**Patents**

1. “System and methods for motion estimation in digital videos using Amplitude-Modulation Frequency-Modulation (AM-FM) Model,” **Marios S. Pattichis**, P. A. Rordiguez-Valderrama, and Victor Manuel Murray Herrera, *US patent filed on* 06/02/2017.
2. “System and Methods for the Computation of the Forward and Inverse Discrete Periodic Radon Transform on CPUs and GPUs”, Inventors: Cesar Carranza, Daniel Llamocca, and **Marios S. Pattichis**, US Patent application published on Dec. 13, 2018. Pending Patent acknowledges NSF CNS1422031.
3. “System and Methods for Computing 2-D Convolutions and Cross-correlations,” Inventors: Cesar Carranza, Daniel Llamocca, and **Marios S. Pattichis**, US Patent application published on Dec. 13, 2018. Patent acknowledges NSF CNS1422031.
4. “System and Methods for Joint and Adaptive Control of Rate, Quality, and Computational Complexity for Video Coding and Delivery,” Inventors: **Marios S. Pattichis**, Yuebing Jiang, Cong Zong, Gangadharan Esakki, Venkatesh Jatla, and Andreas Panayides, US Patent application published on Aug. 2nd, 2018. Patent acknowledges NSF CNS1422031. Licensed to ClearStream Technologies, LLC.
5. “System and Methods for Dynamic Management of Hardware Resources,” Inventors: **Marios S. Pattichis**, Yuebing Jiang, and Daniel Llamocca, US Patent 9,542,198 B2 granted on January, 10th, 2017. Licensed to ClearStream Technologies, LLC.
6. “System And Methods For Computing Forward and Inverse Discrete Periodic Radon Transform,” Inventors: Cesar Carranza, Daniel Llamocca, and **Marios S. Pattichis**, US Patent US10049469B2, granted 08/14/2018.
7. “System and methods for video image processing,” Inventors: Timothy Perez, Yuebing Jiang, and **Marios S. Pattichis**, US Patent 9,451,161, *granted on 2016-09-20.*
8. “System and Methods for Dynamic Management of Hardware Resources,” Inventors: **Marios S. Pattichis**, Yuebing Jiang, and Daniel Llamocca, U.S. Patent 9,111,059, approved on Aug. 18th, 2015. Licensed to ClearStream Technologies, LLC (2017). Also, licensed to Fluidviews, LLC (2017).
9. "System and Methods of Regularized Optimization For Matrix Factorization And Image and Video Reconstruction," Inventors: Paul Rodriguez-Valderrama, **Marios S. Pattichis**, and Victor Manuel Murray-Herrera, U.S. Patent 8,908,992 B1, approved on Dec. 9th, 2014.
10. “System and Methods of Amplitude-Modulation Frequency-Modulation (AM-FM) Demodulation for Image and Video Processing,” Victor Manuel Murray Herrera, **Marios S. Pattichis**, Peter Soliz, Carla Paola Agurto Rios and Herbert T. Davis III, U.S. Patent 8,515,201 B1, approved on Aug. 20th, 2013, biomedical applications licensed to VisionQuest Biomedical, LLC.

**Journal editorials**

1. Loizou, C., Morega, M., Kyriacou, E., Pasca, S., Petroudi, S., Bamidis, P., **Pattichis, M.S.**, and Pattichis, C.S. “Guest Editorial to Special Issue on Biomedical Monitoring Technologies,” *International Journal of Monitoring and Surveillance Technologies Research* (IJMSTR), Parts 1 and 2, vol. 1, no. 4, pp. October-December 2013.
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1. **Pattichis, M.S.**, General Chair, *2008 IEEE Southwest Symposium on Image Analysis and Interpretation,* Santa-Fe, New Mexico, March 2008.

