



## LECTURE SERIES

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### Chamaeleo: Toward Self-Managing Service-Oriented Applications

Service-oriented computing is slated to shape modern societies in vital areas such as healthcare, government, science, business, and finance. It utilizes services as the building blocks for developing collaborative applications, known as service-oriented applications (SOAs), distributed within and across organizations. The most common realization of SOAs is based on Web services, i.e., Web-accessible entities that provide pre-defined capabilities via message exchange. Current approaches for SOA management in dynamic environments are time-consuming and error-prone because of their burdensome human involvement. They provide limited abstractions to cope with the complex SOA development life cycle and required adaptation to changes. In this presentation, I will talk about Chamaeleo, our on-going project for enabling self-managing SOAs. These are SOAs that can manage themselves with minimal human intervention. Their autonomic features promise to eliminate much of the cost and difficulty required to manage dynamic SOAs. I will first present the major research thrusts addressed by Chamaeleo and overview potential application domains including e-science, e-learning, supply chains, and disaster management. I will then focus on change

management and Chamaeleo's service replaceability and matching framework. In particular, I will describe a policy-based matching framework for dealing with failures and changes in dynamic service-oriented environments.

**Bio:**

Brahim Medjahed is on the Computer and Information Science Faculty at the University of Michigan - Dearborn since September 2004. He received the Ph. D. degree in computer science from Virginia Tech in May 2004. He was awarded the 2004 "Outstanding Graduate Research Award" at Virginia Tech's Department of Computer Science. His research interests

include service-oriented computing, semantic Web, workflow, and data integration. He has published several papers in international journals including IEEE Transaction On Knowledge and Data Engineering, The VLDB Journal, Distributed and Parallel Databases, International Journal of Cooperative Information Systems, IEEE Internet Computing, IEEE Intelligent systems, and IEEE Computer. He is guest-editor of special issue on "Semantic Web Services: Issues, Solutions, and Applications" for the ACM Transactions On Internet Technology (to appear in early 2008). He is a member of IEEE and AC

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