January 2018

CURRICULUM VITAE
CHANIKA PHORNPHUTKUL, M.D.

BUSINESS ADDRESS

Division of Human Genetics (Primary)
Division of Pediatric Endocrinology (Adjunct)
Hasbro Children's Hospital
593 Eddy Street, POB-234
Providence, RI 02903

BUSINESS TELEPHONE NUMBER: 401-444-8361 (Genetics and Metabolism) or 444-5504 (Endocrine)

BUSINESS FAX NUMBER: 401-444-3288

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EDUCATION

Undergraduate and Medical School
Chiangmai University School of Medicine
Chiangmai, Thailand — M.D. (High Honor), 1992

POSTGRADUATE TRAINING

Internship, Department of Pediatrics
Chiangmai University School of Medicine
Chiangmai, Thailand — April, 1992-July, 1993

Internship and Residency,
Department of Pediatrics, C.S. Mott Children's Hospital
University of Michigan,
Ann Arbor, MI — August, 1993- June 1995

Residency, Department of Pediatrics,
Hasbro Children's Hospital
Brown University,
Providence, RI — July 1995-June 1996

Fellow, Division of Pediatric Endocrinology and Metabolism,
Department of Pediatrics,
Hasbro Children's Hospital
Brown University,
Providence, RI — July 1996-June 1999

Fellow, Clinical Biochemical Genetics,
National Human Genome Research Institute,
National Institutes of Health,

Bethesda, MD July 2000-September 2002

HONORS AND AWARDS

M.D. High Honor March 1992

Fellow Travel Award,
Society for Inherited Metabolic Disorders March 2001

Visiting Professor
Thai-American Physician Foundation November 2006

Dean's Teaching Excellence Award, BIOL 3650 IMS II June, 2008

Certificate of recognition, BIOL 3654 IMS II June, 2009

Rhode Island Newborn Screening Program, Outstanding Achievement Award 2010

Certificate of recognition, BIOL 3654 IMS II June, 2011, 2012

Dean's Teaching Excellence Award, BOIL 3654 IMS II June 2013

Brite Lite Nominee 2016

Department of Pediatrics Clinical Champion Award 2017

Dean's Teaching Excellence Award, BIOL 3642 IMS I June, 2017

Certificate of recognition, BIOL 3654 IMS II July, 2017

Certificate of recognition, BIOL 3642 IMS I July, 2017

PROFESSIONAL LICENSES AND BOARD CERTIFICATION

Medical License, State of Rhode Island 2000
Medical License, State of Maryland 2000-2002
American Board of Pediatrics 1996,2003
American Board of Pediatrics, Sub-Board of
Pediatric Endocrinology 2001, 2008
American Board of Medical Genetics and Genomics,
Clinical Biochemical Genetics 2002, 2012

ACADEMIC APPOINTMENTS

Instructor in Pediatrics
The Warren Alpert Medical School of Brown University
Providence, RI 1999-2000

Assistant Professor of Pediatrics
The Warren Alpert Medical School of Brown University

Providence, RI 2002

Associate Professor of Pediatrics
The Warren Alpert Medical School of Brown University
Providence, RI 2011

HOSPITAL APPOINTMENTS

Pediatric Endocrinologist,
Division of Pediatric Endocrinology and Metabolism
Department of Pediatrics, Hasbro Children's Hospital
Providence, RI 1999-2000

Biochemical Geneticist and Pediatric Endocrinologist,
Director of Inherited Metabolic Program,
Division of Pediatric Endocrinology and Metabolism
Department of Pediatrics, Hasbro Children's Hospital
Providence, RI 2002

Director, Division of Human Genetics
Department of Pediatrics, Hasbro Children's Hospital
Providence, RI 2011

JOURNAL PEER REVIEW

Journal of Biological Chemistry	2006
Journal of Pediatric Endocrinology and Metabolism	2006
Journal of Inherited Metabolic Disease	2005,2014
Journal of Pediatrics	2006, 2010, 2016
Clinical Endocrinology	2007
Placenta	2007
Pediatric Research	2008
Journal of Nutrition	2008
American Journal of Physiology	2008
Biomacromelocules	2009
FASEB	2009
Journal of Endocrinology	2009, 2014
Clinical Endocrinology	2011
Journal of Molecular Endocrinology	2011
British Journal of Pharmacology	2011
Plos One	2013
Journal of Cellular Biochemistry	2014
Pediatrics	2015-16

HOSPITAL COMMITTEES

Pediatric Performance Improvement Committee/Patient Safety Committee	2007-2010
GI Tumor Board	2011-present
Cancer Program Oversight Committee Meeting	2012-present
Board member, Lifespan Physician Group	05/2015- present

Cancer Center Operation Counsel 2016- present
Breast Cancer Steering Committee 2016- present
Survivorship Sub-committee 2016- present

UNIVERSITY COMMITTEES

Search Committee, Genetic Faculty Position 2005-2006
Search Committee, Developmental Pediatrician Faculty Position 2006-2007
Review Committee for Summer Assistantship Program, Brown University 2008-2014, 2017-18
Search Committee, Division Chief, Human Genetics Division 2009
Search Committee, Research faculty, Department of Orthopedics 2010
Medical Faculty Executive Committee (MEFC) Sep 2012- June 2015
Search Committee, Allergy Faculty Position 2013-2014
Search Committee, Genetic Faculty Position 2013-2015
Search Committee, Director- Molecular Genetics, Pathology 2013-2014
Pediatric Department Liaison Committee, advise to Pediatric Chairman Search 2013
Judge, Alpert Medical School Summer Showcase 2012-17
Search Committee, Division Director, Adolescent Medicine 2015
Chair, Search Committee, Division Director Allergy and Immunology 2016
Promotion Committee, Department of Pediatrics 2016
Chair, Search Committee, Division Director Pediatric Neurology 2016

COMMITTEES-COMMUNITY

Newborn Screening Advisory Committee
RI Department of Health 2002-present

Genetics Advisory Committee
RI Department of Health 2002-present

Cystic Fibrosis Task Force, Department of Health
RI Department of Health 2005-2007
RI Birth Defects Advisory Council 2012-present

COMMITTEE- REGIONAL

Advisory Committee
New England Genetics Collaborative Advisory Council 2005-present
Advisory Committee
New England Consortium 2003-present
Grant reviewer, Innovative grant
New England Genetics Collaborative 2011-present
New England Genetics Collaborative- Quality improvement program 2011-present

COMMITTEES-NATIONAL

Pediatric Academic Societies, Abstract Reviewer 2006
Society of Pediatric Research (SPR); Student research and house officer awards Selection Committee 2009-2012