**Book chapters**

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76. Christodoulou, C.I., Kyriacou, E., **Pattichis, M.S.**, Pattichis, C.S., and Nicolaides, A., “A Comparative Study of Morphological and other Texture Features for the Characterization of Atherosclerotic Carotid Plaques,” *Proc. of the 10th* *International Conference on Computer Analysis of Images and Patterns*, Groningen, The Netherlands, pp. 503-511, Aug., 2003.
77. Barriga, E.S., Truitt, P.W., **Pattichis, M.S.**, T’so, D., Kwon, Y.H., Kardon, R.H., and Soliz, P., “Blind Source Separation in Retinal Videos,” *Proc. of the SPIE Medical Imaging* *Conference*, San Diego, California, pp. 1591-1601, vol. 5032, Feb., 2003.
78. Thurgood, M.J., Jordan, R., Abdallah, C.T., and **Pattichis, M.S.**, “Fast Algorithms for Generating the Original and Symmetric PONS Matrices,” presented in *10th Digital Signal* *Processing Workshop*, Pine Mountain, Georgia, Oct., 2002.
79. Christodoulou, C.I., Loizou, C., Pattichis, C.S., Pantziaris, M., Kyriakou, E., **Pattichis, M.S.**, Schizas, C.N., and Nicolaides, A., “De-speckle Filtering in Ultrasound Imaging of the Carotid Artery,” *IEEE 24th International Conference of the IEEE Engineering in Medicine* *and Biology Society (EMBS 2002)*, Houston, Texas, vol. 2, pp. 1027-1028,Oct., 2002.
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81. **Pattichis, M.S.**, Cacoullos, T., and Soliz, P., “Spatial Image Variability Analysis,” invited in the *45th IEEE Midwest Symposium on Circuits and Systems*, Tulsa, Oklahoma, volume 1, pp. 224-227, Aug., 2002.
82. Ramachandran, J., **Pattichis, M.S.**, Soliz, P., and Wilson, M., “A Hierarchical Segmentation Model for the Lung and the Inter-costal Parenchymal Regions of Chest Radiographs,” invited in the *45th IEEE Midwest Symposium on Circuits and Systems*, Tulsa, Oklahoma, volume 1, pp. 439-442, Aug., 2002.
83. Rodriguez, P. V., **Pattichis, M.S.**, and Jordan R., “Computational SIMD Framework: split-radix simd-fft algorithm, derivation, implementation and performance,” published in *CD-Rom Proceedings of 14th International Conference on DSP (DSP 2002)*, Santorini, Greece, pp. 861-864, vol. 2, Jul., 2002.
84. Kyriakou, E., Voskarides, S., Pattichis, C.S., Istepanian, R., **Pattichis, M.S.** and Schizas, C.N., “Wireless Telemedicine Systems: A Brief Overview,” in Proc. 4th International Workshop on Enterprise Networking and Computing in Healthcare Industry (HEALTHCOM 2002), Nancy, France, pp. 50-56, Jun., 2002.
85. Voskarides, S., Pattichis, C.S., Istepanian, R., Kyriacou, E., **Pattichis, M.S.** and Schizas, C.N., “*Mobile Health Systems: A Brief Overview,*” *in Proceedings of SPIE AeroSense 2002:* *Digital Wireless Communications IV,* Ed. by R. M. Rao, S. A. Dianat, M. D. Zoltowski, Vol. 4740, Orlando, Florida, USA, pp. 124-131, Apr., 2002.
