

بسمه تعالی

سخنرانی علمی به مناسبت هفته پژوهش

سخنران: آقای دکتر مهدی بهروزی

عنوان سخنرانی: **Avian Brain through fMRI glasses**

زمان سخنرانی: سه شنبه ۲۳ آذر ساعت ۱۶ به صورت مجازی

آدرس جلسه: <https://meetingvc.iust.ac.ir/bme-seminar/>

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Biography:

Mehdi Behroozi received his MS. in biomedical engineering in 2012 from the Iran University of Science and Technology (IUST) under the supervision of Prof. Dr. Mohammadreza Daliri. He was a non-resident researcher at Scholl of Cognitive Science, IPM Iran from 2012-2015 in the monkey laboratory. He started his Ph.D. at biopsychology department at Ruhr Universität Bochum, Bochum Germany under the supervision of Prof. Drs. Güntürkün. During his Ph.D., Mehdi could develop a platform to investigate actively behaving pigeons using a 7T fMRI scanner for the first time. Since 2019 he is a postdoc at the same laboratory. His main research interest is neuroimaging in the avian brain to understand: (i) neural mechanism of pigeon cognition; (ii) neural mechanism underlying avian sleep; (iii) and neural mechanism of imprinting in newborn chicks.

Abstract: Over the last two decades, important leaps in technological development have enabled major discoveries in modern neuroscience. Undoubtedly, functional magnetic resonance imaging (fMRI) became thereby the gold standard technique to identify task-dependent local activity patterns by recording hemodynamic responses to neuronal activity using the so-called blood oxygenation level-dependent (BOLD) MRI contrast. This success story, however, was mostly restricted to studies with human subjects and larger non-human primates like macaques, until high field preclinical MRI systems were developed that gave access to small animals. Small animal-fMRI is a powerful method to understand neural mechanisms of cognition, but it remains a major challenge to scan actively participating small animals under low-stress and awake conditions. Here, we present an event-related functional MRI platform in awake birds using single-shot RARE fMRI to investigate the neural fundamentals for visually-guided decision making, avian sleep, and newborn chick imprinting.