

**BIOGRAPHICAL SKETCH**

NAME: Ooi, Chee (Keith) Yee

**POSITION TITLE:**

A/Professor of Medicine (University of New South Wales).  
 Consultant Pediatric Gastroenterologist;  
 Director, Cystic Fibrosis-Gastroenterology and Pancreas Care Programs;  
 Co-Director of Parenteral Nutrition Program (Sydney Children's Hospital).

**EDUCATION/TRAINING/TITLES**

INSTITUTION AND LOCATION	DEGREE (if applicable)	Completion Date MM/YYYY	FIELD
University of Melbourne, Australia	MB BS	12/2000	Medicine (MD equiv.)
University of Auckland, New Zealand	Dip Paeds	12/2003	Paediatrics
Royal Australasian College of Physicians	FRACP	12/2008	Paediatrics & Paediatric Gastroenterology
University of New South Wales, Australia	PhD	12/2014	Cystic Fibrosis & pancreatitis
American Gastroenterology Association Fellow	AGAF	2021	Gastroenterology

**A. Personal Statement**

A/Professor Ooi (MBBS, Dip Paeds, FRACP, PhD, AGAF) is a Clinician Investigator with a tenured academic position at the University of New South Wales (UNSW) Medicine & Health and Senior Specialist Paediatric Gastroenterologist at Sydney Children's Hospital Randwick, Sydney, Australia. **He is recognized nationally and internationally for his research and clinical expertise in CF gastroenterology and nutrition as well as in pediatric pancreatic diseases.** He completed a 3-year research fellowship in CF (2007-2010) at The Hospital for Sick Children and University of Toronto, Canada. He completed a PhD in CF at UNSW in December 2014 and received the UNSW Dean's Rising Star Award in 2015. In 2021, he was awarded the Leadership Fellowship Award by the National Health and Medical Research Council (Australian equivalent to the National Institutes of Health [NIH]) and American Gastroenterology Association Fellowship.

**B. Contributions to Science**

**Research Publications:** He has published 131 journal articles, with >50% of these articles as first or senior author. He has written 16 textbook chapters, including multiple authoritative and international textbooks in CF, pediatrics, gastroenterology and pancreatology. He has a h-index of 33 (Scopus).

**Contribution to the field of research:**

The CF Gut – from “bedside to bench to bedside”: In the last decade, A/Prof Ooi founded his research program in gastroenterology and nutrition in CF focused on (i) intestinal inflammation, (ii) alterations in gut microbiota (dysbiosis), (iii) diet and nutrition, and (iv) translation of research into clinical applications, including detection of inflammation, clinical impact (e.g. growth impairment) and potential therapies (e.g. probiotics, dietary interventions). His works in intestinal inflammation in CF include establishing age-related values for faecal biomarkers calprotectin and M2-PK, and demonstrating the correlation between severity of intestinal inflammation and growth impairment in children with CF (Dhaliwal et al. *J Pediatr Gastroenterol Nutr* 2014; Pang et al. *J Gastroenterol Hepatol* 2014; Garg et al. *J Cystic Fib* 2017; Garg et al. *J Cystic Fib* 2018). His

program was the first to demonstrate that both gut inflammation and dysbiosis begins in early infancy, that gut dysbiosis deviates farther away from the normal path with increasing age compared to healthy controls (Nielsen et al. *Sci Rep* 2016). Nielsen et al. *Sci Rep* **2016** identified a potential window of therapeutic opportunity in early childhood for CF gut dysbiosis. He is leading an international randomized controlled trial (The “PEARL-CF” study; US CF Foundation) and has established industry engagement (national & international) for probiotic research. His works have had translational impact, with his biomarkers of CF gut inflammation now utilised as end-points in clinical trials in CF, and his gut microbiota work providing justification for gut specific therapies in early childhood. His research works have led to multiple invited presentations in the European CF Society Conference (2012, 2017, 2018, 2020), North American CF Conference (2013, 2015), Australian CF Conference (2015, 2017, 2019) and Digestive Diseases Week (2017). His international reputation has also led to invitation by the CF Foundation, USA (2017; only non-North American invitee) to provide expert input into all things that matter in CF gastroenterology. A/Prof Ooi has attracted several national and international collaborations in CF.

The CF Pancreas: A/Prof Ooi and his collaborators were the first to fully unravel the complex genotype phenotype correlations between CFTR mutations and risk of developing pancreatitis, which was published in the leading journal in the field of Gastroenterology (Ooi et al. *Gastroenterology* 2011) and has been described as a “**seminal paper**” in the field of CF gastroenterology. A novel Pancreatic Insufficiency Prevalence (PIP) score was developed and validated. **This PIP score has had wide application, including clinically to predict pancreatitis risk and for patient education, and in research to classify CF patients by genotype. The methodology used to derive the PIP score has also been directly adapted to study other CF phenotypes.**

Diagnostic Issues and Dilemmas in CF: He has contributed to the complex field of diagnostic issues and challenges in CF related to newborn screened infants (CF related metabolic syndrome [CRMS] or CF screen positive indeterminate diagnosis [CFSPID]) to adulthood (CFTR-related disorders), with resultant high-impact first or senior authored publications (Ooi et al. *Pediatrics* 2015; Ooi et al. *Thorax* 2012; Ooi et al. *Thorax* 2014). Collectively, these studies have **informed international CF guidelines**. He is part of an international collaboration providing an updated guidance on the management of children with CRMS/CFSPID (Barben et al. *J Cyst Fibros* 2020). The study by Ooi et al. *Thorax* 2012 **found that CF patients who undergo the same diagnostic tests can have different diagnostic outcomes geographically due to different guidelines; this led experts to revise into a single, global CF diagnostic guideline. This study received an editorial and was voted one of best 2012 articles by Thorax editor.**

Paediatric Pancreatitis: A/Prof Ooi is also nationally and internationally recognised as a expert in paediatric pancreatitis. He is lead PI for the first international, randomized trial for paediatric acute pancreatitis (Ledder et al. *Pediatrics* 2020 [accepted]) and the only non-North American/European CI of the INSPIRRE consortium, which is the leading international research group in paediatric pancreatitis funded by the NIH. His co-first authored publication (Kumar et al. *JAMA Pediatr* 2016) is the first to **show that childhood pancreatitis has different causative factors compared to adults, with genetic causes being most frequent. These findings have become incorporated by 3 international guidelines, and genetic testing is now routine because of this study.** He is also a founding and core working group member of the ANZ Alliance for Pancreas Research (2019), which is composed of adult and paediatric pancreatologists (scientists and clinician researchers).

**Research Support:** Over AUD \$9 million in research income as a principal or chief investigator (PI).