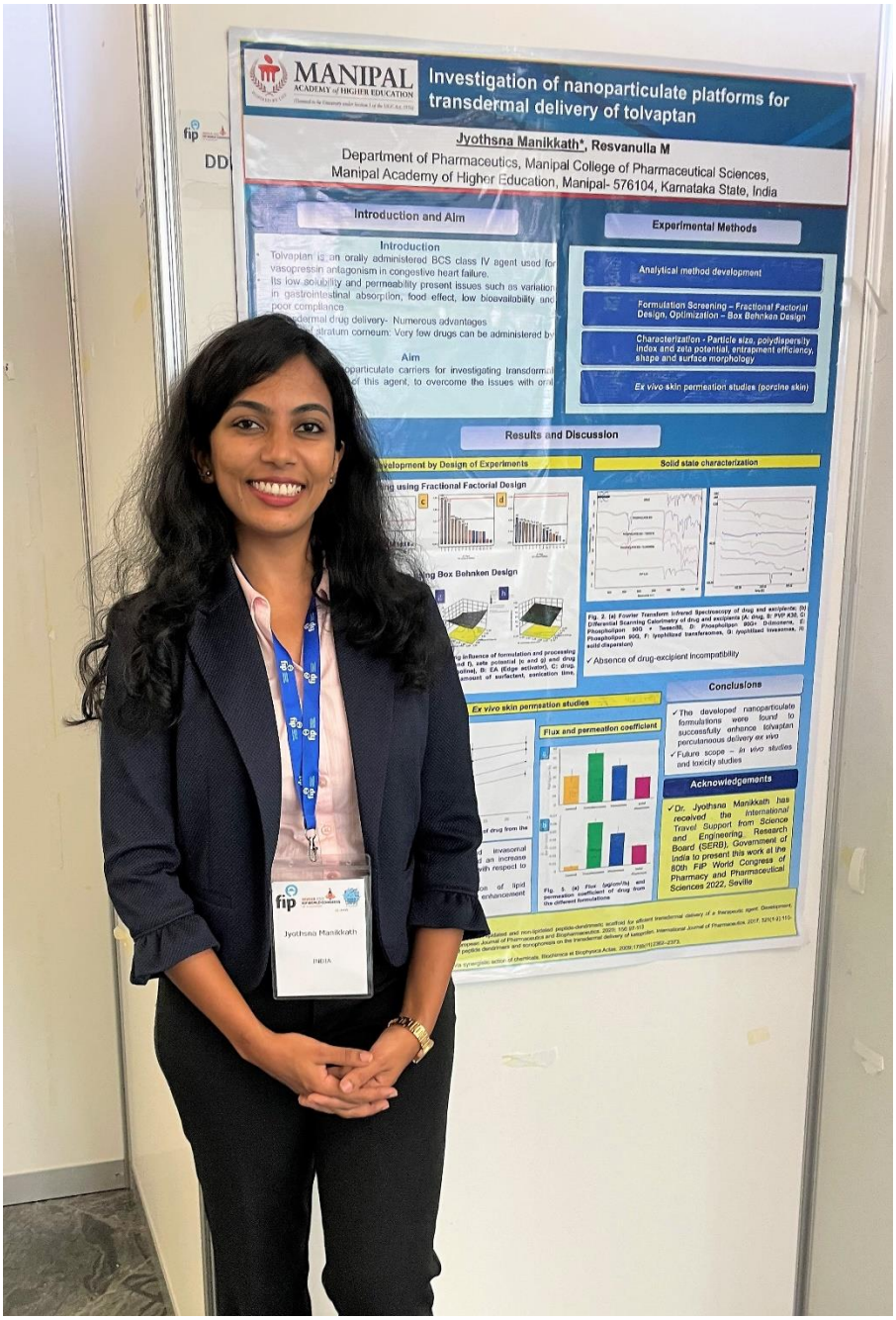
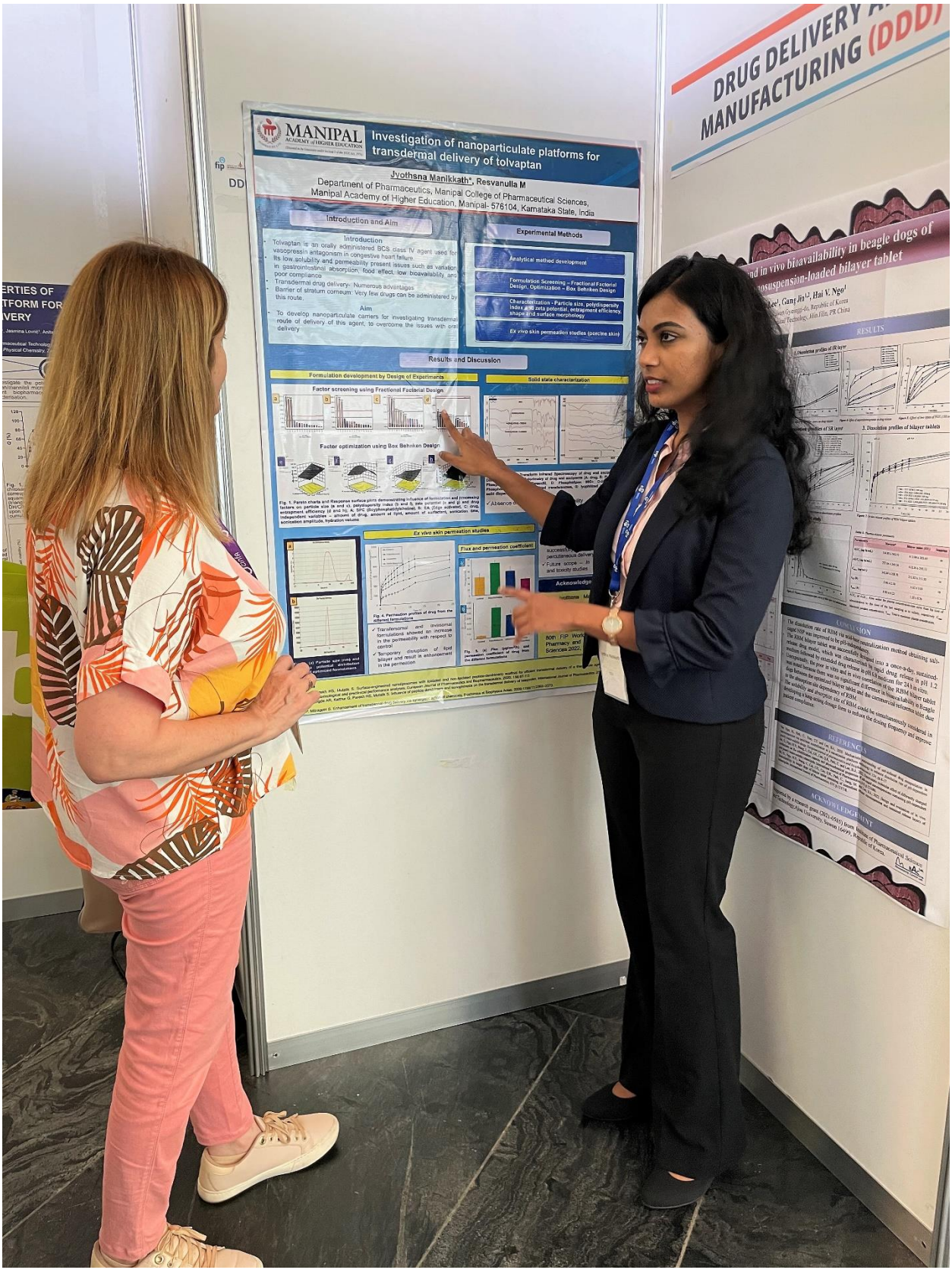
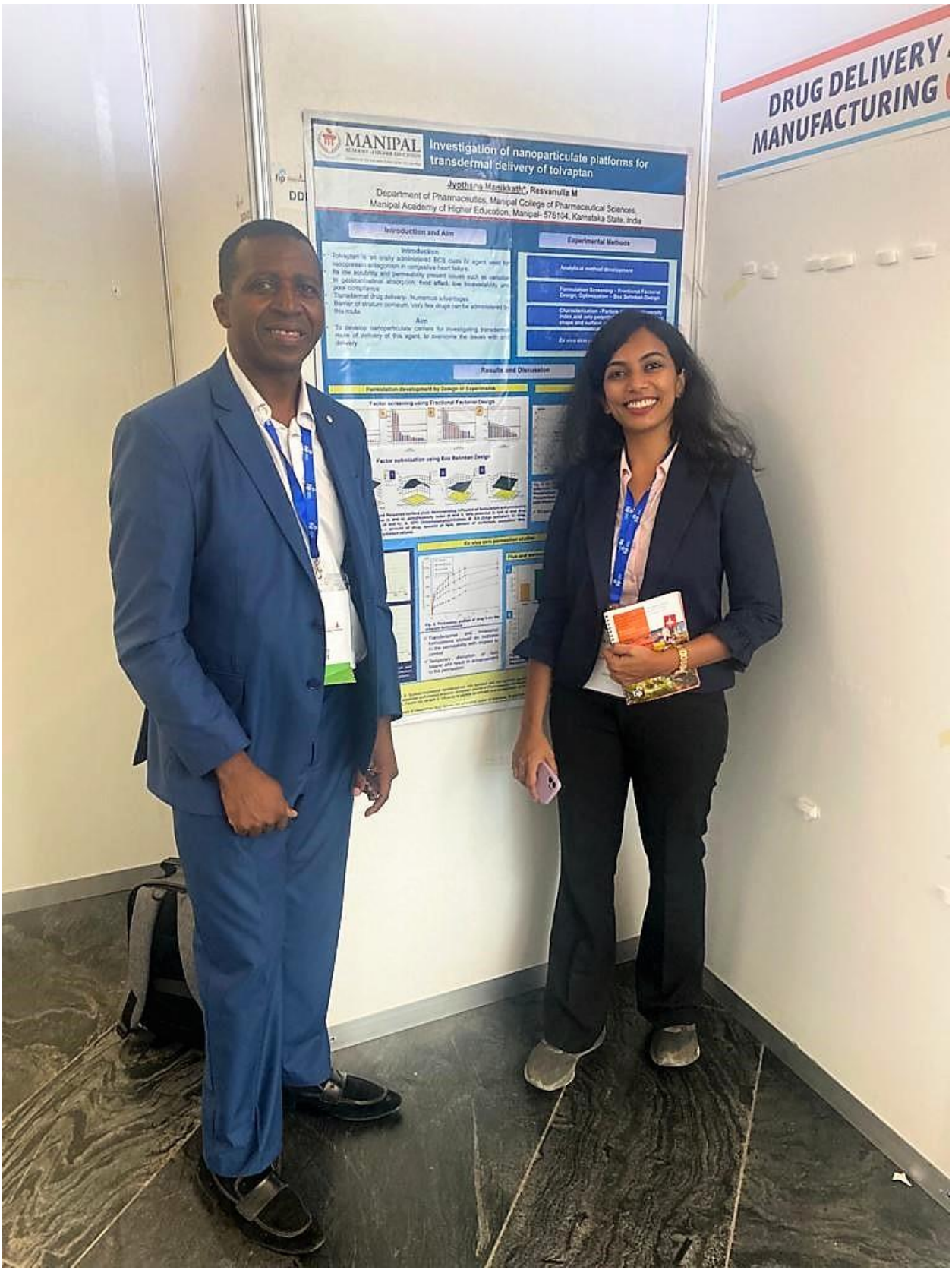
Dr. Jyothsna Manikkath, Assistant Professor, Pharmaceutics, MCOPS, receives the competitive International Travel Support from Science and Engineering Research Board, Government of India,




MANIPAL
ACADEMY of HIGHER EDUCATION
Investigation of nanoparticulate platforms for transdermal delivery of tolvaptan
Jyothsna Manikkath*, Resvanulla M
Department of Pharmaceutics, Manipal College of Pharmaceutical Sciences, Manipal Academy of Higher Education, Manipal- 576104, Karnataka State, India
Introduction and Aim
Introduction
Tolvaptan is an orally administered BCS class IV agent used for
vasopressin antagonism in congestive heart failure
Its low solubility and permeability present issues such as variation
in gastrointestinal absorption; food effect, low bioavailability and
poor compliance
Transdermal drug delivery- Numerous advantages
Barrier of stratum corneum- Very few drugs can be administered by
this route.
