Abstract:

For some years ahead, peta-scale high performance computing systems which have over peta-FLOPS performance, are being built and installed in US, Japan and Europe. In order to make use of such system, the software to support parallel programming in peta-scale system is indispensable. Recently, we have launched a new project for parallel programming language for a petascale system. In this project, we are designing a new directive-based language extension, called XcalableMP, which allows users to develop parallel programs for distributed memory systems easily and tune the performance by having minimal and simple notations. In this talk, I will give a brief overview on trends in parallel programming languages and our experience from HPF (High Performance Fortran), and describe the idea behind XcalableMP. XcalableMP is now under design, so your comments and requests will be very welcome.