### **CURRICULUM VITAE**

Date: December 8, 2017

Name: Keith Vaux, M.D.

Business Address: Point Loma Pediatrics

2790 Truxtun Road Suite 120A

San Diego CA 92106 Phone 619-222-1253 Fax 619-222-1276

Email keithvauxMD@gmail.com

### Education:

1982 – 1984	Human Sciences: Oxford University, Mansfield College, Oxford, England
1984 – 1987	B.A.: History, Philosophy and Social Studies of Science and Medicine,
	University of Chicago, Chicago, IL
1990 – 1994	M.D.: University of Chicago, Pritzker School of Medicine, Chicago, IL
1994 – 1995	Internship, Naval Medical Center, San Diego CA
1995 - 1997	Residency, Pediatrics Naval Medical Center, San Diego CA
1996 – 1997	Chief Residency: Pediatrics, Naval Medical Center, San Diego CA
2001 – 2004	Fellowship: Dysmorphology and Medical Genetics with additional certificate
	in Teratology, University of California, San Diego, CA.

### **Licensure and Certification:**

California Medical License, Active American Board of Pediatrics, Active

Drug Enforcement Administration, Controlled Substance Registration

Certification

Pediatric Advanced Life Support Certification

**Basic Life Support Certification** 

## **Employment**:

iipioyiiieiit.	
7/1997 – 6/1999	Naval Hospital, Guam, Attending Physician
6/1999 – 6/2001	Naval Medical Center, San Diego, Attending Physician
6/2004 - 7/2006	University of California, San Diego, Attending Physician
7/2006 – 8/2007	Children's Specialists of San Diego, Kaiser Permanente, Attending Physician
9/2007 - 3/2008	Kaiser Permanente, San Diego, Attending Physician
4/2008 - 9/2009	Children's Specialists of San Diego,
9/2009 - 11/2010	University of California, San Diego, Associate Professor of Pediatrics
11/2010- 07/2014	University of California, San Diego, Professor of Pediatrics
07/2014-07/2017	University of California San Diego Professor of Medicine
07/2014-07/2017	Director and Clinical Chief, Division of Medical Genetics
03/2015-07/2017	University of California San Diego, Professor of Neurosciences
08/2012- 07/2017	Assistant Dean, Continuing Medical Education, Department of Medical
	Education
7/2013-07/2017	Faculty Member, UCSD International CORE (Clinical Observership and
	Research Education Program)
10/2015-present	Founder, Point Loma Pediatrics
1/2014-present	Medical Board of California, Expert Reviewer
1/2014-present	Professor, UC San Diego Neurosciences and King Fahad Specialist Hospital
	-Dammam University Kingdom of Saudi Arabia Faculty Exchange.
5/2014-present	Medscape/E-Medicine Chief Editor, Genetics and Genomics



<b>Professional</b>	and	University	Service:

Tolessional and On	
1997 – 1999	Naval Hospital Guam, Executive Committee of the Medical Staff, Elected Member
1998 – 2001	Secretary, Uniformed Services Pediatric Services Section, American Academy of Pediatrics
1999 – 2001	Faculty and Resident Advisor, Naval Medical Center San Diego
1999 – 2001	Information Management Executive Committee, Naval Medical Center San Diego
1999 – 2001	Faculty, UCSD/NMCSD Dyson Initiative for Community Pediatrics
1999 – 2001	Community Pediatrics Coordinator, NMCSD
1999 – 2001	Assistant Program Director, Transitional Intern Program Naval Medical Center San Diego
2001 – 2002	Planning Committee, Uniformed Services Pediatric Services Annual Meeting, San Diego CA 2002
2004 – 2008	Kaiser Regional Genetics Committee
2008 – 2009	Planning and Curriculum Committee, UCSD/RCHSD Pediatric Dermatology for the Practitioner, Apr 17-18, 2009
2008 – 2015	Executive Committee of the Medical Staff, Rady Children's Hospital San Diego
2008 – 2015	RCHSD Quality Improvement Committee
2008 – 2015	RCHSD Continuing Medical Education Committee
2008 – 2015	Chair, Planning and Curriculum Committee, American Academy of Pediatrics and RCHSD 2009-2015 Advances in the Practice of Pediatrics Conference
2009 – 2014	Faculty Advisor, University of California, San Diego, Pediatric Residency Program
2009 – 2015	RCHSD/UCSD Pediatric Grand Rounds Planning Committee
2009 – 2016	Course Director, UCSD/RCHSD Summer Grand Rounds Series
2009 – 2017	Planning and Curriculum Committee, UCSD/RCHSD Evolving Concepts in the Management of Complex Congenital Heart Disease, 2010, 2013, 2015
2010 – 2017	Rady Children's Hospital-San Diego Continuing Medical Education Curriculum and Strategic Planning Committee

