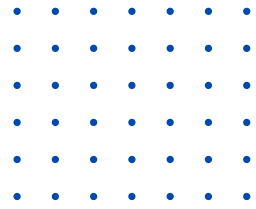**UNIVERSITÀ DEGLI STUDI DEL SANNIO** Benevento

DING
DIPARTIMENTO DI INGEGNERIA

Venerdì **21 marzo 2025**
ore 15:00
Sala Convegni
Palazzo San Domenico
Piazza Guerrazzi - Benevento

Dr. Xin Xia
Enhancing Software Engineering with Large Language Models: Insights, Challenges, and Future Directions

ABSTRACT

Large Language Models (LLMs) have shown significant promise in various software engineering tasks, yet integrating them into broader software engineering processes introduces distinct challenges, particularly due to their limited grasp of domain-specific knowledge. In this talk, I will outline the key lessons learned and obstacles faced when applying LLMs to software engineering. This includes the importance to filter out noisy data and the advantages of integrating LLMs with program analysis techniques to improve context understanding. Furthermore, I will discuss the transformative impact of LLMs on different software engineering practices, such as test case generation, vulnerability management, and automated code generation. The presentation aims to delve into both the limitations and potential of LLMs in software engineering, offering a perspective on emerging opportunities and future directions in the field.

BIO

Xin Xia is a Chief Expert in Software Engineering Application Technologies at Huawei Technologies, China. His research interests encompass artificial intelligence (AI) and software engineering (SE), mining software repositories, and empirical software engineering. Xin has authored over 340 papers and has received 15 best or distinguished paper awards, including eight ACM SIGSOFT Distinguished Paper Awards for his contributions at ASE (2018-2021), ICPC (2018, 2020), ICSE (2024), and MSR (2024). In recognition of his early career achievements, he was awarded the ACM SIGSOFT Early Career Researcher Award in 2022 and is an ACM Distinguished Member.
Xin has been a significant role in the software engineering community, serving on the steering committees of several conferences, including MSR, SANER, Internetware, and PROMISE. He has played key roles in organizing major SE conferences such as ICSE (2023-2025) and ASE (2020-2021). Currently, he serves as Program Co-Chair for ICSME 2026, SANER 2023, TechDebt 2023, and PROMISE 2021, and as General Co-Chair for Internetware 2023 and FORGE (2024-2025). Additionally, Xin is an Associate Editor for several esteemed SE journals, including TOSEM, EMSE, ASEJ, and JSEP.