

23.08.2024

To

Sun Pharma Science Foundation  
8C, 8th Floor, Hansalaya Building,  
15-Barakhamba Road,  
Connaught Place, New Delhi -110001,  
INDIA

Dear Sir/Madam

I would like to nominate Dr. Poonkuzhali Balasubramanian's for the Sun Pharma Science Foundation Research award. Her major research interest has been in personalizing conditioning regimen for HSCT. During her doctoral studies, she demonstrated a dose-exposure relationship of busulfan, a drug used as part of the conditioning regimen in preparing patients for HSCT, and currently routine targeted dose adjustments are made to achieve a therapeutic cut-off for busulfan using a model-based precision dosing that has resulted in improved HSCT outcomes. She extended this approach to other drugs used in the HSCT conditioning regimen including cyclophosphamide, fludarabine, treosulfan, melphalan (in aHSCT) and post-transplant cyclophosphamide GVHD prophylaxis. She has twice received the "Wellcome DBT India Alliance Senior fellowship" to carry out this research. She uses the existing knowledge of the pharmacokinetics and pharmacodynamics information from her previous work along with the acquisition of additional information such as the role of genetics variants, lineage chimerism, immune reconstitution patterns, soluble biomarkers, and organ-specific toxicity information post-transplant to develop quantitative Systems Pharmacology models that could aid in tailoring the dose exposure of certain drugs or help us identify biomarkers that can be indicative of a better outcome or complications post HSCT.

With regards

  
Dr. Biju George MD, DM

Professor

Department of Haematology

Christian Medical College

Vellore, Tamilnadu India



# Christian Medical College

VELLORE 632 002, INDIA

**Dr. Solomon Sathishkumar, Principal**

**Dr. Vinod Joseph Abraham**  
**Dr. Satheesh Solomon T. Selvin**  
**Dr. Jacob John**

Vice-Principal (UG)  
Vice-Principal (AHS)  
Addl. Vice-Principal (Research)

**Dr. Tripti Meriel Jacob**  
**Dr. Uday George Zachariah**  
**Dr. Anila Chacko**

Vice-Principal (PG)  
Vice-Principal (HR)  
Academic Officer

19<sup>th</sup> August 2024

## To Whomsoever it may concern

Dr. Poonkuzhali Balasubramanian has made several impactful and original contributions in the area of personalizing the conditioning regimen for Haematopoietic Stem Cell Transplantation (HSCT) as shown by the list of publications. During her doctoral studies, she demonstrated a dose-exposure-response relationship of busulfan, a drug used as part of the conditioning regimen in preparing patients for HSCT, and currently routine targeted dose adjustments are made to achieve a therapeutic cut-off for busulfan using a model-based precision dosing that has resulted in improved HSCT outcomes. She extended this approach to other drugs used in the HSCT conditioning regimen including cyclophosphamide, fludarabine, treosulfan, melphalan (in autologous HSCT) and post-transplant cyclophosphamide GVHD prophylaxis. She has twice acquired the "Wellcome DBT India Alliance Senior fellowship" to carry out this research. She uses the existing knowledge of the pharmacokinetics and pharmacodynamics information from her previous work along with the acquisition of additional information such as the role of genetics variants, lineage chimerism, immune reconstitution patterns, soluble biomarkers, and organ-specific toxicity information post-transplant to develop quantitative Systems Pharmacology models that could aid in tailoring the dose exposure of certain drugs or help us identify biomarkers that can be indicative of a better outcome or complications post HSCT.

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