**Anthony Thomas Stavros, M.D., F.A.C.R., F.S.R.U.**

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San Antonio, TX 78256 E-mail: atstavros@gmail.com

**APPOINTMENTS** **Craig Hospital**, Englewood, Colorado (1976-2009)

**Littleton Hospital**, Littleton, Colorado (1992-2009)

**Porter Memorial Hospital**, Denver, Colorado (1983-2009)

**Swedish Medical Center**, Englewood, Colorado (1976-2009)

**University of Colorado School of Medicine** (1980-2000)

Denver, Colorado, Assistant Clinical Professor

**Aurora Regional Medical Center,** Aurora, Colorado (1998-2009)

**Aurora North Medical Center,** Aurora, Colorado(1998-2009)

**Sutter Santa Rosa Medical Center,** Santa Rosa, California(2009-2012)

**Sutter General Hospital,** Sacramento, California(2012-2014)

**Sutter Memorial Hospital,** Sacramento, California(2012-2014)

**Sutter Auburn Faith Hospital,** Auburn, California(2012-2014)

**Sutter Davis Hospital,** Davis, California(2012-2014)

**Sutter Roseville Medical Center,** Roseville, California(2012-2014)

**University of Texas Health Science Center at San Antonio** (2012-2014)

San Antonio, Texas. Adjunct Professor

**University of Texas Health Science Center at San Antonio** (2015-present)

San Antonio, Texas. Professor Specialist

**EMPLOYMENT Radiology Imaging Associates,** Denver, Colorado(1976-2009)

 **Sutter Medical Group of the Redwoods,** Santa Rosa, California(2009-2012)

 **Sutter Medical Group,** Sacramento, California(2012-2014)

 **Seno Medical, Inc.,** *Chief Medial Officer***,** San Antonio, TX(2012-present)

**POST GRADUATE University of Colorado Medical Center**, Denver, Colorado

**EDUCATION** Resident in General Radiology (1973-1976)

**Orange County Global Medical Center**, Santa Ana, California

Internal Medicine Internship (1972-1973)

**EDUCATION** **University of Colorado School of Medicine**,Denver, Colorado

M.D., 1972

**St. Olaf College,** Northfield,Minnesota

B.A., 1968, *cum laude*, *Phi Beta Kappa*

**CERTIFICATION** American Board of Radiology, June 1976

**SPECIAL**  Training in carotid and general angiography

**EXPERIENCE** July 1975 - 1979

Swedish Medical Center

(500 Angiograms/year; 500 myelograms/year, 1976 - 1979)

 Training with CT scanning

 Swedish Medical Center with Drs. Seibert and Swanson

 (est. 250 cases/month, 1976 - 1981)

 Training in Ultrasound

 Swedish Medical Center with Dr. Roberts

 (est. 250 cases/month, 1978 - 1979)

 Experience in Ultrasound/Noninvasive Vascular Ultrasound

 Approximatley 1,200-1,300 cases/month for 33 years

**MEDICAL SOCIETIES** American College of Radiology, 1976

ACR Fellowship, 1994

American Institute of Ultrasound in Medicine

Colorado Medical Society

Colorado Radiological Society, Treasurer, 1982-1983

Rocky Mountain Radiological Society

Society of Computer Applications in Radiology

Society of Vascular Technology

Society of Radiologists in Ultrasound,

Manufacturers Liaison Committee 1995

American Roentgen Ray Society

Society of Diagnositic Medical Sonographers

Sonoma County Medical Society

**MISCELLANEOUS** Clinical Review Board, *J Ultrasound Med*, 1988‑1998

Clinical Review Board, *J Digital Imaging*, 1989‑1994

Clinical Review Board, *J Clin Ultrasound*, 1989-1996

Doppler-Cerebrovascular Review Committee, 1988 World Federation for Ultrasound in Medicine and Biology

