

Hutchison, Stasia

From: Bretting, Peter
Sent: Thursday, August 20, 2015 3:04 PM
To: Richards, Chris
Subject: RE: DivSeek Steering Committee meeting and possible subsequent workshops

Thanks, Chris, for your ongoing interest and advice. Yes, David sent me a pre-print of this interesting article in AJB.

I sent the one-pager to Susan McCouch earlier this week but haven't received a reply yet.

Much appreciated!

Peter

Peter Bretting
USDA/ARS Office of National Programs
Room 4-2212, Mailstop 5139
5601 Sunnyside Avenue
Beltsville, MD 20705-5139
Phone 1.301.504.5541
Fax 1.301.504.6191
Mobile Phone [REDACTED]
E-mail peter.bretting@ars.usda.gov
Web site: http://www.ars.usda.gov/research/programs/programs.htm?NP_CODE=301

From: Richards, Chris
Sent: Thursday, August 20, 2015 3:01 PM
To: Bretting, Peter
Subject: RE: DivSeek Steering Committee meeting and possible subsequent workshops

Hi Peter-

Great. Glad to see that the issue of diverse and heterogeneous data is on the docket. Having these standards lays the foundation for future interoperability.

Thanks for sharing. Hope it gets approved.

Attached is an interesting essay by David Spooner et al. I think it resonates with some of DivSeek's objectives. I would say that GBS still has bias if a single reference sequence is used to align the short reads. We are really finding that with the apple GBS data (with Gan-Yuan and Sean Myles). It's the contrasting patterns of diversity from neutral *and* functional loci that gives us in the genebank racket the most insight.

Cheers,
C.

From: Bretting, Peter
Sent: Monday, August 17, 2015 1:37 PM

To: Richards, Chris

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From: Richards, Chris

Sent: Monday, July 06, 2015 3:25 PM

To: Bretting, Peter

Subject: RE: DivSeek Steering Committee meeting and possible subsequent workshops

Dear Peter-

One working group that I think would have particular value among participants from anywhere would be to explore ways in which gene bank collections can prepare their accession for the intensive genotyping that DivSeek envisions. The issue hinges on standards for connecting a genotype to an accession...especially when an accession is highly heterogeneous. Rory talked about making research inventories from heterogeneous (extracting research samples) for genotyping, but there are many challenges for species that cannot be maintained with single seed descent (because of inbreeding depression or self-incompatibility).

The workshop might address ways of prioritizing taxa for this kind of analysis (both a phylogenetic and a population genetic process), how to represent the diversity in these heterogeneous (most wild) accessions in reference sets used for downstream genotyping, what approaches have been used already and what is the anticipated capacity needed to develop, maintain and phenotype these inventories in taxa that are not already undergoing major genomic analysis.

This is really a step-one kind of workshop. Something we talked about in general at the first Genomics of Genebanks workshop at PAG back in 2011.

Cheers,
C.

PS We had a failure in one our vault compressors last week. The temp in the main vault rose to -13C but it was held there tenuously with the one remaining aged compressor (usually 2 switch off). The process of getting a new compressor installed ASAP revealed a huge procurement issue that I think needs some National Program attention. Our procurement threw up many days of delays about sole source, approved vendors and even suggested that it be delayed 10-15 days to go out to bid! Meanwhile we have a priceless collection that could have been seriously compromised. What I think this incident made clear is we need an emergency fund that is not subject to the constraints of normal procurement if we want to keep this collection in good health. I'm quite certain the issue will come up in the next month. It was pretty scary here and level of complacency in our procurement system was alarming.

From: Bretting, Peter

Sent: Sunday, July 05, 2015 12:12 PM

To: Ware, Doreen - External; Richards, Chris; Buckler, Ed; Edward S. Buckler; Ware, Doreen

Subject: DivSeek Steering Committee meeting and possible subsequent workshops

Hi Chris, Doreen, and Ed—I wasn't sure if you were still on the mailing list for DivSeek. Hence I forwarded an e-mail (see below) and two documents (see attached Note from the DivSeek Chair and Preliminary Landscape Study) regarding the DivSeek Steering Committee meeting held in Rome about a month ago. Also attached is my brief trip report for the meeting.

Susan's message below mentions "ideas for working groups and workshops on key topics of broad interest." Steering Committee members (e.g., me!) were asked to draft a one-page outline for a DivSeek knowledge exchange and capacity-building workshop. The workshops would be funded either by the Joint Facilitation Unit institutions (e.g., the Global Crop Diversity Trust, FAO International Treaty Secretariat) and/or by other donors.

Such workshops will likely require at least some developing-nation participation and/or focus to be considered for funding. I've a few ideas for workshops but I'd certainly be happy to work with you to develop some of your brilliant ideas into one-page outlines for consideration.

Many thanks!

Peter

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From: Susan McCouch [<mailto:susan.mccouch@divseek.org>]

Sent: Friday, June 26, 2015 11:46 AM

To: srm4@cornell.edu

Subject: Note from the DivSeek Chair

The DivSeek Steering Committee gets going

Dear DivSeek partners and colleagues interested in DivSeek,

On May 28th, the newly elected DivSeek Steering Committee (SC) gathered at the FAO premises in Rome. Members of the Joint Facilitation Unit (JFU) and additional staff of the International Treaty also participated in the first SC meeting.

As an initial step, the SC reviewed a draft that which takes stock of independently funded projects in areas of relevance for DivSeek. This 'project landscape' study identified around 50 (!) projects, including projects characterizing genebank accessions, web-based portals to access crop-diversity data, and projects developing software or data standards for sharing information about crop diversity.

The SC also began discussing components of a multi-year strategy and an initial work plan for DivSeek. This discussion was facilitated by a document containing a 'menu' of ideas and potential elements for such a strategy.

The current task of the SC is to identify a set of objectives and activities for the DivSeek initiative and a mechanism for funding and administering those activities. A major goal underlying DivSeek's strategic plan would be to augment the potential for many independent, stand-alone efforts to work together under a common umbrella to apply state-of-the-art genomic, phenomic, molecular and bioinformatics tools and strategies to characterize crop diversity and to integrate and share data and information. A second goal would be to enhance the utilization of crop diversity in plant breeding programs that seek to enhance local and global food and nutritional security.

Governance-related topics that are critical to success of the DivSeek initiative were also discussed, including private-sector engagement, recruitment of new members to expand DivSeek's constituency, and examination of the roles and responsibilities of the JFU, the SC and the Partners Assembly (PA) as the initiative evolves.

Among the next steps --

- The JFU was encouraged to expand and refine the 'project landscape' study, and to make results available online through the DivSeek website and as a peer-reviewed publication. Please see attached list of currently funded projects relevant to the DivSeek initiative and let us know of any others that you would like to see included in the survey (info@divseek.org).
- During the coming months, the SC, with support from the JFU, will elaborate a proposal for a multi-year DivSeek strategy. We expect to share this proposal and an initial work plan with DivSeek Partners at the next Assembly, in January 2016. The strategy will include ideas for working groups and workshops on key topics of broad interest.
- An independent governance-expert committee was convened to propose a framework for engaging with the private sector, outline guidelines for publishing DivSeek documents, clarify the governance structure of DivSeek and describe lines of communication and governance principles that will allow it to remain flexible and evolve in the future.

I take this moment to reflect on the mission of the DivSeek initiative, which is to help unlock the potential of crop diversity so it can be utilized to enhance the productivity, sustainability and resilience of crops and agricultural systems throughout the world. The mission is multi-faceted and we count on the input and support of DivSeek's partners to help us move forward.

Susan McCouch

Bretting, Peter

From: Bretting, Peter
Sent: Monday, August 17, 2015 3:37 PM
To: Richards, Chris
Subject: RE: DivSeek Steering Committee meeting and possible subsequent workshops
Attachments: 2015 Proposed DivSeek Workshop on Standards.docx

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DivSeek Knowledge Exchange and Capacity-Building Workshop

Standards for Managing and Integrating Crop Genetic Resource, Genomic, and Breeding Data Crucial for Global Food Security

Workshop Goals

Convene a diverse group of international experts in bioinformatics, genomics, information management, and plant genetic resource management to develop and adopt standards for data capture, exchange, formats, quality, and assessment needed for managing and integrating crop genetic resource, phenotypic, and genotypic data. Some specific topics are listed below. Priorities and responsibilities for addressing the topics would be assigned.

- Properties for Standards:
 - Adaptability/flexibility: how can standards accommodate diverse, new or emerging datasets?
 - Evaluation and assessments: how can the efficacy, strengths, and/or limitations of standards be evaluated and measured?
 - Encouragement and/or enforcement: how can institutions be encouraged to adhere to community standards, especially if multiple, competing standards exist?
- Types of Standards:
 - Data quality: how can evidence codes be devised to communicate the completeness of data sets and the methods applied to collect and analyze the data?
 - Data formats: how can formats represent diverse, heterogeneous data effectively?
 - Data relationships: how can data relationships be managed and represented to diverse users?
 - Data exchange: how can diverse and heterogeneous data be shared more efficiently and effectively?

Workshop Schedule

- Day 1: Plenary presentations in the AM, and break-out, small group discussions in the PM. Evening social event.
- Day 2: Review and refinement of Day 1 work in the AM, tour of local scientific facilities in the PM. Evening social event.
- Day 3: Small group discussions in the AM, Plenary discussions and conclusions in the PM. Adjourn.

Possible Workshop Venues

- CIRAD/INRA (France); IPK (Germany); NIAS (Japan); NORDGEN (Norway); PAG (US)

Workshop Participants

- Technical staff from DivSeek partners and from key genebank systems, database/information resources, and genotyping/sequencing centers in developing nations.

Bretting, Peter

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ON THE NATURE OF THINGS: ESSAYS

New Ideas and Directions in Botany

How do we address the disconnect between genetic and morphological diversity in germplasm collections?¹

Shelley H. Jansky^{2,3,4}, Julie Dawson², and David M. Spooner^{2,3}**KEY WORDS:** diversity; genebanks; germplasm; potato; predictivity

The world's food production systems must keep up with an ever-increasing demand in spite of the challenges caused by climate change and environmental degradation. To meet this challenge, plant breeders must have access to genetic diversity for crop improvement. However, genetic homogeneity in the handful of major crops that feed the world limits options for breeding progress (Swaminathan, 2009). Wild and landrace relatives of crop plants provide much needed diversity and are maintained in gene banks worldwide (McCouch, 2013). This germplasm resource is underused by breeders, mainly because genotypic and phenotypic data are limited. However, using rapidly developing genomics resources, breeders are unlocking the genetic potential in gene banks and making remarkable advances (Tanksley and McCouch, 1997).

Morphological traits and neutral genetic markers are commonly used to characterize germplasm collections, with the goal of improving the value of these collections to breeders (Brown, 1989). Morphological and neutral marker data provide the foundation for the assembly of a core collection, defined as a subset of a germplasm collection intended to represent the entire collection. The concept of a core collection assumes that the core has some utility for plant improvement. That is, the core collection is maximally diverse and is useful for breeding. Evaluating the core collection for key traits should also have some level of predictability for the rest of the collection based on the relatedness of core accessions to other accessions in the collection.

