

**UNIVERSITY GRADUATE SCHOOL BULLETIN  
ANNOUNCEMENT**

**Florida International University**  
*University Graduate School*

Doctoral Dissertation Defense

**Abstract**

Collaborative Mediation

by

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A mediation system utilizes a central security mediator that is primarily concerned with securing the internal structure of the mediation system. The current problem is that clients are unable to have authority and administrative rights over the security of their data during a transaction. In addition, this mediation system is unsuited for presenting a metrics that measures the level of confidence of security access rights. This creates a black-box perspective from the client towards the mediation system and also gives no assurance to these clients that they have assigned the proper security access rights that reflect the current environment of the mediation system.

This dissertation presents a Collaborative Information System that uses an agent-based approach to encapsulate collaborative information and security policies within the mediation system, which are under the control of the clients of the mediation system. In conjunction with the CIS's Stochastic Security Framework it was possible to take a probabilistic approach in modeling the security access rights of a collaboration transaction. The research results showed that it is feasible to construct a mediation system utilizing agents and stochastic equations to establish an environment where the client has authority and administrative control in assigning security access rights to their collaborative data that can establish a metrics that measures the level of confidence of these assigned rights.

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**Place:** University Park, ECS 349

**Department:** School of Computing and Information Sciences

**Major Professor:** Dr. Peter J. Clarke