

SC_20100223

iPG2P Steering Committee Minutes

February 23, 2010; 1 to 2 pm CST

Present: Chris Myers, Doreen Ware (Christos, Jerry), Jeff White, Matt Vaughn, Ruth Grene, Steve Goff, Steve Welch, Tom Brutnell, Steve Rounsley, Dan Stanzione, Ed Buckler, Karla Gendler

The meeting was convened at 1pm CST and there was some general discussion to allow time for late arrivals to dial in.

Item 1: Review Action Items

- Vaughn will circulate ASBP proposal to group
Vaughn circulated the ASBP proposal during the last meeting. He has not heard back but will inform the group once he does. Ware also added that Christos submitted a proposal to ISMB and will notify the group if accepted. Vaughn will circulate this proposal.
- Welch to send press release to media by end of the week
Welch sent the press release out the end of last week to all of the media contacts that he has for everyone. The media relations groups at the institutions have the choice to pick up the story or not and hopefully everyone should hear from their press offices by next Wednesday.
- Buckler and Brutnell will present on EOT activities for next meeting
Buckler has contacted the Soltis but has not heard from them yet.

Tom Brutnell gave a presentation outlining an EOT activity revolving around EMS mutagenized *Brachypodium* plants. He has talked to Erin Dolan who has developed a similar project for *Arabidopsis* and she would be willing to provide whatever is needed to help set the website up (i.e. scripts, etc). Brutnell has staff at Boyce Thompson that can set up the webpage but what will be harder is setting up an online database to collect the data. From iPlant and the G2P group, Brutnell is looking for help in setting up this database and also buy-in from the group so that students and teachers can have access to the expertise that is represented in G2P. He is looking for people that are familiar with phenotypic screens and mentioned possible lab members from Ruth Grene's lab, Steve Welch's lab, or his one lab. The outreach coordinator (Tiffany Fleming) can handle much of the day-to-day work but the scientific expertise will need to be handled by others.

White asked if there is a lot of natural ecotypic variation with *Brachy* and if it can be grown in an outdoor environment. Jeff Vogel has characterized 150 lines that he has collected from Turkey, Iran, and Iraq, *Brachy*'s origin. He is collecting many more lines and has plans to do light sequencing on them. When growing *Brachy*, people tend to use the same conditions as *Arabidopsis* and it can be grown outside in a variable of climate ranges. Seed size is closer to a grain of rice.

Welch commented that at the iPlant Board of Director's meeting, Dani Zamir showed his shared phenotyping database and suggested to the group that this might be a place to put the phenotypic information. Brutnell has talked to Zamir about this (Zamir is at BTI now) and asked if iPlant can host that site. Goff said that Zamir is taking the database commercial but that he (Zamir) is writing a term sheet that iPlant will need to look at so that the data can remain open.

Item 2: CI Development Update

Vaughn reported that not much user facing has changed in regards to CI Development. The provenance system and user authentication and authoring are being worked on now. For the next two-week cycle, interactions between the portal and back end services will be addressed along with provenance (once receive data model from Sudha Ram), continuation of moving prototype to production environment, and integrating security into services and the DE UI. UHTS is continuing detailed software requirements and Buckler wanted to make sure that variable length bar codes will be supported (they will be!). Stanzione added that there are only two formal releases scheduled, the iPToL release in March and the UHTS in June. With the Viz group, we will move into a prototyping phase that will start in the next two months but nothing at the production level.

Item 3: Facilitating GLM/GPU communication - Steve G/Steve W/Matt V

Goff reported that in response to Dave Lewenthall, John Hartman and Ali Akoglu, he and Martha Narro went to visit them to explain the basic biology behind QTL mapping. He and Narro were asked questions about datasets that the GPU had seen but were not able to answer questions relating to them (i.e., is this single regression? what are the rows and columns). It seems as though TASSEL is not transparent enough to understand QTL mapping and Goff came to the conclusion that there is a need to talk to the GPU group more and explain the biological problem and then ask if GPU is even the right implementation for the problem.

Welch added that he and Vaughn have been thinking about it and have been wondering if there was a need to look at another way to facilitate communication between the two groups, asked what failed in the first place (was it the biology explanation? Was it regression? Perhaps the initial problem wasn't well defined). They began to toy with the idea of a F2F meeting with a small number of key people but wanted SC's input on it. Buckler stated that TASSEL was not written for NAM specifically but it is also not a public library. He thinks that a card-carrying mathematician/statistician is what is missing from the group. There are far too many biologists and the group needs someone who can bridge linear algebra and biology to help communicate. Goff has talked to Rebecca Doerge about the situation and now that there is a defined problem, she may be willing to help. Brutnell suggested Dan Nettleton. Buckler added that needed is someone who is good at doing sweeps in linear algebra. In response to Stanzione's questions if the algorithms need improvement or if it is just necessary to explain the concept, Welch stated that that group is not asking for new algorithms but needs someone who can explain it and can converse at computation level and who also knows that GPU side of things. Buckler added that having Jean-Luc and Peter Bradbury working with that person would help. Welch will follow up with Doerge and then perhaps a meeting should be arranged between Doerge, Nettleton, Bradbury and the GLMxGPU group.

Item 4: Discussion

The meeting was opened for discussion. Grene said that if the ASPB proposal is accepted, at least one plant biologist should be there (Vaughn will be there to represent the plant biologists along with Steve Goff). Welch reported that Ann Stapleton has left Kansas State but is continuing to see if Arabidopsis flowering time model can represent wheat flowering. After the SC meeting in San Diego, White has pursued some modeling activities in maize working with Buckler's group and has got interesting and mixed results. The process was very educational and White came away with the feeling that perhaps the model does not work well with environment conditions that were used. He would like to carry it forward but has to figure out how to fit it in with other priorities. He now has ViVa from Bernice and it appears straightforward and easy to work with.

Item 5: Identify Action Items

- Vaughn to circulate ISMB proposal
- Brutnell talk to Justin Borevitz about potential interaction between Brachy project and phone app
- Goff will follow up with Dani Zamir regarding phenotypic database
- Welch to follow up with Rebecca Doerge regarding GLM issue
- White to circulate modeling work report

*Next meeting time: March 9, 2010; 1pm CST

Adjournment: The meeting ended at 2pm CST