

## Hutchison, Stasia

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**From:** Federica Fusi <ffusi@asu.edu>  
**Sent:** Tuesday, January 05, 2016 3:35 PM  
**To:** Richards, Chris  
**Subject:** Re: Potential interview for DivSeek study

Perfect. You can text me at [REDACTED]

See you on Friday,

Best  
Federica

On Tue, Jan 5, 2016 at 1:33 PM, Richards, Chris <[Chris.Richards@ars.usda.gov](mailto:Chris.Richards@ars.usda.gov)> wrote:

11 am sounds fine. If I'm running late from the airport (I arrive and 10:15am) I will text you if you provide me with a mobile #.

Safe travels.

Cheers,

C.

**From:** Federica Fusi [mailto:[ffusi@asu.edu](mailto:ffusi@asu.edu)]  
**Sent:** Tuesday, January 05, 2016 12:44 PM  
**To:** Richards, Chris  
**Cc:** Eric Welch

**Subject:** Re: Potential interview for DivSeek study

Hi Chris,

thank you very much for your reply and availability.

Both Eric (cc'd here) and I would be at the DivSeek meeting this Friday. It would be great to meet with you in person. What about meeting at around 11 am at PAG? Would you be free? If not, just let us know when you will be available and we will arrange a better time.

Best,

Federica

On Mon, Jan 4, 2016 at 2:32 PM, Richards, Chris <[Chris.Richards@ars.usda.gov](mailto:Chris.Richards@ars.usda.gov)> wrote:

I should be at the PAG conference venue (just down the road from the DivSeek meeting at the Handlery Hotel) at around 11am on Friday. If you like perhaps we could meet either right before or right after the DivSeek meeting scheduled, I believe, at 1pm.

Cheers,

Chris

Mobile:

**From:** Federica Fusi [<mailto:ffusi@asu.edu>]  
**Sent:** Monday, January 04, 2016 2:17 PM  
**To:** Richards, Chris  
**Cc:** Reeves, Pat; Eric Welch  
**Subject:** Re: Potential interview for DivSeek study

Dear Chris,

many thanks for your reply.

Eric (cc'd here) and I will be both in San Diego on Friday, so we can definitely schedule a meeting on that day. When might it be the best time for you?

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On Mon, Jan 4, 2016 at 12:04 PM, Richards, Chris <[Chris.Richards@ars.usda.gov](mailto:Chris.Richards@ars.usda.gov)> wrote:

Hi Federica-

I would be happy to talk to you about our research.

I have been involved in the planning for DivSeek since the meeting at Asilomar in 2012 and will be in attendance at a meeting next Friday in San Diego. If you are attending this meeting, perhaps we could plan an interview then.

Let me know.

Cheers,

Chris Richards

**Christopher Richards, Ph.D.**

Population Geneticist

United States Department of Agriculture

National Center for Genetic Resources Preservation

Colorado State University

1111 South Mason Street

Fort Collins, CO 80521

USA

[Chris.richards@ars.usda.gov](mailto:Chris.richards@ars.usda.gov)

970 492 7606

<http://www.ars.usda.gov/pandp/people/people.htm?personid=42033>

<http://orcid.org/0000-0002-9978-6079>

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**From:** Reeves, Pat  
**Sent:** Monday, January 04, 2016 11:53 AM  
**To:** Federica Fusi  
**Cc:** Richards, Chris  
**Subject:** RE: Potential interview for DivSeek study

Hi Federica,

Thank you for your inquiry. I am referring you to my supervisor, Dr. Chris Richards, who I have CC'd in this message.

Best,

Pat

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**From:** Federica Fusi [<mailto:ffusi@asu.edu>]  
**Sent:** Monday, January 04, 2016 8:10 AM  
**To:** Reeves, Pat  
**Cc:** Eric Welch; Selim LOUAFI  
**Subject:** Potential interview for DivSeek study

Dear Dr. Reeves,

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We recently talked with Frank Wuertwein of Open Science Grid and he agreed to include OSG as one of the cases for further research. Among other initiatives that are currently involved with OSG, we saw your project on performance of genetic clustering algorithms.

