Confluences in Programming Languages Research (Keynote)

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Abstract
A confluence occurs when two rivers flow together; downstream the combined forces gather strength and propel their waters forward with increased vigor. In academic research, Varghese argues a confluence occurs after some trigger—perhaps a discovery or a change in technology—and brings two previously separate branches of research together [1]. In this talk, I will discuss confluences in programming languages research. Here, confluences often occur when basic research finds application in some important new domain. Two prime examples from my own career involve the confluence of research in type theory and systems security, triggered by new theoretical tools for reasoning about programming language safety, and the confluence of formal methods and networking, triggered by the rise of data centers. These experiences may shed light on what to teach our students and what is next for programming languages research.

Categories and Subject Descriptors D.1 [Programming Techniques]

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References