## **Professional Memberships:**

2001 – 2015	Western Society of Pediatric Research
2001 –	American College of Medical Genetics
2002 - 2007	American College of Human Genetics
1998 – present	American Academy of Pediatrics

- Section on Genetics and Birth Defects
- Section on Hospital MedicineSection on Complex Care

# Honors and Awards:

1983	Secretary, Oxford University Basketball Team
1983	"Blue" Varsity Letter Basketball, Oxford University
1985, 1986	Varsity Letter, Basketball University of Chicago
1997, 1999	Navy Achievement Medal, 2 awards
1997	Meritorious Unit Commendation
1998	Humanitarian Service Award
2001	Navy Commendation Award
2002	Young Investigator Award, Teratology Society
2002	David W Smith Pediatric Trainee Award, Western Society for Pediatric
	Research
2002	Mead Johnson Fellowship Award, Western Society for Pediatric Research
2002	Navy Meritorious Unit Commendation



2004	Fellow Award, Teratology Society
2004	Fellow Award, DWS Workshop on Malformations and Morphogenesis
2005	Mead Johnson Young Investigator Award, Western Society for Pediatric
	Research
2010	Kaiser Excellence in Teach Award Nominee
2013	UC San Diego Academy of Clinical Scholars Nomination
2014	Saudi Arabian Cultural Mission-Department of Medical and Health Science
	Program

### **Contracts and Grants:**

- Principle Investigator: "Maternal Diabetes alters Sonic Hedgehog expression in Sonic Hedgehog knockout mice." University of California, San Diego Academic Senate S03057. (Completed)
- 2. Co-investigator: "A Prospective, multicenter study of bronchiolitis admissions: etiology and disposition (BABY BREATHE STUDY). NIH U01A 167693. CSSD Division of Pediatric Hospital Medicine, San Diego, CA. (Completed)
- 3. Producer and Principle Investigator: Immunization Practices among Military Providers, Practices and Education Program. Continuing Education Program for Armed Forces Pediatrics. \$20,000 Grant Merck. (Completed June 2000)
- 4. Site Principle Investigator: Efficacy of MMR compared to MMRV. (Completed 2001)
- 5. Site Principle Investigator: "Case Control Surveillance for Birth Defects in Relation to Environmental Exposure," Naval Medical Center, San Diego CIP #S-01-076. (No longer involved)
- 6. Site Principle Investigator: "Case Control Surveillance for Birth Defects in Relation to Environmental Exposure," Naval Hospital, Camp Pendleton CIP #S-01-076.
- 7. Member of Dysmorphology Core "OTIS Autoimmune Diseases in Pregnancy Project." University of California, San Diego FUNDING: Organization of Teratology Information Specialists (OTIS), Amgen. Study ID numbers: 20040246 Clinical Trials Identifier NCT01017016. Active
- 8. Dysmorphology Core Member, "Ready Set Go NIH 5U24AA014815-10." National Institute of Alcohol Abuse and Alcoholism" and University of California, San Diego.
- 9. Principle Investigator: "Keith Vaux / Kelly Frazer Kabuki Syndrome study" RCHSD 12401. March 23, 2010. (Completed)
- 10. Co-investigator: West Coast Kawasaki Disease Epidemiology Consortium. UCSD 110306. (Completed)
- 11. Co-Principle Investigator: CIRM RFA 12-02 (CIRM Tissue Collection for Disease Modeling Awards) Grant IT1-06611, UCSD IRB Project 090293. December 2013-June 2016
- 12. Clinical Director NIH 7R01 MH076431-07 Sebat (PI) 9/30/05 11/30/2017. The role of germline mutation and parental age in Autism Spectrum Disorders.
  - a. The major goals of this project are: Identifying hotspots for germline mutation, examining intrinsic and extrinisic factors that influence mutation rates, and determining the role of hotspots in disease risk.
  - b. Role: Recruitment, phenotyping, clinical evaluation, results confirmation.
- 13. Clinical Director: SFARI 275724 Sebat (PI) 8/1/2013 7/30/2016. Simons Foundation Mutation Hotspots in Non-coding DNA and the Missing Heritability of ASD.
  - a. The major goal of this project is the identification of novel autism risk factors by targeted high throughput sequencing of non-coding DNA in autism families.
  - b. Role: Clinician, patient recruitment, enrollment, phenotyping and confirmation of research findings.
- Principle Investigator: Autism and Neurogenetics Fund UCSD F. April 2015-July2017.
   Support



