PROFESSIONAL VITA

KEITH G. RAU, DC, C.C.E.P., C.C.S.P.®

Life University

Department of Sport Health Science

770-426-2771

June 2023

# EDUCATION

INSTITUTION LOCATION DATE DEGREE

Life Chiropractic College Marietta, Georgia 1982 D.C. (magna cum laude)

University of Missouri (UMSL) St. Louis, Missouri 1979

Undergraduate Major: Pre-chiropractic

##### PROFESSIONAL EXPERIENCE

POSITION INSTITUTION DATES

Associate Professor- Graduate Teaching Life University 1994 – present

Status- Sport Health Science Marietta, GA

Director of Sports Chiropractic Life University, Athletic Care 2012 – 2023

Faculty Liaison to American Chiropractic Life University 2009 – present

Association Sports Council (ACASC)

Private practice Self-employed 1984 – present

Team Chiropractor, KSU Owls Kennesaw State University 2002 – present

Interim Director, Athletic Care Life University 2014 – 2015

Interim Director of the Life SSI Life University 2012 – 2014

Adjunct faculty- College of Chiropractic Life University 2003 – 2014

2017 - present

Assistant Team Chiropractor Atlanta Beat WPS 2010 – 2011 (2 seasons)

Faculty Senate President Life University 2003 – 2005

Team Chiropractor Arena Football Georgia Force 2002 – 2003

Atlanta, GA (2 seasons)

Department Head of Sports Chiropractic Life University 2001 – 2002

Team Chiropractor- Primarily Men’s & Life University 1995 – 2002

Women's Cross-Country and Track & Field Marietta, GA

Chiropractor for visiting Arizona Major League Baseball 2001 – 2002

Diamondbacks and San Francisco Giants (2 seasons)

Coordinator of Chiropractic Services Life University 1999 – 2001

Sports Chiropractic Marietta, GA

Department Head Life University 1996 – 1997

Diagnostic Imaging and Alignment Marietta, GA

Team Chiropractor Boy’s and Girl’s Roswell High School 1987 – 1988

Cross-Country and Track and Field Roswell, GA

##### UNIVERSITY SERVICES

LIFE UNIVERSITY:

Sport Health Science Faculty 2003 – Appointment

College of Chiropractic Adjunct Faculty 2003 – 2014

2017 – present

College of Chiropractic Faculty 1994 -- 2003

Graduate Curriculum Committee- member 2018 – present

Research Track Committee- CoC 2017 – present

Life University Post-Graduate Faculty member 1998 – present

Advisor Sports Chiropractic Club 2010 – present

Faculty Liaison to American Chiropractic Association Sports Council 2009 – present

Program coordinator of Sport Health Science Track Life Fall CE Event 2011 – 2022

Clinic Preceptor, Master of Athletic Training program 2014 – 2020

Life Academic Master Plan (LAMP) 2 - member professional degree programs committee

2019

Graduate Curriculum Committee- Chair 2000 – 2017

Faculty Handbook Appendix Revision 2015

Faculty Affairs Committee- Chair 2010 – 2014

Faculty Affairs Committee 2008 – 2014

Strategic Prioritization Project- Administrative Programs 2012

Advisor Running Club 2012

Faculty Handbook/FS Constitution Revision Taskforce 2009 – 2011

Life Academic Master Plan- Faculty Roles Steering Committee 2008 – 2010

Academic Coordinator of CCSP program 2006 – 2009

Academic Coordinator of Post-Graduate 2008

Physiological Therapeutics program

Faculty Senate representative from College of Arts & Sciences 2006 – 2008

Advisor Triathlon Club 2007

Advisor Rugby Club 2000 – 2007

Lead author, revision of extremity adjusting portion of Clinic Handbook 2006

Academic Technology Committee 1999 – 2006

Immediate past-president Faculty Senate 2005 – 2006

Editorial Review Board of *Today's Chiropractic* 2002 – 2005

College of Chiropractic Faculty 1994 – 2003

FS representative to Provost Council, President's Executive Leadership 2004 – 2005