86. **Pattichis, M.S.**, Muralidharan, H., Pattichis, C.S., Soliz, P., “New Image Processing Models for Opacity Image Analysis in Chest Radiographs,” invited in *5th IEEE Southwest* *Symposium on Image Analysis and Interpretation*, Santa Fe, New Mexico, pp. 260-264, Apr., 2002.
87. Ramachandran, J., **Pattichis, M.S.**, and Soliz, P., “Pre-Classification of Chest Radiographs for Improved Active Shape Model Segmentation of Ribs,” invited in *5th IEEE* *Southwest Symposium on Image Analysis and Interpretation*, Santa Fe, New Mexico, pp. 188-192, Apr., 2002.
88. **Pattichis, M.S.**, Pattichis, C.S., Christodoulou, C.I., James, D., Ketai, L., and Soliz, P., “A Screening System for the Assessment of Opacity Profusion in Chest Radiographs of Miners with Pneumoconiosis,” invited in *5th IEEE Southwest Symposium on Image Analysis* *and Interpretation*, Santa Fe, New Mexico, pp. 130-133, Apr., 2002.
89. Pattichis, C.S., and **Pattichis, M.S.**, “Adaptive Neural Network Imaging in Medical Systems,” invited in *Proc. of the 35th Asilomar Conference on Signals, Systems, and* *Computers*, Asilomar Hotel and Conference Grounds, Pacific Grove, CA, vol. 1, pp. 313-317, Nov., 2001.
90. Rodriguez V., P., and **Pattichis, M.S.**, “Adaptive Sampling and Processing of Ultrasound Images,” invited in *Proc. of the 35th Asilomar Conference on Signals, Systems, and* *Computers*, Asilomar Hotel and Conference Grounds, Pacific Grove, CA, vol. 1, pp. 323-327, Nov., 2001.
91. Pattichis, C.S., **Pattichis, M.S.** and Micheli-Tzanakou, E., “Medical Imaging Fusion Applications: An Overview,” invited in *Proc. of the 35th Asilomar Conference on Signals,* *Systems, and Computers*, Asilomar Hotel and Conference Grounds, Pacific Grove, CA, vol. 2, pp. 1263-1267, Nov., 2001.
92. Pattichis, C.S., Christodoulou, C.I., **Pattichis, M.S.**, Pantziaris, M., and Nicolaides, A., “An Integrated System for the Assessment of Ultrasonic Imaging Atherosclerotic Carotid Plaques,” in *Proc. 2001 IEEE Int. Conf. on Image Processing 2001*, Thessaloniki, Greece, vol. 1, pp. 325-328, Oct., 2001.
93. **Pattichis, M.S.**, Zhou, R., and Raman, B., “New Algorithms for Computing Directional Discrete Fourier Transforms,” in *Proc. 2001 IEEE Int. Conf. on Image Processing*, Thessaloniki, Greece, vol. 3, pp. 322-325, Oct., 2001.
94. Ray, N., Havlicek, J., Acton, S.T. and **Pattichis, M.S.**, “Active Contour Segmentation Guided by an AM-FM Dominant Component Analysis,” in *Proc. 2001 IEEE Int. Conf. on Image Processing*, Thessaloniki, Greece, vol. 1, pp. 78-81, Oct., 2001.
95. **Pattichis, M. S.**, Ramachandran, J., Wilson, M., Pattichis, C.S. and Soliz, P., “ Optimal Scanning, Display, and Segmentation of the International Labor Organization (ILO) X-Ray Images Set for Pneumoconiosis,” in *Proceedings of* *the 14th IEEE Symposium on* *Computer-Based Medical Systems,* Bethesda, MD, pp. 511-515, Jul., 2001.
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97. **Pattichis, M.S.**, Petropoulos, H., and Brooks, W.H., “MRI Brain Image Segmentation Using

