Samuel S. Ahn, M.D.

University Vascular Associates 1082 Glendon Avenue Los Angeles, CA 90024 TEL (310) 209-2011x3 FAX (310) 209-2113 Methodist Medical Center 221 W. Colorado Blvd, Pavilion II, Suite 625 Dallas, TX 75208 TEL (214) 946-5165 FAX (214) 946-4876

CURRICULUM VITAE

| Education | |
|-----------|--|
| 2002-2004 | University of California Los Angeles Anderson School of Management, Los Angeles, |
| | California, M.B.A. |
| 1974-1978 | University of Texas Southwestern Medical School, Dallas, Texas, M.D. |
| 1972-1974 | University of Texas, Austin Texas, B.A. in Biology, Magna Cum Laude |
| | Phi Beta Kappa, Junior Fellow, Orientation Advisor, Dormitory Advisor, Pre-medical |
| | Advisor |
| | |

Hospital Affiliations

| 2015 – Present | St. Vincent Medical Center, Los Angeles, CA | Active |
|----------------|--|----------|
| 2018 – Present | White Memorial Medical Center, Los Angeles, CA | Active |
| 2006 – Present | St John's Health Center, Santa Monica, CA | Active |
| 2005 – Present | Methodist Medical Center, Dallas, TX | Active |
| 2008 - 2017 | Cedars-Sinai Medical Center, Los Angeles, CA | Inactive |
| 1986 - 2014 | UCLA Medical Center, Los Angeles, CA | Inactive |

Academic and Professional Standing

| 2020-current | Professor of Department of Surgery |
|--------------|--|
| | TCU and UNTHSC School of Medicine, Fort Worth, TX |
| 1999-2006 | Professor of Surgery, |
| | UCLA School of Medicine, Los Angeles, CA |
| 1999-2006 | Director of Endovascular Surgery |
| | Division of Vascular Surgery |
| | UCLA School of Medicine, Los Angeles, CA |
| 1993-1998 | Associate Clinical Professor of Surgery |
| | UCLA School of Medicine, Los Angeles, CA |
| 1986-1998 | Attending Surgeon & Chief of Vascular Surgery Section |
| | Olive-View Medical Center, Sylmar, CA |
| 1985-94 | Attending Surgeon |
| | Sepulveda V.A. Medical Center, Sepulveda, CA |
| 1986-93 | Assistant Professor of Surgery |
| | UCLA School of Medicine, Los Angeles, CA |
| 1985-86 | Research Fellow in Vascular Surgery |
| | University of California Medical Center, Los Angeles, CA |
| 1984-86 | Adjunct Assistant Professor of Surgery |
| | UCLA School of Medicine, Los Angeles, CA |
| 1984-85 | Clinical Fellow in Vascular Surgery |
| | University of California Medical Center, Los Angeles, CA |

| 1983-84 | Chief Resident in General Surgery | |
|---------|--|----|
| | University of California Medical Center, Los Angeles, CA | |
| 1982-83 | Senior Resident in General Surgery | |
| | University of California Medical Center, Los Angeles, CA | |
| 1980-82 | NIH Research Fellow in Surgical Oncology, Division of Oncology, Department | of |
| | Surgery | |
| | UCLA School of Medicine, Los Angeles, CA | |
| 1979-80 | Junior Resident in General Surgery | |
| | University of California Medical Center, Los Angeles, CA | |
| 1978-79 | Internship in General Surgery | |
| | University of California Medical Center, Los Angeles, CA | |

Professional Memberships

| 2017 - 2019 | Outpatient Endovascular Interventional Society (President) |
|----------------|--|
| 2014 - present | Outpatient Endovascular Interventional Society (Founder) |
| 2004 - present | The International Society for Vascular Surgery |
| 1994 - present | The Longmire Surgical Society |
| 1993 - present | The Society for Vascular Surgery, Distinguished Fellow |
| 1993 - present | Pacific Coast Surgical Association |
| 1991 - present | Society for Clinical Vascular Surgery |
| 1991 – present | International Society for Cardiovascular Surgery, North American Chapter |
| 1990 - present | Peripheral Vascular Surgery Society |
| 1988 – present | Southern California Vascular Surgical Society |
| 1988 - present | Western Vascular Society |
| 1988 - present | Fellow, American College of Surgeons (Member #2989862) |
| 1985 - present | American Medical Association |
| 1985 - present | Association for Academic Surgery |

