



Funding Agencies and Societies  
Panel Discussion

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# First Thoughts

- A most impressive start by the EuDML
- Earlier nice beginnings by many individuals, arXiv, NUMDAM, other countries, digitization and availability of Society publications, enterprises like JSTOR, and more
- WDML is necessary for the advancement of mathematical sciences
  - Mathematical research is connected both internationally and over time
  - Mathematical talent is uniformly distributed across the globe
- WDML has to be a global enterprise with involvement of all continents
- Funding and maintenance of the WDML can be **helped** by funding agencies and professional societies

# First Thoughts (Continued)

- Maintenance costs will be in millions of €/ \$ per year in perpetuity
- These costs are minimal when compared to the scientific needs of other disciplines
- Cannot be done pro bono by our communities
- Needs a substantial infrastructure
- Funding agencies may help with initial building of infrastructure but maintenance costs have to come from users
- Past NSF Program: National SMETE Digital Library (NSDL) Program <http://www.smete.org/smete/>



## Possible WDML Opportunities at NSF

- DMS Infrastructure Program
- Engagement of Mathematics Institutes
- Office of International Science and Engineering
  - Science Across Virtual Institutes (SAVI)
  - Global Research Council (GRC)

# DMS Infrastructure Program

- The Infrastructure Program provides support for activities that differ from the research projects supported by the disciplinary programs of the Division of Mathematical Sciences. These include working research sessions, such as conferences, symposia, colloquia, and special years, as well as training programs, such as grants for broadening education in the mathematical sciences or increasing the number of individuals in disciplines that are based in the mathematical sciences.
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# DMS Supported Math Institutes

- **AIM** (American Institute of Mathematics) <http://www.aimath.org>
- **IAS** (Institute for Advanced Study) <http://www.math.ias.edu>
- **ICERM** (Institute for Computational and Experimental Research in Mathematics) <http://icerm.brown.edu/>
- **IMA** (Institute for Mathematics and its Applications) <http://www.ima.umn.edu>
- **IPAM** (Institute for Pure and Applied Mathematics) <http://www.ipam.ucla.edu>
- **MBI** (Mathematical Biosciences Institute) <http://www.mbi.osu.edu>
- **MSRI** (Mathematical Sciences Research Institute) <http://www.msri.org>
- **SAMSI** (Statistical and Applied Mathematical Sciences Institute) <http://www.samsi.info>



## Science Across Virtual Institutes (SAVI)

- Science Across Virtual Institutes (SAVI) is an innovative concept to foster interaction among scientists, engineers and educators around the globe. It is based on the knowledge that excellence in STEM (science, technology, engineering and mathematics) research and education exists in many parts of the world, and that scientific advances can be accelerated by scientists and engineers working together across international borders. Virtual institutes that connect researchers with common interests and goals will have a great impact on solving important societal challenges.
- Will serve as a catalyst to foster many activities efficiently and economically, and will seek to:



## Science Across Virtual Institutes (SAVI)

- Create research partnerships among NSF-funded U.S. institutions and other institutions around the world to address global scientific challenges at the frontier;
- Strategically leverage NSF funding with new funding opportunities from around the globe;
- Leverage complementary intellectual strengths and share unique research facilities;
- Mentor and train junior researchers by providing them with opportunities to network with research leaders within the U.S. and abroad; and
- Create opportunities for scientific collaborations within the U.S. and across the globe to work across disciplinary, institutional, geographic, linguistic and cultural barriers.





# GLOBAL RESEARCH COUNCIL

On May 15, 2012, at the National Science Foundation in Washington, DC, leaders of 50 research agencies announced the formation of a Global Research Council (GRC), a virtual organization that will strengthen international collaboration, tackle science process challenges, and share best practices. The first activity of the GRC was a Global Summit on Merit Review. This summit resulted in a statement of merit review principles. The next global summit will be hosted by Germany and Brazil and will investigate matters of research integrity and open access to research data and publications.

# Final Thoughts for Discussion

- Funding of the development of the DML would be easier if there was a modular design for its construction with activities distributed across international funding agencies and/or professional societies. This way the construction of the WDML could possibly be funded in a modular manner with shared but well-defined international funding responsibilities.
- Perhaps, the coordination of the WDML construction could be handled by enterprises like the Global Research Council, IMU, or CEIC.
- There appears to be lots of other disciplines developing discipline specific DMLs. Some of these are commercial, some developed by professional societies, e.g, McGraw Hill Digital Engineering Library, ASME Digital Library. Are we learning from these DMLs?
- Broader DL projects in the works? Google? Will the WDML plug into broader DL?
- Interface with MathSciNet and Zentralblatt Math
- Open access of government supported publications
  - Lot of activity in government circles (including NSF) on OA
  - Role of WDML in OA

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- DMS is always looking for ways to support the mathematical sciences and welcomes creative projects of any form

Thanks!