

Dr. Sarah Mathai nee Abraham

Qualifications

Bachelor of Medicine & Bachelor of Surgery (MBBS) 1989 : JSS Medical College,
Mysore, Karnataka, India

Diploma in Child Health (DCH) 1996 : Christian Medical College, Vellore, Tamil Nadu,
India

Diplomate National Board of Examinations (DNBE) Paediatrics, 1998 : The Kanchi
Kamakoti Childs Trust Hospital, Chennai, Tamil Nadu

Natioanl Borad of Examinations, New Delhi, India

PhD (Paed endo), 2009 : The Liggins Insitute, University of Auckland, New Zealand

3 year Clinical Fellowship in Paediatric endocrinology, 2009: Starship Children's Hospital,
Auckland, New Zealand.

D.O.B: 1st June 1967

Spouse : Dr. John Mathai, Paediatric surgeon

Current affiliation (April 2003 to date)

Professor/Paediatric endocrinologist

Department of Paediatrics unit-1

Christian Medical College

Vellore-632004. Tamil Nadu

Work experience

2003-date : Faculty, Department of Paediatrics, Christian Medical College, Vellore, India

2001-2003: Consultant Paediatrician, ETCM Hospital, Kolar, Karnataka, India

1999-2001: Consultant Paediatrician, Private clinic, Vellore, India

1994-1998 (was completing postgraduate training in Paediatrics)

1993-1994 : Registrar, Community Health Department, Christian Medical College, Vellore

1991-1992: Junior Resident in Neurology, NIMHANS, Bangalore, India

1990-1991: Senior House Officer, Department of Medicine, St.John's Medical College Hospital, Bangalore, India

Academic/ Research awards

1. Secured 4th rank in the University of Mysore in Final MBBS degree examination 1989
2. Won Best Researcher award for 2008 at The Liggins Institute, University of Auckland, New Zealand
3. Won second prize for a study titled "Preterm birth has long term impact on the health of two generations" in 2008 at the annual Research day at The University of Auckland, New Zealand.
4. Was selected to represent Asia Pacific region at the Joint Meeting of LWPE/ESPE/APEG/JSPE/SLEP Global Care in Pediatric Endocrinology in New York in 2009 and present my research paper "Intergenerational effects of prematurity"

Paediatric endocrine work experience

Dr. Sarah, after working as Paediatrician in non-teaching institutions from 1998 to March 2003 joined the Department of Child Health unit 1 & Paediatric endocrinology as Assistant Professor/ Research officer in 2003. She has been working in this unit since then and is currently Professor.

Between 2006-2009, Dr. Sarah was a Fellow at The Department of Paediatric Endocrinology, Starship Children's Hospital, Auckland, New Zealand. This department

caters to all children with endocrine disorders in New Zealand and is a tertiary referral centre. Being an exclusive children's hospital with all paediatric subspecialties, there was adequate exposure to a wide variety of primary and secondary endocrine disorders in addition to around 450 children with Type 1 diabetes. During this period she was actively involved with teaching Paediatric endocrinology topics to the Royal Australasian Paediatric trainees. She completed her 3 year clinical and research training in Paediatric endocrinology in 2009 and obtained PhD degree from the University of Auckland.

Dr. Sarah is actively involved with the outpatient and inpatient Paediatric endocrine services as well as the dynamic endocrine tests. She is also involved with the various intra and interdepartmental consultations.

Dr. Sarah gained valuable research experience during her PhD in Auckland. Her research primarily focused on long term and intergenerational metabolic effects of prematurity in a unique birth cohort in New Zealand. This study involved complex techniques like hyperglycaemic clamp, intravenous glucose tolerance test, bone densitometry analysis and 24 hour ambulatory blood pressure monitoring. This also involved extensive data management, complex statistical analysis and extensive write-up of the thesis.

Work experience as a Paediatrician

After completing Paediatric sub-specialty training, Dr.Sarah worked in a private set-up as well as a secondary level paediatric hospital before she joined as a Faculty in the Department of Paediatrics at CMC Vellore in 2003.