Professional Journal Services

| 2004-Present | Vascular |
|--------------|---|
| 2003-Present | Vascular and Endovascular Surgery, Section Editor |
| 1994-Present | Vascular Surgery, Section Chief |
| 1994-Present | Journal of Endovascular Therapy |
| 1996-2010 | Annals of Vascular Surgery, Section Editor |
| 1993-1994 | Vascular Forum |
| | |

| <u>Guest Reviewer</u> | |
|------------------------------|--|
| 1996-Present | World Journal of Surgery |
| 1992-Present | Arteriosclerosis, Thrombosis and Vascular Biology |
| 1992-Present | Surgery |
| 1992-Present | Postgraduate Vascular Surgery Journal |
| 1991-Present 1993-Present | Journal of Vascular Surgery Annals of Vascular Surgery |
| 1992-1993 | Journal of American Geriatrics Society |
| | |

Special Services/Awards

| <u>National Societies</u> | |
|---------------------------|--|
| 2003-present | Distinguished Fellow, The Society for Vascular Surgery |
| 1999-2003 | Chairman of Membership Committee, Southern California Vascular Surgical Society |
| 1997-98 | Committee on Endovascular Issues. Society for Vascular Surgery/ North American Chapter-ISCVS. |
| 1997 | Coordinator: Course on Endovascular Surgical Techniques with —Hands-On Workshop. European Society for Vascular Surgery. |
| 1997 | Endovascular Training and Liaison Committee: ISCVS/SVS Joint Council |
| 1996 | Membership Committee Chairman, Southern California Vascular Surgical Society |
| 1996 | Chairman, ISCVS/SVS Preceptorship Program for Endovascular Surgery |
| 1995-99 | Chairman, Task Force of the Society for Vascular Surgery/International Society |
| | Cardiovascular Surgery Training Course in Basic Endovascular Techniques |
| 1995 | Co-Çhairman, Research Session in Aortoiliac Occlusive Disease |
| | 22 nd World Congress of the International Society for Cardiovascular Surgery |
| 1994-98 | Chairman, Society for Vascular Surgery/International Society Cardiovascular Surgery Ad |
| | Hoc Subcommittee: Reporting standards for Endovascular Abdominal Aortic Aneurysm |
| | Repair. |
| 1994 | NIH Grant Reviewer; National Heart, Lung and Blood Institute |
| 1993-95 | Member, Society for Vascular Surgery/International Society Cardiovascular Surgery Ad Hoc Committee: Government Relations and Congressional Outreach Program. |
| | 6 |

UCLA Hospital

| 2003-2006 | Committee, Center for Advanced Surgical and Interventional Technology |
|------------|--|
| 1993, 1990 | Chairman, Organizing Committee of the UCLA and Los Alamos National |
| | Laboratory Workshop on Free Electron Laser Applications to the |
| | U.S. Naval Research. |
| 1990 | Co-Chairman, 2 nd Annual UCLA Program on Endovascular Surgery |
| 1989 | Co-Chairman, 1 st Annual UCLA Program on Endovascular Surgery |
| 1988-89 | Organizing Member of UCLA Cardiovascular Laser Center |
| 1988 | Course Chairman, First Annual UCLA Program on Endovascular Surgery |
| 1987-88 | Organizing Chairman, Hoechst-Roussel Vascular Surgery Course |
| 1986-90 | Organized Laser Facilities in Outpatient Surgery Suite |
| | |
| | |
| 1986-90 | Organized Intraoperative Angioscopy Program at UCLA |
| 1982-94 | Preceptor for UCLA Medical Students |
| | |