It has been recognized for many years that morphological traits do not always provide a good measure of genetic values and may not accurately reveal the genetic variation in a germplasm collection

(Tanksley and McCouch, 1997). Consequently, neutral molecular markers have become popular because they are thought to more accurately reflect genetic relationships in germplasm collections (Ebana et al., 2008). But genetic relatedness measures based on neutral markers may not predict similarity in trait values or parental performance. The patterns of allelic variation in a species may be very different for neutral markers compared with genes under selection. Based on a meta-analysis, McKay and Latta (2002) argued that allele frequencies at neutral and selected loci are not correlated because evolutionary forces act differently on them. A meta-analysis by Reed and Frankham (2001) showed only weak correlation between neutral molecular markers and quantitative measures of variation. Reeves, Panella, and Richards (2012) found that genetic variation at loci of agronomic interest in core collections assembled using neutral diversity may be lower than in collections assembled at random. In addition, neutral genetic markers identified in single populations or breeding lines may have significant ascertainment bias, which makes them unrepresentative of the full range of functional genetic diversity in the species (Moragues et al., 2010).

Our breeding research in potato has revealed a remarkably unexpected result that has led us to question the value of morphological diversity as a proxy for overall genetic diversity. We assessed an F₂ population created by self-pollinating an F₁ clone from a cross between two diploid ($2n = 2x = 24$) potato clones: DM, a completely homozygous clone derived from somatically doubling an androgenic monoploid of a cultivated potato, and M6, a highly inbred clone derived from seven generations of self-pollination of the wild diploid potato relative *Solanum chacoense*. We evaluated the F₂ population for a variety of morphological features including tuber size, shape, and eye depth; skin and flesh color; and dry matter content. Phenotypic segregation in this F₂ population is astounding (Fig. 1). The tuber shape and color variability derived from self-pollinating a single diploid F₁ plant approaches that of the landrace collections maintained in potato genebanks (Spooner and Hetterscheid, 2005) (Fig. 1).

¹ Manuscript received 6 May 2015; revision accepted 11 June 2015.

² USDA-Agricultural Research Service, Vegetable Crops Research Unit, University of Wisconsin, 1575 Linden Drive, Madison, Wisconsin; and

³ Department of Horticulture, University of Wisconsin-Madison, 1575 Linden Drive, Madison, Wisconsin 53706-1590 USA

⁴ Author for correspondence: (e-mail: shelly.jansky@ars.usda.gov)
doi:10.3732/ajb.1500203



FIGURE 1 Tuber shapes and colors in the F_1 population of DM1-3 \times M6.

The International Potato Center (Centro Internacional de la Papa, CIP) maintains the world's largest collection of potato, with 4354 landrace accessions from all the cultivated species and 2520 accessions of wild relatives of potato. The catalog of potato varieties maintained by the International Potato Center (https://research.cip.cgiar.org/red_varic/pages/home.php; accessed 04/06/2015) provides a list of morphological descriptors used for potato, and tuber morphology is a major character to infer diversity among potato landraces.

The phenotypic variation seen in our F_1 population originated from a single diploid plant, derived from a completely homozygous

genotype (DM) and a nearly complete homozygous clone (M6). Consequently, a maximum of two alleles per locus contributed to this variation. Multiple alleles and diverse genotypes exist in collections of landraces. However, we have demonstrated that this level of genetic diversity is not needed to generate the tuber phenotypic variability often used to characterize landraces. Because these traits are controlled by a few major genes that are widely distributed across landraces, using them as an overall measure of diversity carries the risk of failing to preserve rare alleles that are not as readily apparent. Many traits used for characterization are qualitative,

rather than quantitative, making them easy to use but perhaps too limited in their ability to capture the underlying variation in a diverse germplasm collection. While our F_1 population exhibits tremendous phenotypic diversity for tuber traits, it obviously does not capture the wide range of allelic diversity in wild relatives for other traits of interest to breeders, such as disease resistance and stress tolerance.

The results from our study and those cited already present a dilemma for managers of germplasm collections. The case of potato is clearly extreme in the range of tuber morphological diversity present within a single F_1 population, but other species also harbor genetic variation that is not captured by morphological or neutral marker characterization of genebank accessions. There is real value in collections, and the germplasm collections maintained worldwide have proven utility for plant breeding, especially in breeding for improved pest and pathogen resistances and changing environmental and market conditions. In situations where breeders are faced with agricultural challenges for which elite lines are lacking, collections can be a major source of relevant genetic variation. However, these collections are not used to their full potential by plant breeders because of difficulties in identifying useful accessions to incorporate into breeding programs. The optimal strategy for characterizing and organizing information on collections to make them more accessible to plant breeders is not yet known.

Two lines of research seem particularly promising for the characterization and conservation of functional diversity. The first is already being pursued for several genebanks, including the potato collection at the International Potato Center (Ellis, 2014). Accessions are being genotyped using high-density genomic markers, such as genotyping by sequencing (GBS). This approach identifies genetic diversity for both neutral genomic regions and loci that affect traits of interest for plant improvement because of the full genome coverage of the GBS markers. GBS shows little to no ascertainment bias because markers are developed directly on the population being genotyped. The usefulness of these genotypic data, however, is highly dependent on the quality of the corresponding phenotypic data generated by field screening programs.

The second line of research focuses on the more effective use of in situ conservation methods to maintain genetic diversity. The availability of large numbers of inexpensive molecular markers has made it possible to study genetic diversity in situ, and recent studies have improved our knowledge of the patterns of genetic diversity conserved on-farm and the impacts of farmer seed exchanges, incorporation of new varieties, and phenotypic selection on genetic diversity for important crop species (Thomas et al., 2012).

The association of high-density genomic markers with phenotypic data is likely to be most immediately useful for plant breeders. However, the long-term creation and maintenance of genetic diversity for plant breeding will depend on better ties to on-farm and in situ conservation and selection. Because morphological descriptors, neutral genetic diversity, and geographic origin alone do not predict agronomic performance, it is imperative to move toward understanding and supporting the processes that create and maintain useful variation for functional traits and to develop strategies to identify and select valuable phenotypes.

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Bretting, Peter

From: Richards, Chris
Sent: Tuesday, May 26, 2015 4:16 PM
To: Bretting, Peter
Subject: RE: DivSeek meeting this Thursday

Hi Peter-

Safe travels to Rome.

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Avere un viaggio piacevole e produttivo (I'm sure I totally mangled this!)

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From: Bretting, Peter
Sent: Sunday, May 24, 2015 9:56 AM
To: Buckler, Ed; Edward S. Buckler; Ware, Doreen - External; Ware, Doreen; Richards, Chris
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Bretting, Peter

From: Bretting, Peter
Sent: Wednesday, June 03, 2015 9:10 PM
To: Richards, Chris
Subject: Re: DivSeek meeting this Thursday

Hi Chris--the minutes for the Steering Committee meeting won't be ready for a while; they will provide more details on the discussion. As I recall, a scientific review panel wasn't discussed. At present, it isn't envisioned that substantial quantities of funds would be available directly from DivSeek but, rather, some of the sponsoring organizations might have some modest sums available for small scale efforts. We'll see.

Currently in College Station, TX for an NPGCC meeting.

Peter

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National Program Leader
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On May 26, 2015, at 3:15 PM, Richards, Chris <Chris.Richards@ars.usda.gov> wrote:

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From: Bretting, Peter
Sent: Monday, July 06, 2015 4:00 PM
To: Richards, Chris
Subject: RE: DivSeek Steering Committee meeting and possible subsequent workshops

Thanks for the thoughtful reply, Chris. The NPGS has some experience and expertise with this topic. Randy Nelson has sub-lined all of the 21,000 soybean accessions so now they are essentially "pre-deployed" (forgive the military term) for this purpose. Some years ago (more than five) the PGO held a vigorous discussion of this topic, e.g., was such sub-lining a prudent use of limited financial and operational resources? Harold Bockelman might have some SSD'd small grains accessions, too, but not as extensive a set as does Randy. Inbreeders such as soybeans and small grains can handle SSD, but not some other species.

Another interesting topic you mentioned is how to record trait heterogeneity in a typical relational row by column database.

Yes, maintaining a \$\$ reserve for emergencies such as broken compressors is quite challenging. We try to reserve some \$\$ here for such emergencies, but if no compelling emergencies occur earlier in the FY, the funds usually must be allocated by June to enable them to be spent before 30 September. So emergencies that occur in July, August, and September can be problematic. Emergencies that occur during a government shutdown in October are nightmares!

Thanks again—I'll ruminate on your ideas further.

Peter

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Subject: DivSeek Steering Committee meeting and possible subsequent workshops
Attachments: Note from the DivSeek Chair_150626.docx; Preliminary Landscape Study.xlsx; 2015 Summary for 1st Meeting of the DivSeek Steering Committee rev 1.docx

Hi Chris, Doreen, and Ed—I wasn't sure if you were still on the mailing list for DivSeek. Hence I forwarded an e-mail (see below) and two documents (see attached Note from the DivSeek Chair and Preliminary Landscape Study) regarding the DivSeek Steering Committee meeting held in Rome about a month ago. Also attached is my brief trip report for the meeting.

Susan's message below mentions "ideas for working groups and workshops on key topics of broad interest." Steering Committee members (e.g., me!) were asked to draft a one-page outline for a DivSeek knowledge exchange and capacity-building workshop. The workshops would be funded either by the Joint Facilitation Unit institutions (e.g., the Global Crop Diversity Trust, FAO International Treaty Secretariat) and/or by other donors.

Such workshops will likely require at least some developing-nation participation and/or focus to be considered for funding. I've a few ideas for workshops but I'd certainly be happy to work with you to develop some of your brilliant ideas into one-page outlines for consideration.

Many thanks!

Peter

**Peter Bretting
USDA/ARS Office of National Programs
Room 4-2212, Mailstop 5139
5601 Sunnyside Avenue
Beltsville, MD 20705-5139
Phone 1.301.504.5541
Fax 1.301.504.6191
Mobile Phone [REDACTED]
E-mail peter.bretting@ars.usda.gov
Web site: http://www.ars.usda.gov/research/programs/programs.htm?NP_CODE=301**

From: Susan McCouch [mailto:susan.mccouch@divseek.org]
Sent: Friday, June 26, 2015 11:46 AM
To: srm4@cornell.edu
Subject: Note from the DivSeek Chair

The DivSeek Steering Committee gets going

Dear DivSeek partners and colleagues interested in DivSeek,

On May 28th, the newly elected DivSeek Steering Committee (SC) gathered at the FAO premises in Rome. Members of the Joint Facilitation Unit (JFU) and additional staff of the International Treaty also participated in the first SC meeting.

As an initial step, the SC reviewed a draft that which takes stock of independently funded projects in areas of relevance for DivSeek. This 'project landscape' study identified around 50 (!) projects, including projects characterizing genebank accessions, web-based portals to access crop-diversity data, and projects developing software or data standards for sharing information about crop diversity.