Aim
To develop nanoparticulate carriers for investigating transdermal
route of delivery of this agent, to overcome the issues with oral
delivery
Experimental Methods
Analytical method development
Formulation Screening – Fractional Factorial Design, Optimization – Box Behnken Design
Characterization - Particle size, polydispersity index and zeta potential, entrapment efficiency, shape and surface morphology
Ex vivo skin permeation studies (porcine skin)
Results and Discussion
Formulation development by Design of Experiments
Factor screening using Fractional Factorial Design
Factor optimization using Box Behnken Design
Solid state characterization
Ex vivo skin permeation studies
Flux and permeation coefficient
Acknowledge
DRUG DELIVERY
MANUFACTURING (DDD)
RESULTS
REFERENCES
ACKNOWLEDGMENT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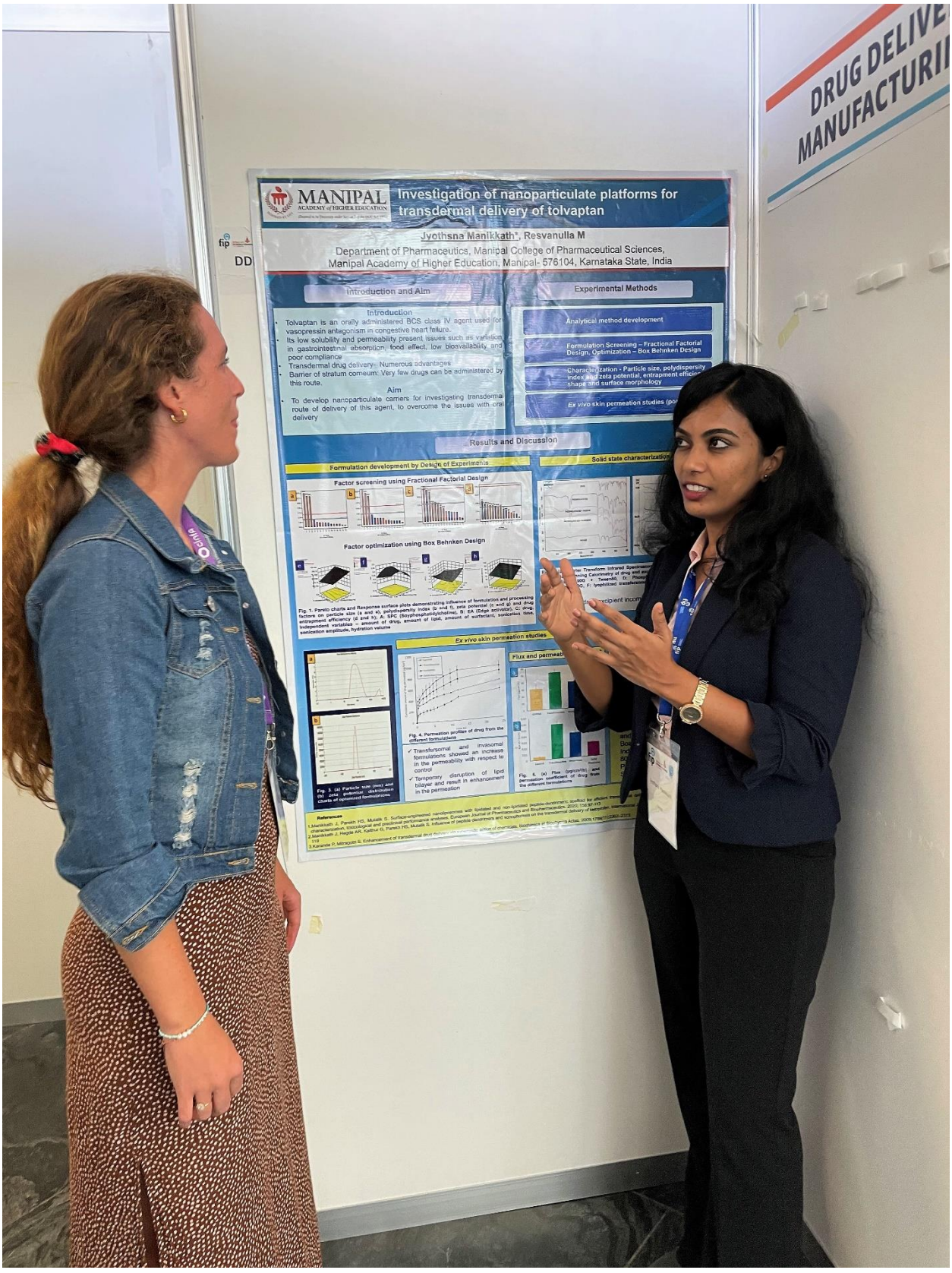
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Ex vivo skin permeation studies
Transfersomal and invasomal formulations showed an increase in the permeability with respect to control
Temporary disruption of lipid bilayer and result in enhancement in the permeation
References