Clinical Reviewer, *New England Journal of Medicine*, 1993-present

Clinical Reviewer, *J. of Diagnostic Med Sonography*, 1993-present

Clinical Reviewer, *Archives of Internal Medicine*; 1993-1994

Clinical Reviewer, *Radiology*, 1994-1998

Clinical Reviewer, *Cancer*, 1995-present

Clinical Reviewer, *European Radiol*, 2005-present

Clinical Reviewer, *The Breast,* 2005-present

Clinical Reviewer, *Ultrasound Quarterly*, 2007-present

Clinical Reviewer, British J of Radiology, 2018-present

**TEACHING**

* + - * + University of Texas Health Sciences Center, San Antonio, Professor Specialist, 2015-present
				+ AFIP (Armed Forces Institute of Pathology) lecturer, 1997-2003
				+ Breast Ultrasound Accreditation Committee, AIUM 1999-2003
				+ University of Colorado, Assistant Clinical Professor, 1979-1995
				+ University of Colorado, Medical Director for clinical site, sonographer training program, 1982-present
				+ Fitzsimmons Army Hospital, Clinical Ultrasound/Noninvasive Vascular Fellowship, 1989-1992

**CLINICAL**

**ADVISORY ROLES** Acuson (1984-1987) Ethcon (2003-2008)

 Diasonics (1982-1997) SenoRx (2003-2005)

 ATL (1989-2002) Medipattern (2003-2008)

 Acoustic Imaging (1990-1998) Techniscan (1998-2004)

 Hewlett Packard (1990-1998) Orison (2005-2006)

 General Electric (1991-2012) Histoscanning (2008 -2010)

 Agfa (1992-1998) Toshiba America (2003-2008)

 Phillips (1994-1996) SonoCine (2008-present)

 Zonare (2001-2003) Innervision (2007-2009)

**CO-FOUNDER AND** Ikonpedia, Inc. (2009-present)

**DIRECTOR**

**HONORS**

*Cum Laude*, BA St. Olaf College, 1968

*Phi Beta Kappa*, St. Olaf College, 1968

Fellowship, American College of Radiology, ACR, September 1994

 Fellowship, Society of Radiologists in Ultrasound, SRU, October 1994

 Baker Travelling Professor, RANZCR, 1999

Fellowship, Honorary, **R**oyal **A**ustralian & **N**ew **Z**ealand **C**ollege of **R**adiol 1999

 U of Colorado Alumni Association, Distinguished Achievement Award, 2008

George Leopold Honorary Lecture – LA Radiological Society, LARS, 2009

Lifetime Acnievement Award – Mammography at Santa Fe, 2016

Inspirational Award – National Consortium of Breast Centers, NCoBC, 2018

Honorary Member for Life – Jornado Paulista Radiologica, Brazil - 2018

Keynote Speaker – 22nd Mammography at Santa Fe, 2019

Gold Medal – Parana Radiologic Society, Brazil, 2019

Fellowship, Society of Breast Imaging (SBI), Dec 2019

**SERVICE** Secretary-Treasurer, Colorado Radiological Society, 1997-1998

AIUM Breast Ultrasound Accreditation Committee

 ACR Breast Ultrasound Standards Committee

 Breast US Foundation Board (2002-2007)

