## Computer Science Colloquium

## Service-Oriented Computing: Emerging Approaches for Web-Based Software Engineering

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**Abstract:** Emerging technologies facilitate an environment where web-based software or web services have well-defined, open interfaces and are discoverable across the Internet. Service-oriented computing is an emerging approach to software engineering that suggests that new specialized business processes can be created, on-demand, simply by integrating the services provided by others. However, in the real world, software developers tend to create applications that do not conform to consistent developmental practices even if they do use universal interface representations (e.g. the eXtensible Markup Language). Our research utilizes semantic approaches, enhanced syntactical methods, and contextual information to automate the integration of software services that are developed randomly from a wide array of diverse sources. This talk discusses our foundational lines of research and subsequent contributions in the areas of service discovery, composition, and evaluation. The talk will conclude with future work that leverages service-oriented paradigms in areas such as visual analytics, smart grid, and an Internet of things.

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