Forum, President's Council, various task force and workgroups

Chair Faculty Handbook Revision Steering Committee 2004 – 2005

Faculty Senate President 2003 – 2005

Faculty Senate Vice-President 2002 – 2004

CCE Self-Study, Faculty Committee 2002 – 2004

Faculty Senate Grievance Committee 1999 – 2003

Wellness Work Group 2002 – 2003

Department Head of Sports Chiropractic 2001 – 2002

Advisor On-Purpose Club 2000 – 2002

Advisor Sports Chiropractic Club 2000 – 2002

Coordinator of Chiropractic Services, Department of Sports Chiropractic 1999 – 2001

Advisor Pierce Club 1995 – 2000

Department Head, Division of Diagnostic Imaging & Alignment 1996 – 1997

Academic & Clinic Coordination Committee 1996 – 1997

Various other ad hoc committees, task forces and workgroups

##### HONORS

* Most Influential Faculty- Graduate- College of Graduate and Undergraduate Studies- Class of Summer 2017
* Nominated for Distinguished Life University Alumni Award 2016
* Most Influential Faculty- Graduate- College of Graduate and Undergraduate Studies- Class of Fall 2015
* Convocation speaker- Graduate- College of Graduate and Undergraduate Studies- Class of December 2014
* Most Influential Faculty- College of Graduate Studies- Class of June 2014
* Life University Faculty Merit Award 2007
* Dean’s List – Life Chiropractic College 1979 – 1982
* Pi Tau Delta – Chiropractic Honor Society, Life Chiropractic College 1982
* Dean’s List – UMSL 1977 – 1979
* Scholar-Athlete Award- UMSL 1977
* Most Outstanding – UMSL Cross Country 1977

##### PROFESSIONAL ORGANIZATIONS, SERVICES and LICENSES

* Licensed State of Georgia (active), 1982, Certified in Modalities (License number 1952)
* Council on Extremity Adjusting, Certified Chiropractic Extremity Practitioner, 1995
* Council on Extremity Adjusting Board, 2022-present
* American Chiropractic Board of Sports Physicians, Certified Chiropractic Sports Practitioner, 2007
* Member- International Chiropractic Association (ICA)
* Member- American Chiropractic Association (ACA)
* Member- American Chiropractic Association Sports Council (ACASC)
* Member- International Federation of Sports Chiropractic (FICS)
* Instructor- Certified Chiropractic Extremity Practitioner modules 2008 – present
* Member 2018 Program Advisory Committee of the Atlanta School of Massage Personal Training Program
* Member- Marietta High School Career Pathway Advisory Committee 2015 – 2016

REVIEWER FOR:

* Lippincott, Williams and Wilkins (Wolters Kluwer)
  + Yochum and Rowe, Radiology, 3rd edition
  + Belanger, Therapeutic Modalities, 2nd edition, 2009
* Hearon, K, Foot, Gait, Orthotics, 2013
* Mosby
* Jones and Bartlett

**Athletic Teams and Events**

* Provided chiropractic care at 29 National Championships of various sports
* Teams cared for have won over 40 team National Championships- Cross-Country, Track and Field, Ice Hockey, Basketball, Cheerleading, Soccer, Rugby, Wrestling
* Coordinator of chiropractic care at ChiroAthletica at the Lee Haney Games, 2016
* Chiropractor IAAF World Junior Championships, Eugene, OR, 2014
* Chiropractor USATF Olympic Trials, Eugene, OR, 2012
* Chiropractor NCAA Gymnastics Championships, Atlanta, GA, 2012
* Chiropractor US Masters Swimming Summer Nationals, Auburn, Alabama, 2011
* Chiropractor USATF Outdoor Track & Field Championships, Des Moines, IA, 2010, 2013
* Chiropractor US Masters Swimming Short-course Nationals, Atlanta, Georgia, 2010
* Head of chiropractic care, US Open Judo Championships, Atlanta, Georgia, 2007
* Chiropractor, AVP Pro Beach Volleyball, Atlanta, Georgia, 2006 – 2009
* Head of Chiropractic and Massage care at NAIA Men's & Women's Indoor and Outdoor Championships, 2002
* Chiropractor NCAA Men’s & Women’s Outdoor Track and Field Championships, Boise, Idaho, 1999
* Chiropractor USATF Men’s & Women’s Indoor Track & Field Championships, Atlanta, GA, 1999
* Assistant to instructors of Certified Chiropractic Extremity Practitioner modules 1996 – 2007
* Assistant to John Downes, DC at various post-grad programs at Life University 1995 – present
* Head of Chiropractor care International Challenge Track and Field, Marietta, GA 1995, 1996
* Head of Chiropractic care NAIA Men’s & Women’s Outdoor Track and Field Championships, Marietta, GA, 1995, 1996