Society of Pediatric Research (SPR); Member engagement committee	2010-2014
Society of Pediatric Research (SPR); Web committee	2010-2014
Federal work group on Newborn Screening Standards, HRSA	2011-2014
Pediatric Academic Societies, Abstract Reviewer	2013, 2016

PROFESSIONAL MEMBERSHIPS

Endocrine Society	1997
Lawson Wilkins Pediatric Endocrine Society	2002
American Society of Human Genetics	2000
Society for Inherited Metabolic Disorders	2000
Society of Pediatric Research	2006
Orthopedics Research Society	2008

PUBLICATIONS

1. **Phornphutkul C**, Boney CM, Gruppuso PA Presentation of Addison's disease: Hypoglycemia unawareness in an adolescent with insulin-dependent diabetes mellitus. ***Journal of Pediatrics*** 1998; 132:882-884.
2. **Phornphutkul C**, Fausto-Sterling A, Gruppuso PA: Gender self-reassignment in an adolescent female pseudohermaphrodit.e ***Pediatrics***, 2000; 106:135-137.
3. **Phornphutkul C**, Frick GP, Goodman HM, Berry SA, Gruppuso PA: Hepatic Growth Hormone Signaling in the late gestation fetal rat. ***Endocrinology***, 2000; 141:3527-33.
4. **Phornphutkul C**, Okuba T, Harel Z, Tracy T, Gruppuso PA, Chen S, Goodwin G: Molecular study of a feminizing adrenal tumor in an adolescent girl. ***Journal of Clinical Endocrinology and Metabolism***, 2001; 86: 649-652.
5. Falik-Zaccai TC, Anikster Y, Rivera CE, Horne MK 3rd, Schliamser L, **Phornphutkul C**, Attias D, Hyman T, White JG, Gahl WA: A New Genetic Isolate of Gray Platelet Syndrome (GPS): Clinical, Cellular, and Hematologic Characteristics. ***Molecular Genetics and Metabolism***. 2001; 74: 303-13.
6. **Phornphutkul C,** Anikster Y, Huizing M, Braun P, Brodie C, Chou JY, Gahl WA: The promoter of a lysosomal membrane transporter gene, CTNS, binds Sp-1, shares sequences with the promoter of an adjacent gene, CARKL, and causes cystinosis if mutated in a critical region. ***American Journal of Human Genetics*****.** 2001; 69: 712-21.
7. Introne WJ, **Phornphutkul C**, Bernardini I, McLaughlin K, Fitzpatrick D, Gahl W: Exacerbation of the ochronosis of alkaptonuria due to renal insufficiency and improvement after renal transplantation. ***Molecular Genetics and Metabolism***. 2002; 77:136.
8. **Phornphutkul C**, Introne WJ, Perry M, Bernardini I, Murphey M, Fitzpatrick D, Anderson P, Huizing M, Anikster Y, Gerber L, Gahl W: Natural history of alkaptonuria. ***New England Journal of Medicine***. 2002; 347: 2111-21.
9. Sagen JV, Raeder H, Hathout ., Shehadeh N, Gudmundsson K, Baevre H, Abulo D., **Phornphutkul C**, Molnes J, Bell GI, Gloyn AL, Hattersley AT, Molven A, Sovik O, Njolstad PR: Permanent Neonatal Diabetes due to Mutations in *KCNJ11* encoding

Kir6.2: Patient Characteristics and Initial Response to Sulfonylurea Therapy. ***Diabetes*****.** 2004; 53:2713-2718.

10. Kleta R, Bernardini I, Ueda M, **Phornphutkul C,** Krasnewich D, Gahl WA: Long-term follow-up of well treated nephropathic cystinosis patients. ***Journal of Pediatrics*****.** 2004; 145(4):555-60.

11. Phornphutkul C., Wu KY, Chen Q, Gruppuso PA: IGF-I signaling is modified during chondrocyte differentiation. ***Journal of Endocrinology****.* 2004; 183(3):477-86.

12. Suwannarat P, **Phornphutkul C**, Bernardini I, Turner M, Gahl WA: Minocycline-induced hyperpigmentation misdiagonosed as alkaptonuria in individuals with joint pain. ***Arthritis & Rheumatism***. 2004; 50(11):3698-701.

13. Phornphutkul C., Wu KY, Gruppuso PA: The Role of Insulin in Chondrogenesis. ***Molecular and Cellular Endocrinology***. 2006; 249(1-2):107-15.

14. Phornphutkul, C, Wu KY, Auyeung V, Chen Q, Gruppuso PA. The role of the mTOR nutrient signaling pathway in chondrocyte differentiation. ***Developmental Dynamics***. 2008; 237:702-12.

15. Sanders JA, Lakhani A, **Phornphutkul C,** Wu KY, Gruppuso PA. The effect of rapamycin on DNA synthesis in multiple tissues from late gestation fetal rats and postnatal rats. ***American Journal of Physiolology, Cell Physiology****.* 2008 Aug;295(2):C406-13.

16. Philips B, **Phornphutkul C**, Laufgraben M. A Novel Mutation of the Succinate Dehydrogenase D Gene In A Patient With Recurrent Pheochromocytoma And Functional Paraganglioma. ***The Endocrinologist***. October 2008;18:99-101*.*

17. **Phornphutkul C,** Lee M, Voigt C, Wu K-Y, Ehrlich M, Grupposo PA, Chen Q. The effect of rapamycin on bone growth in rabbits*.* ***Journal of Orthopaedic Research***.2009 Sep;27(9): 1157-61.

18. Kim MS, Wu KY, Auyeung VA, Chen Q, Gruppuso PA**, Phornphutkul C.** Leucine restriction inhibits chondrocyte proliferation and differentiation through mechanisms both dependent and independent of mTORsignaling. ***American Journal of Physiology: Endocrine and Metabolism***, 2009 Jun;296(6):E1374-82 .

19. Woo D, **Phornphutkul C**, Laptook A. Early and Severe Indirect Hyperbilirubinemia as a Manifestation of Galactosemia,. ***Journal of Perinatology***, 2010 Apr;30(4):295-7.

20. Peipert J, Rohr F, Johnson D, **Phornphutkul C**, Waisbren, S. Changes in Metabolic Control of Phenylketonuria in Children Attending a Summer Camp: Pre- and Post-Assessment of a Nutritional Intervention. ***ICAN: Infant, Child, & Adolescent Nutrition Journal****.* 2010 Apr; 2(2);117-119.

21. Bourjelly G, Chalhoub M, Alleyne T, McNeilly B, **Phornphutkul C**, Woodfield C. Effect of a single exposure to iodinated contrast media in utero on neonatal thyroid function. ***Radiology.*** 2010 Sep;256(3):744-50.

