

**ISGC 2010 media release**  
**Friday 12 March 2010**  
**For immediate release**

### **Asian health research gets the grid treatment**

From Dengue fever to diabetes, biomedical and health research is flourishing after receiving the grid-treatment. This week's International Symposium on Grid Computing (ISGC) in Taipei, Taiwan, has showcased the latest developments in the field.

At the Genomics Research Centre, Academia Sinica in Taiwan, grid computing is aiding the search for drugs to treat Dengue fever; a disease which affects 50 million people every year.

“Currently there's no drug available for Dengue fever apart from traditional medicines that are not based on scientific research. Dengue is not a top priority for pharmaceutical companies as it mostly occurs in developing and under developed countries,” says Ying-Ta Wu of the Genomics Research Centre.

Along with other EUAsiaGrid partners, the institute are using the GAP Virtual Screening Service (GVSS), developed by Academia Sinica Grid Computing Centre, to model protein-drug interactions of potential candidates. By moving this first phase of drug discovery out of the lab and onto the computer the grid can save researchers time, money and are better able to fight neglected and emerging diseases across the globe.

“The beautiful thing about GVSS is that even people who don't know about computational methods can easily submit their job. All they need to do is to click their target, decide on the compound and it's done,” says Wu.

Also presenting at the conference will be a collaboration of researchers from KISTI and Chonnam National University in Korea and HealthGrid and the National Institute of Nuclear Physics and Particle Physics in France. This Euro-Asian effort are presenting research on novel inhibitors for the enzyme HMA (Human Intestinal Maltase). HMA, found in the small intestine, catalyses the final step of carbohydrate digestion. Inhibiting its activity in patients suffering from type 2 diabetes, can prevent complications and the progression of the disease. Using the WISDOM platform to provide virtual screening, the team whittled down over 300000 compounds to 42 to be tested in vitro for HMA inhibition activity. Out of these, two compounds were identified as potential inhibitors of HMA with activities comparable to the known anti-diabetic agent, acarbose.

Across the Asia-Pacific region, and beyond, grid technologies are enabling health practitioners to share patient and health information in a secure and efficient way. As a result the National Electronics and Computer Technology Centre (NECTEC), in Thailand is leveraging the grid to help build a sustainable National Health Information System. Using a Metadata Mapping tool (MMT) and Metadata Conversion Tool (MCT) NECTEC allow healthcare centres to easily transform information stored in local databases into a standardised format. By ensuring data is stored in a standard way they can allow health information to be used across health centres, paving the way for improved patient treatment.

Making these grid technologies accessible to all is a challenge being taken on by researchers based at ASTI in the Philippines. At ISGC 2010 they will showcase an easy-to-use portal,

which allows researchers to use scientific tools without having to learn complex concepts or install sophisticated hardware. The web-based interface gives scientists more time to focus on the science and less on the technologies underlying their research.

“We are about to witness the coming tsunami of data in terms of the sheer amount and complexity of biomedical data. It actually requires the global collaboration to deal with such a challenge,” says Simon Lin, director of Academia Sinica Grid Computing Centre, host of ISGC 2010.

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Notes for editors:

**About ISGC 2010:**

ISGC 2010, one of the foremost international grid forums in Asia Pacific, runs from 5-12 March 2010 at Academia Sinica in Taipei, Taiwan. Organised by TWGrid, it aims to enhance the awareness of grid computing activities as well as foster e-Science applications in the Asia-Pacific region.

Topic covered at ISGC 2010 include Grid Operation & Management, Grid Middleware & Interoperability, Grid Security & Networking and Grid Computing & Cloud Computing; as well as the applications in different disciplines such as High Energy Physics, Biomedicine & Life Sciences, Earth Sciences, Environmental Monitoring & Disaster Mitigation, Humanities & Social Sciences, and Digital Library & Content Management.

<http://event.twgrid.org/isgc2010>

If you can't make it to the conference you can follow ISGC 2010 online on the conference blog, run by the GridTalk project:

**ISGC 2010 Blog** - <http://gridtalk-project.blogspot.com>

**About TWGrid:**

Taking advantage of experience acquired in global collaboration, Academia Sinica Grid Computing (ASGC) wants to bring about a research infrastructure evolution for the new generation in Taiwan. With shared experiences and the newest grid infrastructure applications, ASGC also aims to facilitate national research interaction and collaboration between global grid associates, as well as maximising the availability and performance of grid services in the Asia Pacific.

[www.twgrid.org](http://www.twgrid.org)

### **Other Links**

Genomics Research Centre, Academia Sinica, Taiwan: <http://www.genomics.sinica.edu.tw>

EUAsiaGrid: <http://www.euasiagrid.org>

KISTI, Korea: <http://www.kisti.re.kr/english>

Chonnam National University, Korea: <http://web.chonnam.ac.kr/en>

National Electronics & Computer Technology Centre, Thailand:

<http://www.nectec.or.th/home>

ASTI, Phillipines: <http://www.asti.dost.gov.ph>