

2<sup>nd</sup> International Conference and Exhibition on

# Pharmaceutics and Advanced Drug Delivery Systems

July 05-06, 2019 | Paris, France

## Statistics regarding particle interactions in granular material of high density in conditions of uniaxial compression

**Saleh Mohammed Alamri**

Prince Sultan Military Medical City, KSA

There is a close correlation between how stress evolves in material characterised by high density and granularity and contacting particle interactions. Statistics associated with particle interactions and the relation of averaged local relative motion with macroscopic motion are explored. This involves assessment of how valid the Voigt and Reuss assumptions are, suggestion of how these assumptions can be extended, and exploration of effects of history in the dense granular material. Three-dimensional quantitative simulations of dense granular media subjected to uniaxial cyclical compression are used to derive the necessary statistical samples. According to outcomes, normal inter-particle forces are the main source of stresses, while inter-particle frictional tangential forces do not contribute directly to a significant extent. Nevertheless, the particle contact time is markedly increased by tangential

friction, leading to a reduction in contact breakage rate. There is evidence that the rate of contact breakage represents a stress relaxation rate, and consequently, the extended relaxation time causes a considerable increase in stress with inter-particle friction.

### Speaker Biography

Saleh Mohammed Alamri completed his Master's Degree in Pharmaceutical Biotechnology from De Montfort University, UK in 2014. He is currently working as an Assistant Director of Pharmacy for Material Management in Prince Sultan Military Medical City, KSA. He has presented his works in several National and International Conferences and Meetings.

e: musab999@yahoo.com

 *Notes:*