
Diplomate Chiropractic Orthopedics	St. Louis, MO	11/12-13/94
Diplomate Chiropractic Orthopedics	St. Louis, MO	12/10-11/94
Fundamentals of MR Imaging	St. Louis, MO	12/14/94
Diplomate Chiropractic Orthopedics	Philadelphia, PA	01/14-15/95
Radiography of the Cervical Spine	Tan-Tar-A, MO	02/04/95
Diplomate Chiropractic Orthopedics	Philadelphia, PA	02/11-12/95
Diplomate Chiropractic Orthopedics	Albuquerque, NM	03/11-12/95
Diplomate Chiropractic Orthopedics	Philadelphia, PA	03/18-19/95
CCSP - Sports Radiology	Eugene, OR	03/25-26/95
Differential Diagnosis	Lincoln, NE	3/31-4/1/95
Diplomate Chiropractic Orthopedics	Philadelphia, PA	04/08-09/95
Diplomate Chiropractic Orthopedics	Albuquerque, NM	04/22-23/95
Diplomate Chiropractic Orthopedics	Albuquerque, NM	05/13-14/95
Radiculopathy	St. Louis, MO	05/18/95
CCSP - Sports Radiology	Allentown, PA	05/20-21/95
CCSP - Sports Injuries	Oslo, Norway	06/10-11/95
Diagnostic Imaging	St. Louis, MO	06/16-17/95
Diplomate Chiropractic Orthopedics	Albuquerque, NM	06/24-25/95
Rheumatology	St. Louis, MO	07/15-16/95
Rheumatology	Philadelphia, PA	09/09-10/95
Sports Radiology	St. Louis, MO	10/14-15/95
Imaging of the Upper Extremity	St. Louis, MO	10-19-95
Articular Disorders	St. Louis, MO	11/02/95
Fundamentals of MRI	St. Louis, MO	12/07/95
Pathomechanics of Spinal Degeneration	St. Louis, MO	01/11/96
CCSP	St. Louis, MO	02/10-11/96
Family Practice Pediatrics	St. Louis, MO	02/24-25/96
Diplomate Chiropractic Orthopedics	Baton Rouge, LA	04/13-14/96
Imaging of the Upper Extremity	St. Louis, MO	04/25/96
Diagnostic Imaging Articular Disorders	St. Louis, MO	05/11/96
Differential Diagnosis	St. Louis, MO	05/11/96
Diplomate Chiropractic Orthopedics	Baton Rouge, LA	05/18-19/96