an AM-FM Model,” invited in the 34th Asilomar Conference on Signals, Systems, and

Computers, Asilomar Hotel and Conference Grounds, Pacific Grove, CA, vol. 2,

pp. 906-910, Nov., 2000.

1. Pizano, C.E., Heileman, G.L., Abdallah, C.T. and **Pattichis, M.S.**, “Are Perfect Image Watermarking Schemes Possible?,” invited in the *Proc. 10th IEEE Mediterranean* *Electromechanical Conference (MELECON 2000)*, Limassol, Cyprus, vol. 2, pp. 669-672, May 2000.
2. **Pattichis, M.S.**, “Novel Algorithms for the Accurate, Efficient and Parallel Computation of Multidimensional, Regional Discrete Fourier Transforms,” invited in the *Proc. of the 10th IEEE Mediterranean Electrotechnical Conference (MELECON 2000)*, Limassol, Cyprus, pp. 53-533 May, 2000.
3. **Pattichis, M.S.**, “Least Squares FIR Filter Design Using Frequency Domain Piecewise Polynomial Approximations,” published in the proceedings of *X European SignalProcessing Conference*, Tampere, Finland, Sept. 5-8, 2000.
4. **Pattichis, M.S.**, Bovik, A.C., Havlicek, J.W., and Sidiropoulos, N.D., “On the Representation of Wideband Images Using Permutations for Lossless Coding,” in Proc. of *IEEE Southwest Symposium on Image Analysis and Interpretation*, Austin, Texas, pp. 237-241, Apr., 2000.
5. **Pattichis, M.S.**, Pattichis, C.S., Avraam, M., Bovik, A.C., and Kyriakou, K., “AM-FM Texture Segmentation in Electron Microscopic Muscle Imaging,” invited in *Proc. of the 1999 IEEE* *International Conference on Acoustics, Speech and Signal Processing,* (ICASSP), Phoenix, Arizona, vol. 4, pp. 2331-2334, Mar., 1999.
6. Sidiropoulos, N.D., **Pattichis, M.S.**, Bovik, A.C., and Havlicek, J.W., “COPERM: Transform-domain Energy Compaction by Optimal Permutation,” in *Proc. of the 1998 IEEE* *International Conference on Acoustics, Speech and Signal Processing*, (ICASSP), Seattle, WA, vol. 6, pp. 3301-3304, 1998.
7. Lee, S., **Pattichis, M.S.**, and Bovik, A.C., “Foveated Image/Video Quality Assessment in Curvilinear Coordinates”, *Int. Workshop on Very Low Bitrate Video Coding 98,* pp. 189-192, Oct. 1998.
8. Lee, S., **Pattichis, M.S.**, and Bovik, A.C., “Rate Control for Foveated MPEG/H.263 Video,” in *Proc. IEEE Int. Conf. on Image Processing 98*, vol. 2, pp. 365-369, Oct., 1998.
9. **Pattichis, M.S.**, Pattichis, C.S., Avraam, M., Bovik, A.C., and Kyriakou, K. “Non-Stationary Texture Segmentation in Electron Microscopy Muscle Imaging Using an AM-FM Model,” in *CD-ROM proceedings of the VIII Mediterranean Conference on Medical and Biological* *Engineering and Computing*, Limassol, Cyprus, Jun., 1998.
10. **Pattichis, M.S.**, Christodoulou, C., Pattichis, C.S., and Bovik, A.C., “Non-Stationary Texture Classification Using an AM-FM Model,” in *Proceedings of International Conference on Neural Networks*, Houston, Texas, vol. 3, pp. 1552-1557, Jun. 1997.
11. **Pattichis, M.S.**, and A.C. Bovik, “AM-FM Expansions for Images,” in *Proc. European Signal Processing Conf.*, Trieste, Italy, Sept., 1996.
12. Havlicek, J.P., **Pattichis, M.S.**, Harding, D.S., Christofides, A.C., and Bovik, A.C., “AM-FM Image Analysis Techniques,” in *Proc. of the IEEE Southwest Symposium on Image* *Analysis, and Interpretation*, San Antonio, Texas, pp. 195-200, Apr., 1996.
13. Pattichis, C.S., **Pattichis, M.S.**, Schizas, C.N., “Wavelet Analysis of Motor Unit Action Potentials,” in *Proc. of Engineering in Medicine and Biology Society, 1996. Bridging* *Disciplines for Biomedicine, 18th Annual International Conference of the IEEE*, vol. 4, pp. 1493-1495, 1996.
14. **Pattichis, M.S.**, and Bovik, A.C., “A Fluid Model for Texture Images,” in *Proc. Workshop on Image and Multidimensional Signal Processing*, Belize City, Belize, pp. 18-19, Mar., 1996.
15. **Pattichis, M.S.**, and Bovik, A.C., “Multi-Dimensional Frequency Modulation in Texture Images,” in *Proc. International Conference on Digital Signal Processing*, Limassol, Cyprus, pp. 753-758, Jun., 1995.
16. **Pattichis, M.S.**, and Bovik, A.C., “A Nonlinear Fluid Model for Describing Frequency Modulation of Image Orientations,” in *Proc. IEEE Workshop on Non-Linear Signal and Image Proc.*, Neos Marmaras, Halkidiki, Greece, pp. 198-201, Jun., 1995.
17. **Pattichis, M.S.**, and Pattichis, C.S., “Fast Wavelet Transform in Motor Unit Action Potential Analysis,” in *Proc. Int. Conf. of the IEEE Engineering in Medicine and Biology Society*, San Diego, California, pp. 1225-1226, Oct., 1993.
18. **Pattichis, M.S.**, and Bostick, F.X., “Fast Wavelet Transform Applications in Electromagnetics,” in *Proc. of the Int. Conf. on Digital Signal Processing*, Nicosia, Cyprus, pp. 106-111, July 1993.