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Governance-related topics that are critical to success of the DivSeek initiative were also discussed, including private-sector engagement, recruitment of new members to expand DivSeek's constituency, and examination of the roles and responsibilities of the JFU, the SC and the Partners Assembly (PA) as the initiative evolves.

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- The JFU was encouraged to expand and refine the 'project landscape' study, and to make results available online through the DivSeek website and as a peer-reviewed publication. Please see attached list of currently funded projects relevant to the DivSeek initiative and let us know of any others that you would like to see included in the survey (info@divseek.org).
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I take this moment to reflect on the mission of the DivSeek initiative, which is to help unlock the potential of crop diversity so it can be utilized to enhance the productivity, sustainability and resilience of crops and agricultural systems throughout the world. The mission is multi-faceted and we count on the input and support of DivSeek's partners to help us move forward.

Susan McCouch

Brief trip report for the 1st Meeting of the DivSeek Steering Committee

28 May 2015

FAO Headquarters, Rome, Italy

Background:

The Secretariat of the ITPGRFA hosted the 1st meeting of the DiversitySeek (DivSeek) Steering Committee (<http://www.divseek.org/governance/>) at the FAO Headquarters in Rome, 28 May 2015. The Steering Committee (SC) was elected by the DivSeek Partners, currently encompassing 58 different crop research institutions from many nations (<http://www.divseek.org/partners/>). Members serve in their personal capacity. The Joint Facilitation Unit (JFU), staffed by personnel from the Global Crop Diversity Trust (GCDDT), the Global Plant Council, the Consultative Group for International Agricultural Research (CGIAR) Consortium Office, and the ITPGRFA Secretariat, provided support for the SC meeting.

Members of the Steering Committee include: Susan McCouch (Cornell University, U.S.: Chair); Andreas Graner (Leibniz-Institut für Pflanzengenetik und Kulturpflanzenforschung (IPK), Germany); Ruaraidh Sackville-Hamilton (International Rice Research Institute, The Philippines); Elizabeth Arnaud (Bioversity International, Italy); David Marshall (James Hutton Institute, U.K.); Sarah Ayling (The Genome Analysis Centre, U.K.); Emily Marden (University of British Columbia, Canada); Rajeev Varshney (International Crops Research Institute for the Semi-Arid Tropics, India); and Peter Bretting (USDA/ARS, U.S.).

Relationship between DivSeek and the ITPGRFA's Global Information System (GLIS):

Article 17.1 of the ITPGRFA stipulates that "The Contracting Parties shall cooperate to develop and strengthen a global information system to facilitate the exchange of information, based on existing information systems, on scientific, technical, and environmental matters related to plant genetic resources for food and agriculture..." Until earlier this year, the ITPGRFA has expended relatively little time and effort on this topic. In January 2015, the ITPGRFA convened the first Expert Consultation on the Global Information System on Plant Genetic Resources for Food and Agriculture (COGIS; see meeting report at <http://www.planttreaty.org/sites/default/files/COGIS1re.pdf>). It directly preceded the first DivSeek Partners Assembly meeting in San Diego. Staff from the ITPGRFA Secretariat attended both that DivSeek meeting and the COGIS, as did this writer and some other "technical experts."

Consequently, although they are separate efforts with different memberships (research institutes for DivSeek; ITPGRFA Parties for GLIS) and governance structures, the GLIS and DivSeek have from their onsets been at least logistically affiliated, having emerged at the same time, at the same venue, and involving some of the same participants. Thus, both efforts ideally could build on the mutual strengths of each while avoiding undesirable overlap in activities and missions. It is envisioned that the two efforts would collaborate especially in technical areas

(technical standards, information systems), and engage in joint advocacy, communications, training, and capacity-building.

Governance items:

The SC members who participated in the Rome meeting were all technical experts rather than authorities in legal or international organizational matters. Consequently, the SC didn't draw many conclusions during the governance discussion, but "kicked the can down the road" to later meetings when other SC members with legal/governance expertise can participate. This writer is a member of a governance sub-committee formed by the SC for that purpose.

The SC did recommend that individual persons or projects not be eligible for membership in DivSeek. Rather, applicants for participating in DivSeek should do so under the auspices of their home institution/organization. A "tiered membership" structure was discussed, with different interest groups becoming members of different tiers which confer different responsibilities and benefits. The future roles and memberships for private-sector organizations in DivSeek were also discussed, but no conclusions were drawn.

The composition of the JFU and its responsibilities was also considered. At present, the ITPGRFA Secretariat, the GCDT, and the Global Plant Council shoulder nearly all of the JFU staffing responsibilities, with relatively minor participation from the CGIAR Consortium Office. The SC will take up this topic in intersessional discussions.

The SC meeting's summary reports will likely not be circulated publicly, prior to the subsequent Partners Assembly.

Technical discussions:

The SC recognized as an important short-term DivSeek accomplishment the "landscaping study" that compiled a world-wide list of current projects dealing with crop genetic resource information management (infrastructure, tools, and standards), genome sequencing, bioinformatics, databases and genetic enhancement. A project on rice genetic resource information management conducted by IRRI and an Indonesian governmental rice research institute was also recognized. It was noted that science might be reaching an inflection point where the information derived from germplasm might be more valuable than the germplasm per se. The ITPGRFA Secretariat and the GCDT are jointly funding a study by Arizona State University (Eric Welch) and Bioversity International (Selim Louafi) on different and institutional/organizational governance models and functions which might be applicable to DivSeek.

DivSeek's roles in the plant genetic resource conservation, enhancement, breeding, and information management spheres have begun to solidify. The SC discussed the overall strategy for attaining DivSeek's mission, which will encompass communication, resource mobilization, community building and networking, research approaches and tools, information management, "rights management," and capacity-strengthening. The proposed DivSeek 2016 Program of

Work developed by the SC includes further refinement of the landscaping study; conducting workshops on technical topics such as accession sampling strategies; and developing genotyping and phenotyping standards. DivSeek will facilitate coordination and sharing of expertise among existing projects by developing and strengthening cooperative research and breeding networks.

Next meetings: The SC might meet next either in person or via videoconference during November or December 2015. It will definitely meet preceding the Plant and Animal Genome Conference in San Diego, 9-13 January 2016.

Acknowledgements: Thanks to colleagues at the US Mission to the UN Agencies, Rome for their logistical assistance and advice before and during the visit. Much appreciated!

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Susan McCouch

Project Name

Seeds of Discovery (Seed)
3,000 Rice Genome Project
TransPlant
African Orpahn Crop Consortium
The 3000 Chickpea Genome Sequencing Initiative
The Genomic and Open-source Breeding Informatics Initiative (GOBII)
BRIDGE
Crop Ontology
Planteome
Crops for the Future - BamYIELD
Germinate
IRIC
WHEALBI - Wheat and barley Legacy for Breeding Improvement
WISP
CerealsDB
The CGIAR Research Program on Roots, Tubers and Bananas (RTB)
Seeds4needs
Geospatial database of collected crop samples and repository of expedition fieldbooks
iPlant Collaborative
NEXTGEN Cassava
GRIN-Global
Maize GDB
SoyBase
Legume Information System
PeanutBase
GrainGenes
Gramene
Cacao Genome Database
CottonDB
Genome Database for Rosaceae
KBase
BreedWheat
Wheat Initiative
The European Plant Phenotyping Network (EPPN)
The Biology of Rare Alleles in Maize and Its Wild Relatives (Panzea)
Phenomics Ontology Driven Data (PODD)
1000 Plant Genomes Project
Smart tools for Prediction (and) Improvement of Crop Yield (SPICY)
150 Tomato Genome ReSequencing project
The Rice Diversity Project
The International Cocoa Germplasm Database (ICGD)

W3B-PR-29-Indonesia, "Multicountry construction of a test platform for the development and allocation of globally unique identifiers for rice germplasm, linking the MLS information infrastructure and the DivSeek repository

Big Data Infrastructure for Crop Genomics

In situ conservation and use of crop wild relatives in three ACP countries of the SADC region

Data recording of coconut germplasm from CRI collection in the International Coconut Genetic Resources
Amazing

Website/URL

<http://seedsofdiscovery.org/en/>
<http://gigadb.org/dataset/200001>
<http://www.transplantdb.eu/>
<http://africanorphancrops.org/>
Not yet available
Not yet available
under development
www.croponology.org
<http://www.planteome.org/> (will be updated)
www.bambaragroundnut.org
<http://ics.hutton.ac.uk/germinate/>
<http://iric.irri.org/home>
<http://www.whealbi.eu/>
<http://www.wheatisp.org/Consortium/WISP.php>
<http://www.cerealsdb.uk.net/cerealgenomics/CerealsDB/indexNEW.php>
<http://www.rtb.cgiar.org/>
<http://www.bioversityinternational.org/seeds-for-needs/>
<http://bioversity.github.io/geosite/>
<http://www.iplantcollaborative.org/>
<http://www.nextgencassava.org/about.html>
<http://www.ars-grin.gov>
<http://www.maizegdb.org/>
<http://soybase.org/>
<http://legumeinfo.org/>
<http://peanutbase.org/>
<http://wheat.pw.usda.gov/GG3/>
<http://www.gramene.org/>
<http://www.cacaogenomedb.org/>
<http://www.cottondb.org/wwwroot/cdbhome.php>
<http://www.rosaceae.org/>
<http://kbase.us/>
<http://www.breedwheat.fr/>
<http://www.wheatinitiative.org/>
<http://www.plant-phenotyping-network.eu/eppn/home>
<http://www.panzea.org/>
<https://projects.ands.org.au/id/NEAT-PODD>
<https://sites.google.com/a/ualberta.ca/onekp/>
<http://www.spicyweb.eu/>
<http://www.tomatogenome.net/>
<http://ricediversity.org/>
<http://www.icgd.rdg.ac.uk/>

<http://www.planttreaty.org/sites/default/files/files/Third%20Call%20for%20Proposals-%20Projects%20approved%20for%20funding-for%20web.pdf>

Not yet available

<http://www.cropwildrelatives.org/sadc-cwr-project/>

<http://www.cogentnetwork.org/cgrd-version-6-0-test-version>

<http://www.amaizing.fr/index.php>

Bretting, Peter

From: Richards, Chris
Sent: Monday, July 06, 2015 3:25 PM
To: Bretting, Peter
Subject: RE: DivSeek Steering Committee meeting and possible subsequent workshops

Dear Peter-

One working group that I think would have particular value among participants from anywhere would be to explore ways in which gene bank collections can prepare their accession for the intensive genotyping that DivSeek envisions. The issue hinges on standards for connecting a genotype to an accession...especially when an accession is highly heterogeneous. Rory talked about making research inventories from heterogeneous (extracting research samples) for genotyping, but there are many challenges for species that cannot be maintained with single seed descent (because of inbreeding depression or self-incompatibility).

The workshop might address ways of prioritizing taxa for this kind of analysis (both a phylogenetic and a population genetic process), how to represent the diversity in these heterogeneous (most wild) accessions in reference sets used for downstream genotyping, what approaches have been used already and what is the anticipated capacity needed to develop, maintain and phenotype these inventories in taxa that are not already undergoing major genomic analysis.

This is really a step-one kind of workshop. Something we talked about in general at the first Genomics of Genebanks workshop at PAG back in 2011.

