

From: Yianni Gamvros <yianni.gamvros@qcware.com>
Sent: Thursday, June 3, 2021 1:42 PM
To: German, Dan-Adrian <dgerman@indiana.edu>
Cc: d.adr.german@gmail.com <d.adr.german@gmail.com>
Subject: Re: question about one aspect of the Q2E track to Q2B 2021

Dear Adrian,

Looking forward to hearing from you on the Q2E track. I am finalizing details for our contract with the San Jose Convention Center. We can still make changes later but it is always better to plan ahead, especially if we have major requirements like running another track, like Q2E.

Thanks!



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From: German, Dan-Adrian <dgerman@indiana.edu>
Sent: Tuesday, June 8, 2021 1:43 PM
To: Yianni Gamvros <yianni.gamvros@qcware.com>
Cc: d.adr.german@gmail.com <d.adr.german@gmail.com>
Subject: answers to questions about q2e track at q2b 2021

Dear Yianni,

I am back in B'ton and we have a webinar today and then an X-TAC meeting tomorrow. I have thought more about your questions and Celia's questions and I would like to propose some answers:

1. How many people should we plan to accommodate in the Q2E track?

Because this is the first time we do this perhaps we can try something like Track D 10:45am-3:15pm Day 3 at Q2B 2019 (which I attended in person). We could also go bigger on either 12/6 or 12/10 but if we wanted to avoid the Plenary and not force them to come up with a date until they're ready I think a half-day track would be quite OK. This way Q2E would get started and it would not compete with anything, it would be just a track among a set of tracks that already exist (like the four tracks on that Tuesday in December 2019.)

Celia said: "I don't know how big Q2E might be. What is the objective? Will it identify or address a workforce gap? What is the rough format agenda?" I have questions to these

questions below. She also added: "Why is Q2B the right forum? They have a full schedule on Dec 7-9, if Q2E will be during that window it will compete with Q2B. It should also not conflict with the QED-C plenary meeting on Dec 6 or 10 -- to be decided within a week."

So above I say we could start as small as Track D on Dec 3 2019 at Q2B. That was relatively small but (I attended Track D) very informative and to the point. Now let me address some of Celia's questions: "What is the objective? Why is Q2B the right forum?"

I want to quote [1] a recent piece in APS News which makes a statement that should be mainstream by now. Q2B is the right forum because it is an industry gathering. And industry needs to get involved seriously in workforce development and share what they learn in the process with each other. Industry has to train the workforce because academic institutions will not be fast enough, nimble enough, cost effective enough, nor aligned to the proper training timeframes for true capability building, or have the right organizational motivations to produce students that will be productive as soon as they are hired. So Q2E does not want to identify or address any workforce gap. That gap (workforce shortage) is already well-documented. Q2E wants to accelerate the role of industry in bridging the existing gap. Furthermore, we argue that there must be collaboration and cooperation with academia and the national labs.

So, the industry needs to lead and bring academia and the national labs along on this journey. That's the goal of Q2E and Q2B is the right venue because it's an established, large, successful, exceptionally organized quantum conference.

2. "Will it take a full day, or a half day? When should we schedule it? What's a rough agenda?" (that was your question)

Before we even send a CFP here's a list of guest speakers I can invite right away:

- (a) Karen Jo Matsler and Alice Flarend (Quantum for All)
- (b) John Donahue and Martin LaForest (IQC @Univ of Waterloo Schroedinger's Class)
- (c) Corey Stambaugh (OSTP White House, the National Quantum Initiative)
- (d) Diana Franklin and Emily Edwards (Q2Work, Q12 national initiatives)
- (e) Lincoln Carr (on the first curriculum for Quantum Engineering, paper has 40+ authors)
- (f) Abe Asfaw, Charles Robinson (IBM Quantum Education, w/ Diversity and Inclusion)
- (g) Eddie Barnes, Sophia Economou (VaTech), Patrick Vora, Jessica Rosenberg (GMU)
- (h) Heather Lewandowski (Colorado @Boulder, JILA) and Ciaran Hughes (Fermi Labs) on QED-C Industry Survey Analysis and the paper that is being written as we speak
- (i) David Stewart (Purdue University, he's leading efforts on creating the first Quantum IUCRC [2] ever with Indiana, IUPUI and Notre Dame)

And this is just off the top of my head without even sending a call for papers. I know for sure others that might be good speakers and would have something of interest to say:

- (j) Christopher Bishop (Inside Quantum Technology)
- (k) Jake Douglass (Sandia National Labs)
- (l) Adity Chakravarty (and her colleagues at LBNL)
- (m) Doug Finke (Quantum Computing Report)
- (n) the folks from Duality and/or Creative Destruction Labs
- (o) Terril Frantz from Harrisburg University
- (p) Pramey Upadhyaya (Purdue on their QIS+E edX micro-Masters)
- (q) Zac Dutton (Raytheon) like Terrill, Pramey or Elliott Kapit (Mines) he could talk about new and emerging accelerated masters' programs in quantum engineering

We could also have from NSF: Abby Ilumoka and/or Tom Durakiewicz.

All of this without yet consulting with any other TACs. Important: QED-C held its first Quantum Marketplace event two weeks ago so other TACs might also have an interest in getting involved.

3. Costs associated. Celia says: "Re: budget, the workforce TAC may spend up to 50K per year." FWIW and FYI: we have not spent anything yet.

Celia adds: "If you want other funding, you can see if any other TACs want to co-sponsor (but they may have the same questions as above) or you can out together a proposal and bring it to the Steering Committee (who absolutely will have the same questions as above and maybe more)"

So I am completely sure I don't want to spend more than 50K (since I believe you said in January that that would be an upper bound) but I would still like to bounce all of this info off the X-TAC leadership and Celia and the Steering Committee and my TAC as well. I definitely don't want a separate conference. So based on all this we can e-mail some more or we could have a Zoom call to nail down some of the details (at your convenience). I'm available today after 4:30pm Eastern no matter how late, also tomorrow morning until 2pm eastern then also the rest of the week at pretty much all times. It would be good to know what you think of what I wrote above and also if we could get an estimate of sortsto start working with it.

Sincerely,
Adrian German

[1] <https://www.aps.org/publications/apsnews/202106/upload/June21-APS-NEWS-web.pdf>

[2] <https://legacy.cs.indiana.edu/~dgerman/2020/iucrc-quantum.indiana.edu/>
(IUCRCs are like startups but with industry and NSF support)