22. Temu T, Wu KY, Gruppuso PA, **Phornphutkul C**. Ascorbic acids induced differentiation of ATDC5 cells. ***American Journal of Physiology.*** 2010 Aug;299(2):E325-34.

23. Woo HC, Lizarda A, Tucker R, Mitchell M, Vohr B, Oh W, **Phornphutkul** C. Congenital hypothyroidism with a delayed thyroid stimulating hormone (TSH) elevation in very low birth weight and extremely low birth weight infants: Incidence and growth and developmental outcome. ***Journal of Pediatrics.*** 2010 Apr;158(4):538-42***.***

24. Prater SN, Banugaria SG, Dearmey SM, Botha EG, Stege EM, Case LE, Jones HN, **Phornphutkul C**, Wang RY, Young SP, Kishnani PS. The emerging phenotypes of long-term survivors with infantile Pompe disease. ***Genetics in Medicine.*** 2012 Sep;14(9):800-10.

25. Sahai I, Garganta C, Bailey J, James P, Levy H, Martin M, Neilan E, **Phornphutkul C**, Sweetser D, Zytkovicz T, Eaton R. Newborn Screening for Glutaric Aciduria type II-

The New England Experience. ***Journal of Inherited Metabolic Disease.*** 2014;13:1-14

26. Pescosolido MF, Schwede M, Johnson Harrison A, Schmidt M, Gamsiz ED, Chen WS, Donahue JP, Shur N, Jerskey BA, **Phornphutkul C**, Morrow EM. Expansion of the clinical phenotype associated with mutations in activity-dependent neuroprotective protein. ***J Med Gen.*** 2014 Sep;51(9):587-9.
27. Kostadinov S, Shah BA, Alroy J, **Phornphutkul C.** A Case of Galactosialidosis with Novel Mutations of the Protective Protein/Cathepsin A Gene - Diagnosis Prompted by Trophoblast Vacuolization on Placental Examination. ***Pediatr Dev Path.*** 2014 Nov-Dec;17(6) 474-7
28. Longo N, Arnold GL, Pridgian G, Enns G, Ficicioglu C, Parker S, Cohen-Pfeffer JL. Phenylketonuria Demographics, Outcomes and Safety Registry Collaborators (CP). Long-term safety and efficacy of sapropterin: the PKUDOS registry experience. ***Molecular Genetics and Metabolsim.*** 2015 April;114(4):557-63.
29. Al-Sannaa N, Bay L, Barbouth D, Benhayoun Y, Goizet C, Guelbert N, Jones S, Kyosen S, Martins A, **Phornphutkul C**, Reig C, Ivanovska I, Pleast R, Fallet S. Early Treatment with Laronidase Improves Clinical Outcomes in Patients with Attenuated MPSI. ***Orphanet J Rare Dis.*** 2015 Oct 7;10(1):131.
30. Holloway MP, Denardo BD, **Phornphutkul C**, Nguyen K, David C, Jackson C, Richendrfer H, Creaton R, Altura R. Chemotherapy induced peripheral neuropathy (CIPN) intensified by asymptomatic mutation in a CMT linked gene: A case for personalized medicine. **npj.** ***Genomic Medicine 1,*** Article number: 16016(2016).
31. Quintos JB, Hodax J., Gonzales-Ellis B., **Phornphutkul C**, Wajnrajch M., Boney CM. Efficacy of Growth Hormone Therapy in Kearns-Sayre Syndrome: The KIGS Experience. ***Journal of Pediatric Endocrinology and Metabolism.*** 2016 Nov 1;29(11):1319-1324.
32. Hodax J., Uysal S., Quintos JB., **Phornphutkul C**. Glycogen Storage Disease Type IX and Growth Hormone Deficiency Presenting as Severe Hypoglycemia. ***Journal of Pediatric Endocrinology and Metabolism.*** 2017 Feb 1;30(2):247-251
33. Fleming L., Piskorski A., Phornphutkul C., de la Monte S., Stopa E., Introne W., Vilboux T., Duncan F., Pellegrino J., Braddock B., Middleton L., Vocke C., Linehan W., Smith ACM. Birt -Hogg-Dubé in Smith Magenis Syndrome: Recommendation for Cancer Screening.
34. Balakrishnan M., Jennings A., Pryzstac L., **Phornphutkul C**., Tucker R., Vohr B., Stephens B., Bliss JM. Growth and Neurodevelopmental Outcomes of Early, High Dose Parenteral Amino Acid Intake in Very Low Birth Weight Infants: A Randomized Controlled Trial. ***Journal of Parenteral and Enteral Nutrition.*** 2017 March 1
35. Quintos JB, Hodax JK, Gonzales-Ellis BA, **Phornphutkul C**, Wajnrajch MP, Boney CM. Response to Growth Hormone in Mitochondrial Disorders. ***J Pediatr Endocrinol Metab.*** 2017 Apr 1;30(4):483-484
36. Xu Y, Gray A, Hardie D, Uzun A, Shaw S, Padbury JP, Phornphutkul C, and Tseng YT. A Novel, de novo Mutation in PRKAG2 gene: Infantile-onset Phenotype and Signaling Pathway Involved. American Journal of Physiology. 2017 May 26 Epublished.
37. Torok R., Austin S. Phornphutkul C., Rotondo K., Kishnani P. PRKAG2 presenting in infancy. ***Journal of Inherited Metabolic Diseases.*** 2017 Nov;40(6):823-830***.***

INVITED REVIEW

1. Suwannarat P, Introne WJ, **Phornphutkul C**: Alkaptonuria. 2003 Published on line at www.genetests.org
2. Phornphutkul C, Padbury JP: Recent update in newborn screening. March 2005 eNeonatal Review - Volume 2, Issue 7.
3. Phornphutkul C, Gruppuso PA. Disorders of the growth plate. ***Current Opinion in Endocrinology, Diabetes and Obesity*** 2009, Dec 16(6), 430-4.
4. Beck N, Johnston J, Lemke K, Pogacar P, Phornphutkul C. Rhode Island metabolic newborn screening. ***Medicine and Health Rhode Island***. 2011, May;94(5):121-3**.**
5. Phornphutkul C. Common Endocrine Disorders in Newborn. Textbook of Clinical Pediatrics, Second Edition 2011.
6. Phornphutkul C. Approach to suspected Inborn Error of Metabolism. Step-Up to Pediatrics, 2011

ABTRACTS/ORAL PRESENTATIONS

1. Society of Pediatrics Research, New Orleans, LA, May 1999
Title: Gender Assignment at birth: Three cases of reassignment / ambiguity at or beyond adolescence.