## Refereed conference presentations:

1. **Panayides, A., Pattichis, M., and Pattichis, C., “Quantitative Imaging for Precision Medicine,” presented in *IEEE Biomedical and Health Informatics,* 2018.**
2. **Celedón-Pattichis, S., LópezLeiva, C. A., Barraza, M., Vennard, L., Lecea Yanguas, J. A., Pattichis, M. S., & Cavazos DeLa Rocha, I. L. (2018). *Bilingual middle school students learning to code with their teachers: Affordances and challenges*. Proposal submitted to the annual meeting of the National Association for Bilingual Education, Albuquerque, New Mexico.**
3. **Celedón-Pattichis, S., LópezLeiva, C. A., & Pattichis, M. S. (2017, Feb). *Teaching and learning number systems: Bilingual students accessing high quality STEM practices*. Accepted, National Association of Bilingual Education, Dallas, Texas.**
4. LópezLeiva, C. A., & **Pattichis, M. S.**, & Celedón-Pattichis, S. (2016, July). *Integrating mathematics, engineering, and technology through mathematics modeling and video representations*. Presented at the International Congress on Mathematics Education, Hamburg, Germany.
5. DeMarco, S., Arge, C.N., **Pattichis, M.S.**, Hock, R., and Henney, C.J., “Methods for estimating total open heliospheric magnetic flux,” *2014 American Geological Union Fall Meeting,* San Francisco, Dec., 2014.
6. **Pattichis, M.S.,** Hock, R., Henney, C., Arge, C., DeMarch, S., Delgado, A.P., Darsey, C., and Jatla, V., “Identifying Coronal Holes: Can we learn any lessons from Computer Aided Diagnosis?,” invited presentation, *2014 Solar Heliospheric & Interplanetary Environment* (*SHINE),* Telluride, Colorado, June 2014.
7. Celedón-Pattichis, S., LópezLeiva, C. A., **Pattichis, M.S.**, & Llamocca, D., “At first it was very hard, then it was fun”: Conjecturing a learning trajectory for underrepresented middle school students in mathematics and engineering,” In K. Gomez (Chair), *Creating contexts of pedagogical and curricular support for non-English background students in mathematics and science*. Paper presented at the annual meeting of the American Educational Research Association, Philadelphia, Pennsylvania, *2014 American Educational Research Association (AERA)*, April 2014.
8. LópezLeiva, C. A., Celedón-Pattichis, S., **Pattichis, M.S.**, & Llamocca, D., “Image representation in a middle school afterschool program**,”** *4th International Realistic Mathematics Education Conference*, Boulder, Colorado, 2013.
9. LópezLeiva, C., Celedón-Pattichis, S., **Pattichis, M.S.**, & Llamocca, D., “Successes and challenges of supporting interactive learning in a mathematics and engineering afterschool program for middle school students,” *Annual meeting of the American Educational Research Association*, San Francisco, California, April, 2013.
10. Celedón-Pattichis, S., LópezLeiva, C. A., **Pattichis, M. S.**, & Llamocca, D., “Advancing out-of-school learning in mathematics and engineering,” In J. Aguirre (Chair), Learning to do math inside and outside of school—fostering productive mathematical practices and identity development for Latin@ youth, *Scientific Research Symposium*, *Annual meeting of the Society for the Advancement of Chicanos and Native Americans in the Sciences*, San Antonio, Texas, October, 2013.
11. LópezLeiva, C., & **Pattichis, M. S.**, “With our feet on the ground”: Affordances and challenges of developing an integrated STEM approach for Latina/o middle school students. In S. Celedón-Pattichis (Chair), Making our voices heard: Negotiating the promises and challenges of STEM education for historically underrepresented youth. Scientific Research Symposium presented at the annual meeting of the *Society for the Advancement of Chicanos and Native Americans in the Sciences*, Seattle, Washington, October, 2012.
12. Murray, V., Llamocca, D., Yuebing, J., Lyke, J., **Pattichis, M.S.**, Achramowicz, S., and Keith A., “Adaptive Wiring Panels using Cell-based Architectures: A First Approach,” *Reconfigurable Systems Workshop*, Albuquerque, New Mexico, 2010.
13. Murillo S, Zamora G., Barriga S., Nemeth S., Crammer R., Edwards A., Bauman W., Soliz P., **Pattichis M.**, "Low-Cost Super Resolution Retinal Imaging with Embedded Denoising: Quantitative and Qualitative Assessment of Reconstructed Images from a Scanning Laser Ophthalmoscope,” in the *2010 Meeting for Research in Vision and Ophthalmology*, ARVO 2010, *Investigative Opthalmology and Visual Sciences*, Abstract number 1803.
14. Barriga, E.S., Murray, V., Agurto, C., **Pattichis, M.S.**, Russel, S.R., and Soliz, P., “Automatic Computer-Based Grading for Age Related Maculopathy,” in the *2010 Meeting for Research in Vision and Ophthalmology*, ARVO 2010, *Investigative Opthalmology and Visual Sciences*, Abstract number 1793.