We would like to know if you would be available for a brief interview. Our preference is talk during this week, but we know you are busy and we are open to accommodate the interview in the coming weeks. Our conversation should last roughly forty-five minutes.

Many thanks in advance for your time and consideration, and please free to contact me if you have any questions about the study or the interview.

We look forward to hearing about your work,

Sincerely

Federica

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**Federica Fusi**

Phd Student in Public Administration and Public Policy

Center for Science, Technology and Environmental Policy Studies (C-STEPS)

Arizona State University - [www.csteps.asu.edu](http://www.csteps.asu.edu)

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Dear Chris,

Duplicate email trail deleted

**Hutchison, Stasia**

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**Christopher Richards, Ph.D.**

Population Geneticist

United States Department of Agriculture



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Federica

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Center for Science, Technology and Environmental Policy Studies (C-STEPS)  
Arizona State University - [www.csteps.asu.edu](http://www.csteps.asu.edu)

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**From:** Reeves, Pat  
**Sent:** Monday, January 04, 2016 11:52 AM  
**To:** Richards, Chris  
**Subject:** FW: Potential interview for DivSeek study

Hi Chris,

I am not sure what to make of this. Do you know of any assessment of DivSeek sponsored by The Trust? Please advise.

Pat

**From:** Federica Fusi [mailto:ffusi@asu.edu]  
**Sent:** Monday, January 04, 2016 8:10 AM  
**To:** Reeves, Pat  
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## Hutchison, Stasia

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**From:** dagny.poser@croptrust.org on behalf of Divseek Meetings <meetings@divseek.org>  
**Sent:** Tuesday, December 15, 2015 5:40 AM  
**Subject:** DivSeek 2016 San Diego  
**Attachments:** Agenda Jan 2016-1.pdf

Dear DivSeek partners and colleagues interested in DivSeek,

As per the email you received from Susan McCouch, DivSeek Chair, last month.

The DivSeek Initiative will hold a roundtable discussion between 13:00 and 17:00 on January 8, 2016. The location for the meeting at will be the Handlery Hotel 950 Hotel Circle, San Diego, USA.

An agenda for the meeting is attached.

**We invite 1-2 members from your organization to attend.**

If you haven't already done so can you please email to confirm whether or not your organization will be represented at the meeting and who will be attending?

Please note that as part of the discussions during the meeting we will address possible future DivSeek workshops. If you would like to submit a suggestion for workshop please send it by email by the 31<sup>st</sup> December 2015.

The proposal should be 1 page in length and needs to fit into one of following three categories

- community-building

- standard setting
- capacity-building

The proposal should also clearly state the following:

- goals of the workshop
- outline of topics or questions to be addressed
- suggested number and type of participants
- duration of workshop (number of days)
- possible venue(s)
- possible funding source to support the workshop

We hope to see you at the DivSeek roundtable discussion on Jan. 8 in San Diego, and we look forward to your input!

Regards and best wishes,

*Ruth Bastow*



## **DivSeek Roundtable Discussions**

**8 January 2016**

**Terrace Room, Handlery Hotel  
950 Hotel Circle, San Diego, USA**

### **Draft Provisional Agenda**

13:00 – 13:15	Welcome and opening of the meeting
	<b>DivSeek Updates</b>
13:15 – 13:45	Draft Landscape Study – Ruth Bastow and David Marshall Open Discussion
13:45 – 14:30	Interim Workplan – Susan McCouch and Peter Wenzl Open Discussion
14:30 – 15:00	Governance – Emily Marden and Peter Philips Open Discussion
15:00 – 15:30	Break

### **Start-Up Activities**

15:30 – 16:00	Permanent Unique Identifiers for germplasm – Susan McCouch and Ruaraidh Sackville Hamilton Open Discussion
16:00 – 16:30	Proposed DivSeek Workshops – Elizabeth Arnaud and Ruth Bastow Open Discussion
16:30 – 17:00	Open Discussion
17:00	Meeting Close

**Hutchison, Stasia**

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**From:** Richards, Chris  
**Sent:** Monday, December 07, 2015 1:04 PM  
**To:** Peter Wenzl  
**Subject:** RE: January DivSeek meeting at PAG?