2. Endocrine Society, New Orleans, LA, June 1998
Title: Ontogeny of Hepatic STAT signaling in the rat.

3. Society of Pediatrics Research, Boston, MA, May 2000.
Title: Aromatase Expression in a Feminizing Adrenal Adenoma.

4. Society of Pediatrics Research, Boston, MA, May 2000.
Title: Hepatic Growth Hormone Signaling in the late Gestation Fetal Rat

5. Society of Inherited Metabolic Disorders, Miami, FL, March 2001
Title: Characterization of Cystinosis Promoter. **Oral presentation**

6. American Society of Human Genetics, San Diego, CA, October 2001.
Title: The *CTNS* promoter and its mutation causing cystinosis.

7. Society of Pediatrics Research, Baltimore, MD 2002
Title: Mutation Analysis of the Human homogentisate 1,2 dioxydase gene in American-based alkaptonuria patients.

8. Society of Inherited Metabolic Disorders, Asilomar, CA, March 2002
Title: Mutation Analysis of the Human Homogentisate 1,2 dioxydase gene in American-based alkaptonuria patients.

9. Society of Inherited Metabolic Disorders, Asilomar, CA, March 2002.
Title: The Critical role of the Kidneys in Homogentisic acids oxidation.

10. American Society of Human Genetics, Baltimore, MD, October 2002.
Title: Clinical, Biochemical, Molecular and Therapeutic Findings in alkaptonuria. **Oral presentation**

11. American Society of Human Genetics, Los Angeles, CA, November 2003.
Title: Making diagnosis of alkaptonuria: Unusual skin findings in an alkaptonuria patient.

12. American Society of Human Genetics, Los Angeles, CA, November 2003.
Title: Long-term follow-up of well treated nephropathic cystinosis patients.

13. American College of Medical Genetics, Orlando, FL, March 2004
Title: Blood Phenylalanine Levels Pre and Post Residential Camp Experieince.

14. American College of Medical Genetics, Orlando, FL, March 2004
Title: Long-term follow-up of well treated nephropathic cystinosis patients.

15. Endocrine Society, New Orlean, LA, June 2004
Title: IGF-I signaling is modified during chondrocyte differentiation.

16. Endocrine Society, San Dieogo, CA, June 2005
Title: Role of insulin at physiological concentration in chondrocyte differentiation.

17. Endocrine Society, San Dieogo, CA, June 2005
Title: Nutrient deprivation and modulation of IGF-I signaling in developing chondrocytes.

18. International Workshop on the Growth Plate, Portland, OR, June 2006
Title; The effect of mTOR inhibition on in vitro and in vivo chondrocyte differentiation.

19. Endocrine Society, Boston, MA, June 2006
Title: Nutrient deprivation and ATDC5 differentiation.

20. Society of Pediatric Research, Toronto, CA, May 2007
Title: Nutrient Regulation of Chondrocyte Proliferation and Differentiation. **Oral presentation**

21. Endocrine Society, San Francisco, CA, June 2008
Title: The mammalian Target Of Rapamycin (mTOR) is essential to optimal longitudinal bone growth in rabbits.

22. Rhode Island Research Alliance, Providence, RI, June 2008
Title: Nutrient Regulation of Chondrocyte Proliferation and Differentiation. **Oral presentation**

23. 2Nd Biennial National IdeA Symposium of Biomedical Research Excellence (NISBRE), Washington D.C. 2008
Title: Nutrient Regulation of Chondrocyte Proliferation and Differentiation.

24. American Society of Human Genetics, Philadelphia, PA, October 2008
Title: The Need for Microarray Testing in Patients with Presumptive Diagnosis of Mitochondrial Disease.

25. Radiological Society of North America, Chicago, IL, November 2009
Title: Effect of iodinated contrast medium on neonatal thyroid function following in-utero exposure.

26. LWPES/ESPE 8th Joint Meeting, New York, NY September 2009
Title: Hypothyroidism with delayed thyroid-stimulating hormone (TSH) surge in very low birth weight (VLBW) infants: incidence and growth and developmental outcomes at 18 months corrected age.

27. LWPES/ESPE 8th Joint Meeting, New York, NY September 2009
Title: Successful transition from insulin to glyburide in 2 siblings with neonatal diabetes mellitus due to KCNJ11 gene mutation encoding Kir6.2.

28. LWPES/ESPE 8th Joint Meeting, New York, NY September 2009
Title: Effect of iodinated contrast medium on neonatal thyroid function following in-utero exposure.

29. Orthopedics Research Society New Orleans,LA March 2010
Tilte: Deficiency of tyrosine phosphatase SHP2 sensitizes mechanical stimulation of chondrogenesis through activation of mTOR.

30. American Society of Investigative Pathology Anaheim, CA April 2010
Title: Characterization of chondrocyte differentiation of ATDC5 cell line induced by Ascorbic acid.

31. Society of Pediatric Research, 2010
Tltle: An unusual presentation of rickets - A case report.
Title: Growth hormone therapy in Kearns-Sayre syndrome: The KIGS experience.
Title: Hypothyroidism with delayed thyroid-stimulating hormone (TSH) surge in very low birth weight (VLBW) infants: incidence and growth and developmental outcomes at 18 months corrected age-1999-2006. Selected for **Oral Poster Symposium Presentation** on "Very Preterm Birth: Neurological, Cognitive & Behavioral Outcomes"

32. National Society of Genetic counselor, November 2010.
Title: A novel heterozygous deletion and insertion mutation in COL1A2 in family with overlapping features of osteogenesis imperfecta and Ehlers-Danlos syndrome- **Oral presentation.**

33. National Society of Genetic counselor, San Diego, CA, November 2011
Title: The expanding phenotype of fragile x.

34. Association of Public Health Laboratories, San Diego, CA, November 2011
Title: The Long and Short of Newborn Screening for LCHAD: The New England Experience.

35. Society of Inherited Metabolic Disorders, Charlotte, NC March 2012
Title: Clinical challenges diagnosing an infant with hypertrophic cardiomyopathy
Title: The New England Regional Metabolic Centers Program to improve care for patients with inherited metabolic disorders.

36. Endocrine Society, Houston, TX June 2012
Title: BMP2 enhances osteoblast phenotype of cryopreserved bone marrow-derived mesenchymal stem cells isolated from aging population.