ACR BI-RADS Ultrasound Committee, 5th Edition

ACR TI-RADS Committee, 1st Edition

**PUBLICATIONS**

1. Dreisbach JN, Seibert CE, Smazal SF, Stavros AT, et al. Duplex sonography in the evaluation of carotid artery disease. AJNR 1983; 4:678.
2. Daigle RJ, Stavros AT, Platou R, et al. Velocity criteria for differentiation of 60%‑79% carotid stenoses from 80% or greater. J Vas Technology1988; 12:177.
3. Bluth EI, Stavros AT, Marich KW, et al. Carotid duplex sonography: A multicenter recommendation for standardized imaging and Doppler criteria. Radiographics 1988; 8:487.
4. Daigle RJ, Stavros AT, Lee RM. Overestimation of velocity and frequency values by multielement linear array Dopplers. J Vas Technology 1990; 14:206-213.
5. Stavros AT. Carotid non-invasive vascular assessment. CNI Review 1990; 1:11-23.
6. Yakes WF, Luethke JM, Parker SH, Stavros AT, et al. Ethanol embolization of vascular malformations. Radiographics 1990; 10:787‑796.
7. Stavros AT, Parker SH, Yakes WF, et al. Segmental renal artery *tardus-parvus* waveform abnormalities: pattern recognition approach to duplex sonographic diagnosis of renal artery stenosis. Radiology 1992; 184:487-492.
8. Daigle RJ, Stavros AT, Seibert CS. "External carotid artery 'steal' from the internal carotid artery following iatrogenic common carotid dissection." Video J of Color Flow Imaging 1992; Vol 2, #1, 21-28.
9. Stavros AT. "Introduction to Breast Ultrasound." Chapter in Percutaneous Breast Biopsy, Parker SH, Raven Press, New York, New York. 1993
10. Stavros AT. "Ultrasound of Breast Pathology." Chapter in Percutaneous Breast Biopsy. Parker SH. Raven Press, New York, New York. 1993
11. Rak KM, Yakes WF, Ray RL, Dreisbach JN, Parker SH, Luethke JM, Stavros AT, et al. "MR imaging of symptomatic peripheral vascular malformations. Radiology 1992; 159:107-112.
12. Parker SH, Jobe WE, Dennis MA, Stavros AT, et al. "US-guided Automated Large-Core Breast Biopsy." Radiology 1993; 187(2):507-11.
13. Stavros AT, Tupler R, Kliewer M, and Carroll B. “Early Systolic Compliance Peak / Reflective Wave Complex.” Letters to the Editor in Radiology, 1993; 188: #1, 286-287.
14. Stavros AT, Moss A. “Segmental Stenosis of the Renal Artery: Pattern Recognition of Tardus and Parvus Abnormalities with Duplex Sonography.” Critical Review in Investigative Radiology 1994; 29:, #3, 390-393.
15. Stavros AT, Rapp CL, Thickman D, et al. “Sonographic Demonstration of the Normal Appendix.” RSNA Award-Winning Scientific Exhibits, Radiographics CD-ROM Edition, 1994.
16. Stavros AT, Rapp CL, Thickman D, et al. “Sonography of Inflammatory Conditions.” RSNA Award-Winning Scientific Exhibits, Radiographics CD-ROM Edition, 1994.
17. Stavros AT, Sickler KJ, Menter RR. Color duplex sonography of the nutcracker syndrome (aortomesenteric left renal vein compression). J Ultrasound Med 1994; 13:569-574.