##### PUBLICATIONS

Rau, KG, Capes, M. *Advances in Hip Adjusting*. CEA Update October 2012

Rau, KG, Working with Teams. *CEA Update*- 2007

Rau, KG, Orthotics in Sport Chiropractic. *Today's Chiropractic* July/August 2005

Rau, KG, Downes, J.D. The Bigger Picture - Global Extremity Assessment. *Today's Chiropractic* Nov/Dec 2004

Rau, KG, Principles of Extremity Adjusting: An Overview. *Today's Chiropractic* May/June 2004

Rau, KG, Establishing a Sports Chiropractic Practice. *Today's Chiropractic* Sept/Oct 2003

Rau, KG, Observations on the care of Track and Field Athletes. *CEA Update* March 2000

##### COURSE TAUGHT

MSHS 5410 – Physiological Therapeutics- Adjunct Procedures (4 credit hours)

MSHS 5430 – Physiological Therapeutics- Rehabilitative Procedures (4 credit hours)

MSHS 545 – Clinical Therapeutics and Rehabilitation (no credit hours)

MSHS 6570 – Arthrokinematics & Proprioception of the Lower Extremity (4 credit hours)

MSHS 6580 – Arthrokinematics & Proprioception of the Upper Extremity (4 credit hours)

MSHS 6590 – Sports Chiropractic Case Management (4 credit hours)

MSHS 684 – Sport Seminar - Sports Chiropractic (2 credit hours)

MSHS 6900 – Practicum (various credit hours)

RADI 5108 – Advanced Imaging and Instrumentation (3 credit hours) - discontinued

RADI 3103 – Full-Spine X-ray Placement (2 credit hours)

SHS 324 – Fundamental Concepts of Chiropractic (2 credit hours)

TECH 3837 – Extraspinal Techniques I, lab portion, (Upper extremity) (2 credit hours)

TECH 3838 – Extraspinal Techniques II, lab portion, (Lower extremity) (2 credit hours)

TECH 5214 – Extraspinal Adjusting, lab portion, (2 credit hours) - discontinued

Council on Extremity Adjusting

* + TMJ, Ribs and Shoulder
  + Advanced Principles of Upper Extremity
  + Advanced Principles of Lower Extremity
  + Global

##### MAJOR MEETINGS ATTENDED

* Preparation of the Elite Athlete Conference, Marietta, GA, March 1996
* Council on Extremity Adjusting National Convention:

1998 - Denver, CO 1999 - Monterrey, CA 2002 – Marietta, GA

* Research Agenda Conference IV, Chicago, IL July 1999
* SupraSegmental Conference, Marietta, GA 2009
* ACA Symposium, particularly the ACASC, St. Louis, October/November 2009
* Tennis Medicine and Injury Prevention Conference, Society for Tennis Medicine and Science (STMS)-USTA, Atlanta, GA 2012
* 2016 Baseball & Sports Performance Conference, LSSI & PBCS, Atlanta, GA 2016