37. American College of Medical Genetics, Phoenix March 2013
Title: Neuropathology in familial SMS due to maternal mosaicism del 17p11.2

38. Association of Clinical Pathologist, London June 2013
Title: Birt-Hogg-Dube Syndrome-Like Manifestations in Smith-Magenis Syndrome

39. American Society of Clinical Oncology
Title: Breast Cancer Genetic Risk Evaluation and Referral for Assessment.

40. American Society of Human Genetics, Boston October 2013
Title: Novel mutation in PRKAG2 gene highlights the allosteric site of AMPK
Title: Likely pathogenic hypomorphic mutation in the perforin 1 gene causing adult-onset Familial Hemophagocytic Lymphistiocytosis

41. Society of Inherited Metabolic Disorders, Asiloma CA March 2014
Title: Low citrulline as a marker for the proximal urea cycle defects: eight year experience of the New England newborn screening program.

42. American College of Medical Genetics and Genomic, Nashville, TN 2014
Title: Novel LPL Mutation in Familial Lipoprotein Lipase Deficiency.

43. Society of Pediatric Research, 2014
Title: Growth Outcomes following Early, High Dose Parenteral Amino Acids in Very Low Birth Weight Infants: A Randomized Trial
Title: Homozygous variant of Calcium-Sensing Receptor Polymorphism Contributing to Symptomatic Hypocalcemia in a Pregnant Adolescent.

44. Experimental Biology Meeting, San Diego, CA 2014
Title: Changes in mTOR/4-EBP1 pathway induced by a novel mutation in PRKAG2 gene.

45. American Society for Pediatric Hematology Oncology, Chicago, IL, 2014
Title: Chemotherapy Induced Peripheral Neuropathy in Acute Lymphoblastic Leukemia Associated with a Novel Mutation in the GARS gene

46. FASEB 2014
Tittle: A novel gamma-2 mutation resulting in hyper-activation of AMPK

47. WORLD symposium 2014, San Diego, CA 2014
Title: Early treatment with laronidase improves clinical outcomes in patients with attenuated MPS I: analysis of eight sibling pairs

48. American Society of Human Genetics, San Diego, CA 2014
Title: Deletion of 17p11.2 encompasses FLCN with increased risk of Birt-Hogg-Dubé in Smith Magenis Syndrome: Recommendation for Cancer Screening

49. Endocrine Society, San Diego, CA 2015
Title: Congenital Disorder of Glycosylation Ia In An Adult T1DM Patient With Multisystem Involvement.

50. Endocrine Society, Boston, MA 2016
Title: Glycogen storage disease type IX and isolated growth hormone deficiency in a male presenting with severe ketotic hypoglycemia.

51. Annual Meeting of the Collaborative Group of the Americas on Inherited Colorectal Cancer. Baltimore, MD 2015
Title:The Impact of Tumor Testing on Community Practice and Genetic Risk Assessment.

52. Society for the Study of Inborn Error of Metabolism. Rome, Italy September 2016
Title: New cases of PRKAG2 mutations presenting in infancy: A possible therapeutic approach using Alglucosidase alfa (Myozyme) enzyme replacement therapy.

53. Society of Critical Care Medicine, Honolulu, Hawaii January 2017
Title: The Role of Focused Genetic Testing in Pediatric Criticial Care.

54. American College of Medical Genetics, Phoenix March 2017
Title: PRKAG2 as a Mimicker of Pompe Disease.
Title: The Tale of Two NIPTs : Disorders of Sex Development Incidentally Identified in the Prenatal Setting.

55. 3rd Human Genetic Meeting, New York New York January 2017
Title: Lysosomal acid lipase deficiency presenting as persistent transaminitis and dyslipidemia response to enzyme replacement therapy.

56. Association of Professors of Human and Medical Genetics March 2017
Title: Utilization of the affective domain to enhance medical student education.- **Oral presentation.**

57. National Society of Genetic counselor, Columbus, OH, September 2017
Title: A CFTR gene VUS in combination with a pathogenic variant and chronic pancreatitis, guides the diagnostic path to Cystic Fibrosis.

58. World Symposium 2018. San Diego, CA February 2018
Title: North American Experience with Laronidase Enzyme Replacement Therapy for Mucopolysaccharidosis I in a Home Infusion Setting

59. Society of Inherited Metabolic Disorders, San Diego CA March 2018
Title: Reproductive carrier screening and challenges in variant interpretation.

60. Society of Pediatric Research, 2018
Title: Congenital Disorder of Glycosylation Type 1b (CDG-1b): A Rare Cause of Hyperinsulinemic Hypoglycemia.
Title: Novel XRCC4 Mutation in an Infant with Microcephalic Primordial Dwarfism, Dilated Cardiomyopathy, and Subclinical Hypothyroidism: Expanding the phenotype of XRCC4 Mutations.
Title: Congenital Diarrhea: diagnostic dilemma.

61.

DEPARTMENT OF PEDIATRICS GRAND ROUNDS

Neonatal Diabetes April, 4, 2003

Phenylketonuria: A Complex Single Gene Disorder June, 27, 2003

Genetic Screening of Newborns and Healthy Children: Capabilities and Concern March 19, 2004

Genetics of sexual development. Dec 7, 2004

Case Presentation- 2 year old with hypoglycemia. September, 2, 2005

Expanded Newborn Screening June 9, 2006

2-year old with hypertrophic cardiomyopathy July 20, 2007

Case presentation: 13 years old with short stature and diabetes Oct 31, 2008

Noonan Syndrome: Clinical, Molecular and Therapeutic Intervention Oct 23, 2009

Updates on RI Newborn Screening Program Mar 4, 2011

13-yrs old, peripheral neuropathy and leukemia from bench to bedside May 10, 2013

Infant born with IUGR and abnormal liver function: Clinical Application of Whole Exome Sequencing August 29, 2014

From Algae to Zebrafish: How Ciliopathies Underlie the Basis of Human Genetic Disorders January 9, 2015

Genetic Testing: Points to Consider January 22, 2016

Variant, Variant: what does this mean? Critical role of genetic testing interpretation in the era of precision medicine May 19, 2017

INVITED PRESENTATIONS: Local

" Clinical, Biochemical and Molecular Findings of Alkaptonuria."
Grand Rounds, Division of Rheumatology, Department of Medicine,
Roger Williams Hospital
Providence, RI May 2, 2003

"Long Chain Acyl CoA Dehydrogenase Deficiency: Clinical Perspective and Outcome"
Multidisciplinary Antenatal Diagnosis and Management Conference
Women and Infants' Hospital
Providence, RI June 4, 2003

"Osteogenesis Imperfecta: Presentations, Prognosis and Management"
Perinatal Management Conference, Department of Pediatrics,
Women and Infants' Hospital
Providence, RI July 30, 2003

"A Term Infant with Respiratory Distress"
Perinatal Management Conference, Department of Pediatrics,
Women and Infants' Hospital
Providence, RI January, 21,2004

"Advances in Newborn Screening and Mass Spec".

