Amish S. Dave, MD, PhD

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EDUCATION:

M.D.	University of Illinois at Chicago, Chicago, IL College of Medicine	1998-2002
Ph.D.	University of Chicago, Chicago, IL Department of Organismal Biology and Anatomy	1993-2001
B.S.	University of Chicago, Chicago, IL Majors: Biochemistry, Mathematics (met requirements for degree)	1988-1992

MEDICAL TRAINING:

UCLA Medical Center, Los Angeles, CA Cardiac Electrophysiology Fellowship	1/2009-current
UCLA Medical Center, Los Angeles, CA Cardiology Fellowship (and 4 months EP fellowship)	2005-2008
UCLA Medical Center, Los Angeles, CA Internal Medicine Internship and Residency	2002-2005

LICENSING/ CERTIFICATION:

Board Eligible (ABIM) Cardiovascular Disease	(pending 2009)
California Fluoroscopy Supervisor & Operator (California)	2/2009-current
Certification Board of Nuclear Cardiology (Testamur status)	12/2008-current
Board Certified (ABIM) Internal Medicine	2005-current
California Medical License A87687	2004-current

PER-DIEM:

Kaiser Permanente, Bellflower, CA Internal medicine physician (per-diem)	2005-2006

MEMBERSHIPS:

Heart Rhythm Society (HRS)
American College of Cardiology (ACC)

HONORS & AWARDS:

CARDIOLOGY FELLOWSHIP**:** ***Outstanding Accomplishment in Teaching*** 2007

MEDICAL SCHOOL**:** ***James Scholar Program for Independent Study*** 1998-2002
- 1st year inductee, one of 4 students accepted in class of 186 students

Clinical Honors: Medicine, Ob-Gyn., Family Medicine, Neurosurgery, Medicine Sub-I, Neurology, Pulmonary Medicine, Critical Care Medicine

Basic Sciences Honors: Gross Anatomy, Tissue Biology, Neuroanatomy, Physiology, Immunology, Pharmacology

GRADUATE SCHOOL**:** ***Predoctoral National Research Service Award (NRSA) from the National Institutes of Health (NIH)*** 1997-1998
- Fellowship (MH11615) awarded on competitive basis.

RESEARCH EXPERIENCE:

POST-DOCTORAL (**Cardiology**) 2005-2006
UCLA Medical Center, Los Angeles, CA
Cardiac electrophysiology
Advisor: Dr. Miguel Valderrábano

Used optical mapping of physiological calcium and voltage signals to study development of AV conduction in mouse embryonic hearts and arrhythmia mechanisms in rat ventricular myocyte mono-layers and myocyte/stem cell and myocyte/fibroblast co-cultures.

IN RESIDENCY (**Cardiology**) 8-9/2004
Cedars-Sinai Medical Center, Los Angeles, CA
Cardiac electrophysiology
Advisor: Dr. Peng-Sheng Chen

Using chronic sympathetic neuronal recordings from stellate ganglion in dogs, helped develop techniques for analysis of sympathetic neuronal activity. Studied mechanisms behind increased cardiac sympathetic innervation associated with high cholesterol diet in rabbits.

IN GRADUATE SCHOOL **(Neurophysiology)** 1993-2001
University of Chicago, Chicago, IL
Dept of Organismal Biology and Anatomy
Advisor: Daniel Margoliash, Ph.D.
Studied mechanisms of vocal learning and interaction with wake/sleep states in the songbird using chronic (*in vivo*) single-neuronal recording techniques.

PUBLICATIONS: **Articles in Refereed Journals**

Dave AS, Aboulhosn J, Child JS, Shivkumar K (2010, accepted). Trans-Conduit Puncture For Catheter Ablation of Atrial Tachycardia In a Patient With Extracardiac Fontan Palliation. ***Heart Rhythm.***

Rauske PL, Chi Z, Dave AS, Margoliash D (2009, submitted) Neuronal Stability and Drift Across Periods of Sleep: Premotor Activity Patterns in a Vocal Control Nucleus of Adult Zebra Finches. ***J. Neurosci.***

Aboulhosn J, Oudiz RJ, Dave AS, Ardehali A, Ross DJ. (2009) Successful Tricuspid Valve Replacement in a Patient with Severe Pulmonary Arterial Hypertension and Preserved Right Ventricular Systolic Function. ***Case Reports in Medicine.*** vol. 2009, Article ID 108295, 4 pages doi:10.1155/2009/108295

de Diego C, Pai RK, Dave AS, Lynch A, Thu M, Chen F, Xie LH, Weiss JN, Valderrábano M. (2008) Spatially discordant alternans in cardiomyocyte monolayers. ***Am. J Physiol Heart Circ Physiol.*** 294(3):H1418-25.

de Diego C, Chen F, Xie LH, Dave AS, Thu M, Rongey C, Weiss JN, Valderrábano M. (2008) Cardiac alternans in embryonic mouse ventricles. ***Am. J Physiol Heart Circ Physiol.*** 294(1):H433-40.

Valderrábano M, Chen F, Dave AS, Lamp ST, Klitzner TS, Weiss JN. (2006) Atrioventricular ring reentry in embryonic mouse hearts. ***Circulation.*** 114(6):543-549.

Jung B-C, Dave AS, Tan AY, Gholmieh G, Zhou S, Wang DC, Akingba G, Fishbein GA, Montemagno C, Lin S-F, Chen LS, Chen P-S. (2006) Circadian variations of stellate ganglion nerve activity in ambulatory dogs. ***Heart Rhythm.*** 3(1):78-85.

Dave AS, Margoliash D (2000) Song Replay During Sleep and Computational Roles for Sensorimotor Vocal Learning. ***Science***. 290:812-816.

