

# 特別講演会

主催： 東北大学流体科学研究所

協賛： 静電気学会東北支部

日時： 令和 6 年 3 月 27 日（水） 16:00 ～ 17:00

場所： 流体科学研究所 1 号館 2 階会議室 および オンライン開催 (Google Meet)

<https://meet.google.com/xnc-vhkr-qjr>

講師： Mohamed Farhat (Professor, Senior Scientist, Head of Cavitation Research Group, Institute of Mechanical Engineering, Ecole Polytechnique Federale de Lausanne (EPFL), Switzerland)

講演タイトル： Review of recent research on cavitation

講演内容： In the present talk, I will present an overview of the past and ongoing research, performed at EPFL, on the cavitation bubble dynamics and how they may interact strongly with neighboring boundaries. I will first report about our recent experiments on the effect of gas content on the collapse of a cavitation bubble. We used aqueous ammonia to manipulate the gas content and could demonstrate that the vapor does not condense entirely but gets partially compressed during the final stage of the collapse. I will show how this result is of major importance in predicting the intensity of shockwaves and luminescence. I will also address the dynamics of a single cavitation bubble in the vicinity of a sand bed and a flexible surface. I will illustrate how in these occasions the speed of the microjet may significantly increase and become supersonic, compared to the case of a rigid surface. Finally, I will briefly describe our open-source numerical solver BIMBAMBUM, based on the Boundary Integral Method, to predict the bubble dynamics in various configurations.

\*この特別講演会は、公募共同研究の活動の一環として企画しています。

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