15. Agurto, C., Murray, V., Barriga, E.S., **Pattichis, M.S.**, Baumann, W., and Soliz, P., “Automatic Classification of Diabetic Retinopathy Photographs Using AM-FM,” in the *2010 Meeting for Research in Vision and Ophthalmology*, ARVO 2010, Investigative Opthalmology and Visual Sciences, Abstract number 1795.
16. Rodriguez, P., Murray, V., and **Pattichis, M.S.**, “A Basis Pursuit Approach for Multi-Scale AM-FM Reconstructions,” *SIAM Conference on Imaging Science*, Chicago, Illinois, April, 2010.
17. Murray, V. and **Pattichis, M.S.**, “Adaptive Wiring Manifold,” ReSpace/MAPLD Conference, Albuquerque, 2010.
18. Davis, H.T., Heileman, G., **Pattichis, M.S.**, Murillo, S., Barriga, E.S. and Soliz, P., “Real-time image quality feedback for fundus camera photography,” in the *2009 Meeting of the Association for Research in Vision and Ophthalmology*, ARVO 2009.
19. Agurto, C., **Pattichis, M.S.**, Murillo, S., Murray, V., Abramoff, M.D., Russell, S.R., Barriga, E.S., Davis, H., Soliz, P., “Detection of Structures in the Retina Using AM-FM for Diabetic Retinopathy Classification,” in the *2009 Meeting of the Association for Research in Vision and Ophthalmology*, ARVO 2009.
20. Barriga, E.S., Russell, S.R., **Pattichis, M.S.**, Murray, V., Murillo, S., Davis, H., Abramoff, M.D. and Soliz, P., “Relationship Between Visual Features and Analytically Derived Features in Non-Exudated AMD Phenotypes: Closing the Semantic Gap,” in the *2009 Meeting of the Association for Research in Vision and Ophthalmology*, ARVO 2009.
21. Kief, C., Suddarth, S., Christodoulou, C., **Pattichis, M.S.**, Pollard, H.E., “Educational Activities for the FPGA Mission Assurance Center,” in *Proc. 2008 ASEE Gulf-Southwest Annual Conference,* UNM, Albuquerque, New Mexico, March 26-28, 2008.
22. Cacoullos, T. and **Pattichis, M.S.**, “Pneumoconiosis Revisited: Classifiers Viewed via ROC Curves and Logic Functions,” in *Proc. of International Conference of Statistical Models for* *Biomedical and Technical Systems* (*Biostat 2006*), Limassol, Cyprus, May, 2006.
23. **Pattichis, M.S.**, “AM-FM Analysis of Medical Images,” invited in Los Alamos National Laboratory Workshop on Image Analysis and Understanding Data from Scientific Experiments, Los Alamos, NM, December 2-6, 2002.
24. Yu, H., **Pattichis, M.S.**, and Goens, M.B., “3-D Object Reconstruction using Tracking of Freehand Ultrasound,” invited in Los Alamos National Laboratory Workshop on Image Analysis and Understanding Data from Scientific Experiments, Los Alamos, NM, December 2-6, 2002.
25. Cai, S. and **Pattichis, M.S.**, “Tumor Growth Image Analysis,” invited in Los Alamos National Laboratory Workshop on Image Analysis and Understanding Data from Scientific Experiments, Los Alamos, NM, December 2-6, 2002.
26. Rodriguez, P. V. and **Pattichis, M.S.**, “Fast Computation of Multidimensional Discrete Fourier Transforms on Modern Single Instruction Multiple Data (SIMD) Architectures,” invited in Los Alamos National Laboratory Workshop on Image Analysis and Understanding Data from Scientific Experiments, Los Alamos, NM, December 2-6, 2002.
27. Kyriacou, K., Schnorrenberg, F., Schizas, C.N., **Pattichis, M.S.**, Pattichis, C.S., *A Modular* *Neural Network System for the Analysis of Immunostained Nuclei in Histopathological* *Sections,* XIV Congress of the International Society of Diagnostic Quantitative Pathology, Oviedo (Spain), September 26-29, 2001.
28. Pattichis, C., Schizas, C., Dimopoulos, Y., Samaras, G., Christodoulou, C., Karaolis, M., Pantziaris, M., **Pattichis, M.S.** and Nicolaides, A., *Evaluation of the Risk of Stroke by* *Telemedicine,* World Congress on Medical Physics and Biomedical Engineering, Scientific Session: *WE-A201-01* Telecom, Telemetry & High Speed Data Transmission, Track: 04, Medical Informatics and Biomedical Information Technology, Chicago, USA, July 23-28, 2000.
29. Pattichis, C.S., **Pattichis, M.S.**, and Middleton, L.T., *The Wavelet Transform in MUAP Analysis,* Abstracts of Electromyography and Motor Control, The X International Congress of EMG, and Clinical Neurophysiology, Kyoto, Japan, vol. 97, no. 4, pp. S167, October 15-19, 1995.
30. Middleton, L., Pattichis, C., Petrondas, D., Souropetsis, M., Schizas, C., and **Pattichis, M.** *Numerical Pattern Recognition in the Automatic Analysis of Motor Unit Potentials: Technical* *Considerations*, IIIrd International Conference of Quantitative EMG, Larnaca, Cyprus, June 5-8, 1988.
31. Pattichis, C., Spanias, A., **Pattichis, M.S.**, Souropetsis, M., Petrondas, D., Schizas, C., and Middleton, L., *Linear Prediction analysis applied in EMG*, IIIrd International Conference on Quantitative EMG, Larnaca, Cyprus, June 5-8, 1988.