### **External Professional Activities**

2002 - 2004	President and CEO, Alpha Medical Associates (Imaging/Urgent Care
Center)	
2004 – 2011	Advisor, Health Disk LLC (Health IT start-up)
2005 – 2011	Consultant, Proficio LLC (Health IT consulting)
2002 – present	Board Member, Autism Tree Foundation
2008 - present	EPIC Systems, National Genomics Committee

### Reviewer

2006 - present	Reviewer, American Journal of Medical Genetics
2013, 2014	Reviewer, Society for Hospital Medicine – International Conference
2016-present	Reviewer – Cold Spring Harbor Molecular Case Studies

#### **Presentations and Lectures:**

- 1. "Overview of a Pediatric Transport Service," Pediatric Transport Medicine Conference, San Diego CA, 1996.
- 2. "Management of Pediatric Airway During Transport," Pediatric Transport Medicine Conference, San Diego, CA, 1996.
- 3. "Conotruncal Heart Lesions, History and Future Direction," Chief Resident Lecture, Naval Medical Center, San Diego Grand Rounds, 2007.
- 4. "Back to Sleep Program," Guam Department of Public Health, Guam, USA, 1998.
- 5. "Asthma Care," Guam Department of Public Health, Guam, USA, 1998.
- 6. "Multiple Circumferential Constriction Rings with Lineal Creases Over the Tibia, Mental Retardation and Autosomal Recessive Inheritance," DWS Workshop on Morphogenesis, San Diego, CA, August 2001.
- 7. "Cyclophophamide, Methotrexate and Cytarabin Embryopathy: Is Apoptosis the Common Pathway?" Platform Presentation, Western Society for Pediatric Research, Carmel, CA, January 2002.
- 8. "Cyclophophamide Embryopathy," Platform Presentation, Teratology Society Meeting, Scottsdale, AZ, Student Award Winner, February 2002.
- 9. "Dysmorphology and Genetics in the Community Nursery," 36th Annual Uniformed Services Pediatric Seminar, American Academy of Pediatrics, San Diego, CA 2002.
- 10. "The Fetal Alcohol Syndrome," San Diego County Public Health Nursing, Annual Meeting, San Diego, CA, 2003.
- 11. "CHARGE Association," Perinatal Care Continuing Education Conference, Naval Medical Center, San Diego, CA, 2003.
- 12. "Developmental Outcome in Kabuki Syndrome," Platform Presentation, DWS Workshop on Morphogenesis, Greenville, SC, August 2003.
- 13. "The Neonatal Phenotype of Kabuki Syndrome," Platform presentation, DWS Workshop on Morphogenesis, Greenville, SC, August 2003.
- 14. "Expanded Newborn Screening Program, Disparity Among Military Dependents," World Congress on Disabilities, Orlando, FL, September 19, 2003.
- 15. "Placental Abnormalities associated with Misoprostol Administration," Platform Presentation, Teratology Society Annual Meeting, Vancouver, British Columbia, Canada, Student Award Winner, June 30, 2004.
- 16. "Abnormal Pax1 expression is a factor in vertebral and rib anomalies seen in VATER association," Platform Presentation, DWS Meeting, Snowbird, Utah, August 18-21, 2004.
- 17. "Placental Anomalies in Artificial Reproductive Technology Conceived Pregnancies." Platform Presentation, DWS meeting. Snowbird, Utah. August 18-21, 2004.
- 18. "Diabetic Embryopathy," Pediatric Grand Rounds, Tripler Army Medical Center, HI, March 22, 2004.
- 19. "Genetic causes of IUGR," Pediatric Grand Rounds, Tripler Army Medical Center, HI, March 24, 2004.