UCLA Committee Appointments

| 1997 | Clinical Laboratory Activities Committee |
|-----------|--|
| 1993 | Tissue Committee, UCLA Medical Center |
| 1992-2006 | Surgical and Invasive Procedures Oversight Committee |
| 1992-2006 | Admissions Committee, UCLA School of Medicine |
| 1989-2006 | Admissions Policy Committee, UCLA School of Medicine |
| 1986-94 | Chairman, UCLA Laser Committee |
| 1985-89 | Chairman, Ad Hoc Committee to organize UCLA Laser Center |

UCLA Teaching

| 2003 | The Golden Scalpel Award for Best Teacher from UCLA Dept of Surgery |
|-----------|---|
| 2001-2006 | Mentor, UCLA Short Term Training Program, UCLA School of Medicine |
| 1991 | Distinguished University Guest Lecturer, UCLA |
| | Perspective of Minorities in Medicine: Historical and Contemporary Issues |
| 1989-94 | Vascular Surgery Coordinator, UCLA School of Medicine |
| 1989-95 | Fundamentals of Clinical Medicine Course for 2 nd Year Medical Students |
| 1986-92 | Organizing Chairman, UCLA Medical Center |
| | Resident's Mock Oral Exams in General Surgery |
| 1986-87 | Course Chairman, UCLA School of Medicine |
| | Principles of Laser Surgery, Dept. of Surgery |
| 1985-2006 | Examiner, UCLA School of Medicine 3 rd Year UCLA Medical Student Oral Exams in Surgery |
| | 3 rd Year UCLA Medical Student Oral Exams in Surgery |
| 1985-2006 | Lecturer, UCLA School of Medicine |
| | Clinical Fundamentals Course, Vascular Surgery/Cerebrovascular |
| | Disease, Peripheral Arterial Disease, Deep Vein Thrombosis |
| 1984-2006 | Attending Surgeon |
| | Daily teaching of medical students, interns, and residents |
| | UCLA Medical Center, Sepulveda V.A. Medical Center, Olive-View-UCLA |
| | Medical |
| | Center |
| 1986-2006 | Research Supervisor, UCLA School of Medicine |

Endovascular Surgery Fellows

Darwin Eton, M.D., Univ. of Illinois at Chicago (1990-91)

Daniel I. Obrand, M.D., McGill University, Montreal, Canada (1996)

John You, M.D., University of Toronto, Canada (1998)

Paul Anain, M.D., State University of New York at Buffalo (1999)

Milton Conley, M.D., University of North Carolina at Chapel Hill (2000)

Joaquim Cerveira, M.D., New York University (2000)

Nikhil Kansal, M.D., Harvard University (2001)

Carber Huang, M.D., Medical College of Virginia (2001)

Toshifumi Kudo, M.D., PhD, Japan (2003-2006)

Post Doctoral Fellows

Daniel Marcus, M.D., Israel (1986-88) Hamid Askar, M.D., Egypt (1988-89)

John Wan, M.D., China (1990)

Hasan Kar, PhD., Germany (1992)

Peter Youn, M.D., Univ. of Southern California (1993-94)

Omar El Kashef, M.D., Egypt (1994)

Bruce D. Braithwaite, DM FRCS, United Kingdom (1994)

Massimo Tatafiore, M.D., Italy (1995)

Hatem Abd. El-Azeim, Egypt (1996)

Byung Uk Choi, M.D., S. Korea (1997-98)

Medical Students

Steve Teitelbaum, UCLA (Summer & Fall, 1986)

Michael Alkire, UCLA (Summer, 1987-90)

Greg Brauel, UCLA (Summer, 1987-89)

Greg Motovsky, Albany Medical College (Summer, 1987)

Sharon Rubin, UCLA (Summer, 1988)

Marjorie Arca, UCLA (Summer, 1988-90)

Ramin Farshi, University of New Jersey Medical School (Summer, 1989)

Gail Konishi, UCLA (1991-92)

David Williams, Harvard (1991-92)

Veronica Shim, Dartmouth (1991-93) Brett Curtis, UCLA (1993-95)

Dirk Thye, UCLA (1993-94)

Steven Ghalili, Tufts (1994-95)

Terry L. Kaiura, Cornell University (1995)

Eric J. Daniels, UCLA (1996-98)