Cheers,
C.

PS We had a failure in one of our vault compressors last week. The temp in the main vault rose to -13C but it was held there tenuously with the one remaining aged compressor (usually 2 switch off). The process of getting a new compressor installed ASAP revealed a huge procurement issue that I think needs some National Program attention. Our procurement threw up many days of delays about sole source, approved vendors and even suggested that it be delayed 10-15 days to go out to bid! Meanwhile we have a priceless collection that could have been seriously compromised. What I think this incident made clear is we need an emergency fund that is not subject to the constraints of normal procurement if we want to keep this collection in good health. I'm quite certain the issue will come up in the next month. It was pretty scary here and level of complacency in our procurement system was alarming.

From: Bretting, Peter
Sent: Sunday, July 05, 2015 12:12 PM
To: Ware, Doreen - External; Richards, Chris; Buckler, Ed; Edward S. Buckler; Ware, Doreen
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Hutchison, Stasia

From: Richards, Chris
Sent: Monday, July 06, 2015 5:53 PM
To: Bretting, Peter
Subject: RE: DivSeek Steering Committee meeting and possible subsequent workshops

Well there's a model!

An absolutely irreplaceable asset protected by proactive planning. The case was a logical one. It just had to be made.

I feel so old looking at these young men. They look younger every year...I guess the converse of that statement is true too (just don't like to dwell on it)!

Thanks for sharing.

Cheers,
C.

From: Bretting, Peter
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To: Richards, Chris
Subject: RE: DivSeek Steering Committee meeting and possible subsequent workshops

Immediately after becoming Secretary of Defense, Robert Gates asked Congress for hundreds of millions of dollars to purchase MRAPs (mine-resistant, armor-protected trucks) and fly them—to save the three months needed to transport them by ship—to Iraq to protect our troops who were dying by the score from IEDs in inadequately armored vehicles. Congress allocated the money without question or delay.

As a result, the survival rate of Marines such as those in the attached photo increased dramatically.

Peter

Peter Bretting
USDA/ARS Office of National Programs
Room 4-2212, Mailstop 5139
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From: Richards, Chris
Sent: Monday, July 06, 2015 4:10 PM
To: Bretting, Peter
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Thanks, I was there for Randy's call to arms (keeping military here) and I could sense a lot of eyes rolling! It is not a universal fix and for some accessions as it may thrash out the very Div one Seeks (pushing it here, I know).

Speaking militarily, the lack of funds for emergencies like this is more than challenging with an asset on the line like base collection. What does the military do for mission critical expenses that just happen at the end of the FY? Seems we need a new model to work from...and a spare compressor on a pallet would be good, too!

Cheers,
Chris

From: Bretting, Peter
Sent: Monday, July 06, 2015 2:00 PM
To: Richards, Chris
Subject: RE: DivSeek Steering Committee meeting and possible subsequent workshops

Thanks for the thoughtful reply, Chris. The NPGS has some experience and expertise with this topic. Randy Nelson has sub-lined all of the 21,000 soybean accessions so now they are essentially “pre-deployed” (forgive the military term) for this purpose. Some years ago (more than five) the PGOC held a vigorous discussion of this topic, e.g., was such sub-lining a prudent use of limited financial and operational resources? Harold Bockelman might have some SSD’d small grains accessions, too, but not as extensive a set as does Randy. Inbreeders such as soybeans and small grains can handle SSD, but not some other species.

Another interesting topic you mentioned is how to record trait heterogeneity in a typical relational row by column database.

Yes, maintaining a \$\$ reserve for emergencies such as broken compressors is quite challenging. We try to reserve some \$\$ here for such emergencies, but if no compelling emergencies occur earlier in the FY, the funds usually must be allocated by June to enable them to be spent before 30 September. So emergencies that occur in July, August, and September can be problematic. Emergencies that occur during a government shutdown in October are nightmares!

Thanks again—I’ll ruminate on your ideas further.

Peter

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Hutchison, Stasia

From: Bretting, Peter
Sent: Tuesday, July 14, 2015 5:34 AM
To: Walters, Christina; Richards, Chris
Subject: RE: DivSeek Steering Committee meeting and possible subsequent workshops

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Mobile Phone [REDACTED]
E-mail peter.bretting@ars.usda.gov
Web site: http://www.ars.usda.gov/research/programs/programs.htm?NP_CODE=301

From: Walters, Christina
Sent: Monday, July 13, 2015 8:25 PM
To: Bretting, Peter; Richards, Chris
Subject: FW: DivSeek Steering Committee meeting and possible subsequent workshops

Hi. Just want to correct any mis-impressions about lack of available funding to handle emergencies. Both Harvey and I keep a reserve on hand in our separate projects for mishaps and emergencies. Starting at end of July, we begin to spend off this reserve and we are completely exposed from Sept 15 until Sept 30. Even if we don't have a budget, we can spend for emergencies beginning on Oct 1 – but it takes some phone calls. Bottom line: the problem was not about finding funds to fix the compressors.

I was travelling, and so don't have all the facts – but, from what I hear, repair of the compressors was slowed by a debate between NCGRP and procurement on *how* to spend the money – should it go for bid or not. From my perspective, it seems like there is plenty of room for improvement on how we address emergencies, and so this will serve as a teachable moment.

Chris

From: Richards, Chris
Sent: Monday, July 13, 2015 4:55 PM
To: Walters, Christina
Subject: FW: DivSeek Steering Committee meeting and possible subsequent workshops

Read from the bottom up.

From: Richards, Chris
Sent: Monday, July 06, 2015 2:08 PM
To: Bretting, Peter
Subject: RE: DivSeek Steering Committee meeting and possible subsequent workshops

Thanks, I was there for Randy's call to arms (keeping military here) and I could sense a lot of eyes rolling! It is not a universal fix and for some accessions as it may thrash out the very Div one Seeks (ok, pushing it here, I know).

Speaking militarily, the lack of funds for emergencies like this is more than challenging with an asset on the line like base collection. What does the military do for mission critical expenses that just happen at the end of the FY? Seems we need a new model to work from...and a spare compressor on a pallet would be good, too!

Cheers,
Chris

From: Bretting, Peter
Sent: Monday, July 06, 2015 2:00 PM
To: Richards, Chris
Subject: RE: DivSeek Steering Committee meeting and possible subsequent workshops

Thanks for the thoughtful reply, Chris. The NPGS has some experience and expertise with this topic. Randy Nelson has sub-lined all of the 21,000 soybean accessions so now they are essentially "pre-deployed" (forgive the military term) for this purpose. Some years ago (more than five) the PGOC held a vigorous discussion of this topic, e.g., was such sub-lining a prudent use of limited financial and operational resources? Harold Bockelman might have some SSD'd small grains accessions, too, but not as extensive a set as does Randy. Inbreeders such as soybeans and small grains can handle SSD, but not some other species.

Another interesting topic you mentioned is how to record trait heterogeneity in a typical relational row by column database.

Yes, maintaining a \$\$ reserve for emergencies such as broken compressors is quite challenging. We try to reserve some \$\$ here for such emergencies, but if no compelling emergencies occur earlier in the FY, the funds usually must be allocated by June to enable them to be spent before 30 September. So emergencies that occur in July, August, and September can be problematic. Emergencies that occur during a government shutdown in October are nightmares!

Thanks again—I'll ruminate on your ideas further.

Peter

Peter Bretting
USDA/ARS Office of National Programs
Room 4-2212, Mailstop 5139
5601 Sunnyside Avenue
Beltsville, MD 20705-5139
Phone 1.301.504.5541
Fax 1.301.504.6191
Mobile Phone [REDACTED]
E-mail peter.bretting@ars.usda.gov

Duplicate email trail deleted

Hutchison, Stasia

From: Richards, Chris
Sent: Sunday, July 05, 2015 6:51 PM
To: Bretting, Peter
Subject: RE: Interesting review article from AAFC colleagues

Thanks for highlighting it. It was tough manuscript to review since it touched on so many facets of research.

I will put some thought into your earlier email about a DivSeek workshop.

Hope you are doing well.

Cheers,
Chris

From: Bretting, Peter [mailto:Peter.Bretting@ARS.USDA.GOV]
Sent: Sunday, July 05, 2015 12:18 PM
To: curators@ars-grin.gov; pgoc@grin.barc.usda.gov
Subject: Interesting review article from AAFC colleagues

FYI—attached is an interesting review article authored by several of our Agriculture and Agri-Food Canada genebank colleagues,

Peter

Peter Bretting
USDA/ARS Office of National Programs
Room 4-2212, Mailstop 5139
5601 Sunnyside Avenue
Beltsville, MD 20705-5139
Phone 1.301.504.5541
Fax 1.301.504.6191
Mobile Phone [REDACTED]
E-mail peter.bretting@ars.usda.gov
Web site: http://www.ars.usda.gov/research/programs/programs.htm?NP_CODE=301

Hutchison, Stasia

From: Susan McCouch <susan.mccouch@divseek.org>
Sent: Friday, June 26, 2015 11:46 AM
To: srm4@cornell.edu
Subject: Note from the DivSeek Chair
Attachments: Note from the DivSeek Chair_150626.docx; Preliminary Landscape Study.xlsx

The DivSeek Steering Committee gets going

Dear DivSeek partners and colleagues interested in DivSeek,

On May 28th, the newly elected DivSeek Steering Committee (SC) gathered at the FAO premises in Rome. Members of the Joint Facilitation Unit (JFU) and additional staff of the International Treaty also participated in the first SC meeting.

As an initial step, the SC reviewed a draft that which takes stock of independently funded projects in areas of relevance for DivSeek. This 'project landscape' study identified around 50 (!) projects, including projects characterizing genebank accessions, web-based portals to access crop-diversity data, and projects developing software or data standards for sharing information about crop diversity.

The SC also began discussing components of a multi-year strategy and an initial work plan for DivSeek. This discussion was facilitated by a document containing a 'menu' of ideas and potential elements for such a strategy.

The current task of the SC is to identify a set of objectives and activities for the DivSeek initiative and a mechanism for funding and administering those activities. A major goal underlying DivSeek's strategic plan would be to augment the potential for many independent, stand-alone efforts to work together under a common umbrella to apply state-of-the-art genomic, phenomic, molecular and bioinformatics tools and strategies to characterize crop diversity and to integrate and share data and information. A second goal would be to enhance the utilization of crop diversity in plant breeding programs that seek to enhance local and global food and nutritional security.

Governance-related topics that are critical to success of the DivSeek initiative were also discussed, including private-sector engagement, recruitment of new members to expand DivSeek's constituency, and examination of the roles and responsibilities of the JFU, the SC and the Partners Assembly (PA) as the initiative evolves.

Among the next steps --

- The JFU was encouraged to expand and refine the 'project landscape' study, and to make results available online through the DivSeek website and as a peer-reviewed publication. Please see attached list of currently funded projects relevant to the DivSeek initiative and let us know of any others that you would like to see included in the survey (info@divseek.org).
- During the coming months, the SC, with support from the JFU, will elaborate a proposal for a multi-year DivSeek strategy. We expect to share this proposal and an initial work plan with DivSeek Partners at the next Assembly, in January 2016. The strategy will include ideas for working groups and workshops on key topics of broad interest.
- An independent governance-expert committee was convened to propose a framework for engaging with the private sector, outline guidelines for publishing DivSeek documents, clarify the governance structure of DivSeek and describe lines of communication and governance principles that will allow it to remain flexible and evolve in the future.