CMC Vellore is a large tertiary care hospital attached to the Christian Medical College, Vellore . CMC Vellore is celebrating its 100th year of medical education in 2018. CMC has undergraduate medical, nursing and a host of allied health courses all under one umbrella. Therefore the Faculty is involved in training students of all the relevant courses.

We also have an intake of 16 postgraduate students in Paediatrics every year. In addition we have a very busy out-patient and inpatient service facility with state of the art neonatal

and paediatric intensive care units. Being a senior Faculty in the Department of Paediatrics Dr. Sarah is involved with teaching medical undergraduates, pediatric postgraduates as well as endocrine sub-specialty trainees. She is also involved with the out-patient & inpatient services of general paediatrics.

Professional affiliations

- Life member of Indian Academy of Paediatrics (IAP)
- Life member of Indian Society of Paediatric & Adolescent Endocrinology(ISPAE)
- Life member of Asia Pacific Paediatric Endocrine Society(APPEs)
- Former Executive council member of Indian Society of Paediatric & Adolescent Endocrinology(ISPAE) 2010-2012
- Member of International Society for Paediatric and Adolescent Diabetes(ISPAD)
- Formerly a member of the Australasian Paediatric Endocrine Group(APEG)

Paediatric endocrine related conferences attended / faculty lectures delivered

2003: Presented a case ‘Precocious pseudopuberty due to non-classical CAH in a 10 month old baby’ at the Fifth International Update in Pediatric Endocrinology at Bangalore, India.

2004: Attended APPEs Fellows’ School, Kobe, Japan

Presented a poster titled ‘Alternative management of Diabetic ketoacidosis in a developing country’ at the APPEs Scientific meeting, Kobe, Japan

2005: Attended the International Conference on Endocrinology and Metabolic diseases Coimbatore, India

Attended the Post graduate workshop in Clinical Endocrinology held at Amrita Institute of Medical Sciences , Kochi, Kerala.

2006: Attended APEG Scientific Meeting / Fellows Clinical School, Hobart, Tasmania, Australia

Presented poster titled ‘Novel therapeutic regime for management of congenital hypothyroidism’ at the APEG Scientific meeting, Hobart, Tasmania, Australia

Presented poster titled ‘Alternative regime for management of congenital hypothyroidism’ at APPEES scientific meeting, Thailand

2007: Attended APEG Fellows’ school, Broome, Western Australia

Presented mini-poster on ‘A successful and novel strategy to rapidly normalise serum free thyroxine level in primary congenital hypothyroidism’ at the APEG Scientific meeting, Broome, Western Australia

Attended APPEES Fellows’ school, Taiwan

2008: Was one of the presenters at the Kaichi Kida Oral presentation session at the APPEES Scientific meeting, Seoul, Korea and presented paper titled “Long term and transgenerational effects of prematurity”

Presented paper titled “Long term metabolic effects of prematurity in this generation and the next’ at the Young Investigator’s oral session of the APEG Scientific meeting, Canberra, Australia

Presented a paper titled ‘Effects of prematurity on the body composition of two generations’ at the Growth, Development & Behaviour National conference(GDBPCON) of the IAP chapter, Mumbai

2009: Was selected to represent Asia Pacific region at the Joint Meeting of LWPES/ESPE/APEG/JSPE/SLEP Global Care in Pediatric Endocrinology in New York in 2009 and present my research paper “Intergenerational effects of prematurity”

Co-chaired the Plenary session of the Biennial Conference of the ISPAE, New Delhi

Presented a talk on ‘Echoes from The Liggins: Generational effects of prematurity; a second generation birth cohort study’ at The 3rd South Asian Regional Symposium on Evidence informed healthcare of the South Asian Cochrane Network, 8th Winter symposium, CMC, Vellore.

2010: Faculty & presented “Disorders of sexual differentiation’ at the CME on Paediatric & Adolescent Endocrinology, JIPMER, Pondicherry.

