Jose L. Agraz Ph.D.

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EDUCATION

University of California, Los Angeles/Northwestern University, Chicago, Ph.D. Focus: Analog/Digital Electronics	**09/2013**
Pennsylvania State University, M.S. Electrical Engineering, University Park, PA	**06/2005**
University of California San Diego, CDMA Engineering Certificate, San Diego, CA	**06/2000**
San Diego State University, B.S. Electrical Engineering, San Diego, CA	**12/1998**

PROFESSIONAL EXPERIENCE

Self Emplyed, La Jolla, CA   **2013-Pres**
Owner/Manager/Engineer   **2005-2008**

- Current Projects: LabView Automation, sensor implementation, Mixed signal circuit test, simulation, analysis, & integration engineering. Perl Data mining, Visual Basic, embedded systems, Bitcoin mining, and instrumentation development

Cedars-Sinai Medical Center/UCLA/Northwestern Univ   **2008-2013**
Graduate research assistant

- Designed and developed Hyperpolarization Instrumentation for cancer imaging at molecular level
- Developed hardware & software for 3rd generation Hyperpolarization Instrumentation prototype
- Mentored two undergraduate students in research. The first joined the MSEE program at Texas A&M
- One Patent, 2 published papers as first author, 3 under review, and 2 in first draft, and 2 papers as coauthor

Air Force Space Command San Diego Station, San Diego, CA   **2004-2008**
Electronic Technician   **1994-2002**

- Monitored the operation of the satellite detection system. Identify, isolate, and resolve all system failures
- LabView programming of the System Control Satellite Data Acquisition for the U.S. Air Force (Chugach)

Pennsylvania State University, University Park, PA   **2003-2004**
Graduate research assistant

- Developed non-moving parts piezoelectric motors
- Patent: Piezoelectric ultrasonic motor for 2-dimensional positioning

Cadence Designs Systems, San Diego, CA   **2000-2002**
Senior Test Engineer

- Mixed signal ASIC devices Characterization using Credence & Teradyne testers.

HARDWARE

- Expert level: Mixed signal circuit design, PCB layout, Embedded systems.

SOFTWARE

- Expert level: Ubuntu, Linux, Unix, C, CSS, Perl, LabVIEW, Matlab, Unix scripting, PCB express layout & routing, and Solidworks.
- Junior level: C++, TCL, LabWindows/CVI, and Python

PUBLICATIONS

1. Improved PHIP Polarization using a Low Noise Precision Voltage Controlled Current Source, JMR 235 (2013) 77-84
2. PHIP Instrumentation Pinch Valve System for Sample Delivery, Process and Collection. Adv. Biom. Sci. Eng. Vol. 1 (2014) 8-17
3. LabVIEW-based Control Software for para-Hydrogen Induced Polarization Instrumentation, RSI 85, 044705 (2014)
4. Quantitative Characterization of a Catalyzed PHIP Reaction. ISMRM, Jan (2013)
5. Polarization Loss from Magnetic Field Noise. ISMRM, Jan (2013)
6. Affordable Hyperpolarization by Parahydrogen Induced Polarization. WMIC, Jan (2011)
7. Finger Force Sensor Instrumentation Design. IJERSTE. Vol. 3, Issue 3, (2014) 149-155
8. LabVIEW based control software for Finger Force Sensor Instrumentation Design. IEEE (2013) 86-91
9. Sequential Finger Force Associated with Fatigue. B. Barnes, J.L. Agraz, R.S. Pozos. 11th WCP, 2002. Canada
10. Effects of polarization rotation in the detection and tracking of orbiting objects using LabVIEW. IEEE Aerospace (2014) 1-6
11. Increasing Detection & Tracking Performance of Orbiting Objects in Space using LabVIEW Data Parsing. Submitted IEEE

12. Delta-Shaped Piezoelectric Ultrasonic Motor for Two-Dimensional Positioning. Jpn. J. Appl. Phys. 47 (2008) 313-318
13. Biometric identification of spatio-temporal keystroke patterns. Pattern Recognition. Submitted

PATENTS
1. Device and methods for para-hydrogen induced polarization. U.S. Provisional #61/698,488
2. Piezoelectric ultrasonic motor for 2-dimensional positioning. US Patent #7,501,743.
3. Fatigue monitoring device and method. US Patent # 6,352,516. Europe Patent #WO0172223
4. Force monitoring device and method. US Patent # 6,673,026
5. Systems and Methods for Dynamic Analysis of Muscle Function and Metabolism. Europe Patent #WO2005055815**

AWARDS & HONORS
1. NIH training fellowship at Northwestern University
2. Innovation Technology Award. Developed noble instrumentation for carpal tunnel injury quantification, SDSU.
3. Button-Waller Fellowship at Penn State
4. PREP NIH Fellowship at San Diego State
5. MAERC Fellowship at San Diego State
6. DOE/Lockheed CoOp at Idaho National Engineering Laboratory
7. REMEC Inc Fellowship
8. 1st Prize: HVDC Converter Station Simulator using a Personal Computer using LabVIEW, semiannual IEEE contest, student chapter. San Diego State University

PROFESSIONAL ACTIVITIES
1. IEEE – Institute of Electrical & Electronic Engineers - member
2. Sierra Club - member
3. SHPE – Society for Hispanics Professional Engineers - member
4. MEP – Minority Engineering Program at San Diego State - member

** Name mistakenly not included, but patent is a duplicate of the US patent #'s 6,673,026 & 6,352,516