**PUBLICATIONS (continued)**

1. Stavros AT, Harshfield D. Renal Doppler, renal artery stenosis, and renovascular hypertension: direct and indirect duplex sonographic abnormalities in patients with renal artery stenosis. Ultrasound Quarterly, 1995, 12:217-263.
2. Stavros AT, Rapp CR, Thickman D. Sonography of inflammatory conditions. Ultrasound Quarterly, 1995, 13:1-26.
3. Stavros AT, Thickman D, Rapp CR, et al. “Solid breast nodules: Use of Sonography to Distinguishing Benign from Malignant Lesions. Radiology, 1995; 196:123-134.
4. Rapp CL, Johnson K, Stavros AT. “Vasodilatation depicted in inflammatory conditions.” Diagnostic Imaging Supplement, May,1995; AU22-AU25.
5. Parker SH, Dennis MA, Stavros AT. Critical pathways in percutaneous breast intervention. Radiographics 1995; 15:946-950.
6. Parker SH, Stavros AT, Dennis MA. Needle biopsy techniques. Radiologic Clinics of N America 1995; 6:1171-1186.
7. Stavros AT, Dennis MA. Ultrasound of Breast Pathology, Diagnostico; 1995, 5:131-148.
8. Stavros AT, Ultrasound of DCIS, Chapter in Ductal Carcinoma in situ; a diagnostic and therapeutic dilemma. Ed JM Silverstein, Williams and Wilkins, Baltimore.
9. Parker SH, Dennis MA, Stavros AT, Johnson KK. Ultrasound-guided mammotomy: a new breast biopsy technique. JDMS 1996; 12:113-118.
10. Rapp CL, Stavros AT, Meyers PR. Ultrasound of the normal appendix: the how and why. JDMS 1998; 14:195 – 201.
11. Rapp CL, Stavros AT, Meyers PR. Ultrasound of abdominal wall hernias. JDMS 1999; 15:231-235.
12. Stavros T, Rapp C, McGrath J. Color duplex sonography of acute scrotal pain. In Bluth EI, Arger PH, Benson CB, Ralls PW, Siegel MJ, eds. Ultrasound: a practical approach to clinical problems 1st ed. New York, Thieme, 1999;135-152.
13. Falci SP, Lammertse DP, Stavros AT. Surgical treatment of posttraumatic cystic and tethered spinal cords. J Spnal Cord Med 1999; Fall;22(3):173-81.
14. Rapp C, Stavros A, Kaske T. SDMS-JDMS CME test: Ultrasound of abdominal wall hernias. J of Diag Med Sonography 1999; 15:
15. Dennis MA, Parker S, Kaske TI, Stavros AT, Camp J. Incidental treatment of nipple discharge caused by benign intraductal papilloma through diagnostic Mammotome biopsy. AJR 2000, 174:1263-1268.
16. Klaus AJ, Klingensmith WC, Parker SH, Stavros AT, Sutherland JD, Aldrete KD. Comparitive value of 99mTc sestamibi scintimammography and sonographyin the diagnostic workup of breast masses. AJR 2000; 174:1779-1783.
17. Dennis, MA, Parker SH, Klaus AJ, Stavros AT, Kaske TI, and Clark S. “Breast biopsy avoidance: The value of normal mammograms and normal sonograms in the setting of a palpable lump.” Radiology 2001; 219:186-191.
18. Rapp CL and Stavros AT. “Coded harmonics in breast ultrasound: Does it make a difference?” JDMS 2001; 17:22-28.
19. Stavros AT. “There is a hypoechoic mass in the breast: What does that mean?” in RSNA 2002 Syllabus: Categorical Course in Diagnostic Radiology: Findings at US – What do they mean? Cooperberg, RSNA, Oak Brook, IL; 2002; p263-281.
20. Stavros AT, “Ultrasound of DCIS” chapter in *Ductal Carcinoma in situ*; a diagnostic and therapeutic dilemma, 2nd ed, Silverstein JM, ed., Williams and Wilkins, Baltimore, 2002; 135-177. 128-167.
21. Stavros AT, “Breast sonography.” Chapter in *Diagnostic Ultrasound, 3rd edition,* Rumack C, Wilson SR, Charboneau W, Johnson JA, eds. Elsevier Science, pp pending, Jan 2005.
22. Stavros AT, *Sonography of the Breast (Textbook),* Lippincott Williams Wilkins, Philadelphia, PA, Jan 2004
23. Stavros AT. “Sonographic evaluation of non-simple breast cysts.” SonoWorld CD, 2005, Philadelphia, PA.
24. Stavros AT. “Ultrasound of solid breast nodules: distinguishing benign from malignant. SonoWorld CD, 2005, Philadelphia, PA.
25. Silverstein MJ, et al. “Image detected breast cancer: state of the art in diagnosis and treatment from the 2nd International Consensus Conference.” *J Am Coll Surg*. 2005; 201:586-587.
26. Stavros AT, Rapp CL, Kaske TI, Parker SH. “Hard and soft findings of Malignancy.” In Breast Imaging: Categorical course in Diagnostic Radiology, RSNA 2005, ed Feig S, RSNA, Chicago Ill, pp 125-142.
27. Stavros T, Rapp C, McGrath J. Color duplex sonography of acute scrotal pain. In Bluth EI, Arger PH, Benson CB, Ralls PW, Siegel MJ, eds. Ultrasound: a practical approach to clinical problems 2st ed. New York, Thieme, 2007;135-152.