Great. Thanks!!

C.

---

**From:** Peter Wenzl [mailto:peter.wenzl@croptrust.org]  
**Sent:** Monday, December 07, 2015 10:54 AM  
**To:** Richards, Chris  
**Subject:** RE: January DivSeek meeting at PAG?

No; at one of the hotels next to Town and Country. We'll send out a message later in the week, after the DivSeek Steering Committee meeting. Cheers, Peter

On Mon, Dec 7, 2015 at 8:59 AM -0800, "Richards, Chris" <Chris.Richards@ars.usda.gov> wrote:

Thanks-

The original November 12<sup>th</sup> email was chucked into the junk mail folder! I have changed the settings. Where exactly is the meeting going to take place? Same place as before?  
Cheers,  
C.

**From:** Peter Wenzl [mailto:peter.wenzl@croptrust.org]  
**Sent:** Saturday, December 05, 2015 12:31 AM  
**To:** Richards, Chris  
**Subject:** Re: January DivSeek meeting at PAG?

Hey Chris,

Good to hear from you! Yes, there'll be a half-day Roundtable Discussion for partners and others interested in the afternoon on Jan 8th. I'm copying Susan's invitation message (sorry for not having included you in that message - I'll add your name to the list now).

Hope to see you there!

Best, Peter

+++++

----- Forwarded message -----

From: **Divseek Meetings** <meetings@divseek.org>

Duplicate email trail deleted

**Hutchison, Stasia**

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**From:** Divseek Meetings <[meetings@divseek.org](mailto:meetings@divseek.org)>  
**Date:** Thu, Nov 12, 2015 at 7:55 AM  
**Subject:** Invitation to a DivSeek roundtable discussion  
**To:** Divseek Meetings <[meetings@divseek.org](mailto:meetings@divseek.org)>

Dear DivSeek partners and colleagues interested in DivSeek,



The DivSeek Initiative will convene a **roundtable discussion between 13:00 and 17:00 on January 8, 2016, in San Diego**. The focus will be to solicit input about DivSeek's role and identity in the larger landscape, its organizational structure, and its role in promoting access to and exchange of genetic diversity data.

We **invite 1-2 members from your organization** to attend and will follow up shortly with details about the venue.

In the meantime, we provide some updates on DivSeek activities. The DivSeek Charter has now been endorsed by 59 organizations. Since the Partners' Assembly (PA) meeting in January 2015 in San Diego, eight Steering Committee (SC) members were elected through electronic voting; the first SC meeting was held in Rome in May 2015 and the second is to be held in Bonn in December 2015. The 2016 Partners' Assembly will take place during spring-summer and will be announced as soon as that date is set.

According to the Charter, the DivSeek Initiative aims to (1) facilitate networking among partners interested in the application of state-of-the-art genotyping and phenotyping technologies to deepen our understanding of crop diversity, (2) promote the development of common standards to link germplasm with characterization data and to enable interoperability among information systems, (3) develop an annual work plan with a budget and a resource mobilization plan, and (4) organize capacity-building workshops.

In keeping with these stated goals and principles, DivSeek has been undertaking a landscaping study to take stock of ongoing research that is relevant to the Initiative, providing the basis for discussing DivSeek's identity in a larger context.

In addition, over the course of the year, an SC subcommittee was tasked to help identify an organizational (governance) structure that will enable DivSeek to define and execute a work plan and seek external funding. DivSeek has supported the use of permanent unique identifiers (PUIs) for tracking germplasm and facilitating data integration. A study funded by JFU member organizations at Arizona State University (ASU) was asked to examine strategies for data sharing in other community-driven initiatives to provide a foundation for a discussion about DivSeek policies. Finally, several capacity building workshops are being organized to promote the adoption of standards and sharing of data and information.