I take this moment to reflect on the mission of the DivSeek initiative, which is to help unlock the potential of crop diversity so it can be utilized to enhance the productivity, sustainability and resilience of crops and agricultural systems

throughout the world. The mission is multi-faceted and we count on the input and support of DivSeek's partners to help us move forward.

Susan McCouch

Note from the DivSeek Chair: The DivSeek Steering Committee gets going

Dear DivSeek partners and colleagues interested in DivSeek,

On May 28th, the newly elected DivSeek Steering Committee (SC) gathered at the FAO premises in Rome. Members of the Joint Facilitation Unit (JFU) and additional staff of the International Treaty also participated in the first SC meeting.

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I take this moment to reflect on the mission of the DivSeek initiative, which is to help unlock the potential of crop diversity so it can be utilized to enhance the productivity, sustainability and resilience of crops and agricultural systems throughout the world. The mission is multi-faceted and we count on the input and support of DivSeek's partners to help us move forward.

Susan McCouch

Project Name

Seeds of Discovery (Seed)
3,000 Rice Genome Project
TransPlant
African Orpahn Crop Consortium
The 3000 Chickpea Genome Sequencing Initiative
The Genomic and Open-source Breeding Informatics Initiative (GOBII)
BRIDGE
Crop Ontology
Planteome
Crops for the Future - BamYIELD
Germinate
IRIC
WHEALBI - Wheat and barley Legacy for Breeding Improvement
WISP
CerealsDB
The CGIAR Research Program on Roots, Tubers and Bananas (RTB)
Seeds4needs
Geospatial database of collected crop samples and repository of expedition fieldbooks
iPlant Collaborative
NEXTGEN Cassava
GRIN-Global
Maize GDB
SoyBase
Legume Information System
PeanutBase
GrainGenes
Gramene
Cacao Genome Database
CottonDB
Genome Database for Rosaceae
KBase
BreedWheat
Wheat Initiative
The European Plant Phenotyping Network (EPPN)
The Biology of Rare Alleles in Maize and Its Wild Relatives (Panzea)
Phenomics Ontology Driven Data (PODD)
1000 Plant Genomes Project
Smart tools for Prediction (and) Improvement of Crop Yield (SPICY)
150 Tomato Genome ReSequencing project
The Rice Diversity Project
The International Cocoa Germplasm Database (ICGD)

W3B-PR-29-Indonesia, "Multicountry construction of a test platform for the development and allocation of globally unique identifiers for rice germplasm, linking the MLS information infrastructure and the DivSeek repository

Big Data Infrastructure for Crop Genomics

In situ conservation and use of crop wild relatives in three ACP countries of the SADC region

Data recording of coconut germplasm from CRI collection in the International Coconut Genetic Resources
Amazing

Website/URL

<http://seedsofdiscovery.org/en/>

<http://gigadb.org/dataset/200001>

<http://www.transplantdb.eu/>

<http://africanorphancrops.org/>

Not yet available

Not yet available

under development

www.cropontology.org

<http://www.planteome.org/> (will be updated)

www.bambaragroundnut.org

<http://ics.hutton.ac.uk/germinate/>

<http://iric.irri.org/home>

<http://www.wheatbi.eu/>

<http://www.wheatisp.org/Consortium/WISP.php>

<http://www.cerealsdb.uk.net/cerealgenomics/CerealsDB/indexNEW.php>

<http://www.rtb.cgiar.org/>

<http://www.bioversityinternational.org/seeds-for-needs/>

<http://bioversity.github.io/geosite/>

<http://www.iplantcollaborative.org/>

<http://www.nextgencassava.org/about.html>

<http://www.ars-grin.gov>

<http://www.maizegdb.org/>

<http://soybase.org/>

<http://legumeinfo.org/>

<http://peanutbase.org/>

<http://wheat.pw.usda.gov/GG3/>

<http://www.gramene.org/>

<http://www.cacaogenomedb.org/>

<http://www.cottontdb.org/wwwroot/cdbhome.php>

<http://www.rosaceae.org/>

<http://kbase.us/>

<http://www.breedwheat.fr/>

<http://www.wheatinitiative.org/>

<http://www.plant-phenotyping-network.eu/eppn/home>

<http://www.panzea.org/>

<https://projects.ands.org.au/id/NEAT-PODD>

<https://sites.google.com/a/ualberta.ca/onekp/>

<http://www.spicyweb.eu/>

<http://www.tomatogenome.net/>

<http://ricediversity.org/>

<http://www.icgd.rdg.ac.uk/>

<http://www.planttreaty.org/sites/default/files/files/Third%20Call%20for%20Proposals-%20Projects%20approved%20for%20funding-for%20web.pdf>

Not yet available

<http://www.cropwildrelatives.org/sadc-cwr-project/>

<http://www.cogentnetwork.org/cgrd-version-6-0-test-version>

<http://www.amaizing.fr/index.php>

Hutchison, Stasia

From: Edward S. Buckler <esb33@cornell.edu>
Sent: Tuesday, May 26, 2015 4:52 PM
To: Bretting, Peter
Cc: Buckler, Ed; Ware, Doreen - External; Ware, Doreen; Richards, Chris
Subject: Re: DivSeek meeting this Thursday

Hi Peter-

I think the big issue of our time is the "dematerialization" of germplasm. For genomes like maize, we are getting very close to genome editing the variants we want. And since every variant already occurs 10,000 times every year by de novo mutation, I really don't see how this will be regulated globally.

Germplasm is becoming the information technology that it always was.

So then the question is who has the right to look at the database of whole genome sequences? If I or a seed company had a database with 100,000 whole genome sequences of maize landraces, I could take some very educated guesses on the adaptive SNPs.

The cross cultural implications of this will be extremely contentious.

Sincerely-
Ed

On May 24, 2015, at 11:56 AM, Bretting, Peter <Peter.Bretting@ARS.USDA.GOV> wrote:

Hi Chris, Ed, and Doreen--I'll attend the DivSeek Steering Committee meeting in Rome this week. Are there any particular topics/items/concerns you would like the committee to address (better, begin to address)?

Thanks, much appreciated!

Peter

**Peter Bretting
USDA/ARS Office of National Programs
Room 4-2212, Mailstop 5139
5601 Sunnyside Avenue
Beltsville, MD 20705-5139
Phone 1.301.504.5541
Fax 1.301.504.6191
Mobile Phone [REDACTED]
E-mail peter.bretting@ars.usda.gov
Web site: http://www.ars.usda.gov/research/programs/programs.htm?NP_CODE=301**

Hutchison, Stasia

From: Richards, Chris
Sent: Tuesday, May 26, 2015 4:16 PM
To: Bretting, Peter
Subject: RE: DivSeek meeting this Thursday

Hi Peter-

Safe travels to Rome.

I'd like to know a little more about the status of pilot projects. I'd like to apply for one. Also I'd like to get a sense when the DivSeek group will assemble a scientific review committee or the like. I ask because I think the data generated for association studies may be quite different than ones focused on diversity analysis.

Avere un viaggio piacevole e produttivo (I'm sure I totally mangled this!)

Cheers,
C.

From: Bretting, Peter
Sent: Sunday, May 24, 2015 9:56 AM
To: Buckler, Ed; Edward S. Buckler; Ware, Doreen - External; Ware, Doreen; Richards, Chris
Subject: DivSeek meeting this Thursday

Hi Chris, Ed, and Doreen--I'll attend the DivSeek Steering Committee meeting in Rome this week. Are there any particular topics/items/concerns you would like the committee to address (better, begin to address)?

Thanks, much appreciated!

Peter

Peter Bretting
USDA/ARS Office of National Programs
Room 4-2212, Mailstop 5139
5601 Sunnyside Avenue
Beltsville, MD 20705-5139
Phone 1.301.504.5541
Fax 1.301.504.6191
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Hutchison, Stasia

From: Richards, Chris
Sent: Tuesday, March 10, 2015 12:50 PM
To: Susan McCouch
Subject: RE: Announcing election results for DivSeek Steering Committee members

Excellent, Susan. This group will be a hardworking lineup, especially important in the first year. Glad also to see a slot for the USDA (my personal bias!).

Cheers,
C.

From: [REDACTED] [mailto:[REDACTED]] **On Behalf Of** Susan McCouch
Sent: Tuesday, March 10, 2015 10:40 AM
To: Susan McCouch
Cc: Ruth Bastow; Peter Wenzl; Peter Phillips; Daniele Manzella
Subject: Announcing election results for DivSeek Steering Committee members

Dear Partner Organizations,

With this message, I would like to share with you the results of the Steering Committee elections.

We received a total of 19 (nineteen) candidates for the Steering Committee, 48 (forty-eight) organizations voted, and the Joint Facilitation Unit counted the votes after the deadline of 6 March.

I am pleased to announce the following results:

1. Andreas Graner - Leibniz Institute of Plant Genetics and Crop Plant Research (IPK) - 2 years
2. Ruairaidh Sackville-Hamilton - International Rice Research Institute (IRRI), Philippines - 2 years
3. Elizabeth Arnaud - Bioversity International, France - 2 years
4. David Marshall - James Hutton Institute, UK - 2 years
5. Emily Marden - University of British Columbia, Canada - 1 year
6. Peter Bretting - US Department of Agriculture–Agricultural Research Service (USDA–ARS), USA - 1 year
7. Sarah Ayling - The Genome Analysis Centre (TGAC), UK - 1 year
8. Rajeev Varshney – International Crop Research Institute for Semi Arid Topics (ICRISAT), India - 1 year.

Please join me in congratulating our new Steering Committee Members, and in thanking them for their commitment to contribute to the DivSeek initiative. I am confident that the DivSeek community will greatly benefit from the expertise of this Steering Committee, and we look forward to working closely with them.

Work is already underway, and we are planning two meetings of the Committee in order to develop the first programme of work and to implement other actions requested by the Assembly. I will continue to communicate

with you on a regular basis on the progress being made in advance of the next Partners' Assembly, and am looking forward to the exciting developments ahead.

With kind regards,

Susan McCouch
Chairperson of the Assembly

--

Susan McCouch
Professor, Plant Breeding & Genetics
Cornell University
162 Emerson Hall
Ithaca, NY 14853-1901
Phone: +1 607-255-0420
Fax: +1 607-255-6683
Email: srm4@cornell.edu or mccouch@cornell.edu
Alternate Email: [REDACTED]

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Hutchison, Stasia

From: Richards, Chris
Sent: Tuesday, March 10, 2015 11:47 AM
To: Bretting, Peter
Subject: RE: DivSeek Steering Committee

Congratulations, Peter! I'm very pleased to see you at the table representing our agency.
Cheers,
Chris

From: Bretting, Peter
Sent: Tuesday, March 10, 2015 8:42 AM
To: Richards, Chris; Volk, Gayle; Ware, Doreen
Subject: FW: DivSeek Steering Committee

FYI—so ARS will have a representative on the Steering Committee, at least for a year. Let's hope that we can make good progress then.