Cecilia Wieslander, UCLA (1998)

Kiho Woo, UCLA (2001)

Jason Rhee (2002), UCLA

Kenneth Kao (2002-03), UCLA

Undergraduate Students

Pamela Fox, UCLA (1989-90)

Kenneth Chek, UCLA (1989-90)

Veronica Shim, Stanford (1990-91)

Sharon Hochman, UCLA (1990-91)

Lawrence Lai, UCLA (1990-91)

Denise Jackson, UCLA (1990-91)

Huy Nguyen, UCLA (1991-92)

Kambiz Kosari, USC (1991-92)

Terry Kaiura, UCLA (1991-94)

Blessie Concepcion, UCLA (1991-94)

Greg Holguin, UC Berkeley (1994-95)

Kyung Mee Ro, UCLA (1995)

Paul Pascual, UCLA (1996)

Kimberly Martin, Mount St. Mary's College (1997)

Rondi Blomberg, UCLA (1998)

Chris Tomono, UCLA (2000)

Michelle Omura, UCLA (2001-2002)

Jennifer Moy, UCLA (2001-2003)

Mark Thomas, UCLA (2001-2002)

Carmela Yomtubian, UCLA (2001-2002)

Grant Altobelli (2001-2006)

Farrah Barton, UCLA (2002-2003)

Dan Jethanamest (Summer, 2003)

Fiona Chandra (2003-2006)

Brad Haas (2003-2006)

Julia Chen, UCLA (2006-2009)

Jessica Son, New York University (Summer 2015, 2016)

Jenny Wang, UCLA (2019) Snehal Bindra, UCLA (2019) Daniela Shirazi, UCLA (2019) Natalie Yacobian, UCLA (2019) Meghan He, UCLA (2019)

Medical Students at UVA/DFW

Siwei Dong, Des Moines University (Summer 2018) Julia Chen, University of Texas-Southwestern (2010-2014) Travis Miller, University of Texas-Southwestern (2010-2014) Sheena Chen, University of Texas-Southwestern (2010-2014)

Research Activities

| start-present | Ultrasound correlation of IVUS and Venogram to diagnose TOS |
|---------------|--|
| start-present | Survival after Outpatient vs Inpatient PAD cases. |
| Start-present | Clinical results of 13,000 OBL cases in 13 years. Safety and efficacy. |
| Start-present | CFA stent results. |
| Start-present | OBL Survival for DFW and UVA |
| Start-present | Natural history of 4 vessel aortic arch occlusive disease. |
| Start-present | Cryptic HTN in patients with aortic arch disease. |
| Start-present | Bare metal stents to reconstruct Aortic Bifurcation occlusive disease |
| Start-present | Incidence of Atherectomy utilization in hospital vs OBL in LA and Dallas |
| Start-present | PTA for TOS |
| 2006-present | Safety and efficacy of various outpatient vascular procedures |
| 2004-present | Phase 3, Multi-center, Multi-national, Randomized, Partial Double-Blind, |
| _ | Placebo-controlled study to evaluate the efficacy and safety of alfimeprase in |
| | subjects with acute peripheral arterial occlusion (NAPA-2) |
| 2002-present | A prospective randomized study of thrombolysis with Urokinase vs. surgical |
| - | treatment for thrombosed hemodialysis arteriovenous fistulas |
| 2002-2006 | Mapping genes that contribute to Hyperhidrosis |
| 2002-2006 | A prospective randomized controlled trial of percutaneous transluminal |
| | balloon angioplasty vs. sirolimus-eluting stent of the superficial femoral |
| | and popliteal arteries |
| 2002-2006 | Use of a Glycoprotein IIb/IIIa Inhibitor in SFA and Popliteal Angioplasty |
| 2002-2006 | A prospective randomized controlled trial of percutaneous transluminal |
| | balloon angioplasty vs. paclitaxel-eluting stent of the superficial femoral |
| | and popliteal arteries |
| 2002-2006 | Endovascular Aortic Aneurysm – Evaluation of Coordinate Use of External |
| | Aortic Wrap and Endovascular Graft |
| 2002-2006 | Effect of Clopidogrel vs. Placebo on a Background of Standard Care including |
| | Aspirin in Maintaining the Patency of Lower Limb Arteries after Angioplasty |
| 2002-2006 | CREST: Carotid revascularization endarterectomy vs. stenting trial |
| 1999-present | Analysis of the predictive factors and surgical outcomes in patients with |
| | Thoracic Outlet Syndrome |
| 1996 | Multi-Center prospective randomized trial comparing the GORE Eze-Sit |
| | Valvulotome vs. the Modified Mills Hook for insitu saphenous vein bypass. |