Dave AS, Yu AC, Margoliash D (1998) Behavioral State Modulation of Auditory Activity in a Vocal Motor System. ***Science.*** 282:2250-2254.

Anderson SE, Dave AS, Margoliash D (1996) Template-based automatic recognition of birdsong syllables from continuous recordings. ***J. Acous. Soc. Am.*** 100(2.1):1209-1219.

Margoliash D, Fortune ES, Sutter ML, Yu AC, Wren-Hardin BD, Dave AS (1994) Distributed representation in the oscine song system: functional and evolutionary implications. ***Brain, Behav. Evol.*** 44:247-264.

Dissertation

Dave AS (2001) Mechanisms of Sensorimotor Vocal Learning. Ph.D. Dissertation, University of Chicago, Chicago, Illinois, 2001.

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Book Chapter

Dave AS, Yu AC, Gilpin JJ, Margoliash D (1998) Methods for Unit Recordings in Singing Birds in *Methods for Simultaneous Neuronal Ensemble Recordings,* Ed. By Nicolelis M, Simon S, Corless J. CRC Press, Boca Raton

Abstracts / Presentations

de Diego C, Shiferaw Y, Lynch A, Dave AS, Weiss JN, Valderrábano M. (2006) Caffeine potentiates spatially discordant alternans in myocyte monolayers. ***Heart Rhythm.*** **AB9-4**

de Diego C, Shiferaw Y, Lynch A, Dave AS, Qu Z, Weiss JN, Valderrábano M. (2006) Spatially discordant alternans emerges in the absence of conduction velocity involvement in myocyte monolayers. ***Heart Rhythm.*** **P6-12**

Dave AS, Pai RK, de Diego C, Weiss JN, Valderrábano M. (2006) Arrhythmia Properties in Partially Uncoupled Cardiomyocyte Monolayers. ***UCLA Solomon Scholars Presentation.***

Zhou S, Chou C-C, Oh Y-S, Dave AS, Li H, Lin S-F, Sharifi B, Chen P-S. (2005) Abnormalities in Ca handling protein expression in subacute myocardial infarction. ***Heart Rhythm.*** **AB18-6**

Rauske PL, Dave AS, Margoliash D (2001) Sleep in adult zebra finches functionally rewires the song system nucleus RA. ***Soc. Neurosci. Abstr.*** 27:318.3

Dave AS, Margoliash D (2000) Sensorimotor Mapping and Neuronal Replay of Song During Sleep: A Model of Reinforcement Learning For Birdsong. ***Soc. Neurosci. Abstr.*** 26:758.14.

Margoliash D, Dave AS (1998) Functional Organization of the Bird Song System Depends on Behavioral State: Do Sleeping Birds Learn?. ***Soc. Neurosci. Abstr.*** 24:1697.

Dave AS, Fortune ES, Margoliash D (1997) Reassessing auditory responses in the bird song system. ***Soc. Neurosci. Abstr.*** 23.

Dave AS, Fortune ES, Margoliash D (1994) Synchronous activity in HVc studied with electrode arrays. ***Soc. Neurosci. Abstr.*** 20:165.

OTHER ACTIVITIES:

Tutor: Medical Neuroanatomy 2000,2002
UIC College of Medicine, Chicago, IL
Gave supplementary lectures and lab reviews to 1st year medical students.

Independent Computer & Programming Consultant 1998-current
Build and design data acquisition (DAQ) setups, including hardware and software. Write Linux kernel device drivers, and data analysis and visualization programs. Ported medical imaging software from AIX to Irix environment, and developed comprehensive data collection software being used in labs at University of Chicago, Johns Hopkins, and UC Davis.
Designed and implemented real-time digital signal-processing system allowing manipulation of auditory feedback in vocal learning experiments. Authored Matlab programs used in analysis of sympathetic nerve electrical recordings in cardiac electrophysiology experiments at Cedars Sinai.

Teaching Assistant for Undergraduate Physiology 1997
Teaching Assistant for Undergraduate Neurobiology 1995 & 1996
University of Chicago

SKILLS:

Technological skills
Hardware: Built and configured dozens of PC's from parts. Experience with Sun, DEC Vax and Alpha, and AT&T 3B15 mainframe. Experience with DAQ, video and networking hardware.
Operating Systems: Linux, Windows, UNIX (including Digital UNIX, Solaris, and SunOS).

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Programming Languages: Proficient in C/C++, Fortran, Postscript, and Matlab.
Major Programs written:

AMAP – Windows/Linux application for optical mapping experiment data collection, visualization, and analysis. Allows collection of data from multiple cameras via PVCAM driver support, and can turn on/off external devices including light sources, perfusion pumps, etc. Performs analysis including activation maps and alternans maps for study of cardiac Calcium and voltage signals. (>16000 lines of code)

APLOT – X11/Motif program for visualization and analysis of acoustic and neurophysiologic signals in time or time/frequency domains. (>19000 lines of code).

SABER – Multi-user, real-time data acquisition server; allows multiple simultaneous experiments. Includes remote client programs for real-time graphical data visualization and for neuronal spike sorting (signal recognition). Can perform near real-time processing of analog input and output signals, including dynamic manipulation such as variably delayed feedback, convolution, impulse response function determination, etc. (>23000 lines of code).

DEVICE DRIVERS –Linux kernel drivers for DAQ cards: National Instruments AT-MIO-16X, PCI-DIO-96, Preston Scientific GMAD-2A, Logical Company DCI-1100, Motion Master 2000 motor controller, Iotech Daqboard/2000 and 3000, Data Translation DT-2801 series.