Perinatal Management Conference, Department of Pediatrics,
Women and Infants' Hospital
Providence, RI January, 26 2004

"Impact of metabolic diseases on development"
Department of Special Education, Master program,
Rhode Island College, Providence,RI February 3, 2004

Physician breakout session at the New England Consortium of Metabolic Program,
Worcester, MA Nov 5, 2004

Presentations to RI Department of Health newborn screening and genetics advisory committee on expanded newborn screening. Nov 18 and Dec 7, 2004

Prenatal and perinatal clinical management of a patient with metabolic emergency

Perinatal Management conference

Women and Infants' Hospital
Providence, RI March 24, 2005

CPC: An infant with hepatomegaly and edema
Perinatal Management conference,
Women and Infants' Hospital,
Providence, RI November 16, 2005

Mitochondrial Myopathy,
Department of Medicine Grand Rounds,
Rhode Island Hospital
Providence, RI March 7, 2006

Expanded Newborn Screening
Perinatal Management conference,
Women and Infants' Hospital,
Providence, RI June 7, 2006

Expanded Newborn Screening,
Department of Pediatrics Grand Rounds,
Memorial Hospital
Pawtucket, RI June 9, 2006

Expanded Newborn Screening,
Department of Family Medicine Grand Rounds,
Memorial Hospital
Pawtucket, RI July 28, 2006

Hypoglycemia: clinical, biochemical and molecular aspect of Dax-1 mutation
Division of Endocrinology, Department of Medicine Grand Rounds,
Rhode Island Hospital

Providence, RI January 3, 2007

CPC: An infant with cardiomyopathy
Morbidity and mortality conference,
Women and Infants' Hospital,
Providence, RI January 23, 2007

Genetics in Endocrinology
Division of Endocrinology, Department of Medicine
Rhode Island Hospital,
Providence, RI November 21, 2007

Acute Fatty Live of Pregnancy and Fatty Acid Oxidation Defect
Multidisciplinary Antenatal Diagnosis and Management Conference
Women and Infants' Hospital
Providence, RI January 4, 2008

Nutritional Regulation of Chondrocyte Growth and Differentiation
Rhode Island Research Alliance Symposium
Rhode Island Convention Center
Providence, RI June 3, 2008

CPC: Infant with global hypotonia and dysmorphic features
Women and Infants' Hospital,
Providence, RI October 15, 2008

CPC: 60 years old female with hyperammonemia
Department of Medicine
Rhode Island Hospital
Providence, RI December 9, 2008

Menkes disease
Department of Neurology
Rhode Island Hospital
Providence, RI February 4, 2009

Mortality and Morbidity conference
CPC: Infant with hepatomegaly
Women and Infants' Hospital,
Providence, RI February 19, 2009

Nutritional Regulation of Chondrocyte Growth and Differentiation
Liver Research Center
Department of Medicine
Rhode Island Hospital
Providence, RI May 12, 2009

Case presentation: 13 years old with short stature and diabetes
Division of Endocrinology, Department of Medicine Grand Rounds
Rhode Island Hospital

Providence, RI October 7, 2009

Gaucher Disease and Pregnancy
Multidisciplinary Antenatal Diagnosis and Management Conference
Women and Infants' Hospital
Providence, RI February 18, 2011

Neonatal Metabolic Disorders, evaluation and beyond
Perinatal Pathology conference,
Women and Infants' Hospital,
Providence, RI October 10, 2011

CPC: Infant with hepatomegaly and elevated liver enzymes
Women and Infants' Hospital,
Providence, RI December 22, 2011

Update and Panel Discussion on Hereditary Cancer Syndromes
Department of Medicine Grand Rounds,
Rhode Island Hospital
Providence, RI February 14, 2012

Greig Cephalosydactyly
Multidisciplinary Antenatal Diagnosis and Management Conference
Women and Infants' Hospital
Providence, RI February 17, 2012

Molecular Strategies Identifying Familial Colorectal Cancer Syndromes,
Division of Gastroenterology, Department of Medicine Grand Rounds,
Rhode Island Hospital
Providence, RI April 12, 2012

Human Origin, APG 201
Department of Sociology and Anthropology
University of Rhode Island
Kingston, RI April 10, 2012

CPC: Infant with multi-organ system failure
Women and Infants' Hospital,
Providence, RI May 16, 2012

Family History and Genetic Evaluation January 8, 2013
Women's Health Collaborative
Miriam hospital
Providence, RI

Neonatal Cardiomyopathy
Perinatal Pathology conference,
Women and Infants' Hospital,
Providence, RI January 15, 2013

Genetics in Endocrinology
Department of Human Genetics,
Boston University
Boston, MA — April 24, 2013

SIDS and Leigh disease
Department of Neurology Grand Rounds,
Rhode Island Hospital
Providence, RI — November 13, 2013

Genomics of Human Disease
Center for Computational Molecular Biology,
Brown University
Providence, RI — January 21, 2014

Functional Study of a Novel Mutation in PRKAG2 gene
Pediatric Research Colloquium,
Women and Infants' Hospital,
Providence, RI — January 24, 2014

Infant with Lysosomal Storage Disorder
Perinatal Pathology conference,
Women and Infants' Hospital,
Providence, RI — February 2, 2014

Congenital Lactic Acidosis
Perinatal Pathology conference,
Women and Infants' Hospital,
Providence, RI — March 6, 2014

Genetic Testing in 2014: How do you choose?
New England Congenital Cardiology Association
Annual Conference
Newport, RI — October 18, 2014

MEDTalk
Brown University
Providence, RI — April 11, 2015

CPC: Sudden Death
Perinatal Pathology conference,
Women and Infants' Hospital,
Providence, RI — July 15, 2015

Genetics and Genomics
RI Health Care Leadership Conference
Butler Hospital
Providence, RI — September 23, 2015

Genetic Testing: Points to Consider
Division of Endocrinology, Department of Medicine Grand Rounds
Rhode Island Hospital
Providence, RI January 20, 2016

Infant with hypotonia
Perinatal conference,
Women and Infants' Hospital,
Providence, RI March 3, 2016

Genetic Technology and Choices
ENGN-0020
Brown University
Providence, RI March 25, 2016

Whole Exome Sequencing and NICU
Perinatal conference,
Women and Infants' Hospital,
Providence, RI Feb 10, 2017

Genetic Technology and Choices
ENGN-0020
Brown University
Providence, RI March 17, 2017

Ethics, Biology, Race and Public Health: The Legacy of Henrietta Lacks
School of Public Health & the Office of Diversity and Multicultural Affairs
The Warren Alpert Medical School of Brown University
Providence, RI October 12, 2017

