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Association of Pharmacy Professionals (APP) Tamilnadu State Branch and APP West Indies International Branch organized **Association of Pharmacy Professionals 8th Annual Convention & 4th Indo-US Conference on "Research and Innovations in Pharmaceutical Sciences: Progress and Problems"** at JSS College of Pharmacy, Rocklands, Doty, Tamilnadu on Jul 24-25, 2019, in collaboration with APP MolPharm Division. During this APP-JSSCP collaborative conference, Prof. B. Suresh, Pro Vice Chancellor, JSS AHER (Deemed to be University), Mysuru, Karnataka acted as 'Chief Patron'; Prof. Dhanabal Palanisamy, Principal & Dean, JSS College of Pharmacy, Rocklands, Doty, Tamilnadu as 'Convener'; Dr. Hemendra Gautam, Vice President, Association of Pharmacy Professionals and Director, Future Institute of Pharmacy, Bareilly (UP) and Ex-Vice Chancellor, P. K. University, Shivpuri (MP) as 'Co-convener'; Dr. Natarajan Jawahar, Joint Secretary, APP Tamilnadu State Branch from JSS College of Pharmacy, Rocklands, Doty as 'Organizing Secretary'; Dr. Sachin Dubey, International Head, APP IP-DRA Division from Glenmark Pharmaceuticals, Switzerland as 'Scientific Committee Chairman'; Dr. Suresh V. Chennupati, Vice President APP Ethiopian International Branch from Wollega University, Nekemte, Ethiopia and Dr. Vetriselvan Subramaniam, Vice President APP Malaysian International Branch from MAHSA University, Kaula Lumpur, Malaysia as 'Scientific Committee Co-Chairmans'. Scientific sessions of the conference were enriched with lectures of Dr. Sunita Dahiya, General Secretary APP from School of Pharmacy, University of Puerto Rico, Medical Sciences Campus, San Juan, PR, USA; Dr. Rajiv Dahiya, Director, School of Pharmacy, Faculty of Medical Sciences, The University of the West Indies, St. Augustine, Trinidad & Tobago,



West Indies; Dr. Pran Kishore Deb, Associate Professor, Department of Pharmaceutical Chemistry, Faculty of Pharmacy, Philadelphia University, Jordan; Prof. P. Shanmugasundaram, President, APP Tamilnadu State Branch and Director, School of Pharmaceutical Sciences, Vels Deemed to be University (VISTAS), Pallavaram, Chennai; Dr. Gaurav Gupta, National Head, APP MolPharm Division and Associate Professor, Department of Pharmacology, School of Pharmacy, Suresh Gyan Vihar University, Jaipur, Rajasthan; Dr. Palanisamy Selvamani, Secretary, APP Tamilnadu State Branch and Associate Professor, Department of Pharmaceutical Technology, Anna University, BIT Campus, Tiruchirappalli; Prof. M. Suresh Kumar, Research Director, JSS College of Pharmacy, Rocklands, Doty who addressed the professional gathering on diverse topics of pharmaceutical interest viz. 'Structural assignment and pharmacokinetic study of drug-cyclodextrin solid system'; 'Chemistry and pharmacology of complex cyclooligopeptides'; 'Design, synthesis and molecular modeling studies of novel 2, 4-substituted-thieno [2,3-d] pyrimidines as adenosine receptors antagonists'; 'Mucoadhesive buccal films for the treatment of oral potentially malignant disorders (OPMD)'; 'Current trend of 3D printing in pharmaceutical research: Recent achievements and challenges'; 'Metabolomics and personalized medicine' and 'Somebody watching you! Do's and Don'ts with research data'. Dr. Dahiya discussed that cyclodextrins (CDs) are chiral, truncated cone shaped macrocycles that are able to form inclusion complexes with a variety of poorly soluble hydrophobic drugs, positively modifying their physicochemical properties. A thorough analytical characterization of CD complexes is of fundamental importance, not only to understand a possible mechanism responsible for enhanced drug dissolution but also

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to provide an insight into their structure and properties. The demonstration of actual formation of a drug-CD inclusion complex in solution does not guarantee its existence also in the solid state. Moreover, the technique used to prepare the solid complex can strongly influence the properties of the final product. Therefore, structural characterization of the drug-CD solid system has a pivotal role in selection of the most potential cyclodextrin as well as efficient preparation method.