## Technical Reports

1. Rodriguez, P., **Pattichis, M.S.** and Jordan, R., “Parallel Single Instruction Multiple Data (SIMD) FFT: Algorithm and Implementation,” HPCERC2003-002, January, 2003.
2. **Pattichis, M.S.** and Zhou, R., “ A Novel Directional Approach for the Scalable, Accurate and Efficient Computation of Two Dimensional Discrete Fourier Transforms,” AHPCC2000-019 report, Fall 2000.
3. Pattichis, C.S. and **Pattichis, M.S.**, “Time-Scale Analysis of Motor Unit Action Potentials,” Technical Report TR-97-11, Department of Computer Science, University of Cyprus, September, 1997.
4. Sidiropoulos, N.D., **Pattichis, M.S.**, Bovik, A.C., and Havlicek, J.W., “COPERM: Transform-Domain Energy Compaction by Optimal Permutation,” Technical Report UT-CVIS-TR-97-002, Center for Vision and Image Sciences, The University of Texas at Austin, July, 1997.

**Selected Website News Articles**

* 1. “Featured Engineer: Interview with Dr. Pattichis.” EE Web. <https://www.eeweb.com/spotlight/interview-with-dr.-marios-pattichis>. Published on June 13th, 2016. Accessed July 20, 2016.

