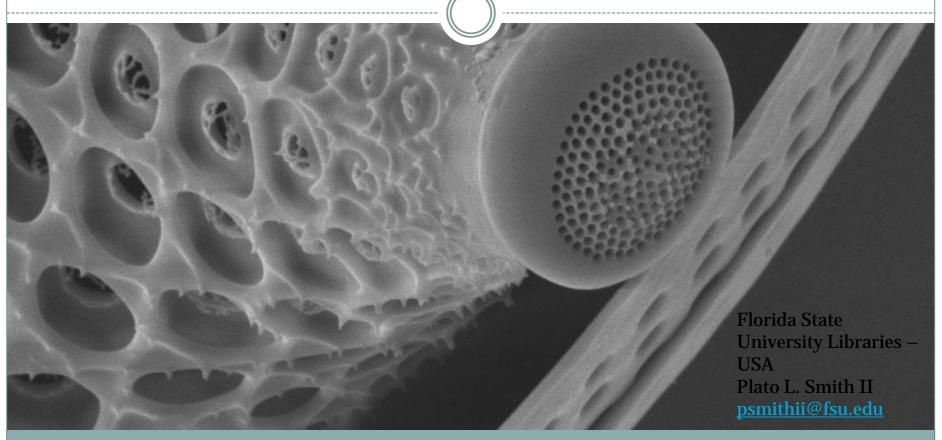


#### Twelfth International Conference on Grey Literature



Developing small worlds of e-science: using quantum mechanics, biological science, and oceanography for education and outreach strategies for engaging research communities within a university

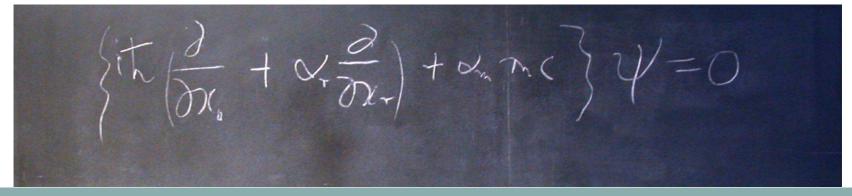


National Technical Library, Prague, Czech Republic, 6-7 December 2010

### Table of content



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Relativistic quantum mechanical wave equation formulated by Dirac in 1928

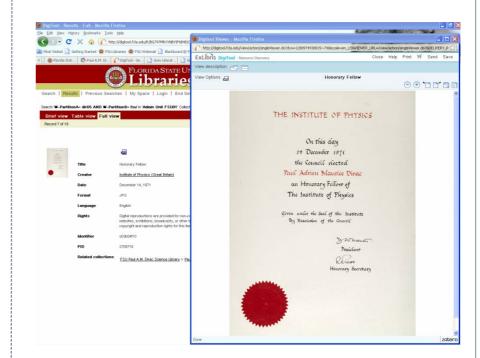
#### Models – Open Archival Information System (OAIS), DCC Curation Lifecycle, Boyer's Model of Scholarship



- International Standard Organization (ISO) OAIS "provides a framework for understanding and increased awareness of archival concepts needed for Long Term digital information preservation and access; provides a framework for describing and comparing different Long Term Preservation strategies and techniques" (CCSDS, 2009).
- DCC Curation Lifecycle "provides a graphical, high-level overview of the stages required for successful curation and preservation of data from initial conceptualisation or receipt" (DCC, 2010).
- Boyer's Model of Scholarship (Nibert, 2008)
  - Discovery Build new knowledge through traditional research
  - Integration Interpret the use of knowledge across disciplines
  - Application Aid society and professionals in addressing problems
  - Teaching Study teaching models and practices to achieve optimal learning

# Research Disciplines – Physics, Biological Science, and Earth, Ocean, & Atmospheric Science

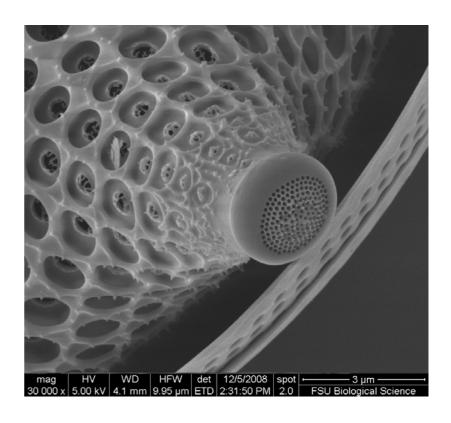
- Physics quantum mechanics (Dr. Paul A.M. Dirac)
  - 1000 digitized objects
  - OCLC WorldCat, OPAC, DigiTool accessible
  - FDA & MetaArchive preserved (in process)
- Selected Materials Digitized
  - Key lectures, hand written 1926
     dissertation & 1930 1<sup>st</sup> ed.
     Principles of Quantum Mechanics,
     photos, national society certificates
     from around the world, deteriorating
     negatives to name a few.