The **topics for discussion** at the January roundtable include:

- **The identity of DivSeek.** The landscaping study documents more than 50 projects relevant to DivSeek goals and principles that are currently underway around the world (see <http://www.divseek.org/landscape> for a draft list). These projects either focus on evaluating over a dozen crops at the genotypic and phenotypic levels or the development of information systems, software tools and data standards. How should DivSeek interact with these projects to help researchers network, develop and adopt common standards, improve interoperability among information systems, and promote information sharing?
- **Data sharing and private-sector involvement.** The team at ASU will summarize its findings from a study on data-sharing in genetics research based on a review of eight community-driven initiatives. Lessons learned will be presented in the context of DivSeek to seek input from public and private sector colleagues.

- **DivSeek organizational structure.** A report from the SC will outline a refined organizational (governance) structure that should enable DivSeek to become more inclusive, responsive, and capable of launching externally-funded projects.
- **Permanent Unique Identifiers (PUID).** DivSeek supports the use of PUID for crop germplasm as a way to track samples, link them to genotypic and phenotypic information, enable data integration, and promote interoperability among diverse information systems. We will update you on progress in this area.
- **Capacity Building.** Members of the SC are exploring the possibility that DivSeek co-organize capacity-building workshops, including training in ontologies and developing standards for integrating data across species, geographies and laboratories. We are seeking your guidance on areas to prioritize.

We hope to see you at the DivSeek roundtable discussion on Jan. 8 in San Diego, and we look forward to your input!

Regards and best wishes,

*Susan McCouch*

--

Chair, DivSeek Partners' Assembly

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Dear Peter-

Just checking in with you if there is going to be a DivSeek meeting (open to interested parties at least) at PAG this year. Am in the process of arranging my travel out to San Diego.

Hope you are well!

Cheers,

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**Christopher Richards, Ph.D.**

Population Geneticist

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Peter Wenzl  
DivSeek Liaison  
Global Crop Diversity Trust  
Platz der Vereinten Nationen 7  
53113 Bonn, Germany  
Office: +49 228 85427 126  
Mobile: XXXXXXXXXX  
[www.croptrust.org](http://www.croptrust.org)

*Securing our Food, Forever*

**Hutchison, Stasia**

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Chair, DivSeek Partners' Assembly

## Hutchison, Stasia

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**From:** Richards, Chris  
**Sent:** Monday, October 19, 2015 12:23 PM  
**To:** Hannes Dempewolf  
**Subject:** RE: URGENT Re: richness of collections

Sorry for the miscommunication, Hannes!

I got your email this morning. I really had no way to record the talk since I needed a mic input and could find one in the IT office on a Sunday afternoon! We can't use Skype on our desktop networked workstations in the USDA...we have a million little ticks like this about security so audio input devices are not at all common.

The intro slides and follow up points from my email worked great. How did the discussion go?

Departmental seminar today and then a Ph.D. committee tomorrow and then off for some [REDACTED]

You are really located in the heart of a continental migration route in Izmir!

Cheers,  
C.

**From:** Hannes Dempewolf [mailto:hannes.dempewolf@croptrust.org]  
**Sent:** Monday, October 19, 2015 5:04 AM  
**To:** Richards, Chris  
**Subject:** Re: URGENT Re: richness of collections

Hi Chris,

I did go ahead and present your slides today, but added a few points from your message and modified your slides a bit. Please find attached the version I presented (integrated into my introductory talk) - I hope this was acceptable...

Hannes

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On Sun, Oct 18, 2015 at 11:09 PM, Hannes Dempewolf <[hannes.dempewolf@croptrust.org](mailto:hannes.dempewolf@croptrust.org)> wrote:

Hi Chris,

[REDACTED]

I am afraid I really need you to somehow record yourself while taking people through the slides. I am sorry if there was a misunderstanding but I thought I had mentioned this in my earlier emails when I had first approached you about this. Since it's all the CG genebank managers, who clearly know more about this than myself, I don't feel comfortable delivering the talk unprepared. It should be pretty straight forward to record yourself while clicking through the slides with PowerPoint. Do you think you could give it a try?