- 20. "PAX 1 Expression is abnormal in VATER syndrome," Pediatric Pathology Grand Rounds, University of California, San Diego, May 19, 2004.
- 21. "Genetics in the Newborn Nursery," Southern California Association of Neonatal Nurses (SCANN), Annual Meeting, UCSD, March 2005.
- 22. "Ziprasidone Embryopathy: Are the defects caused by pharmacologically induced fetal arrhythmias?" Platform Presentation, Western Society for Pediatric Research, Carmel, CA. Young Investigator Award Winner, January 2005.
- 23. "Conjoined Twins: Fission or fusion, could the answer be so simple?" Platform Presentation, Judy Hall Symposium of Congenital Anomalies and Developmental Mechanisms, Carmel, CA, February 5, 2005.
- 24. Left-Right Axis Defects in Infants of Women with Diabetes: Further Evidence of the Link between Maternal Diabetes and Sonic Hedgehog," DWS Workshop on Morphogenesis, Vancouver, BC, August 2005.
- 25. "Genetic Conditions Incompatible with Life," Continuing Medical Education Conference, Southern California Association of Neonatal Nurses (SCANN), San Diego Hospice and Palliative Care, May 2006.
- 26. "Capillary Malformation, Arterial Venous Malformation Syndrome," Platform Presentation, DWS Workshop on Morphogenesis, September 2006.
- 27. "Development of the Vascular System," Cedar Sinai Genetics Grand Rounds, Los Angeles, CA, December 2006.
- 28. "Recognition, Management and Etiology of Pediatric Seizures," Pediatrics and Hospital Medicine Fellowship Core Curriculum, October 8, 2008.
- 29. "The Technology Dependent Child," Pediatrics and Hospital Medicine Fellowship Core Curriculum, April 15, 2009.
- 30. "Evidence Based Medicine and Leading a Health Care Team," UCSD Pediatric Fellowship Core Curriculum, San Diego, CA, October 10 2009.
- 31. "New Genetics and Personalized Medicine," World Congress on Disabilities, Jacksonville, FL, November 19, 2009.
- 32. "Genetics Primer," UCSD Pediatric Resident Core Curriculum, San Diego, CA, February 17, 2010.
- 33. "Common Syndromes and Genomic Sciences: How genetics will change our understanding of human disease," Southern California Association of Neonatal Nurses (SCANN), San Diego, CA, May 10, 2010.
- 34. "Trisomy 13 and 18, a Review and Discussion," RCHSD Ethics Forum, San Diego, CA, November 6, 2010.
- 35. "Genetic Disorders of Connective Diseases," UCSD Pediatric Resident Core Curriculum, San Diego, CA, November 19, 2010.
- 36. "Recognition, Management and Etiology of Pediatric Seizures," Pediatrics and Hospital Medicine Fellowship Core Curriculum, San Diego, CA, 2011.
- 37. "The Technology Dependent Child," Pediatrics and Hospital Medicine Fellowship Core Curriculum, San Diego, CA, 2011.
- 38. "Evidence Based Medicine," UCSD Pediatric Fellowship Core Curriculum, San Diego, CA. 2011.
- 39. "Metabolic Emergencies," Childrens' Hospital Emergency Transport Team Core Lecture Series, San Diego, CA, February 8, 2011.
- 40. "Metabolic Emergencies," Children's Hospital Emergency Transport Team Core Lecture Series, San Diego, CA, November 8, 2011.
- 41. "Middle East Siblings with Complex Genetic Defects," RCHSD Patient Care Operations Council, November 8, 2011.
- 42. "Evidence Based Medicine," Pediatrics and Hospital Medicine Fellowship Core Curriculum, November 9, 2011.
- 43. "Seizures" and "Caring for the Medically Complex Child," Pediatrics and Hospital Medicine Fellowship Core Curriculum, San Diego, CA, November 9, 2011.



# DOCKET

# Explore Litigation Insights



Docket Alarm provides insights to develop a more informed litigation strategy and the peace of mind of knowing you're on top of things.

# **Real-Time Litigation Alerts**



Keep your litigation team up-to-date with **real-time** alerts and advanced team management tools built for the enterprise, all while greatly reducing PACER spend.

Our comprehensive service means we can handle Federal, State, and Administrative courts across the country.

# **Advanced Docket Research**



With over 230 million records, Docket Alarm's cloud-native docket research platform finds what other services can't. Coverage includes Federal, State, plus PTAB, TTAB, ITC and NLRB decisions, all in one place.

Identify arguments that have been successful in the past with full text, pinpoint searching. Link to case law cited within any court document via Fastcase.

# **Analytics At Your Fingertips**



Learn what happened the last time a particular judge, opposing counsel or company faced cases similar to yours.

Advanced out-of-the-box PTAB and TTAB analytics are always at your fingertips.

### API

Docket Alarm offers a powerful API (application programming interface) to developers that want to integrate case filings into their apps.

### **LAW FIRMS**

Build custom dashboards for your attorneys and clients with live data direct from the court.

Automate many repetitive legal tasks like conflict checks, document management, and marketing.

### **FINANCIAL INSTITUTIONS**

Litigation and bankruptcy checks for companies and debtors.

## **E-DISCOVERY AND LEGAL VENDORS**

Sync your system to PACER to automate legal marketing.