Honorary Fellow Certificate, Institute of Physics, Great Britain, December 14, 1971

# Research Disciplines – Physics, Biological Science, and Earth, Ocean, & Atmospheric Science - cont.

- Biological Science Dr. A.K.S.K. Prasad
  - 14 images open-access (online);
    SEM/LM images; thousands (offline)
  - OCLC WorldCat, OPAC, DigiTool accessible
  - FDA & MetaArchive preserved
    (Diatomscapes I & II collections)
- Earth, Ocean, & Atmospheric Science
  various FSU faculty/scientists
  - 21 tech reports open-access
  - DigiTool accessible
  - OCLC WorldCat, OPAC, FDA & MetaArchive (in process)



Dr. Prasad's research - PC-D2K87243 Cerataulus smithii SJB-Gulf\_002

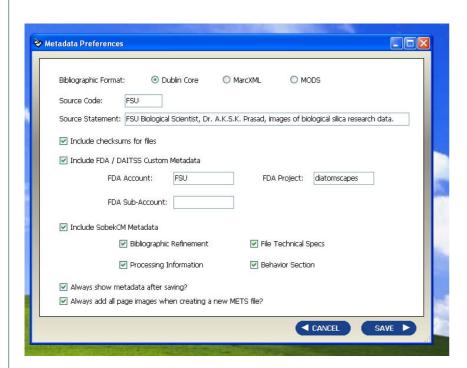
## Representation – Metadata Encoding Transmission Standard (METS) Creation Tool (testing)

- "Developed by UF integrated in their processes with an origin around 2005 and in use since then by UF. Recently rebranded and repurposed for larger consumption and use."
- Open-source SobekCM Online METS metadata creator/editor tool
- Creates OAIS SIP & AIP for FDA
- Used by University of Central (UCF)
- Currently being tested by Florida International University (FIU) and Florida State University (FSU)

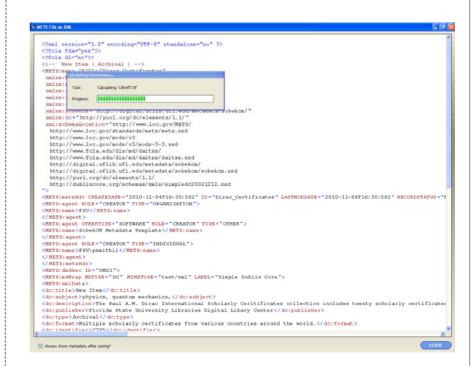


FSU began testing 2010-11-04

# Representation – Metadata Encoding Transmission Standard (METS) Creation Tool (testing) – cont.



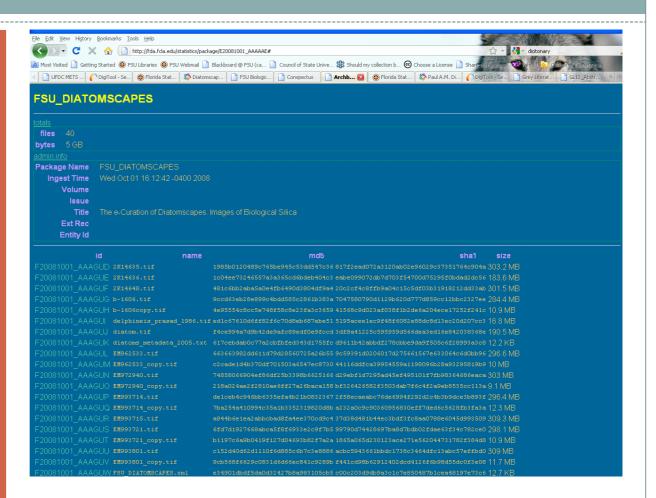
METS creation data entry bibliographic information — metadata standards, checksums, & FDA preservation options



METS creation tool checksums demo example of Paul Dirac certificate tiff file images

#### Preservation – Florida Digital Archive (FDA)

- •FDA FSU joined 2009
- Digital preservation strategy
- •DAITSS open-source software
- •OAIS conformance (METS SIP, AIP)
- Checksum AIP required
- Requires FDA agreement (free)