Thanks for your support!

Peter

Peter Bretting
USDA/ARS Office of National Programs
Room 4-2212, Mailstop 5139
5601 Sunnyside Avenue
Beltsville, MD 20705-5139
Phone 1.301.504.5541
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From: Susan McCouch [<mailto:srm4@cornell.edu>]
Sent: Tuesday, March 10, 2015 10:37 AM
To: Bretting, Peter
Cc: Susan McCouch; Peter Wenzl; Ruth Bastow; Peter Phillips; Daniele Manzella
Subject: FW: DivSeek Steering Committee

Dear Peter,

Congratulations! I am pleased to let you know that you have been elected to the first Steering Committee of DivSeek. We look forward to your participation. Your appointment will be for a term of 1 year, and we are planning our first meetings now.

Please go to the Doodle Polls below to help finalize the dates for a virtual meeting in April and an in-person meeting in late May.

April Virtual Meeting

[REDACTED]

May in Person meeting - Rome (or Bonn)

[REDACTED]

Please note, for the April meeting it is going to be very difficult to find a time that works for everyone as we have members in Vancouver all the way to the Philippines. Thus, we are suggesting times whereby Emily would have to be up early i.e. 6am or 7am in Vancouver, and Ruraidh would need to stay up late 9pm or 10pm in the Philippines.

To complete this process, please send me back a quick mail to confirm your willingness to serve on the Steering Committee. Thank you for your participation in DivSeek and I look forward to working with you.

Best regards,
Susan

Hutchison, Stasia

From: Bretting, Peter
Sent: Tuesday, March 10, 2015 10:42 AM
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Subject: FW: DivSeek Steering Committee

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From: Susan McCouch [mailto:srm4@cornell.edu]
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Best regards,
Susan

Hutchison, Stasia

From: Bretting, Peter
Sent: Wednesday, March 04, 2015 7:51 AM
To: Ruth Bastow
Cc: Richards, Chris; Ware, Doreen; Volk, Gayle
Subject: USDA/ARS DivSeek ballot
Attachments: DivSeek SC Voting Form USDA ARS ballot 4 March 2015.pdf

Hi Ruth—attached is the USDA/ARS ballot for DivSeek Steering Committee membership. Please acknowledge receipt.

Thanks very much!

Peter

Peter Bretting
USDA/ARS Office of National Programs
Room 4-2212, Mailstop 5139
5601 Sunnyside Avenue
Beltsville, MD 20705-5139
Phone 1.301.504.5541
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Web site: http://www.ars.usda.gov/research/programs/programs.htm?NP_CODE=301

From: Ruth Bastow [mailto:ruth.bastow@divseek.org]
Sent: Wednesday, February 25, 2015 1:23 PM
To: Bretting, Peter; Richards, Chris; Volk, Gayle; Ware, Doreen
Subject: DivSeek Steering Committee Election

Dear All

I am contacting you on behalf of the DivSeek Joint Facilitation Unit regarding the election process for the **DivSeek Steering Committee**, as your organization, USDA-ARS, is a partner in the DivSeek Initiative.

We have received nineteen (19) nominations for election to Steering Committee. A full list of candidates and associated short biographies are provided in the attachment to this email, together with the **voting form**.

On the voting form, please select **eight (8)** nominees and place them in ranked order (the most preferred nominee being in position 1). Please return the completed form by **6 March** to Ruth Bastow (ruth.bastow@divseek.org).

Please note that each partner organization can only submit **ONE** completed voting form.

We would also ask that each voting partner organization consider the composition of the eight-member steering committee with regards to different categories of expertise, regions and types of organizations, as set forth in the DivSeek Charter.

The Joint Facilitation Unit will be responsible for collecting the forms and processing the results.

After close of the election, the Chairperson of the Assembly will confirm the willingness of the elected candidates to serve, including on the basis of the aforementioned balancing criteria, and communicate the final composition of the Steering Committee to DivSeek Partners.

The first Steering Committee will have staggered appointments, with four of the members appointed for two years and the other four for one year. All the members will be eligible for a second term of two years. The four top-ranked elected candidates will be assigned a two-year term; the next four will be assigned a one-year term.

The Steering Committee provides an active link to the community that underpins the DivSeek Initiative. It plays a key role in ensuring that DivSeek meets its strategic objectives, as outlined by the Partners' Assembly. The Committee works with the Joint Facilitation Unit to develop an annual work plan. It meets twice a year, and may also have additional Skype/phone calls in between meetings. The functions of the Steering Committee as outlined in the Charter (attached) are:

To prepare the agenda for the Assembly;

To provide inputs and eventually endorse the draft DivSeek annual work plan and the draft budget of the Joint Facilitation Unit, accompanied by a resource mobilization plan, and the annual progress report;

To periodically collect information about interactions among Partners and convey such information to the Assembly;

To advise the Assembly on the strategic direction of activities and projects associated with DivSeek;

To work with the Joint Facilitation Unit to prepare and present information and updates on DivSeek for the constituencies and governing bodies of the institutions providing the Joint Facilitation Unit.

As usual, please do not hesitate to ask the Joint Facilitation Unit for any clarification we may provide.

Kind regards,

Ruth Bastow

(on behalf of the Joint Facilitation Unit)

www.divseek.org



DivSeek Steering Committee Election

From the list of nominees at the bottom of this form, please select your 8 top candidates and place them in ranked order with the most preferred nominee in position 1.

Please return the completed form and return it to Ruth Bastow (ruth.bastow@divseek.org) by 6 March 2015.

Please note that each Div Seek partner organization can only submit **ONE** completed voting form.

1. Peter Bretting
2. Steve Visscher
3. Andreas Graner
4. Steve Jackson
5. Emily Marden
6. Ruairaidh Sackville Hamilton
7. David Marshall
8. Rajeev Varney

List of nominated candidates for the DivSeek Steering Committee Election

Michael Abberton - International Institute of Tropical Agriculture (IITA), Nigeria

Elizabeth Arnaud - Bioversity International, France

Sarah Ayling - The Genome Analysis Centre (TGAC), UK

James Bradeen - University of Minnesota, USA

Peter Bretting - US Department of Agriculture–Agricultural Research Service (USDA–ARS), USA

Andreas Graner - Leibniz Institute of Plant Genetics and Crop Plant Research (IPK),

Scott Jackson - University of Georgia, USA

Dyno Keatinge - The World Vegetable Center (AVRDC), Taiwan

Carolyn Lawrence - Iowa State University, USA

Emily Marden - University of British Columbia, Canada

David Marshall - James Hutton Institute, UK

Sean Mayes - Crops for the Future (CFF), Malaysia

Kevin Pixley - International Maize and Wheat Improvement Center (CIMMYT), Mexico

Reno Pontarollo - Genome Prairie, Canada

Ruaraidh Sackville-Hamilton - International Rice Research Institute (IRRI), Philippines

German Spangenberg - Victorian Department of Environment and Primary Industries, Australia

Björn Usadel - Forschungszentrum Jülich, Germany

Rajeev Varshney – International Crop Research Institute for Semi Arid Topics (ICRISAT), India

Steve Visscher - Biotechnology and Biological Sciences Research Council (BBSRC), UK

Hutchison, Stasia

From: Hannes Dempewolf <hannes.dempewolf@croptrust.org>
Sent: Wednesday, March 04, 2015 3:52 AM
To: Richards, Chris
Subject: genetic diversity indicators

Hi Chris,

Were you aware of this FAO doc by AHD Brown? A few years old, but could be useful for some of the questions we had discussed a few months back. <http://www.fao.org/docrep/013/i1500e/i1500e20.pdf>

Also, I had a chat with Andreas Graner from IPK and he would be very interested to help organize an expert workshop to explore some of these issues a bit more in-depth.

Hannes

Hannes Dempewolf
Scientist and Project Manager
Global Crop Diversity Trust
Platz der Vereinten Nationen 7
53113 Bonn, Germany
Office: +49 228 85427 115
Mobile: [REDACTED]
www.croptrust.org

Securing our Food, Forever

Hutchison, Stasia

From: Richards, Chris
Sent: Wednesday, February 25, 2015 4:56 PM
To: Bretting, Peter
Subject: RE: DivSeek Steering Committee Election

Hal Breeting? Sounds like old Dutch.

From: Bretting, Peter
Sent: Wednesday, February 25, 2015 2:54 PM
To: Richards, Chris
Subject: RE: DivSeek Steering Committee Election

Thanks, I'll wait for Doreen's input too. Comically, my name is misspelled on the info regarding nominees!

Peter

Peter Bretting
USDA/ARS Office of National Programs
Room 4-2212, Mailstop 5139
5601 Sunnyside Avenue
Beltsville, MD 20705-5139
Phone 1.301.504.5541
Fax 1.301.504.6191
Mobile Phone [REDACTED]
E-mail peter.bretting@ars.usda.gov
Web site: http://www.ars.usda.gov/research/programs/programs.htm?NP_CODE=301

From: Richards, Chris
Sent: Wednesday, February 25, 2015 4:46 PM
To: Bretting, Peter
Subject: RE: DivSeek Steering Committee Election

Looks great to me.

From: Bretting, Peter
Sent: Wednesday, February 25, 2015 1:58 PM
To: Richards, Chris; Volk, Gayle; Ware, Doreen
Subject: RE: DivSeek Steering Committee Election

Here's a preliminary USDA/ARS ballot—what do you think?

- 1) Peter Bretting (just think of him as the "USDA/ARS representative")
- 2) Steve Visscher, BBSRC, UK
- 3) Andreas Graner, IPK, Germany
- 4) Steve Jackson, UGA, US
- 5) Emily Marden, UBC, Canada

- 6) Ruaraidh Sackville Hamilton, IRRI, The Philippines
- 7) David Marshall, James Hutton Institute, UK
- 8) Rajeev Varshney, ICRISAT, India

Peter

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E-mail peter.bretting@ars.usda.gov

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From: Ruth Bastow [<mailto:ruth.bastow@divseek.org>]

Sent: Wednesday, February 25, 2015 1:23 PM

To: Bretting, Peter; Richards, Chris; Volk, Gayle; Ware, Doreen

Subject: DivSeek Steering Committee Election

Dear All

I am contacting you on behalf of the DivSeek Joint Facilitation Unit regarding the election process for the **DivSeek Steering Committee**, as your organization, USDA-ARS, is a partner in the DivSeek Initiative.

We have received nineteen (19) nominations for election to Steering Committee. A full list of candidates and associated short biographies are provided in the attachment to this email, together with the **voting form**.

On the voting form, please select **eight (8)** nominees and place them in ranked order (the most preferred nominee being in position 1). Please return the completed form by **6 March** to Ruth Bastow (ruth.bastow@divseek.org).

Please note that each partner organization can only submit **ONE** completed voting form.

We would also ask that each voting partner organization consider the composition of the eight-member steering committee with regards to different categories of expertise, regions and types of organizations, as set forth in the DivSeek Charter.