| 1996 | Multi-Center prospective randomized trial of the Omnicath |
|---------------|--|
| | atherectomy device for restenosis of hemodialysis AV fistulas |
| | and bypass grafts. |
| 1996 | Multi-Center prospective randomized trial comparing balloon angioplasty |
| | plus atherectomy with the Omnicath device vs. balloon |
| | angioplasty for treatment of peripheral arterial occlusive |
| | disease. |
| 1996 | Laparoscopic anterior body fusion and spinal discectomy. |
| 1993 | PTA using ultrasound guidance. |
| 1993 | Endovascular graft placement for arterial occlusive disease. |
| 1993 | Endovascular graft/stents for abdominal aortic aneurysms. |
| 1992-2006 | Laparoscopic aortic surgery. |
| 1992-present | Non-invasive preoperative testing to assess peripheral arterial occlusive disease. |
| 1992 1992 | Cerebral blood flow and vasomotor reactivity following carotid endarterectomy. |
| 1990 | Photodynamic laser therapy of atherosclerosis and intima hyperplasia. |
| 1989-92 | Evaluation in intravascular ultrasound. |
| 1989-92 | Thoracoscopic transdorsal sympathectomy. |
| 1988-89 | Adrenal-brain transplant for Parkinson's disease. |
| | * |
| 1987-92 | Participating Investigator: NIH Cooperative Study of Asymptomatic Carotid |
| 1007 | Artery Stenosis (ACAS). |
| 1986 | Effect of transient cerebral ischemia on brain catecholamines |
| 1005.06 | using in vivo electrochemistry techniques. |
| 1985-86 | Study of laser energy for intestinal mucosal stripping. |
| 1985 | Noninvasive monitoring of cerebral circulation and |
| 1985-95 | function: using computerized EEG brain mapping. Study of the etiology and mechanism of post-carotid endarterectomy |
| 1703-73 | hypertension. |
| 1985-95 | Evaluation and development of rotary atherectomy device. |
| 1985-95 | Evaluation of laser angioplasty and other mechanical atherectomy devices. |
| 1985-95 | Evaluation and development of angioscopy. |
| 1984 | Biochemical, histological and clinical studies of perigraft seroma. |
| 1980-83 | Tumor immunology and immunotherapy. |
| 1976-85 | Pathophysiology & chemotherapy of atypical myobacteriosis. |
| 1970-03 | i athophysiology & chemotherapy of atypical myobacteriosis. |
| Grants | |
| 2002 | Bristol Myers-Squibb / Sanofi - \$60,000 |
| 2002 | CAMPER study |
| 2002 | Philips Medical Systems – x-ray equipment valued at \$300,000 |
| 2001 | Ray Stark Foundation- \$100,000 |
| | UCLA Endovascular Program |
| 1997 | Lifeline Foundation (Student Sponsor) - \$2,000.00 |
| 1,,,, | The Use of Atherectomy in Treating Intimal Hyperplasia in Arteriovenous |
| | Hemodialysis Access Graft. |
| 1996 | American Biomed, Inc \$45,000.00 |
| 1,,,, | Omnicath atherectomy device vs. balloon angioplasty for |
| | peripheral arterial occlusive disease. |
| 1994-96 | United States Surgical Corp \$45,000 + \$2,000 |
| | Laparoscopic aorto-femoral bypass |
| 1994 | W.L. Gore & Associates - \$35, 000 |
| 1// 1 | A comparison study of blood samples in patients who undergo vascular |
| | surgery with or without using a graft. |
| | buigory with or without using a grant. |