**PUBLICATIONS (continued)**

1. Stavros A. New advances in breast ultrasound: Computer-aided detection. Ultrasound Clin 2009; 285-289.
2. Berg WA, Cosgrove, DO, Doré CJ, Stavros AT, et al. Shear–wave elastography improves the specificity of breast US: the BE1 multinational study of 939 masses. Radiology, 2012; Feb;262(2):435-49. Doi: 10.1148/radiol.11110640.
3. Zalev J, Clingman B, Smith R, Herzog D, Miller T, Stavros A, et al. Clinical feasibility study of combined opto-acoustic and ultrasonic imaging modality providing co-registered functional and anatomical maps of breast tumors. Progress in Biomedical Optics and Imaging – Proceedings of SPIE (2013) 8581.
4. Zalev J, Clingman B, Herzog D, Miller T, Stavros A, et al. Opto-acoustic breast imaging with co-registered breast ultrasound. Progress in Biomedical Optics and Imaging – Proceedings of SPIE (2104) 9038.
5. Zalev J, Clingman B, Herzog D, Miller T, Ulissey M, Stavros A, Oraevsky A, Laving P, Kist K, Dornbluth N, Otto P. Opto-acoustic image fusion technology for diagnostic breast imaging in a feasibility study. Progress in Biomedical Optics and Imaging – Proceedings of SPIE (2015) 9419.
6. Grant EG, Tessler FN, Hoang JK, Stavros AT, et al. Thyroid Ultrasound Reporting Lexicon: White Paper of the ACR Thyroid Imaging, Reporting and Data System (TIRADS) Committee. J Am Coll Radiol. 2015 Dec; 12(12 Pt A): 1272-9. doi: 10.1016/j.jacr.2015.07.011. Epub 2015 Sep 26.
7. Stavros AT, Freitas AG, deMello GGN, et al. Ultrasound positive predictive values by BI-RADS categories 3-5 for solid masses. An independent reader study. Eur Radiol 2017; 10:4307-4315.
8. Oraevsky A, Clingman B, Zalev J, Stavros A, Yang W, Parikh J. Clinical optoacoustic imaging combined with ultrasound for coregistered functional and anatomical mapping of breast tumors. Photoacoustics 2018; 12: 30-45.
9. Vlahiotis A, Griffin B, Stavros AT, Margolis J. Aanalysis of utilization patterns and associated costs of the breast imaging and diagnostic procedures after screening mammography. CinicoEconics and Outcomes Research 2018; 10:157-167.
10. Exploring the negative likelihood ratio and how it can be used to minimize false positives in breast imaging. Yang WT, Parikh JR, Stavros AT, et al. AJR 210:301-306.
11. Basak D, Menezes G, Butler R, Neuschler E, Aitchisen R, Lavin P, Tucker L, Grobmeyer S, Otto P, Stavros A. Opto-acoustic imaging (OA/US) and gray scale ultrasound (GSUS) Features of breast cancers: correlation with molecular subtypes. Radiology 2019; 292:564-572.

**SCIENTIFIC EXHIBITS / POSTERS**

1. 1993 RSNA, “Solid Breast Nodules – Benign or Malignant?”, Stavros AT, Rapp CL, Thickman D, Sisney GI, Johnson K. ***Certificate of Merit***
2. 1993 RSNA, “Sonographic Demonstration of the Normal Appendix.” Stavros AT, Rapp CL, Thickman D, Sisney GI, Johnson K. ***Cum Laude***
3. 1993 RSNA, “Sonography of Inflammatory Conditions.” Stavros AT, Rapp CL, Thickman D, Sisney GI, Johnson K. ***Certificate of Merit***
4. 1994 AIUM, “Sonography of Solid Breast Nodules – Benign or Malignant?” Stavros AT, Rapp CL, Thickman D, Sisney GI, Johnson K. ***1st Prize***
5. 1994 AIUM, “Demonstration of the Normal Appendix in Adult and Pediatric Patients with Right Lower Quadrant Pain.” Stavros AT, Rapp CL, Thickman D, Sisney GI, Johnson K. ***Honorable Mention***
6. 1994 RSNA, “Further Observations of RAS and RVH.” Harshfield DL, Stavros AT, Teplick SK, Rapp CL,

Grigg K.