The Joint Facilitation Unit will be responsible for collecting the forms and processing the results.

After close of the election, the Chairperson of the Assembly will confirm the willingness of the elected candidates to serve, including on the basis of the aforementioned balancing criteria, and communicate the final composition of the Steering Committee to DivSeek Partners.

Duplicate email trail deleted

Hutchison, Stasia

From: Bretting, Peter
Sent: Wednesday, February 25, 2015 4:54 PM
To: Richards, Chris
Subject: RE: DivSeek Steering Committee Election

Thanks, I'll wait for Doreen's input too. Comically, my name is misspelled on the info regarding nominees!

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- 6) Ruairaidh Sackville Hamilton, IRRI, The Philippines
- 7) David Marshall, James Hutton Institute, UK
- 8) Rajeev Varshney, ICRISAT, India

Peter

Duplicate email trail deleted

Hutchison, Stasia

From: Richards, Chris
Sent: Wednesday, February 25, 2015 3:12 PM
To: Bretting, Peter
Subject: RE: DivSeek Steering Committee Election

Dear Peter,

It DOES help to read! I've [REDACTED]
As NPL, why don't you do the honors...and do vote for a Dr. Bretting, he seems capable enough....! Really, I would just coordinate with Doreen. She has critical expertise for the bioinformatics side. As long as you are on the slate, I'm fine. Gayle's addition should be seen as an "interested party" since she just crashed the last afternoon technical meeting. I would say she'd be fine as long as you are nominated (giving the USDA-ARS a place at the table).

Cheers,
C.

From: Bretting, Peter
Sent: Wednesday, February 25, 2015 1:02 PM
To: Richards, Chris; Volk, Gayle; Ware, Doreen
Subject: RE: DivSeek Steering Committee Election

Based on my reading of Ruth's message (see highlighted text below), only one ballot is permitted per Partner (e.g., ARS). So, an ARS consensus ballot, or one of us has "power of attorney" to vote for the Agency?

Peter

Peter Bretting
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From: Richards, Chris
Sent: Wednesday, February 25, 2015 2:55 PM
To: Bretting, Peter; Volk, Gayle; Ware, Doreen
Subject: RE: DivSeek Steering Committee Election

Hi Peter, I just assumed we each voted. I don't know that we would need one consensus ranking. Is this OK?

Cheers,
Chris

From: Bretting, Peter
Sent: Wednesday, February 25, 2015 11:45 AM
To: Richards, Chris; Volk, Gayle; Ware, Doreen
Subject: RE: DivSeek Steering Committee Election

How would you like to handle this? Should all of you choose and rank your nominees, then we confer regarding an ARS consensus ranking? Or one of us vote on behalf of ARS?

Thanks,

Peter

Peter Bretting
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E-mail peter.bretting@ars.usda.gov
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From: Ruth Bastow [<mailto:ruth.bastow@divseek.org>]
Sent: Wednesday, February 25, 2015 1:23 PM
To: Bretting, Peter; Richards, Chris; Volk, Gayle; Ware, Doreen
Subject: DivSeek Steering Committee Election

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We have received nineteen (19) nominations for election to Steering Committee. A full list of candidates and associated short biographies are provided in the attachment to this email, together with the **voting form**.

On the voting form, please select **eight (8)** nominees and place them in ranked order (the most preferred nominee being in position 1). Please return the completed form by **6 March** to Ruth Bastow (ruth.bastow@divseek.org).

Please note that each partner organization can only submit **ONE** completed voting form.

We would also ask that each voting partner organization consider the composition of the eight-member steering committee with regards to different categories of expertise, regions and types of organizations, as set forth in the DivSeek Charter.

The Joint Facilitation Unit will be responsible for collecting the forms and processing the results.

Hutchison, Stasia

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Thanks,

Peter

Peter Bretting
USDA/ARS Office of National Programs
Room 4-2212, Mailstop 5139

Hutchison, Stasia

From: Richards, Chris
Sent: Friday, February 20, 2015 1:51 PM
To: Bretting, Peter
Subject: RE: DivSeek Steering Committee – call for nominations

Hi Peter-

Great. I used your most recent text for your bio.
Got a warm confirmation from Ruth, who sees to respond immediately regardless of the day or night!

Cheers,
C.
Now we get our blizzard this weekend!

From: Bretting, Peter
Sent: Friday, February 20, 2015 5:26 AM
To: Richards, Chris
Subject: FW: DivSeek Steering Committee – call for nominations

Hi Chris—just checking that you sent this revision to Ruth, Daniele, and Peter.

Thanks,

Peter

Peter Bretting
USDA/ARS Office of National Programs
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E-mail peter.bretting@ars.usda.gov
Web site: http://www.ars.usda.gov/research/programs/programs.htm?NP_CODE=301

From: Bretting, Peter
Sent: Wednesday, February 18, 2015 4:36 PM
To: Richards, Chris
Subject: FW: DivSeek Steering Committee – call for nominations

Will the attached photo and short bio suffice?

Peter

Peter Bretting
USDA/ARS Office of National Programs

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Phone 1.301.504.5541

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Mobile Phone [REDACTED]

E-mail peter.bretting@ars.usda.gov

Web site: http://www.ars.usda.gov/research/programs/programs.htm?NP_CODE=301

From: Bretting, Peter

Sent: Wednesday, February 18, 2015 3:46 PM

To: Richards, Chris

Subject: RE: DivSeek Steering Committee – call for nominations

OK, will probably rewrite the bio tomorrow. But a photo is attached,

Peter

Peter Bretting

USDA/ARS Office of National Programs

Room 4-2212, Mailstop 5139

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E-mail peter.bretting@ars.usda.gov

Web site: http://www.ars.usda.gov/research/programs/programs.htm?NP_CODE=301

From: Richards, Chris

Sent: Wednesday, February 18, 2015 3:42 PM

To: Bretting, Peter

Subject: FW: DivSeek Steering Committee – call for nominations

Would you do me the favor of providing me with a pithy bio in the format requested below? Also a photo is requested.

It's evening and Ruth is on email!

Cheers,

Chris

From: Ruth Bastow [<mailto:ruth.bastow@divseek.org>]

Sent: Wednesday, February 18, 2015 1:31 PM

To: Richards, Chris

Cc: Peter Wenzl; Daniele Manzella

Subject: Re: DivSeek Steering Committee – call for nominations

Dear Chris

I am sure Peter would make an excellent candidate.

Can I just check that you are nominating Peter on behalf of the USDA-ARS and that Peter is happy to stand for election?

If so I would need a shorter bio of Peter, just one or two paragraphs, this should briefly covers his career history and expertise plus an accompanying photo.

Kind Regards

Ruth

On 18 Feb 2015, at 19:37, Richards, Chris <Chris.Richards@ars.usda.gov> wrote:

Dear Ruth-

I gladly nominate Dr. Peter Betting to the Steering Committee. I think having Dr. Betting's perspective as the USDA-ARS National Program Leader for Plant Genetic Resources Genomics and Improvement would be an invaluable asset for DivSeek's development. It would engage at a fundamental level the USDA's expertise in both the operational management of diverse gene banks and their role in gene discovery and translational projects in crop improvement. I also think, strategically, it's important to recruit a steering committee with truly global representation beyond the CGIAR. I'm very enthusiastic about the success of this initiative. As a USDA researcher I think our continued collaborative interactions will benefit both of our institutions and provide us with a coordinated approach to this critical work.

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@colostate.edu

970 495 3201

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

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

From: Ruth Bastow [<mailto:ruth.bastow@divseek.org>]

Sent: Wednesday, February 11, 2015 2:15 PM

To: Betting, Peter; Richards, Chris; Volk, Gayle; Ware, Doreen

Cc: Ruth Bastow

Subject: DivSeek Steering Committee – call for nominations

Dear All

I am contacting you on behalf of the DivSeek Joint Facilitation Unit regarding the nomination and election process for the **DivSeek Steering Committee**.

USDA-ARS is a partner in the DivSeek Initiative, you all kindly attended the DivSeek Partner Assembly in San Diego on the 9 January 2015. As you are aware during the assembly all the DivSeek partners present at the assembly, accepted the DivSeek Charter (attached).

As set forth in the Charter, the Steering Committee is composed of **eight (8)** representatives of Partner organizations - preferably from different regions, types of organizations and categories of expertise – in addition to the Chairperson of the Assembly.

The Steering Committee provides an **active link to the community** that underpins the DivSeek Initiative. It plays a key role in ensuring that DivSeek meets its **strategic objectives**, as outlined at the Partners' Assembly. The Committee works with the Joint Facilitation Unit to develop an annual work plan. It meets twice a year, and may also have additional Skype/phone calls in between meetings. The functions of the Steering Committee as outlined in the Charter (attached) are:

To prepare the agenda for the Assembly;

To provide inputs and eventually endorse the draft DivSeek annual work plan and the draft budget of the Joint Facilitation Unit, accompanied by a resource mobilization plan, and the annual progress report;

To periodically collect information about interactions among Partners and convey such information to the Assembly;

To advise the Assembly on the strategic direction of activities and projects associated with DivSeek;

To work with the Joint Facilitation Unit to prepare and present information and updates on DivSeek for the constituencies and governing bodies of the institutions providing the Joint Facilitation Unit.

The process for nominations and selection of the Steering Committee by DivSeek Partners is outlined below

As usual, please do not hesitate to ask the Joint Facilitation unit for any clarification we may provide.

Kind regards,

Ruth Bastow

(on behalf of the Joint Facilitation Unit)

DEADLINE FOR NOMINATIONS

The call for **nominations** is open from today until **20 February**.

INSTRUCTIONS FOR NOMINATIONS

Please forward names, partner organization and **short bios** of nominees, indicating areas of expertise, to the following email addresses:

ruth.bastow@divseek.org

daniele.manzella@divseek.org

peter.wenzl@divseek.org

Only one nomination per Partner organization can be accepted. Self-nominations are accepted, on the understanding that the candidate has the endorsement of the Partner organisation.

Organizations that previously submitted nominations for the Assembly in San Diego are kindly requested to **re-submit** the nominations, if they so wish.

ELECTION

On February 25th, you will receive an electronic form with the list of nominated candidates and will be asked to rank your top candidates. The deadline for returning the form will be March 6th. Ruth Bastow (ruth@globalplantcouncil.org), member of the DivSeek Facilitation Unit, will be in charge of collecting the forms and processing the results.

The Chairperson of the Assembly will then confirm the willingness of the elected candidates to serve and communicate the final composition of the Steering Committee to DivSeek Partners.

This electronic message contains information generated by the USDA solely for the intended recipients. Any unauthorized interception of this message or the use or disclosure of the information it contains may violate the law and subject the violator to civil or criminal penalties. If you believe you have received this message in error, please notify the sender and delete the email immediately. <2015 Bretting USDA ARS nomination to DivSeek Steering Committee.doc>

Hutchison, Stasia

From: Bretting, Peter
Sent: Friday, February 20, 2015 12:07 PM
To: Richards, Chris; Daniele Manzella; peter.wenzl@divseek.org; ruth.bastow@divseek.org
Subject: FW: DivSeek Steering Committee – call for nominations
Attachments: 420R1456-15 (2).jpg; 2015 Bretting USDA ARS nomination to DivSeek Steering Committee shorterdoc

Hi all—attached is a photo and a revised nomination for the DivSeek Steering Committee.