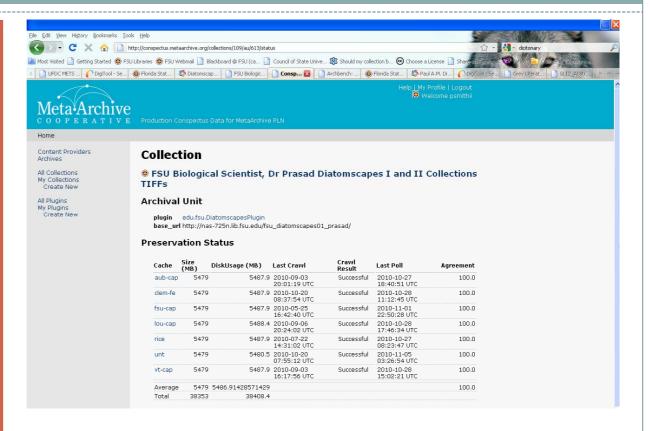


## Biological Science Diatomscapes I & II collections preserved via FDA

(Note: This collection was the first to be preserved via FDA as part of demo preservation pilot project & was later used to influence senior management for FSU Libraries to join FDA)

### Preservation – MetaArchive

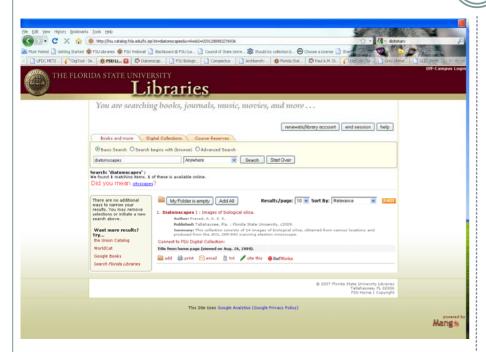
- MetaArchive FSU joined 2004
- Distributed digital preservation strategy
- •LOCKSS open-source software
- •OAIS conformance (SIP, AIP)
- Requires XML plugins, manifest page, conspectus DB entry
- Requires cooperative agreement (fee)



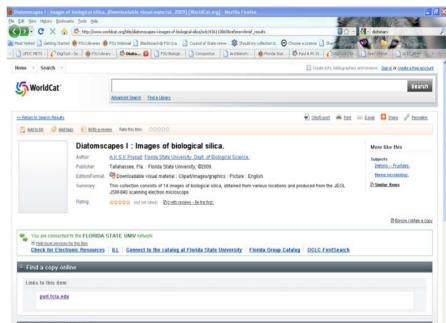
Biological Science Diatomscapes I & II collections preserved via Auburn, Clemson, FSU, Louisville, University North Texas, and Virginia Tech LOCKSS caches

(Note: This collection was the first FSU collection to be successfully preserved via MetaArchive in 2009)

### Dissemination – OPAC, OCLC WorldCat, DigiTool

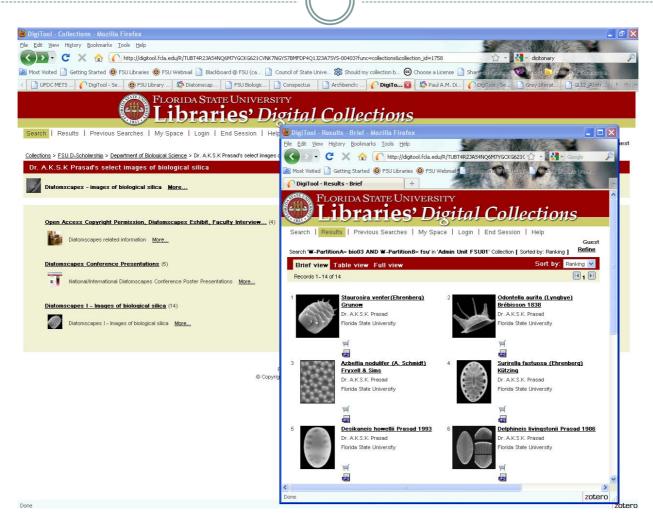


FSU OPAC Diatomscapes record



OCLC WorldCat Diatomscapes record

#### Dissemination – OPAC, OCLC WorldCat, DigiTool –cont.



FSU Libraries DigiTool Diatomscapes record

### Continuation – Horizon Issues, Ideas, & Plans

- Submitted a FSU Faculty Research Library Materials (FRLMG) for acquisition of digital curation/preservation publications 2010-10-25
- Submitted iConference 2011 proposal 2010-10-29
- Submitted IASSIST 2011 proposal 2010-11-03
- Develop a FSU Libraries Data Management Plan
  - Metadata, Data, Content, Submission, and Preservation Policies
  - Register policies in OpenDOAR & develop OAI base URLs
- Develop & register Open Access Repository Material Archiving Policies with ROARMAP (Registry of Open Access Repository Material Archiving Policies)
- Publish, promote, and preserve FSU faculty research
- Improve organization, digitization, workflows, preservation & collaborations
- Apply & secure grant funding in 2011 for development & curation