

## Curriculum Vitae

# David Marcarian

david@myovision.com

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### EDUCATION

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**Potsdam College of Arts & Sciences**, Potsdam, NY ■ 1981  
**B.A.** in Physics, Minor: Psychology

**NASA University Program / San Jose State University**, San Jose, CA ■ 1986  
**M.A.** in Psychology, emphasis in Psychophysiology & Human Factors Engineering  
Thesis: "An Electromyographic Analysis of Muscle Fatigue In a Flight Simulation"  
HONORS: Achieved 99<sup>th</sup> percentile on advanced Graduate Record Exam  
NASA grant funded research project at NASA Ames Research Center

Internship: IBM's Santa Teresa Labs "Think Tank". Visual Performance Laboratory.  
Researched effect of various display terminals on the eye.

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### RECOGNITION

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- Awarded \$450,000.00 grant from National Institutes of Health to develop instrumentation for various electrophysiological measurements including surface electromyography.
- Inventor of MyoVision Wirefree Physiomonitring System, patented worldwide. It is used to measure various physiological measures. Obtained Class II Diagnostic Status in 2013. Measures include muscle activity, range of motion, temperature measurement and static surface EMG.
- DynaROM™ ROM-EMG device recognized as "the gold standard" by being featured in the American Medical Association's Medical Textbook "*A Practical Guide to Range of Motion Assessments*", November 2010. Marcarian established technology as enhancing sensitivity of range of motion measurements by adding EKG Technology to measure the muscular guarding in response to back pain. The tool provides objective proof of subjective complaints of pain, and can help establish both those in pain, and symptom magnifiers.
- Marcarian, as the only expert witness, established the validity of the technology in a major court decision against the State of Florida and 300 insurers (represented by 75 attorneys) in 2005. This Landmark case, "Merritt vs. DOH (case #04-1149RX)" lead to acknowledgement by the AMA of the device's ability to evaluate soft tissue injury.
- Supreme Court of Florida rejected insurer's appeal after Marcarian won major Superior Court Victory against the State of Florida in an appeal related to the above described case, January 2006. Video of trial found at [www.dynarominfo.com](http://www.dynarominfo.com)
- Invented ProformaVision™, a device which simultaneously measures muscle activity, MIDI input and Video for the purpose of reducing repetitive stress disorder, and improve performance for elite athletes and musicians.
- Awarded NASA grant for completion of Master's degree and thesis.

## Curriculum Vitae

- Surface EMG course endorsed by numerous State Healthcare Associations 1990-2006.
- Honored by presenting lecture for *Grand Rounds*, New York University, Rusk Institute, Langone Medical Center. March 2014.
- Acknowledged as developer of technique for evaluating neck injury, as published in the Journal of Chiropractic Medicine paper published in July of 2016. Statistically significant differences between normal and those with neck pain were demonstrated using Marcarian's technique of assessment. Researchers utilized the MyoVision for the measurement.
- On National TV Show: "**Law and Order: You the Jury**" airing in Q1 2017 as lead expert witness. Data from EMG-ROM device presented in the AMA Book was presented in actual binding jury trial, recorded and presented. All testimony was unrehearsed, and without preparation.

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### TEACHING EXPERIENCE

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Lecturer on all areas of Surface EMG from 1989 until present. This has been for all areas of healthcare from the California Association of Orthopedic Surgeons to Palmer College of Chiropractic.

Helped develop the Guidelines in WI with regards to Surface EMG implemented in 2000. This was done with Palmer College, and Dr. Stoner in WI).

Taught Course which met WI requirements for 2000 in 2004, put on by Palmer College.

Grand Rounds Presentation, New York University, Langone Medical Center, March 2012

Taught CLE course with Dave Spanier, MD to Washington Bar Association, Association of Justice, October 2016. Taught multiple training classes to attorneys throughout the US.

## Curriculum Vitae

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### RELATED EXPERIENCE

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**Research Assistant**, NASA-Ames Research Center, Mountain View, CA 1983-1986. Performed various research studies in the human factors engineering field. Studied the effect of various computer input devices on performance related to the Army Aeromechanic labs LHX helicopter project.

**Principal Investigator**, NASA-Ames Research Center, Mountain View, CA 1983-1986. Utilized surface electromyography in evaluating the effect of isotonic and isometric hand controllers on muscle fatigue in a flight simulation for the purpose of integrating the hand controller into the helicopter cockpit.

**Research Assistant** IBM Visual Performance Lab, San Jose, CA 1985. Studied the effect of video display terminals on the eye.

**Principal Investigator**, National Institutes of Health Grant 1986-1988. Prepared grant proposal and was awarded \$450,000.00 grant from the NIH for the development of an instrument for measurement of surface electromyography, skin temperature and galvanic skin response.

**Founder**, Precision Biometrics, Inc., San Carlos, CA, 1988 – Present  
Designed MyoVision Wired and newer Wirefree™ Physiomonitors. Taught classes, and testify as an expert witness in soft tissue injury cases. In addition, it is used to evaluate various spinal disorders and for ergonomic studies for keyboard design, chair design and various input device design.

Provided custom designed systems for Hewlett Packard's ergonomics research laboratory, UC San Francisco's Dental School and Stanford University's Industrial Engineering department. Aided researchers at NASA in research studies utilizing sEMG.

Provide interpretation of static and dynamic surface EMG studies for use in personal injury and worker compensation cases in the United States and Canada.

Have provided Expert Witness testimony in Superior Court in CA, Superior Court in FL (ended at Supreme Court level), NV, and arbitration hearings in WI and FL.

**Lecturer**, Various healthcare professional settings, 1989 to present  
Have lectured to over 6000 health care professionals in the proper utilization of, and interpretation of Surface EMG studies.

**Presenter, Panel of Experts**, Surface Electromyography Conference 1996, 1997  
Foundation for Chiropractic Education & Research

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### PUBLICATIONS AND PRESENTATIONS

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- "An Electromyographic Analysis of Muscle Fatigue in a Flight Simulation"  
Dissertation Abstracts International, 1986

## *Curriculum Vitae*

- “Muscle Fatigue in Tracking: A Comparison of Integrated Controllers”, Western Psychological Association Conference, 1987  
Paper presented at the Annual Meeting of English Professors, New York ■ 1998.
- “Computerized Biomedical Instrumentation: Review of Requirements for Research and Practice,”  
Western Psychological Association, 4/87
- “A Personal Computer-Based Outpatient Biofeedback Trainer”  
National Institutes of Health, Final Report # R43 HL 32377-01.
- “A Proposed Quality Assurance Program for the Clinical Use of Surface Electromyography in the Chiropractic Office”  
Journal of the Canadian Chiropractic Association, 1996 40 (4).

### **Biography of David Marcarian**

David Marcarian, MA, founded Precision Biometrics, Inc. in 1989, and his latest invention, the patented MyoVision Wirefree PhysioMonitoring™ System combined with E-Scan capitalizes on the “Evidence-Based Paradigm” by providing both patients and doctors with objective physiological data to establish an objective measurement of spinal issues and pain. A former NASA researcher, Marcarian was awarded a \$450,000.00 NIH grant to develop the MyoVision and is continually developing new applications. His work as an Expert Witness using the MyoVision has led to significant changes in how insurers treat those injured in automobile collisions. He holds an undergraduate degree in physics and a master’s in psychology specializing in electrophysiology and psychophysiology. His product has been utilized in published research studies for over 20 years. In addition, he developed ProformaVision, a tool used to help both musicians and elite athletes improve performance and reduce repetitive stress disorder.

**All MyoVision Equipment is designed and manufactured in the United States since 1989.**