Attended CME on Pediatric Metabolic Bone disorders, Christian Medical College, Vellore

2011: Presented a talk on “The psychosocial aspects of children with Type 1 diabetes” in the Trained Nurses Association of India (TNAI) conference in Vellore

Delivered the plenary lecture on “Transgenerational effects of prematurity” during the National conference of the Paediatric & Adolescent Endocrinology(ISPAE) in Calicut.

2012 : Faculty and presented “ Congenital hypothyroidism- difficulties in diagnosis and management “ at the CME on Paediatric & Adolescent Endocrinology, SAT, Trivandrum.

Attended a CME on ‘Kidneys, bones & stones” by IAP Mumbai at Mumbai.

2013: Panelist at the session ‘Newborn screening” at the National Conference of the Indian Academy of Paediatrics (PEDICON 2013) at Kolkata.

Speaker on “Newborn screening for congenital hypothyroidism- Experience from India” at the 8th Asia Pacific Regional Meeting of the International Society for Newborn Screening at AIIMS, New Delhi, in Sep’2013.

Faculty for Paediatric Endocrine Training (PET) school of the Indian Society for Paediatric & Adolescent Endocrinology(ISPAE) at Bangalore in November 2013.

Faculty at the Biannual Scientific Meet of the ISPAE and delivered a talk on” Interpretation of thyroid function tests” at Bangalore in November 2013.

2014: Was an external examiner for the exit examination for Fellowship in Paediatric & Adolescent endocrinology of the Rajiv Gandhi University in Bangalore in August 2014.

2015: Faculty lecture on “Congenital hypothyroidism screening- Indian scenario” at the ISPAE National conference at Gurgaon in November 2015.

2016: Invited speaker at the combined Asia Pacific Paediatric Endocrine Society-Japanese Paediatric Endocrine Society(APPE-SJSPE) conference held at Tokyo, Japan in November 2016 and gave a talk on “Long term outcome of subclinical congenital hypothyroidism”.

2017: Was an external examiner for the exit examination for Fellowship in Paediatric & Adolescent endocrinology of the Rajiv Gandhi University in Bangalore in February 2017.

Was Faculty for Paediatric endocrine training (PET school) programme conducted by the ISAPE-APPE-S for Indian & International trainees at Coimbatore, India in November 2017

Delivered Faculty lecture on “Craniopharyngioma” at the National Biennial Scientific Meeting of ISPAE-APPE-S at Coimbatore, India in November 2017.

Research activities:

1. Co-investigator for study titled 'The Genetics and Neuroendocrinology of Short Stature International study(GeNeSIS) in collaboration with Eli-Lilly Ranbaxy Ltd 2004-2005
2. Supervisor for a social worker from Madras Christian College, Chennai in a field study involving the families of Type I diabetics.
3. During PhD In Auckland, research on the long term and intergenerational metabolic effects of prematurity in a unique birth cohort in New Zealand.
4. Guide for MD (Paediatrics) thesis: The prevalence of impaired GTT in siblings of children with Type 1 diabetes.
5. Co-guide for MSc nurse (Paediatrics) : Parenting style and compliance to therapeutic regimen of adolescents with Type 1 diabetes mellitus
6. Guide for DCH thesis : Risk factors for steroid induced hyperglycaemia during induction and delayed intensification phase of ALL treatment
7. Co-investigator in a study titled “Effects of rapid feeding on body composition of children with severe acute malnutrition fed with home based versus ready to use feeds”.

