



CHTM Room 101

Friday, June 15, 2018 10:00 A.M.

“Use small, achieve big”- Compact NEG pumps for HV to UHV/XHV applications.



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Abstract: The needs to miniaturize and reduce the footprint of vacuum systems are among the most pertinent issues on the vacuum community's research agenda because the equipment incorporating the vacuum tools are becoming increasingly complex as they need to deliver high performance in a very limited size in a wide variety of research and industrial applications. The applications include surface/material growth and analysis systems, semiconductor tools, particle accelerators, interferometers, cold trap, portable vacuum suitcase/analyzers, and advanced photocathodes to mention a few. In this talk, novel routes to compact, and high-performance Non-Evaporable Getters (NEGs) pumping and technology in HV to UHV/XHV systems will be presented. For example, the small NexTorr pump approach, which develops large pumping speeds per unit volume, is helpful to achieve appropriate vacuum conditions in laboratory equipment. With the use of the NEG pumps, the possibility of delivering high pumping speed in a small size is interesting not only to miniaturize laboratory but also to allow significant redesign and simplification of the layout of the complex vacuum system with added advantages in terms of ultimate of vacuum, reduced costs, and reliability. Based on the high porosity sintered materials for the best mechanical properties, the pumps can have the maximum and lasting performance. The NexTorr (NEG + SIP pump) and the CapaciTorr (Getter only pump) sintered getter pumps, sorption science and technology of the getters, and their uses will be discussed.