

## 해외 석학 초청 [의료데이터와 인공지능] 세미나

- 일시 : 2022년 10월 5일 (수), 오후 2:00 ~ 3:00
- 장소 : 이화여자대학교 공과대학 공학B159
- 온라인참석링크(비대면 참여 권장) : <https://ewha.zoom.us/j/93042798875>
- 주관 : 이화여대 BK21 4IR 기반 헬스케어전문인력양성사업단, 사회 : 최장환 교수
- 연자 : **Andreas Maier 교수** (Department of Computer Science, Chair of Computer Science 5 "Pattern Recognition", **University of Erlangen-Nuremberg**)
- 주제 : **Known operator learning and hybrid machine learning in medical imaging—a review of the past, the present, and the future**
- 초록 : In this talk, we perform a review of the state-of-the-art of hybrid machine learning in medical imaging. We start with a short summary of the general developments of the past in machine learning and how general and specialized approaches have been in competition in the past decades. A particular focus will be the theoretical and experimental evidence pro and contra hybrid modelling. Next, we inspect several new developments regarding hybrid machine learning with a particular focus on so-called known operator learning and how hybrid approaches gain more and more momentum across essentially all applications in medical imaging and medical image analysis. As we will point out by numerous examples, hybrid models are taking over in image reconstruction and analysis. Even domains such as physical simulation and scanner and acquisition design are being addressed using machine learning grey box modelling approaches. Towards the end of the article, we will investigate a few future directions and point out relevant areas in which hybrid modelling, meta learning, and other domains will likely be able to drive the state-of-the-art ahead.