**Selected invited talks (not including UNM talks or conference paper presentations)**

1. S. Celedon-Pattichis, C. LopezLeiva, and M.S. Pattichis, “Interdisciplinary Collaborations Forum in Particular to National Science Foundation Projects,” UNM College of Education, Research Brown Bag, Dec. 2nd, 2017.
2. S. Celedon-Pattichis, C. LopezLeiva, and M.S. Pattichis, “Advancing Out-of-School Learning in Mathematics and Engineering (AOLME): Lessons Learned and Future Work,” UNM College of Education, Research Brown Bag, Dec. 9th, 2016.
3. M.S. Pattichis, “DRASTIC: Dynamic and fast architectures and algorithms for Image and Video Processing and Communications,” September 16th, UNM ECE graduate seminar, 2016.
4. M.S. Pattichis, “DRASTIC: Dynamic and fast architectures and algorithms for Image and Video Processing and Communications,” Sensor, Signal & Information Processing (SenSIP) Center, Ira A. Fulton School of Engineering, Arizona State University, May 11th, 2016.
5. M.S. Pattichis, “Multi-scale AM-FM Models with Applications in Medical Imaging,” Kios Research Center for Intelligent Systems and Networks, The University of Cyprus, July 16th, 2015.
6. M.S. Pattichis, “DRASTIC: Dynamically Reconfigurable Architecture Systems for Time-varying Image Constraints,” Universidad de Ingeniería y Tecnología (UTEC), Lima, Peru, September 9th, 2015.
7. M.S. Pattichis, “DRASTIC: Dynamically Reconfigurable Architecture Systems for Time-varying Image Constraints,” Imperial College, London, England, October 31st, 2014.
8. M.S. Pattichis, “DRASTIC: Dynamically Reconfigurable Architecture Systems for Time-varying Image Constraints,” Department of Computer Science, The University of Cyprus, October 23rd, 2014.
9. M.S. Pattichis, “DRASTIC: Dynamically Reconfigurable Architecture Systems for Time-varying Image Constraints,” UNM STC Technology Social, October 10th, 2014.
10. M.S. Pattichis, “DRASTIC: Dynamically Reconfigurable Architecture Systems for Time-varying Image Constraints,” IEEE EMBS/MRN 10th monthly talk, MRN, September 16th, 2014.
11. M.S. Pattichis, “Dynamically Reconfigurable Architectures for Time-Varying Image Constraints (DRASTIC),” Sensor, Signal & Information Processing (SenSIP) Center, Distinguished Lecturer Seminar Series, Ira A. Fulton School of Engineering, Arizona State University, Jan. 22, 2014.
12. M.S. Pattichis, “A Survey of Methods in Digital Image and Video Analysis,” October 18th, AFRL, Albuquerque, NM, 2011.
13. M.S. Pattichis, “The UNM ECE Graduate Program,” Pontificia Universidad Catolica del Peru, June 17th, 2010.
14. M.S. Pattichis, “Wireless Ultrasound Video Transmission and Analysis For Stroke Assessment,” Pontificia Universidad Catolica del Peru, June 16th, 2010.
15. M.S. Pattichis, “Dynamically Reconfigurable Systems,” Pontificia Universidad Catolica del Peru, June 15th, 2010.
16. M.S. Pattichis, “New Multidimensional AM-FM Signals and Systems with Applications in Biomedical Image Processing”, Arizona State University, January 5th, 2010.
17. M.S. Pattichis, “*Building and Analyzing Electronic Circuits for Elementary School Children,*” Larragoite Elementary School, Santa Fe, New Mexico, August 24th, 2009.
18. M.S. Pattichis, “*Dynamically Reconfigurable Systems for Image and Video Processing*,” presented for the Next Generation of Space Electronics Program, Air Force Research Laboratory, Albuquerque, New Mexico, August 11th, 2009.
19. M.S. Pattichis, “*Diagnostically Driven Image Processing for Emerging Software and Hardware Systems*,” presented at the Center for Nonlinear Studies, Los Alamos National Lab, June 4th, 2009.
20. M.S. Pattichis, “*Dynamically Reconfigurable Systems for Signal, Image and Video Processing*,” Xilinx Corp., Albuquerque, New Mexico, November 7th, 2008.
21. M.S. Pattichis, “*An Introduction to AM-FM Methods*,” Department of Ophthalmogy and Visual Sciences, University of Iowa, September 10th, 2008.
22. M.S. Pattichis, “*Intelligent Image Processing*,” Summer School on Intelligent Systems, European Thematic Network for Doctoral Education in Computing, Nicosia, Cyprus, July 6th 2007.
23. M.S. Pattichis, “*Atherosclerotic Plaque Motion Analysis from Ultrasound Videos: Can we predict rupture?,*” presented at the Center for Nonlinear Studies, Los Alamos National Lab, June 19th, 2006.
24. M.S. Pattichis, “*AM-FM models with applications in medical image analysis*,” presented by the Dept of Electrical and Computer Engineering, the Dept. of Biomedical Engineering, and the Center for Perceptual Studies at the University of Texas at Austin, December 19th, 2005.
25. M.S. Pattichis, “*AM-FM models with applications in medical image processing,*” Oct. 13th, 2005, presented in the Data driven modeling and analysis speaker series, Los Alamos National Lab.