INVITED PRESENTATIONS: National

Genetics for Pediatrician:
Chiangmai University School of Medicine,
Chiangmai, Thailand July 5-9, 2004

Alkaptonuria: Clinical, Biochemical and Molecular Findings"
Mount Sinai School of Medicine
New York, NY August 13, 2004

Roles of IGF-I/insulin in chondrocyte growth and differentiation:
Endocrine Grand Rounds, Children' Hospital & Medical Center,
Seattle, WA May 19, 2005

Genetics of Sexual Differentiation
Chiangmai University School of Medicine,
Chiangmai, Thailand July 12, 2005

Case Presentation- 2 year old with hypoglycemia.
Chiangmai University School of Medicine,
Chiangmai, Thailand June 28, 2006

Visiting Professor- Thamasat University School of Medicine
-Siriraj Hospital, Mahidol University
- Ramathibodi Hospital
Bangkok, Thailand July 1-5, 2007

The genetics basis, clinical implications and therapeutic consequences of neonatal diabetes.
Genetic Grand Rounds
Department of Human Genetics
Emory University
Atlanta, GA October, 22, 2007

Nutrient regulation and chondrogenesis
Research Seminar
NHGRI, NIH
Bethesda, MD October 27, 2008

Developmental and Behavioral Pediatric Board Review, DB: PREP- An intensive review of developmental-behavioral pediatrics
Atlanta, GA December 4, 2008

Hypothyroidism with delayed TSH surge in very low birth weight infants: incidence and growth and developmental outcomes at 18 months corrected age
Clinical conference Coverage
LWPES/ESPE 8th joint meeting
New York, New York September 10, 2009

Hypothyroidism with delayed TSH surge in very low birth weight infants: incidence and growth and developmental outcomes at 18 months corrected age
The New England Regional Genetics Group Meeting
Portsmouth, NH December 4, 2009

Genetics of Skeletal Dysplasia
Pediatric Endocrinology Nursing Society
Atlanta, GA April 9, 2010

Overview of Gene Therapeutics
The New England Regional Genetics Group Meeting
Portsmouth, NH December 3, 2010

Year in Review: Thyroid 2012
Pediatric Academic Society (PAS) May 29, 2012

Connect the Dots, CME &CNE
Past, Present and Future of Newborn Screening

Albany Medical Center
Albany, NY September 13, 2016

Past, Present and Future of Newborn Screening
Pediatric Grand Rounds
Bernard and Millie Duker Children's Hospital
Albany Medical Center
Albany, NY September 14, 2016

PRKAG2 Cardiomyopathy: From Bedside to Bench and Back?
Seminar Series (CME)
Yale School of Medicine's Genetics Department
New Haven, CT August 1, 2017

GRANTS

Previous Funding

Modulation of IGF-I Signaling in Developing Chondrocytes
Center for Cancer Research Development (5P20RR017695).
Principal Investigator: Doug Hixson, PhD.
Pilot Project Investigator: Chanika Phornphutkul, M.D.
Agency: National Institutes of Health
Total Direct Cost: $10,000/year
Project Period: 01/01/03-12/31/04

Chondrogenesis and Long Bone Growth
Principal Investigator: Chanika Phornphutkul, M.D.
Agency: Charles H. Hood Foundation, Boston, MA
Total Direct Cost: $75,000/year
Project Period: 01/01/05-12/31/06

Myozyme in Pompe's patient
Multicenter Trial
Site Principal Investigator: Chanika Phornphutkul, M.D.
Agency: Genzyme Corporate, Cambridge, MA
Total Direct Cost: $12,000
Project Period: 08/01/2005-09/30/2006

Chondrogenesis and Long Bone Growth
Principal Investigator: Chanika Phornphutkul, M.D.
Agency: Department of Pediatrics, Rhode Island Hospital
Total Direct Cost: $27,000/year
Project Period: 01/01/2007-09/30/07

Chondrogenesis and Long Bone Growth
Principal Investigator: Chanika Phornphutkul, M.D.
Agency: Department of Pediatrics, Rhode Island Hospital
Total Direct Cost: $8,000/year
Project Period: 10/01/2007-09/30/08

Chondrogenesis and Long Bone Growth
Principal Investigator: Chanika Phornphutkul, M.D.
Agency: Department of Pediatrics, Rhode Island Hospital
Total Direct Cost: $20,000/year
Project Period: 10/01/2008-09/30/09

Nutritional Regulation of Chondrocyte
Center of Biomedical Research Excellence for Skeletal Health and Repair (*COBRE*)
Grant number; 1 P20RR024484-01
Program Director: Qian Chen, PhD.
Principal Investigator (Project 2): Chanika Phornphutkul, M.D.
This project investigates the effect of nutrient on chondrogenesis.
Agency: National Center for Research Resources, NIH
Total Direct Cost: ~$150,000/year
Project Period: 07/01/2007-06/30/2012

Thyroid Dysfunction: Long Term Follow-up of Very Low Birth Weight and Extremely Low Birth Weight Infants
Principal Investigator: Chanika Phornphutkul, M.D.
Agency: New England Genetics Collaborative, University of New Hamshire
Total Direct Cost: $27,826
Project Period: 09/01/08-05/31/10

Chondrogenesis and Long Bone Growth
Principal Investigator: Chanika Phornphutkul, M.D.
Agency: Department of Pediatrics, Rhode Island Hospital
Total Direct Cost: $20,000/year
Project Period: 02/01/2010-01/31/2013

Chemotherapy-Induced Peripheral Neurotoxicity
Co-Investigator: Chanika Phornphutkul
Agency: The Oh Zopfi Pilot Project Grant
Total Direct Cost $6,000
Project Period 04/1/2013-03/31/2014

Mutation in PRKAG2 and Role in Cardiac Hypertrophy
Co-Principle Investigator: Chanika Phornphutkul
Agency: The Oh Zopfi Pilot Project Grant
Total Direct Cost $15,000
Project Period 04/1/2013-03/31/2014, 04/1/2013-03/31/2015

Unify Clinical Genomic Database.
Site Investigator: Melissa Kelly and Chanika Phornphutkul, MD
Agency: Brigham and Women's Hospital
Total Direct Cost $ 7,000
Project Period 05/01/2016-04/31/2017

Current Funding

PKUDOS- PKU Demographics, Outcome and Safety Registry
Site Principal Investigator: Chanika Phornphutkul, M.D.
Agency: Biomarin Pharmaceutical, Inc., CA
Total Direct Cost: $8,000/ patient/year
Project Period: 12/01/08- present

Lysosomal Storage Disease Registry
Site Principal Investigator: Chanika Phornphutkul, M.D.
Agency: Genzyme Corporate, Cambridge, MA
Total Direct Cost: $ 2,000 per enrollment.
Project Period: 12/01/08-present