Am about to board my flight to Izmir now....

Cheers,  
Hannes

Am Oct 18, 2015 um 10:02 PM schrieb Richards, Chris <[Chris.Richards@ars.usda.gov](mailto:Chris.Richards@ars.usda.gov)>:

Sorry to leave you hanging like that, Hannes.

[REDACTED]

Not a recorded talk...more like talking points...but one that can at least engage the audience in discussions. I always assumed I wasn't my own slot but just a contributor to one.

It's important to realize that without a specific locus in mind, it's hard to simultaneously maximize diversity at all loci, since each locus has its own coalescent history.

The evidence from popular, Arabidopsis and Medicago is that adaptive variation associated with environment is very subtle even with high density SNPs. This because plants are rarely large and stable over time scale long enough to achieve equilibrium needed to build up responses large enough to detect. They typically blink in and blink out. Above this noise is the signal being carried forward from historical biogeographic range expansion and contractions...nothing to do with the current environmental conditions! What we find is that selection occurs in idiosyncratic ways.

My interest is to understand where data from distribution models can help us predict ecotypic variation (or more accurate where it fails)...and our preliminary results with the 35K popular and 125K Arabidopsis SNP data is that maximizing diversity on environments buys you very little excess diversity over just a random sample- even for non-synonymous SNPs.

What I propose is to more fully exploit SDM for making genetic simulations (this is what I'm currently doing).



The risk is that one has to make a million case specific (too true to be good!) models.

What I don't like about it is that it's a model based on parameters from aa modell

Anyway hope this helps.

Cheers,

Chris

**From:** Hannes Dempewolf [<mailto:hannes.dempewolf@croptrust.org>]  
**Sent:** Sunday, October 18, 2015 2:59 AM  
**To:** Richards, Chris  
**Cc:** [crichard@lamar.colostate.edu](mailto:crichard@lamar.colostate.edu)  
**Subject:** URGENT Re: richness of collections

Hi Chris,

I am about to leave for Izmir and since the session with your talk in it will take place tomorrow afternoon at 1.30pm (i.e. 4:30am in Ft Collins), it would be important that you please send it to me today still, so I can download it and take it with me to Izmir! Have you worked out how to record yourself narrating the presentation?

Thanks!

Hannes

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On Tue, Oct 13, 2015 at 4:59 PM, Hannes Dempewolf <[hannes.dempewolf@croptrust.org](mailto:hannes.dempewolf@croptrust.org)> wrote:

Hi Chris,

OK, sounds good! The session is on Monday afternoon (1.30pm Izmir time)!

Cheers,

Hannes

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On Tue, Oct 13, 2015 at 4:56 PM, Richards, Chris <[Chris.Richards@ars.usda.gov](mailto:Chris.Richards@ars.usda.gov)> wrote:

Hi Hannes-

I'm giving a talk today but will have a few slides for you tomorrow and then we might Skype and talk over the ideas. When is the meeting?

Yes I've been actively working with Sean. The distribution of samples among sites is not new, nor is the limitations of the probabilistic models underpinning it. The simulation approach provides calibration for a wider range of structures found in nature. Right now many of the forward models are very simplistic...but they can be improved to account for more and more realism.

Running...

C.

**From:** Hannes Dempewolf [mailto:[hannes.dempewolf@croptrust.org](mailto:hannes.dempewolf@croptrust.org)]

**Sent:** Tuesday, October 13, 2015 4:57 AM

**To:** Richards, Chris

**Subject:** Re: richness of collections

Hi Chris,

Also - have you noticed this? <http://agro.biodiver.se/2015/10/beyond-brown-marshall-part-1/>

Cheers,

Hannes

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On Tue, Oct 13, 2015 at 9:34 AM, Hannes Dempewolf <[hannes.dempewolf@croptrust.org](mailto:hannes.dempewolf@croptrust.org)> wrote:

Hi Chris,

Sorry to pester you again about this, but with the session being less than a week away, I am trying to make sure that all will go smoothly. Could you perhaps share with me your current draft?