**Postdoctoral Seminars: (1996- 2003)**

Diplomate Chiropractic Orthopedics	Baton Rouge, LA	06/08-09/96
Diplomate Chiropractic Orthopedics	Baton Rouge, LA	07/20-21/96
Imaging for a Lifetime	Orlando, FL	08/23-24/96
Sports Radiology	Aurora, CO	10/05-06/96
Imaging of Common Articular Disorders	St. Louis, MO	10/12/96
Differential Diagnosis: Case Studies	St. Louis, MO	10/12/96
Degenerative and Inflammatory Joint Dis.	Orlando, FL	10/19-20/96
Diplomate Chiropractic Orthopedics	Cincinnati, OH	11/02-03/96
Diagnostic Imaging	St. Louis, MO	11-07-96
Destructive Lesions of the Spine	Orlando, FL	11/09-10/96
Sports Radiology	Orlando, FL	11/16-17/96
Imaging Musculoskeletal Pain Syndromes	St. Louis, MO	12/12/96
Diplomate Chiropractic Orthopedics	Cincinnati, OH	12/14-15/96
Diplomate Chiropractic Orthopedics	Cincinnati, OH	01/11-12/97
Diplomate Chiropractic Orthopedics	Cincinnati, OH	02/08-09/97
Imaging for a Lifetime	Little Rock, AR	02/15-16/97
Imaging for a Lifetime	Durham, NC	02/22-23/97
Sports Radiology	Pittsburgh, PA	03/01-02/97
Imaging for a Lifetime	Danvers, MA	04/26-27/97
Sports Radiology	Phoenix, AZ	05/17-18/97
Imaging Evaluation of Acute Cervical Trauma	St. Louis	06/13/97
Key Concepts in Diagnostic Imaging - Part I	Seattle, WA	09/06-07/97
Upper Extremity Trauma: Imaging Perspective	St. Louis, MO	09/11/97
Key Concepts in Diagnostic Imaging - Part I	Nashville, TN	09/13-14/97
Selected Cases in Differential Diagnosis	St. Louis, MO	09/25/97
Key Concepts in Diagnostic Imaging - Part II	Seattle, WA	09/27-28/97
Key Concepts in Diagnostic Imaging – Part I	Boston, MA	10/04-05/97
Current Concepts in Spinal Trauma Imaging	St. Louis, MO	10/16/97
Sports Radiology	Richmond, VA	10/18-19/97
Key Concepts in Diagnostic Imaging - Part II	Nashville, TN	10/25-26/97
Key Concepts in Diagnostic Imaging – Part I	Albuquerque, NM	11/01-02/97
Pathomechanics of Spinal Pain	St. Louis, MO	11/06/97
Key Concepts in Diagnostic Imaging – Part II	Boston, MA	11/08-09/97
Key Concepts in Diagnostic Imaging – Part I	St. Louis, MO	11/15-16/97
Key Concepts in Diagnostic Imaging - Part II	Albuquerque, NM	11/22-23/97
Key Concepts in Diagnostic Imaging – Part II	St. Louis, MO	12/13-14/97
Rheumatology	Baton Rouge, LA	04/18-19/98
Diagnostic Imaging – Spinal Pathomechanics	St. Louis, MO	05/07/98
Sports Radiology	Atlanta, GA	05/09-10/98
Radiology of Upper Extremity Trauma	St. Louis, MO	09/10/98
Sports Radiology	St. Louis, MO	09/12-13/98
Pathomechanics of Spinal Pain	St. Louis, MO	10/08/98
Diagnostic Imaging of Spinal Trauma	St. Louis, MO	11/05/98
Imaging of Musculoskeletal Pain syndromes of the Spine and Pelvis	St. Louis, MO	12/17/98
Upper Extremity Trauma: An Imaging Approach	St. Louis, MO	01/30/99
Scientific Acupuncture	St. Louis, MO	05/13/01
Diplomate Neurology/Neuroimaging	St. Louis, MO	5/31/03
Diagnostic Imaging for the Practicing Chiropractor	St. Louis, MO	8/2-3/03
Diagnostic Imaging for the Practicing Chiropractor	Shreveport, LA	11/1-2/03

**Postdoctoral Seminars: (2004- Current)**

Diplomate Neurology/Nociception, Placebo & Pain Management	St. Louis, MO	1/24-25/04
Diplomate Neurology/Neuroimaging	Baltimore, MD	3/20-21/04
Diagnostic Imaging for the Practicing Chiropractor	St. Louis, MO	7/31/04-8/1/04
Diplomate Neurology/Nociception, Placebo & Pain Management	Baltimore, MD	8/21-22/04
Diplomate Neurology/Nociception, Placebo & Pain Management	St. Louis, MO	10/2-3/04
Diplomate Neurology Review (4hr)	St. Louis, MO	10/16/04
Diplomate Neurology/Neuroimaging (2hr)	St. Louis, MO	10/16/04
Diplomate Neurology/Nociception, Placebo & Pain Management (2hr)	St. Louis, MO	10/17/04
Neuroradiology	Ohio	12/11-12/04
Functional Magnetic Resonance Imaging (Toftness Group)	St. Louis, MO	03/05/05
Functional Imaging of the Neuromusculoskeletal System	St. Louis, MO	6/11/05
Differential Diagnosis and Imaging Techniques for Spinal Pain	Osage Beach, MO	7/27-/31/05
Imaging for the Chiropractic Physician	St. Louis, MO	9/30/05
Imaging for the Chiropractic Physician	St. Louis, MO	9/22/06
Functional Magnetic Resonance Imaging (Toftness Group)	St. Louis, MO	3/2/07
Imaging the Brain in Pain: The Role of Functional Neuroimaging	St. Louis, MO	4/3/08
Pain, Antinociception and Placebo in the Athlete	Chesterfield, MO	7/25/08
Physiology of Pain: From the Periphery to the Cortex	Chesterfield, MO	9/24-25/2009
Functional Imaging Techniques Current Status and Future Directions	Chesterfield, MO	6/11/2010
The Topology of Cognitive Networks or What's a Memory?	Chesterfield, MO	10/28/2010