



Summer 2012 Newsletter

We have many exciting things happening at DELSA!

In this newsletter you will find:

- *NEW NSF funded project (see DELSA Endorsed Projects Update)
- *Upcoming meeting on October 9th (see Events)
- *Highlighted publications by DELSA members (See DELSA in the News)

We hope you'll take a moment and read about the great progress we're making. If you'd like to get involved with any of our projects, please contact our program coordinator, Courtney MacNealy-Koch at courtney.macnealy-koch@delsaglobal.org. Thank you!

DELSA Endorsed Projects Update

DELSA's Endorsed Projects officially kicked off on July 1st and have hit the ground running! We would like to share with you a couple of highlights.

Project 1: Social Networking Platform for Tool Brokering/Community Building and Matchmaking

After many discussions and community feedback, we decided to combine Project 1 (Social Networking Platform for Tool Brokering) with what was once Project 6 (Community Building and Matchmaking). We thought that the degree of synergy between these projects was too great to warrant being separate projects. DELSA is currently collaborating with Open Science Federation (www.opensciencefederation.com/) and Science Online (<http://scienceonlinenow.org/>) to help develop a platform for our community to meet, interact and be 'matched' with others who share similar scientific interests.

(New!) Project 6: Conceptualization and Analysis of the 3D Virtual Cell

We have added one new project as well. **Project 6: Conceptualization and Analysis of the 3D Virtual Cell** will be lead by Dr. **Phil Bourne** of University of California, San Diego. DELSA wrote an endorsement and letter of support for this project when it was submitted to NSF as a grant application. **We are pleased that NSF has decided to support this endeavor and congratulations to Phil!**

Goal: Biology occurs at multiple scales, from molecules to cells to organisms to environments, which have traditionally been studied separately. Translational biology is now seeking to bring these disparate scales together to achieve a new level of understanding. This understanding requires new algorithm development and analysis tools that can operate on an increasingly large, diverse, complex and widely distributed body of digital biological data. Hence, translational biology is faced with cyberinfrastructure challenges related to data accessibility, software development, software reuse, and sustainability on a

scale not seen before. The prior *modus operandi* of software development – let 1000 independent flowers bloom – will no longer scale in studying translational biology. In short, the current software development and maintenance cycle costs too much, takes too long, operates in too many silos, and is therefore unsustainable and cannot meet the increasing challenges of 21st century biological sciences.

Deliverable: We propose an S2I2 Translational Biology Center that focuses on a better understanding of complex biological structures from molecule to cell. The Protein Data Bank (PDB) can be expected to broaden its focus over the next few years, expanding to contain supramolecular complexes – already happening – and later subcellular and cellular structures derived from a variety of experimental methods. With these raw data at hand, new software tools and analysis protocols will be needed to understand and visualize the emergent *3D virtual cell*; tools for structural systems biology.

As always, if you are interested in joining the projects highlighted above or any of the Endorsed Projects described here www.delsaglobal.org/news/related-news/item/58-endorsed-projects, please contact Courtney MacNealy-Koch at courtney.macnealy-koch@delsaglobal.org.

Events

First and foremost, we would like to let you know that DELSA will host a workshop (**DW₃**) on **October 9th, 2012** as part of the 8th IEEE International Conference on eScience, in **Chicago, IL**. DW₃ will introduce DELSA to the eScience community and review the DELSA Endorsed Projects. Project goals, progress to date and further needs will be discussed. All of these projects are open for comments, suggestions and further brainstorming -- audience input is both wanted and vital. Our goals for the workshop are to welcome new members to the Alliance and to enhance and strengthen the ability of the projects to make an impact on the DELSA mission. The conference will be held at the Hyatt Regency, Chicago. Information about the workshop as well as registration instructions can be found on our website at :

<http://www.delsaglobal.org/events/upcoming-events/item/13-delsa-workshop-3>.

We look forward to seeing you there!

There will be other opportunities to learn more about and connect with DELSA on September 10-13 at the 6th Annual Extremely Large Databases Conference XLDB (<http://xldb.org/2012>) in Stanford, CA and on September 13-16 at the 1st International Conference and Certificate Program on Predictive and Personalized Medicine (<http://p4certificate.anadolu.edu.tr/p4/?q=en>) at Anadolu University in Eskişehir, Turkey. Please let us know if you would like more information regarding any of our upcoming events.

We have been fortunate to introduce DELSA at several conferences around the world this summer. These events included:

- * The 10th International Conference on Pathways, Networks and Systems Medicine in Rhodes, Greece
- * The 4th Biennial Meeting for the Human Variome Project in Paris, France
- * The 21st International ACM Symposium on High-Performance Parallel and Distributed Computing in Delft, the Netherlands
- * The Life Science Innovations Northwest conference in Seattle, Washington
- * The Summer 2012 ESIP Federation Meeting in Madison, Wisconsin

DELSA in the News

Two of our own co-founders were recently featured in an article in *Nature*. The article, "Microbes en masse: The sequencing machine" features **Rob Knight** of University of Colorado, Boulder and **Jack Gilbert** of Argonne National Laboratory and their work on the Earth Microbiome Project. The Project is a "collaborative effort to sequence and characterize the microbial communities in at least 200,000 environmental samples such as soils and water collected from around the world." You can read this article about Rob and Jack's work here: <http://www.nature.com/news/microbes-en-masse-the-sequencing-machine-1.10985>

DELSA was featured in the most recent newsletter from The Trade Development Alliance of Seattle, see www.seattletradealliance.com/about/Connections/June2012/delsa.php.

We were also mentioned in a news highlight on the Genetic Engineering & Biotechnology News website, see www.genengnews.com/keywordsandtools/print/4/25056/.

DELSA Publications

DELSA Global and its anticipated impact on bioeconomy and knowledge-based innovations in the US and internationally will be published in a biotechnology and innovation analysis paper in the August issue of the *Industrial Biotechnology*. You can find a link to the journal here (www.liebertpub.com/ind) and the article will soon be available for free downloading.

Feedback

Lastly, as DELSA is a community, we welcome any feedback you may have for us about our projects, the newsletter, ideas for upcoming events, the website, etc. and would love to hear from you. You may contact our program coordinator, Courtney MacNealy-Koch at courtney.macnealy-koch@delsaglobal.org with any of your comments, question, concerns or suggestions. We look forward to hearing from you!