Journal of
Electrical Engineering and Electronic Technology

Abstract

Cavitation on Chip Devices

Ali Kosar
Sabancı University, Turkey

Abstract:

Hydrodynamic cavitation is considered as an effective tool to be used in different applications such as surface cleaning, food industry, energy harvesting, water treatment, biomedical applications, and heat transfer enhancement. Thus, both characterization and intensification of cavitation phenomenon are of great importance.

The concept of "Cavitation on Chip" is a growing field, which attracts both engineering and medical science communities. The focus will be on cavitating flows in microfluidic systems with modified surfaces. Biomedical, energy and nanoparticle applications of hydrodynamic cavitation will be included in the talk along with research results of the speaker in this field. The speaker will include his contributions to the subject and talk about future research directions in this subject.

Biography:

Ali Kosar is one of pioneers in the design and development of new generation micro heat sinks and microfluidic devices. His research interests constitute a wide spectrum covering heat and fluid flow in micro/nano scale, forced convection, multi-phase flow, and cavitation.

Recent Publications:

- Sadaghiani, Abdolali Khalili and Rajabnia, Hossein and Çelik, Süleyman and Noh, H. and Kwak, H. J. and Nejatpour, Mona and Park, Hyun Sun and Acar, H. Y. and Mısırlıoğlu, Burç and Özdemir, Mehmed Rafet and Kosar, Ali (2020) "Pool boiling heat transfer of ferrofluids on structured hydrophilic and hydrophobic surfaces: the effect of magnetic field", International Journal of Thermal Sciences, Vol.155 (SCI)
- Hosseinpour Shafaghi, Ali and Rokhsar Talabazar, Farzad and Kosar, Ali and Ghorbani, Morteza (2020) "On the effect of the respiratory droplet generation condition on COVID-19 transmission", Fluids, Vol.5, No.3 (ESCI)
- Mohammadi, Ali and Kosar, Ali (2020) "The effect of arrangement type and pitch ratio on the performance of micro-pin-fin heat sinks", Journal of Thermal Analysis and Calorimetry, Vol.140, No.3, 1057-1068 (SCI)
- Talebian Gevari, Moein and Abbasiasl, Taher and Niazi, Soroush and Ghorbani, Morteza and Kosar, Ali (2020) "Direct and indirect thermal applications of hydrodynamic and acoustic cavitation: a review", Applied Thermal Engineering, Vol.171 (SCI)
- Yetişgin, Abuzer Alp and Çetinel, Sibel and Zuvin, Merve and Kosar, Ali and Kutlu, Özlem (2020) "Therapeutic nanoparticles and their targeted delivery applications", Molecules, Vol.25, No.9 (SCI)

Webinar on Lab-on-Chip; May 15, 2020; 12:30 pm (GMT+3)

Citation: Ali Kosar; Cavitation on Chip Devices; Webinar on Lab-on-Chip; May 15, 2020; 12:30 pm (GMT+3).