Thanks,

Hannes

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On Mon, Oct 5, 2015 at 6:22 AM, Hannes Dempewolf <[hannes.dempewolf@croptrust.org](mailto:hannes.dempewolf@croptrust.org)> wrote:

Ok, great. Thanks! When you generate your slides, please bear in mind that much of the audience won't have much clue about pop gen theory, so it'll be important to describe things well.

Thanks!

Hannes

Am Oct 1, 2015 um 11:41 PM schrieb Richards, Chris <[Chris.Richards@ars.usda.gov](mailto:Chris.Richards@ars.usda.gov)>:

Hey Hannes-

Yes I've been thinking quite a lot about metrics lately. Will have something to you shortly.

Hope all is going well with you!

Cheers,

Chris

**From:** Hannes Dempewolf [<mailto:hannes.dempewolf@croptrust.org>]  
**Sent:** Wednesday, September 30, 2015 11:27 AM

**To:** Richards, Chris  
**Subject:** Re: richness of collections

Hi Chris,

Has your thinking on this progressed? Hope all is well!

Hannes

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On Wed, Sep 9, 2015 at 6:10 AM, Hannes Dempewolf  
<[hannes.dempewolf@croptrust.org](mailto:hannes.dempewolf@croptrust.org)> wrote:

Ok, great! Thanks! :-)

Hannes

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On Mon, Sep 7, 2015 at 11:25 AM, Richards, Chris  
<[Chris.Richards@ars.usda.gov](mailto:Chris.Richards@ars.usda.gov)> wrote:

I'd be happy to do it. Will get back to you a little later in the week.

C.

**From:** Hannes Dempewolf [<mailto:hannes.dempewolf@croptrust.org>]  
**Sent:** Sunday, September 06, 2015 10:11 AM  
**To:** Richards, Chris  
**Subject:** richness of collections

Hi Chris,

I hope this message finds you well. Together with Ruaraidh, Tom and Michael, we are organizing a session at this years CG genebank managers AGM (that will take place at the end of October in Izmir, Turkey) on the topic of "How to measure the representativeness of collections". As you know this is an issue we have been mulling over for quite a while and it had lead to the conference call earlier this year with you on the same topic.

The idea for the session will be to discuss how best to analyze the composition of collections and their representativeness given the total available diversity in the gene pool. Another subject that has come up in preliminary discussions is the heterogeneity of accessions etc. The issues of exploring indicators to illustrate the richness of collections and defining useful targets for individual collections in relation to patterns of global diversity, will also be considered.

On a somewhat related matter, a few months back, I have also had a chat with IPK's Andreas Graner about this, who again was also very interested and suggested we consider applying for some funding through the German Biodiversity Synthesis program sDiv (<https://www.idiv.de/sdiv.html>) for a synthesis workshop (and possibly funding for a workshop) on this topic. IPK happens to be a member of iDiv, so this could work out well.


So, we were hoping to use the AGM session to hear a couple of introductory talks on what has been done so far (e.g. with the 3000K rice data at IRRI or data from the Seed of Discovery Project) and then discuss in plenary what precise questions we would need to get answered. We could then write up the outcomes of this session into a concept note that we could discuss again with you and Andreas Graner and hopefully enter it in the next call for sDiv proposals or some alternative funding opportunities.

Since you are so well versed in the theory behind these questions, we were hoping we may be able to convince you to put together a few slides on some of the

relevant pop gen theory. Not more than about 10 minutes worth or so. Perhaps it may even be possible for you to present and record it through Powerpoint, so we could show the file during the introductory part of the session? Just an idea of course.

Please let me now what you think!

Cheers,  
Hannes

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