Please confirm receipt.

Many thanks,

Peter

Peter Bretting
USDA/ARS Office of National Programs
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Dear Chris
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Duplicate email trail deleted



Nomination to DivSeek Steering Committee of Peter Bretting, Ph. D.,
From the United States Department of Agriculture, Agricultural Research Service (USDA/ARS).

Since 1998, Peter Bretting has been USDA/ARS Senior National Program Leader, Plant Germplasm and Genomes, providing expertise in the form of co-leadership, coordination, and direction of USDA/ARS's national program of crop genetic resources (U. S. National Plant Germplasm System), genomics, genetics, bioinformatics, and breeding research conducted at more than 50 locations nationally, with an annual budget of approximately \$165 million. Concurrently, he also provides expertise as co-Principal Investigator for the Global Crop Diversity Trust, Bioversity International, and USDA/ARS joint project to develop GRIN-Global as an international standard information management tool for plant genebanks. He also serves as ex officio member of the USDA National Genetic Resources Advisory Council and a member of US government delegations to various FAO forums.

Prior to that, he was Research Leader and Coordinator at the USDA/ARS's genebank at Ames, IA and Collaborator-Associate Professor of Agronomy and Botany, Iowa State University, providing expertise in the form of leadership and management of one of USDA/ARS National Plant Germplasm System's largest (50,000+ accessions) genebanks, conducting research on crop genetic resource management and crop genetics, and team teaching with Iowa State University and USDA/ARS scientists a graduate level course "Plant Genetic Resource Management."

Hutchison, Stasia

From: Bretting, Peter
Sent: Friday, February 20, 2015 7:26 AM
To: Richards, Chris
Subject: FW: DivSeek Steering Committee – call for nominations
Attachments: 420R1456-15 (2).jpg; 2015 Bretting USDA ARS nomination to DivSeek Steering Committee shorter version.doc

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Hutchison, Stasia

From: Richards, Chris
Sent: Wednesday, February 18, 2015 3:57 PM
To: Bretting, Peter
Subject: RE: DivSeek Steering Committee – call for nominations

Super. I will be out tomorrow but will submit the new bio and photo Friday morning.

Cheers,
C.

From: Bretting, Peter
Sent: Wednesday, February 18, 2015 1:46 PM
To: Richards, Chris
Subject: RE: DivSeek Steering Committee – call for nominations

OK, will probably rewrite the bio tomorrow. But a photo is attached,

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Subject: Re: DivSeek Steering Committee – call for nominations

Duplicate email trail deleted

Hutchison, Stasia

From: Bretting, Peter
Sent: Wednesday, February 18, 2015 2:40 PM
To: Richards, Chris
Subject: RE: DivSeek Steering Committee – call for nominations

Merci beaucoup!

Peter

Peter Bretting
USDA/ARS Office of National Programs
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Beltsville, MD 20705-5139
Phone 1.301.504.5541
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Mon plasirl

C.

From: Bretting, Peter
Sent: Wednesday, February 18, 2015 12:38 PM
To: Richards, Chris
Subject: RE: DivSeek Steering Committee – call for nominations

Aw shucks, thanks,

Peter

Peter Bretting
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Mobile Phone [REDACTED]

E-mail peter.bretting@ars.usda.gov

Web site: http://www.ars.usda.gov/research/programs/programs.htm?NP_CODE=301

From: Richards, Chris

Sent: Wednesday, February 18, 2015 2:38 PM

To: Ruth Bastow

Cc: Peter Wenzl (peter.wenzl@divseek.org); daniele.manzella@divseek.org

Subject: RE: DivSeek Steering Committee – call for nominations

Dear Ruth-

I gladly nominate Dr. Peter Bretting to the Steering Committee. I think having Dr. Betting's perspective as the USDA-ARS National Program Leader for Plant Genetic Resources Genomics and Improvement would be an invaluable asset for DivSeek's development. It would engage at a fundamental level the USDA's expertise in both the operational management of diverse gene banks and their role in gene discovery and translational projects in crop improvement. I also think, strategically, it's important to recruit a steering committee with truly global representation beyond the CGIAR. I'm very enthusiastic about the success of this initiative. As a USDA researcher I think our continued collaborative interactions will benefit both of our institutions and provide us with a coordinated approach to this critical work.

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@colostate.edu

970 495 3201

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

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

From: Ruth Bastow [<mailto:ruth.bastow@divseek.org>]

Sent: Wednesday, February 11, 2015 2:15 PM

To: Bretting, Peter; Richards, Chris; Volk, Gayle; Ware, Doreen

Cc: Ruth Bastow

Subject: DivSeek Steering Committee – call for nominations

Dear All

I am contacting you on behalf of the DivSeek Joint Facilitation Unit regarding the nomination and election process for the **DivSeek Steering Committee**.

Hutchison, Stasia

From: Richards, Chris
Sent: Wednesday, February 18, 2015 2:38 PM
To: Ruth Bastow
Cc: Peter Wenzl (peter.wenzl@divseek.org); daniele.manzella@divseek.org
Subject: RE: DivSeek Steering Committee – call for nominations
Attachments: 2015 Bretting USDA ARS nomination to DivSeek Steering Committee.doc

Dear Ruth-

I gladly nominate Dr. Peter Bretting to the Steering Committee. I think having Dr. Betting's perspective as the USDA-ARS National Program Leader for Plant Genetic Resources Genomics and Improvement would be an invaluable asset for DivSeek's development. It would engage at a fundamental level the USDA's expertise in both the operational management of diverse gene banks and their role in gene discovery and translational projects in crop improvement. I also think, strategically, it's important to recruit a steering committee with truly global representation beyond the CGIAR. I'm very enthusiastic about the success of this initiative. As a USDA researcher I think our continued collaborative interactions will benefit both of our institutions and provide us with a coordinated approach to this critical work.

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1111 South Mason Street
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<http://orcid.org/0000-0002-9978-6079>

From: Ruth Bastow [mailto:ruth.bastow@divseek.org]
Sent: Wednesday, February 11, 2015 2:15 PM
To: Bretting, Peter; Richards, Chris; Volk, Gayle; Ware, Doreen
Cc: Ruth Bastow
Subject: DivSeek Steering Committee – call for nominations

Dear All

I am contacting you on behalf of the DivSeek Joint Facilitation Unit regarding the nomination and election process for the **DivSeek Steering Committee**.

Nomination to DivSeek Steering Committee of Peter Bretting, Ph. D.,
From the United States Department of Agriculture, Agricultural Research Service (USDA/ARS).

Current position (since 1998)--USDA/ARS Senior National Program Leader, Plant Germplasm and Genomes, which has involved the following expertise, experiences, and responsibilities:

- Co-leadership, coordination, and direction of USDA/ARS's national program of crop genetic resources (U. S. National Plant Germplasm System), genomics, genetics, bioinformatics, and breeding research conducted at more than 50 locations nationally, with an annual budget of approximately \$165 million (1998-ongoing).
- Co-Principal Investigator for joint Global Crop Diversity Trust, Bioversity International, and USDA/ARS project to develop GRIN-Global as a international standard information management tool for plant genebanks (2008-ongoing, with formal grant period from 2008-2010).
- Ex officio member of USDA National Genetic Resources Advisory Council (2000-ongoing).
- USDA/ARS representative for US government delegations to the negotiations of the UN-FAO International Treaty for Plant Genetic Resources for Food and Agriculture (PGRFA), meetings of the FAO Commission on Genetic Resources for Food and Agriculture (CGRFA), and the FAO CGRFA Intergovernmental Working Group on PGRFA (1999-ongoing).
- USDA representative for Agriculture Canada's Expert Committee on Plant and Microbial Genetic Resources (1999-2004).

Previous position (1991-1998)--Research Leader and Coordinator, USDA/ARS North Central Regional Plant Introduction Station, and USDA/ARS Collaborator-Associate Professor of Agronomy and Botany, Iowa State University, Ames, IA, which involved the following expertise, experiences, and responsibilities:

- Leadership and management of one of USDA/ARS National Plant Germplasm System's largest (50,000+ accessions) genebanks (1991-1998).
- Research on crop genetic resource management and crop genetics (1991-1998).
- With other Iowa State University and USDA/ARS scientists, team-taught "Plant Genetic Resource Management," a graduate level course at Iowa State University (1994-1996).

General areas of expertise and professional interest include:

- Administration and management of scientific research, development, and service organizations.
- Plant genetic resource management, emphasizing statistical genetic and molecular marker approaches to managing genetic resources.
- Developing management systems for information associated with germplasm.
- Research in crop genetics, genomics, systematics, and economic botany, with particular emphasis on maize, tropical and new crops.
- Author or coauthor of numerous research publications; co-editor of 1 book and a collection of papers; Associate Editor of 2 international journals; member of the editorial boards of 2 others.

Selected honors and awards include:

- Presidential Rank Award of Meritorious Senior Professional, conferred by President Barack Obama (2010).
- Chairman's Distinguished Service Award, American Seed Trade Association (2009).
- Fellow of the American Association for the Advancement of Science (2005).
- Fellow of the Crop Science Society of America (2004).

Bretting, Peter

From: Bretting, Peter
Sent: Wednesday, February 18, 2015 1:46 PM
To: Richards, Chris
Subject: RE: Contacts for sending the nomination.

See further below—Ruth, Daniele, and Peter Wenzl.

Peter

Peter Bretting
USDA/ARS Office of National Programs
Room 4-2212, Mailstop 5139
5601 Sunnyside Avenue
Beltsville, MD 20705-5139
Phone 1.301.504.5541
Fax 1.301.504.6191
Mobile Phone [REDACTED]
E-mail peter.bretting@ars.usda.gov
Web site: http://www.ars.usda.gov/research/programs/programs.htm?NP_CODE=301

From: Richards, Chris
Sent: Wednesday, February 18, 2015 1:45 PM
To: Bretting, Peter
Subject: Contacts for sending the nomination.

Who are the three people you mentioned that should receive this nomination?....I just got a email from Ruth.

From: Ruth Bastow [mailto:ruth.bastow@divseek.org]
Sent: Wednesday, February 11, 2015 2:15 PM
To: Bretting, Peter; Richards, Chris; Volk, Gayle; Ware, Doreen
Cc: Ruth Bastow
Subject: DivSeek Steering Committee – call for nominations

Dear All

I am contacting you on behalf of the DivSeek Joint Facilitation Unit regarding the nomination and election process for the **DivSeek Steering Committee**.

USDA-ARS is a partner in the DivSeek Initiative, you all kindly attended the DivSeek Partner Assembly in San Diego on the 9 January 2015. As you are aware during the assembly all the DivSeek partners present at the assembly, accepted the DivSeek Charter (attached).

As set forth in the Charter, the Steering Committee is composed of **eight (8)** representatives of Partner organizations - preferably from different regions, types of organizations and categories of expertise – in addition to the Chairperson of the Assembly.