8. Co-guide for MD thesis titled “Nutritional status and screening for metabolic syndrome in children who completed treatment for Acute lymphoblastic leukaemia”.
9. Guide for MD thesis titled “Correlation between insulin and IGF-1 levels in term SGA babies”
10. Co-Guide for MD thesis titled “Family burden in children with Type 1 diabetes”.
11. Co-guide for Msc Nursing thesis titled” Effectiveness of child to child and child to parent approach on knowledge of road safety measures in selected schools in Vellore”.
12. Co-guide for PhD thesis “Experimental study to determine the prevalence, risk factors, perception of child and the parent regarding obesity and to determine the effectiveness of school health programme in the reduction of BMI and health related factors among adolescents in Vellore city” under Tamil Nadu Dr.MGR Medical University.
13. Guide for DCH thesis titled “Factors affecting growth in children on growth hormone therapy”
14. PI in study titled” Long term impact of subclinical congenital hypothyroidism on the growth and neurodevelopment of young children”.
15. Guide in the study titled” Motivational intervention using smartphone app in adolescents with Type 1 diabetes with poor glycemic control”.
16. Guide for DCH thesis titled” Audit of primary immunization practices in a tertiary care center”.
17. Guide for MD thesis titled “Ideal cord blood TSH cut-off level for mass newborn thyroid screening in the South Indian population”.

Reviewer for Journals

Reviewer for the following journals:

1. Indian Journal of Pediatrics
2. Journal of Tropical Pediatrics

3. International Journal of Epidemiology
4. Indian Pediatrics
5. JAMA

Publications

1. **Mathai. S**, Raghupathy.P. “Fluid & Electrolyte Management of Endocrine Disorders in Childhood”, Indian Journal of Practical Paediatrics, 2004; 6(2)
2. **Mathai .S** et al. “Stalk failure”, New Zealand Medical Journal. 2006; 119:1235
3. **Mathai S**, Cutfield WS, Hofman P et al. “A novel therapeutic paradigm to treat congenital hypothyroidism”. Clin Endocrinol (Oxf). 2008 Jul;69(1):142-7.
4. **Basker MM**, **Mathai S**, **Korula S**, **Mammen PM**. Eating Disorders among Adolescents in a Tertiary Care Centre in India. Indian J Pediatr. 2012 Jul 14.
5. **Mathai S**, Cutfield WS, Derraik JGB, Dalziel SR, Harding JE, Robinson E, Biggs J, Jefferies C, Hofman PL. Insulin sensitivity and β -cell function in adults born preterm and their children. Diabetes 2012;61: 2479-2483.
6. Benjamin BA, Heather N, Derraik JGB, Cutfield WS, Woules T, Tregurtha S, **Mathai S**, Webster D, Jefferies C, Gunn AJ, Hofman PL. Neurodevelopmental and body composition outcomes in children with congenital hypothyroidism treated with high-dose initial replacement and close monitoring. J Clin Endocrin Metab. July 16, 2013
7. Ahila Ayyavoo, José G. B. Derraik, Paul L. Hofman, **Sarah Mathai**, Janene Biggs, Peter Stone, Lynn Sadler, Wayne S. Cutfield. Pre-Pubertal Children Born Post-Term Have Reduced Insulin Sensitivity and Other Markers of the Metabolic Syndrome. PLOS ONE July 2013; 8 : Issue 7 | e67966
8. Arul P. Lionel & Girish Chinnaswamy & Rikki R. John & **Sarah Mathai**. Ifosfamide Induced Renal Rickets. Accepted for publication in Indian J Pediatr. on 27/05/2013.
9. **Mathai S**, Derraik JGB, Cutfield WS, Dalziel SR, Harding JE, et al. (2013) Increased Adiposity in Adults Born Preterm and Their Children. PLoS ONE 8(11): November 2013.
10. P. Palaniappan, A. P. Lionel , I. Agarwal , **S. Mathai** ,L. Mathew, _ S. Kumar. Cryosupernatant and Immunosuppression as Effective Alternative Therapies for TTP in