##### PRESENTATIONS

* Sports Chiropractic, Syracuse Invitational Track Meet, Syracuse, New York, January 2002
* Sports Chiropractic, NAIA Indoor Nationals Coaches meeting, East Tennessee State University, Johnson City, Tennessee, February 2002
* Careers in Sports Health Care, Sprayberry High School Health Fair, Marietta, GA, March 2002
* Sports Injuries, Council on Extremity Adjusting National Convention, Marietta, GA, June 2002
* Sports Chiropractic- Integration into Athletic Care, Georgia Games CEU Symposium for Athletic Trainers, Medical College of Georgia, Augusta, GA, July 2002
* Sports Chiropractic - International Sports Training Institute (Olympic Solidarity), Marietta, GA, October/November 2002
* Sports Chiropractic & Peak Performance, Georgia Games CEU Symposium for Athletic Trainers, Life University, Marietta, GA July 2003
* Sports Chiropractic - Coaching Education and International Sports, KSU (Olympic Solidarity), Kennesaw, GA, August 2003
* Extremity Workshop, Palmer West, San Jose, CA, October 2003
* Extremity Overview, CE seminar, Life University, December 2003
* Core Stability, Georgia Games CEU Symposium for Athletic Trainers, Kennesaw State University, Kennesaw, GA July 2004
* Total Extremity Management, Fall CE Event, Life University, October 2004
* Extremity Workshop, Faculty CE program, Life University, December 2004
* Sports Chiropractic Workshop, Life University, February 2005
* Extremity Adjusting Workshop, Life Homecoming, Life University, July 2005
* Sports Chiropractic- Recovery, Injury Rehab and Performance, Georgia Games/ Georgia Athletic Trainers' Association, Sports Medicine Symposium, Kennesaw State University, July 2005
* Extremity Workshop, Life University, February 2006
* CCEP Modules I-VII, Life University, 1996- present (assisted)
* Extremity Adjusting, 1st Health Inc, Tampa, Florida, May 2006
* Extremity Adjusting Workshop, Life Homecoming, Life University, July 2006
* Extremity Adjusting, Physicians Group, LLC, Tampa, Florida, October 2006
* CCSP Module I, Intro to Team Physician, Life University, November 2006, 2008
* CCSP Module V, Extremity Adjusting, Life University, March 2007
* Extremity Adjusting, Physicians Group, LLC, Tampa, Florida, June 2007
* The Dysfunctional Shoulder, Life Homecoming, Life University, October 2007
* CCEP Module II, Advanced Principles of Upper Extremity Adjusting, Life University, April 2008
* Overview of Select Modalities & The Healing Process, Physicians Group, LLC, Tampa, Florida, July 2008
* Extremity Adjusting, Chiropractic Society of Alabama, Birmingham, AL, August 2008
* Post Graduate Physiological Therapeutics, Life University, 2008
  + Session 1, General Considerations of Rehab
  + Session 6, Stretching and Strengthening
  + Session 8, Introduction to Modalities and Hot and Cold
  + Session 9, Ultrasound, Diathermy and Laser
  + Session 10, Electrical Stimulation and Ultraviolet Radiation
* CCEP Module II, Advanced Principles of Upper Extremity Adjusting, Life University, April 2009
* CCEP Module III, Advanced Principles of Lower Extremity Adjusting, Palmer Florida, May 2009
* CCEP Module II, Advance Principles of Upper Extremity Adjusting, Palmer Iowa, November 2009
* CCEP Module III, Advance Principles of Lower Extremity Adjusting, Life University, May 2010
* Extremity Adjusting, Physicians Group, LLC, Tampa, Florida, May 2010
* Extremity Adjusting, Florida Chiropractic Society, Palm Beach, Florida, August 2010
* Extremity Adjusting & Spine & Extremity Relationship, Life Fall CEU Event, September 2010
* Extremity Adjusting, Chiropractic & Beyond, Marietta, GA, October 2010
* Extremity Adjusting, Maximized Living, Marietta, GA, November 2010
* Extremity Adjusting, Florida Chiropractic Society, Ft Lauderdale, Florida, March 2011
* CCEP Module, Advanced Principles of Lower Extremity Adjusting, Palmer Iowa, April 2011
* Extremity Adjusting, Florida Chiropractic Society, Orlando, Florida, June 2011
* Various topics, hosted SHS program, Life University Fall CEU Event, September-October 2011
* CCEP Module, Global (with John Downes), Marietta, GA, October 2011
* CCEP Module, Global, Roselle, NJ, November 2011
