

***The University of Alabama
Department of Computer Science
Colloquium Series Speaker***

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Updated-based Cache Access and Replacement Policies

**Friday, September 22, 2006
11:00a.m., Houser 108**

Abstract:

Update information makes the corresponding cached data objects invalidated under a strong consistent policy, and the data object cache hit information becomes almost useless. In this talk, we will present some of our studies about updated-based cache access and replacement policies. We use wireless data access as an example; however the approaches can be easily applied to other areas. We propose and study several adaptive access schemes and updated-based replacement policies. Our work includes scalability analysis, greedy algorithm, theoretical bounds/limitations, optimal solutions, etc. Our approaches are based on not only heuristic intuitions, but also theoretical foundation, which provides us deep insights on system behaviors which otherwise heuristic or simulation approaches cannot achieve. Analysis and extensive simulations show advantages of the proposed schemes.

Dr. Xiao's Bio:

Yang Xiao is currently with Department of Computer Science at The University of Alabama. His research areas are wireless networks, mobile computing, and network security. He currently serves as Editor-in-Chief for *International Journal of Security and Networks (IJSN)* and for *International Journal of Sensor Networks (IJSNet)*. He is an Associate Editor or on editorial boards for five other journals. Dr. Xiao has six years of industry experience as software engineer, Sr. software engineer, technique lead, and MAC (Medium Access Control) architect. He was a voting member of IEEE 802.11 Working Group from 2001 to 2004 and he is an IEEE Senior Member. Dr. Yang Xiao has published more than 140 papers in major journals (more than 40 in various IEEE Journals/Magazines), refereed conference proceedings, and book chapters