Three Pediatric SLE Patients. Indian J Hematol Blood Transfus: 15 January 2014

11. Ghosh U¹, Thomas M, Mathai S. Syndrome of Insulin Resistance with Acanthosis Nigricans, Acral Hypertrophy and Muscle Cramps in an Adolescent - A Rare Diagnosis Revisited. Indian J Pediatr. 2014 Jun 10. [Epub ahead of print]
12. Aaron Chapla, Mahesh Doddabelavangala Mruthyunjaya, Hesarghatta Shyamasunder Asha, Denny Varghese, Manika Varshney, Senthil K. Vasan,, Padmanaban Venkatesan, Veena Nair, **Sarah Mathai**, Thomas Vizhalil Paul and Nihal Thomas. Maturity onset diabetes of the young in India – a distinctive mutation pattern identified through targeted next-generation Sequencing. *Clinical Endocrinology* (2014), 0, 1–10. 2014
13. **Sarah Mathai**, Jos´e G.B. Derraik, Wayne S. Cutfield, Stuart R. Dalziel, Jane E. Harding, Janene B. Biggs, Craig Jefferies, Paul L. Hofman. Blood pressure abnormalities in adults born moderately preterm and their children. *International Journal of Cardiology* November 2014;181C:152-54
14. Jose G.B. Derraik, **Sarah Mathai**, Valentina Chiavaroli, Stuart R. Dalziel, Jane E. Harding, Janene Biggs, Craig Jefferies, Wayne S. Cutfield and Paul L. Hofman. Preterm birth is associated with an intergenerational effect on cardio-metabolic risk. *Clinical Endocrinology* Feb 2015; 0: 1–2.
15. Karyotypes, confined blood chimerism, and confusion: a case of genetic sex mislabelling and its potential consequences. Jos´e G.B. Derraik, Paul L. Hofman Wayne S. Cutfield, **Sarah Mathai** et al. Accepted for publication in *New Zealand Medical Journal* on 30/3/2015.
16. Leprechaunism (Donohue Syndrome). Urmi Ghosh, **Sarah Mathai**. *Indian Pediatrics*(52). Page 724. August 15, 2015.
17. "Neuroregression as an initial manifestation in a toddler with acquired pernicious anaemia" Yoganathan, Sangeetha; Thomas, Maya; **Mathai, Sarah**; Ghosh, Urmi. Accepted for publication in *BMJ Case Reports* on 22/11/2015.(Ref: bcr-2015-213540.R1)
18. Hyperphosphatemic tumoral calcinosis. Sahana Shetty, Nitin Kapoor, **Sarah Mathai**, Thomas Paul. *BMJ Case reports* 2016.
19. First report on the draft genome sequences of *Corynebacterium diphtheriae* isolates from India. Veerarghavan B, Anandan S, Rajamani Sekar SK, Gopi R, Devanga Ragupathi NK, Ramesh S, Verghese VP, Korulla S, **Mathai S**, Sangal L, Joshi S. 2016. *Genome*

Announc 4(6):e01316-16. doi:10.1128/genomeA.01316-16.

20. Part of the Editorial Committee on Newborn Screening Guidelines for Congenital Hypothyroidism in India: Recommendations of the Indian Society for Pediatric and Adolescent Endocrinology (ISPAE) - Part I: Screening and Confirmation of Diagnosis

Part II: Imaging, Treatment and Follow-up. Desai MP, Sharma R, Riaz I, Sudhanshu S, Parikh R, Bhatia V. [Indian J Pediatr.](#) 2018 Jan 30.
21. Sirolimus therapy for congenital hyperinsulinism in an infant with a novel homozygous *KCNJ11* mutation. Sophy Korula, Aaron Chapla, Leena Priyambada, Sarah Mathai and Anna Simon. *J Pediatr Endocrinol Metab* 2018; 31(1): 87–89

Book Chapter

21. **Mathai. S.** Chapter 23. Disorders of Sodium balance. IAP specialty series on Pediatric Endocrinology- 2nd edition published in January 2013
22. Adult consequences of IUGR and Prematurity. **Sarah Mathai.** Paul Hofman. PG Textbook of Paediatrics, Sec 44:33, 2015.(in print).Jaypee Brothers Medical Publishers Pvt Ltd