1. 1994 RSNA, “Intra- and Periprocedural Duplex US to Monitor the Results of Renal Artery Angioplasty.” Harshfield DL, Stavros AT, Teplick SK, Rapp CL, Grigg K. ***Cum Laude***
2. 1994 RSNA, “Pericholecystic fluid: It’s relationship with GB wall necrosis and cholecystotomy success.” Brandon JC, Teplick SK, Harshfield DL, Teefey SA, Porter M, and Stavros AT.
3. 1997 RSNA, “Sonography of Abdominal Wall Hernias.” Stavros AT, Rapp CL, Kaske TI, Meyers PR, Sickler K. ***Magna Cum Laude***
4. 1997 RSNA, “Nipple Discharge – Galactography Has Been the Procedure of Choice, but the Role of US is Growing.” Stavros AT, Rapp CL, Klaus AJ, Kaske TI, Thickman DI, Parker SH. ***Magna Cum Laude***
5. 1997 RSNA, “Sonography of Breast Implants – Something Old, Something New – Putting It All Together.” Stavros AT, Rapp CL, Kaske TI, Klaus AJ, Thickman DI. ***Cum Laude***
6. 1999 AIUM, “Sonography of Abdominal Wall Hernias.” Stavros AT, Rapp CL, Kaske TI, Meyers PR, Sickler K. ***3rd PLace***
7. 1999 AIUM, “Nipple Discharge – Galactography Has Been the Procedure of Choice, but the Role of US is Growing.” Stavros AT, Rapp CL, Klaus AJ, Kaske TI, Thickman DI, Parker SH. ***1st Place***
8. 1999 AIUM, “Sonography of Breast Implants – Something Old, Something New – Putting It All Together.” Stavros AT, Rapp CL, Kaske TI, Klaus AJ, Thickman DI. ***Honorable Mention***
9. 1999 RSNA, Stavros AT, Rapp CL, Fisher AJ. 508UR “Tardus-parvus changes not working for you? – here are some possible reasons why.” ***Certificate of merit***.
10. 1999 RSNA, Stavros AT, Rapp CL, Fisher AJ 227 GI “Ultrasound evaluation for fecal incontinence using end-fire EV and linear near field transducers via vaginal and transperineal approaches.”
11. 2013 SPIE, Feb 3, 2013, “Real-time opto-acoustic imaging system for clinical assessment of breast lesions.” Zalev J, Clingman B, Smith R, Herzog D, Miller T, Stavros T.
12. 2013 ECR, “Improved Differentiation of Breast Tumors using Novel Imaging System based on Co-Registered Opto-Acoustic Tomography and Ultrasound.” Otto P, Kist K, Dornbluth C, Stavros T, Ulissey M, et al.
13. 2013 NCBC, “Opto-acoustic breast imaging: a new technology.” Stavros T, Lerner A, Burak, Fine R, Boyd B, Miller Tom, et al.
14. 2013 AIUM, “Functional Images of Hemoglobin and Blood Oxygen Saturation Co-registered with Ultrasound Provide Accurate Differentiation of Breast Tumors” Otto P, Kist K, Dornbluth C, Stavros T, Ulissey M, et al.
15. 2013 ASBS, “Combining B-Mode Ultrasound and Opto-Acoustic Imaging to Evaluate Breast Lesions.” Stavros A, Lerner A, Burak W, Fine R, Boyd B, et al.
16. 2013 RSNA, “Downgrading BI-RADS 4a and 4b benign masses using functional images of hemoglobin and blood oxygen saturation co-registered with ultrasound provide differentiation of breast tumors.” Otto P, Kist K, Dornbluth C, Stavros T, Ulissey M, Lavin P
17. 2013 RSNA, “Opto-acoustic imaging: A Novel Fusion of Functional and Morphologic Imaging.” Butler R, Stavros T, Tucker L, Lavin P
18. 2014 ECR, “Breast Mass Classification Based on Opto-acoustic Featrues Using Data Mining.” Stavros AT, Lavin P, Schoenfeld D, Ulissey MJ
19. 2014 ECR, “Correlation of Opto-acoustic Findings with Molecular Subtypes of Breast Cancer.” Stavros AT, Lavin P, Ulissey MJ, Lerner A

26. 2016 NCoBC, “Projected Healthcare Economic Benefit Associated with Opto-Acoustic Imaging: Potential for Reducing Breast Biopsies.” Neuschler E, Parikh J, Stavros AT, et al.

# PRESENTATIONS AND ABSTRACTS

2168 invited lectures and abstracts

**Revised 02/04/2020**