* Extremity Adjusting, Chiropractic & Beyond, Marietta, GA, December 2011
* CCEP Module, Global, Houston, Texas, December 2011
* CCEP Module, Advance Principles of Lower Extremity Adjusting, Marietta, GA, February 2012
* CCEP Module, Global, Seattle, Washington, March 2012
* CCEP Module, Advance Principles of Lower Extremity Adjusting, McLean, Virginia, April 2012
* CCEP Module, Global, Boise, Idaho, May 2012
* Extremity Adjusting, hosted SHS program, Life University Fall CE Event, Marietta, GA, September 2012
* Extremity Adjusting, Chiropractic & Beyond, Marietta, GA, October 2012
* Ergonomics, Georgia Court Reporters Association, Cordele, GA, October 2012
* CCEP Module, Advance Principles of Lower Extremity Adjusting, Marietta, GA, January 2013
* CCEP Module, Global (with John Downes), Marietta, GA, July 2013
* CCEP Module, Global, Durham, North Carolina, July 2013
* CCEP Module, Global, AECC, Bournemouth, England, September 2013
* Extremity Adjusting, hosted SHS program, Life University Fall CE Event, Marietta, GA, October 2013
* CCEP Module, Advance Principles of Upper Extremity Adjusting, Marietta, GA, February 2014
* CCEP Module, Advance Principle of Upper Extremity Adjusting, Long Beach, CA, July 2014
* Extremity Adjusting, hosted and taught in SHS program, Life University Fall CE Event, Marietta, GA, October 2014
* Extremity Adjusting, Chiropractic & Beyond, Marietta, GA, December 2014
* CCEP Module, Global, Long Beach, CA, December 2014
* CCEP Module, Advance Principles of Upper Extremity Adjusting, Marietta, GA, February 2015
* CCEP Module, Advance Principles of Upper Extremity Adjusting, Life West, Hayward, CA, July 2015
* Extremity Adjusting, hosted SHS program, Life University Fall CE Event, Marietta, GA, October 2015
* CCEP Module, TMJ, Ribs and Shoulder, AECC, Bournemouth, England, November 2015
* Last Chance Seminar, Global Mechanical Assessment, Part 1 and 2, Life University, December 2015
* Energize Your Clinic, A CE Day with Life U, Isla Verda, Puerto Rico, February 2016
* CCEP Module, Advance Principles of Upper Extremity Adjusting, Life West, Hayward, CA April 2016
* CCEP Module, Advance Principles of Lower Extremity Adjusting, AECC, Bournemouth, England, April 2016
* Chiropractic and Concussion, Concussion Summit, Marietta, GA, May 2016
* CCEP Module, Advance Principles of Lower Extremity Adjusting, Life, Marietta, GA July 2016
* Extremity Adjusting, hosted SHS program, Life University Fall CE Event, Marietta, GA, October 2016
* GMA update, Fall CE Event, Marietta, GA, October 2016
* GMA and Its Application to Athletic Care, ChiroAthletica, Lee Haney Games, October 2016
* Documentation and Liability Issues for the Event Chiropractor, ChiroAthletica, October 2016
* Last Chance Seminar, Upper Extremity Adjusting, Life University, December 2016
* CCEP Module, Advanced Principles of Lower Extremity Adjusting, Life, Marietta, GA, April 2017
* Extremity Adjusting, hosted SHS program, Life University Fall CE Event, Marietta, GA, October 2017
* Extremity Adjusting, Chiropractic & Beyond, Marietta, GA, December 2017
* CCEP Module, Advance Principles of Lower Extremity Adjusting, Life, Marietta, GA, July 2018
* Extremity Adjusting, hosted SHS program, Life University Fall CE Event, Marietta, GA, October 2018
* CCEP Module, TMJ, Ribs and Shoulder, Life University, Marietta, GA February 2019
* Extremity Adjusting, hosted SHS program, Life University Fall CE Event, Marietta, GA, October 2019
* Best Practices in Collegiate Sports Medicine, Life University Fall CE Event, Marietta, GA October 2019
* CCEP Module, TMJ, Ribs and Shoulder, Life University, Marietta, GA February 2020
* Extremity Adjusting, Chiropractic & Beyond, Marietta, GA, October 2020
* Extremity Adjusting, Chiropractic & Beyond, Marietta, GA, December 2020
* CCEP Module, Advanced Principles of Lower Extremity Adjusting, Life U, Marietta, GA, March 2021
* ICA Sports, Extremity Adjusting, Virtual 2021
* Extremity Adjusting, hosted SHS program, Life U Fall CElebration, Marietta, GA, October 2021
* CCEP Module, TMJ, Ribs and Shoulder, Life U, Marietta, GA October 2021
* Extremity Adjusting, hosted SHS program, Life U Fall Extravaganza, Marietta, GA, October 2022