Dr. Shanmugasundaram discussed that among the various routes of administration, oral route is the most convenient, easy and preferred one. However, orally administered drugs are either prone to hepatic first-pass metabolism or metabolism in gastrointestinal (GI) tract or both. These are the main reasons for which some classes of drugs like peptides and proteins cannot be administered orally. Delivery of drugs through various mucosal surfaces (nasal, rectal, vaginal, ocular and oral mucosa) may form the potential alternative solution for delivery of such classes of drugs. These mucoadhesive drug delivery systems improve the bioavailability of the drugs by bypassing the first pass effects and avoiding the presystemic elimination of the drug within the GI tract. Out of the various sites available for mucoadhesive drug delivery, buccal mucosa is the most suited one for local as well as systemic delivery of drugs. It's anatomical and physiological features like presence of smooth muscles with high vascular perfusion, avoidance of hepatic first pass metabolism and hence can potentially improve bioavailability are the unique features which make it as an ideal route for mucoadhesive drug delivery.

Dr. Selvamani told that the field of clinical metabolomics involves the use of metabolomics-driven techniques in a clinical context, studying disease-related changes of the metabolome, which ultimately reflect possible alterations in genome, transcriptome, and proteome. In recent years, metabolomics has become an inevitable tool in several clinical research fields, helping to discover new diagnostic markers and molecules and furthering our understanding of pathophysiological processes. Unlike the field of clinical chemistry which today is integrated into many clinical processes, clinical metabolomics is a much more "juvenile" discipline still on its way to become fully

integrated into modern health care.

Dr. Gupta discussed that with the rapid pace of development in industrial sector, the pharma sector and researchers involved are equally contributing in developing the latest technology for the growth and development. The computer-aided designs and manufacturing that provides 3 Dimensional printed dosage forms is the new step being taken into consideration. With the FDA approval to first 3D printed tablet in August 2015, Spritam, 3 Dimensional printing (3DP) has become the all new method for preparation of drug delivery system. 3D printing has the capability of dispensing the drug more accurately, precisely, and the layer by layer assembly helps in forming complex composition and geometries. 3D printing enables the preparation of personalized dosage form and tailored release profiles. 3D printing can be seen as future of solid dosage forms produced on demand, with customized dose and possibly lower in cost.



At the end, diverse pharmacy professionals were honored with APP Awards for their contribution toward the profession. Prof. K. Chinnaswamy, President, Indian Association of Colleges of Pharmacy, Chennai, Tamilnadu, India was honored with 'APP Life Time Achievement Award' for his outstanding achievements and untiring efforts for betterment of Pharmacy Profession; Prof. Dhanabal Palanisamy, Principal & Dean, JSS College of Pharmacy, Rocklands, Ooty, Tamilnadu with 'APP Academic Excellence Award' for his key contribution in pharmaceutical field; Dr. Gaurav Gupta, National Head, APP MolPharm Division and Associate Professor, Department of Pharmacology, School of Pharmacy, Suresh Gyan Vihar University, Jaipur, Rajasthan with 'APP Young Scientist Award' for his outstanding research contribution in pharmaceutical field; Dr. Manivannan Rangasamy, Principal, Excel College of Pharmacy, Pallakapalayam, Tiruchengole, Namakkal, Tamilnadu with

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'APP Young Talent Award' for academic and research contribution in the pharmaceutical field.

Further, Ms. K. M. Priya, D.Pharm Student, JSS College of Pharmacy, Rocklands, Ooty, Tamilnadu was conferred with 'Best Student Award' which was given in memory of 'Late Smt. Phoolwasa Devi Dubey'; Mr. G. Ramu, Department of Phytochemistry & Phytomedicine, JSS College of Pharmacy, Rocklands, Ooty with 'Best Achiever Award'; Dr. S. Jubie, Department of Pharmaceutical Chemistry, JSS College of Pharmacy, Rocklands, Ooty with 'Best Researcher Award'; Prof. R. Vadivelan, Department of Pharmacology, JSS College of Pharmacy, Rocklands, Ooty with 'Best Teacher Award'; Mr. Saikiran PS, Research Scholar, JSS College of Pharmacy, Rocklands, Ooty with 'Best Research Scholar Award'; Ms. K. M. Priya, D.Pharm Student, JSS College of Pharmacy, Rocklands,

Ooty with 'Best Student Award'; Ms. Kaviya Shree S, B.Pharm Student, JSS College of Pharmacy, Rocklands, Ooty with 'Best Student Award'; Ms. Rupika Sunnidi, M.Pharm Student, JSS College of Pharmacy, Rocklands, Ooty with 'Best Student Award';



Also, e-poster presenters were awarded for their presentations during the scientific session. The conference ended with announcement of Dr. Pran Kishore Deb from Philadelphia University, Jordan as 'International Head' of APP Drug Design and Medicinal Chemistry Division and felicitation of Dr. Natarajan Jawahar from JSS College of Pharmacy, Rocklands, Ooty with 'Appreciation Award' for his active role in accomplishment of the APP Annual Convention.

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