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## Research Statement

My research is in the area of digital libraries, specifically concerning the representation, responsibilities and interfaces between repositories and stored objects and the implications of these relationships to digital preservation. I am currently investigating how digital objects can be self-preserving, building Open Archives Initiative Protocol for Metadata Harvesting (OAI-PMH) capability into web servers, conveying rights expressions in OAI-PMH, and studying digital library usage indicators. These are specific examples of the more general questions that motivate me:

- How can we radically increase digital preservation capability beyond the current resource intensive, repository-centric, "command and control" modality?
- How can we bring a principled, modeled approach to information exchange?
- How can we ensure the integrity of intellectual property expressions once information is exchanged?
- How can we measure the impact of information system on people's work habits? (and not just measure the impact of people on information systems.)

My focus has always been on middleware and infrastructure for the construction of higher-level services. This puts me at a disadvantage when visitors come and demonstrations are given: middleware is only successful when it is invisible. As an editor of the OAI-PMH, there is satisfaction in the fact that although many people use OAI-PMH-based systems every day, few have actually seen it.

In the 2003 NSF Post Digital Library Futures Workshop, Carl Lagoze and Herbert Van de Sompel identified the gap between digital library community and the general web community. This is a situation that I am working to address. Currently, this is manifested through bringing OAI-PMH to the general web community via an Apache module (the mod\_oai project), and the other direction through bringing digital rights expressions such as the Creative Commons into the OAI-PMH through the OAI-Rights project. For the foreseeable future, I will devote my research to bridging this gap between the communities.