##### CONTINUING EDUCATION

* ACA Symposium, ACASC, Various instructors, 2009
* Activator Seminars, Basic Seminar, Arlan Fuhr, DC 1987?
* Advanced Imaging, Christopher Kent, DC, 1995
* Advance Chiropractic Techniques, Ted Carrick, DC, 2023
* Anderson Management Services, Michael Anderson, DC, 1984, 1987 – 1989
* Applied Kinesiology, Basic Modules 1-3, various instructors, 1990
* Applied Kinesiology, Bandy's Best, Modules II-VI, John Bandy, DC 1989 – 1990
* CEA National Convention, Various instructors, 1997
* CEA National Convention, Various instructors, 1998
* CEA National Convention, Various instructors, 2002
* Certified Chiropractic Extremity Practitioner, Modules 1-8, various instructors, Brubaker, Capes, Danchik, Faust, Forcum, Hyde, Kicklighter, Krantz, Kubat, Lander, Linaker, Moreau, Timberlake, Ward 1995 – present; including Advanced Principles of Extremity Rehabilitation, Soft Tissue and Radiology
* Retook Modules 2-8 of CCEP, 2011
* Certified Chiropractic Sports Physician, Modules 1-10, various instructors 2006 – 2007
* Cervical & Lumbar Dissection, Life Homecoming, 1992
* ChiroAthletica, Lee Haney Games, 2016
* Chiropractic & Beyond, Marietta, GA 2020
* Chronic Immune System Problems, H. Louis Obersteadt, DC 1990
* Clinical Nutrition, Michael Lebowitz, DC, multiple seminars, 1990 – 1995
* Common Glandular Dysfunction, Wally Schmidt, DC 1990
* Concussion Summit, Life U, Marietta, GA 2016
* Energize Your Clinic, A CE Day with Life U, Isla Verda, Puerto Rico, February 2016
* Erhardt X-Ray Seminars Modules 1-7, Russell Erhardt, DC,DACBR 1981 – 1982
* Establishing Chiropractic Necessity, Larry Jack, DC, 1990
* Exercise and Athletic Injuries, John Bandy, DC & Phil Maffetone, DC 1990
* FAKTR, Tom Hyde, DC, 2017
* Fernadez Management, Various instructors, 1983
* Global Extremity Management, John Downes, DC, 1999
* ICA Sports & Fitness Certification Program, Modules I, III-IX, Various Instructors 1998
* Introduction to Homeopathy, Various instructors, 1991
* Introduction to MRI, Russell Erhardt, DC, 1995
* Kinesiology Taping I and II, Hiroki Kariya, 2017
* Life Fall Extravaganza, various speakers, 2022
* Life Fall CElebration, various speakers, 2016, 2017, 2018, 2019, 2020, 2021
* Life Fall CE event, various speakers, 2012, 2013, 2014, 2015
* Life Fall CEU event, various speakers, 2011
* Life Fall CEU event, various speakers, 2010
* Life Homecoming, various speakers, 1995 – 2007
* Life Lyceum, various speakers, 2008 – 2009
* Life Source, various speakers, 2005 – 2006
* Management of Athletic Injuries, Deloss Brubaker, Ed.D., John Downes, DC, 1995
* Managing Disorders of the Lumber Spine, Modules 1-4, L. Paul Markey, DC 1989, 1997 (Certificate)
* Manipulation Workshop, various speakers, 2006
* Palmer Knee-Chest, Michael Kale, DC, 1982
* Pierce Seminars, Walter V. Pierce, DC 1985-1988, 1991, 1992, 1994
* Pierce/ Pettibon Seminar, Walter V. Pierce, DC, Burl Pettibon, DC, 1991
* Pulse-Star FRAS instrument adjusting, 1996
* Pulse-Star FRAS instrument adjusting, various instructors, 1997
* Radiographic Studies, Modules 1-4, Robin Canterberry, DC, DACBR 1994 – 1996
* Risk Management & Georgia Laws, Various instructors, DC, 2000 – present
* Risk Management, Kevin Hearon, DC, 2002
* Rubicon Conference, Atlanta, 2018
* Suprasegmental Symposium, Ted Carrick and various instructors, 2009
* The Sensory-Motor Analysis, John Downes, DC, 2001
* Thermography, Glen Stillwagon, DC, 1998 – 1999
* Thompson Adjusting Technique, J. Clay Thompson, DC, 1981 – 1984 (certified)
* Torque Release Technique, Jay Holder, DC
* Upper Extremities, Mitch Malley, DC, 1999
* Vitalism Conference, Octagon, Various instructors, 2009
* X-Ray and X-Ray Physics, Sandy Everage, Judy Gerstung, DC, 1999