| 1996-2011 | Echocath and Acuson - \$200,000 worth of equipment. |
|------------|---|
| | PTA with Duplex scanning guidance. |
| 1993 | North American Chapter, International Society for Cardiovascular Surgery |
| | Student Research Fellowship - \$2,000 |
| | Optimal drug concentration and light dosimetry in photodynamic therapy to |
| | treat intimal hyperplasia. |
| 1993-2006 | Endovascular Instruments, Inc \$38,000 + \$80,000 |
| | Endovascular graft placement for arterial occlusive disease. |
| 1992 | North American Chapter, International Society for Cardiovascular Surgery |
| | Student Research Fellowship - \$2,000 |
| | Evaluation of a simplified balloon dilatation injury model for intimal |
| | hyperplasia. |
| 1990 | Quadralogic Technologies, Inc \$54,000 |
| | Photodynamic therapy of intima hyperplasia and restenosis in rabbit arteries. |
| 1989 | Boston Scientific/Diasonics - \$80,000 worth of endovascular ultrasound |
| | equipment. |
| | Nobles-Lai, Inc \$60,000 worth of digital angioscopy equipment. |
| 1988, 1987 | NIH Short term training grant (for Medical student) - \$2,000/year |
| | Post-carotid endarterectomy hypertension. |
| 1986-87 | Basic Research Science Grant, UCLA School of Medicine - \$2,000 |
| | Laser welding of vascular and intestinal anastomosis. |
| 1986-87 | W.L. Gore & Associates- \$12,000 |
| | Confirmation, isolation, and characterization of a circulating humoral |
| | fibroblast inhibitor in patients with perigraft seroma. |
| 1986-87 | BioQuantum Technologies - \$60,000 worth of laser equipment |
| 1986 | UCLA Medical Auxiliary-angioscopy study - \$3,000 |
| 1985-86 | Olympus Corporation - \$40,000 worth of angioscopy equipment |
| 1985-86 | E.R. Squibb and Sons - \$10,00 |
| | Study of the etiology and mechanism of post-carotid endarterectomy |
| | hypertension. |
| 1985-87 | E.R. Squibb and Sons - \$52,000 |
| | Development of a new surgical procedure to remove atheroma from human |
| | popliteal and tibial arteries. |
| | |

Dr. Ahn Patents

United States Patent 10,339,270: "Billing System for Medical Procedures", July 2, 2019. month day, year. United States Patent 9,889,462: "Rotatable Caddy for Catheters and Other Coiled Surgical Devices", February 13, 2018.

United States Patent 9,295,812: "Variable Stiffness Guidewire Systems and Methods", March 29, 2016.

United States Patent 8,376,963: "Variable Stiffness Guidewire Systems", February 19, 2013. United States Patent 8,100,838: "Variable Stiffness Guidewire Systems", January 24, 2012. United States Patent 6,464,687: "Implantable Drug Delivery System", October 15, 2002.

United States Patent 6,447,448: "Miniature Implanted Orthopedic Sensors", September 10, 2002. United States Patent 6,423,056: "Injectable Thermal Balls for Tumor Ablation", July 23, 2002. United States Patent 6,415,184: "Implantable Neuro-Stimulator with Ball Implant", July 2, 2002.

United States Patent 6,398,710: "Radiation Dosimetry System", June 4, 2002.

United States Patent 6,295,466: "Wireless EKG", September 25, 2001.

United States Patent 6,264,611: "Monitor for Interventional Procedures", July 24, 2001.

United States Patent 6,261,247: "Position Sensing System", July 17, 2001.

United States Patent 6,254,548: "Internal Thermometer", July 3, 2001.

United States Patent 5,843,170: "Apparatus and Method for Performing Aneurysm Repair", December 1, 1998.

United States Patent 5,707,378: "Apparatus and Method for Performing Aneurysm Repair", January 13, 1998.

United States Patent 5,538,735: "Method of Making a Drug Delivery System Using Hollow Fibers", July 23, 1996.

United States Patent 5,527,355: "Apparatus and Method for Performing Aneurysm Repair", June 18, 1996.