Newborn Screening Quality Assurance Research Project (CMTT#4046-09): A Quality Assurance Project to Assess Provision of Clinical Genetic Services to Newborns Identified through the Rhode Island Newborn Screening Program

Principle Investigator: Chanika Phornphutkul
Agency: University of Texas Health Science Center at San Antonio
Total Direct Cost: $3,575
Project Period: 09/01/09-present

Newborn Screening Long Term Follow up Project
Principle Investigator: Chanika Phornphutkul
Agency: Rhode Island Department of Health
Total Direct Cost: $4,440/ year
Project Period: 12/01/09-present

An observational, longitudinal, prospective, long-term registry of patients with hypophosphatasia.
Site PI: Chanika Phornphutkul, MD
Agency: Alexion Pharmaceutical
Total Direct Cost $5,000
Project Period: 01/03/2017

LALD Registry
Site PI: Chanika Phornphutkul, MD
Agency: Alexion Pharmaceutical
Total Direct Cost $8,000
Project Period: 03/01/2017

Genetic Longitudinal Outcomes of Rhode Island Autism (GLORIA)
Autism Precision Medicine Program
Principle Investigator: Eric Morrow
Co-PI: Chanika Phornphutkul
Agency: Hassenfeld Child Health Innovation Institute
Total Direct Cost $ 20,000
Project Period: 09/01/2017

Under Review

Novel Therapeutic Approaches for PRKAG2 Mutation-Induced Hypertrophic Cardiomyopathy (RO1)
PI- Tseng
CO-PI Phornphutkul
Project Period: 09/01/16-08/31/21 – plan resubmission fall 2017

OTHER RESEARCH PROJECTS

The Effect of Rapamycin on the Function of Growth Plates in Rabbits.- **co-PI**
Co-Principle Investigator: Chanika Phornphutkul and Mark Lee, M.D.
Agency: Department of Orthopedics, Rhode Island Hospital
Total Direct Cost: $5,000
Project Period: 04/01/06-03/31/07

Neurodevelopmental and Growth outcomes of Early, Aggressive Protein Intake in Very Low Birthweight Infants.
Co-Principle Investigator: Chanika Phornphutkul and Bonnie Stephens, M.D.
Agency: Department of Pediatrics, Women and Infants' Hospital
Total Direct Cost: $1,000
Project Period: 07/08-06/10

Investigations of defects in the GH-IGF-I axis in children with severe growth failure (CMTT#0194-08)- **site PI**
Principal Investigator: Ron Rosenfeld, M.D.
Site Principal Investigator: Chanika Phornphutkul, M.D.
Agency: Oregon Health and Science University, OR
Total Direct Cost: $0
Project Period: 12/01/09

Natural History Study of the Clinical and Molecular Manifestations of Smith-Magenis Syndrome (SMS):Protocol 01-HG-0109
Principal Investigator: Ann Smith, G.C.
Site Principal Investigator: Chanika Phornphutkul, M.D.
Agency: NHGRI, NIH
Total Direct Cost: $0
Project Period: 08/08/2013-current

Advance Pompe Study Phase 4 Clinical Study Protocol A Phase 4, Open-Label, Prospective Study with Pompe Disease to evaluate the efficacy and safety of Alglucosidase Alfa Produced at the 4000 L Scale
Principal Investigator: Chanika Phornphutkul, MD
Total Direct Cost $108,000
Project Period 04/2012-03/2015

PREVIOUS CLINICAL RESEACH EXPERIENCE

Clinical, Biochemical and Molecular Investigations into Alkaptonuria NIH protocol 00-CH-141
Principal Investigator: William A. Gahl, M.D.
Associate Investigator: Chanika Phornphutkul, M.D.

Agency: National Institutes of Health, Intramural Program
Total Direct Cost: n/a intramural program
Project Period: 07/01/2001- 06/30/2002

Therapeutic Use of NTBC in Alkaptonuira, NIH protocol 97-CH-0201
Principal Investigator: William A. Gahl, M.D.
Associate Investigator: Chanika Phornphutkul, M.D.
Agency: National Institutes of Health, Intramural Program
Total Direct Cost: n/a intramural program
Project Period: 07/01/2001- 06/30/2002

UNIVERSITY TEACHING ROLES

Biomed #130, Biochemistry, The Warren Alpert Medical School of Brown University (small group leader) 2002-2003, 8 small group sessions, 16 hours.

BIOL 3650 IMS II: Endocrine Science. The Warren Alpert Medical School of Brown University (lecture and small group leader) 2006, 1 hour lecture, 8 small group sessions, 16 hours.

BIOL 3654 IMS II: Endocrine Science. The Warren Alpert Medical School of Brown University (lecture and small group leader) 2007-present, 1 hour lecture, 8 small group sessions, 16 hours.
.
Graduate program in pathobiology, committee member: Tecla Temu MD/PhD student. August 2009- September 2010.

Graduate program in pathobiology, committee member: Chat Jayasuriya PhD candidate. February 2010-2013.

PLME 1000: October 2012 Breast Cancer and Genetic Testing.

BOIL6512: Modern Genetics: Ethics, Policy and the Doctor-Patient Relationship

BIOL3642: Scientific Foundation of Medicine. 2012-present, 6 hours.
BIOL3642: Small group leader (4 hours)

HOSPITAL TEACHING ROLES

General Ward Pediatric Teaching Attending, one month/year	2002- 2011
Department of Pediatric Noon Lecture Series, ~3-4/year	2002
Newborn Screening Lectures, 6/year	2004
Pediatric Emergency Medicine Lecture, 1/year	
Pediatric Gastroenterology Fellowship Core Curriculum, 2/year	
Pediatric Developmental –Behavioral Core Curriculum, 2-3/year	
Pediatric Neonatology Fellowship Core Curriculum, 2-3/year	
Pediatric Child Protection Fellowship Core curriculum, 1/year	
Research mentor for pediatric endocrine fellows	
Valerie Auyeung	2003-2006
Mimi Kim	2005-2007
Pediatric longitudinal preceptor	

Joycelynn Burke	2008
Tan Koon Ghee	2010
Member of pediatric fellow scientific oversight committee	
Katarinia Gambosau	2007-2009
David Woo	2007-2009
Maya Balakrishnan	2008-2011
Mia Pingul	2008-2011
Otilia Neacsu	2008-2011
Doctoring preceptor	
Emily Amos	2010-2011
Scholarly concentration and summer assistantship	
Ami Cuneo	2012-2014
Jenna Kahn	2013-2014
Alexandra Grieb	2014-2015
Solomon Swartz	2016-2017