Catalyzing Computing Episode 12 - CS Research and Government Affairs with Peter Harsha

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[Intro - 00:10]

Khari: Hello, I'm your host, [Khari Douglas](#), and welcome to [Catalyzing Computing](#), the official podcast of the [Computing Community Consortium](#). The Computing Community Consortium, or CCC for short, is a programmatic committee of the [Computing Research Association](#). The mission of the CCC is to catalyze the computing research community and enable the pursuit of innovative, high-impact research.

In this episode, I sit down with [Peter Harsha](#). Peter is the Director of Government Affairs for the Computing Research Association, an organization which represents 200 North American academic departments of computer science, computer engineering and related fields, as well as 26 industrial research labs and six affiliated professional societies. In his position, Peter works to help the CRA influence computing research policy by improving public and policymaker

understanding of the nature of research and by increasing the computing community's awareness of and participation in policy issues.

In this episode, we discuss the impact of the [2013 budget sequestration](#) on federal funding for science, the recent push for regulations on foreign research collaboration, and the history of the Computing Research Association.

This is part two of my interview with Peter. If you haven't heard [Part 1](#) and would like to, go catch that and come right back. Enjoy.

[Impact of Budget Sequestration on Federally Funded Research - 1:22]

Khari: So, here with CRA Director of Government Affairs Peter Harsha. How are you doing today?

Peter: I'm doing great. Thanks for having me on.

Khari: Sure. So backing up a bit, more about federal funding. Can you discuss the impact that the budget sequestration in 2013 had on federally funded research.

Peter: Sure. So sequestration was a forcing mechanism that Congress used to try and, well, force itself to come to some solution for the debt problem that the federal government currently enjoys. And the idea was to put together a supercommittee of folks from both the House and the Senate to try and solve the problem of increasing discretionary spending — how much the government spends on all the programs that it runs — increasing costs for entitlement programs and the fact that the share of those programs already makes up, by far, the largest part of the federal government spending right now; and whether or not the tax system needed to be updated to either generate more revenue or cut to stimulate more growth to solve these debt problems.

And so as a way of forcing the supercommittee to really act and take this seriously, the act contained language that enforced a budget cut over the next 10 years to basically cut

discretionary spending in both the defense and nondefense sides of the federal government ledger to reduce spending by some trillion-odd dollars, I think, over 10 years. Which would amount to about 10% or 11% decreases to federal spending every year over 10 years to get that accomplished. So that was the stick that was trying to be used to motivate the supercommittee to come up with some reasonable solution that could get passed on a bipartisan basis.

Of course, the supercommittee failed.

[Laughter]

Peter: There's no way they could have solved that. So what we were left with was a 10 year budget agreement that set these really artificially low spending levels for all the stuff Congress cares about. And we've been living under that cap regime now since, like I say…2013 might have been the first one. The way Congress has gotten around it... because neither the Democrats or the Republicans think the caps are a good idea — there are caps on defense spending that the Republicans think are just destroying the Defense Department, or would destroy the Defense Department. The caps on non-defense discretionary spending Democrats think are going to destroy everything else. And the way they've mitigated those is to reach a series of two year budget agreements on a bipartisan basis that relax some of those cap restrictions.

Khari: So this is one of the reasons for the more frequent shutdowns? Because they're harder to pass?

Peter: Yeah, I guess it's related to it. It makes it way harder to get budgets or appropriations bills that you can pass if you don't have a lot of money to spend, because the way you buy support for an appropriations bill is you spend a lot of money on a lot of stuff people care about. So every two years, Congress has been pretty good at coming up with bipartisan budget agreements that provide relief from the caps. Early on in the process the relief was fairly meager and so we have had downturns in science funding since 2011, basically in part because of this cap regime. However, in 2018 we got the most favorable budget agreement that's been passed.

It allowed for the FY18 and FY19 appropriation years to actually show real increases at science agencies, double digit increases in some cases.

So [NSF](#) (National Science Foundation) was not quite that fortunate, they got 5% in FY18 and then I think 4% this year in FY19. The issue that we face at the moment is our two year budget deal has lapsed. And so now we are back under the last two years of this [Budget Control Act of 2011](#). Which means if Congress doesn't act to mitigate the cuts, we anticipate agencies would lose 10% or more in each of the next two fiscal years. That said, they're working really hard right now to come up with a bipartisan budget agreement. The calculus is a little different now because this will be the first time that they're trying to negotiate that agreement with a Democratically controlled House and a Republican controlled Senate. But I don't think either side wants to live under the sequestration caps and so I think that there is real motivation to get it done. They just haven't yet. But when they do, we'll put it on our [blog](#) and you can read all about it.

Khari: So what happens when it ends in 2021?

Peter: Yeah, they'll have to come up with a new 10 year budget agreement and that's an arduous process. And again, the same questions about how do we control spiraling debt? How do we control the crazy growth in entitlement programs? How do we get the tax system under control? Those will all be parts of that debate again and hopefully we'll get another 10 year deal out of it. Hopefully, it won't be as crazy as the sequester and it will be a very reasoned approach to doing this.

There are lots of different arguments and proposals for changing the way the federal government does budgeting. Right now, we do all the federal agency budgets on a yearly basis. So it's difficult to do long term planning because there's no guarantee that the funding you get one year will show up again in the second appropriations bill. And that's in part because Congress doesn't want to give up that power to set agency budgets every year. The flip side of it is it's just a tremendous amount of uncertainty, especially for people who are doing research because you need a long term plan and so it puts you in an environment where your research funding is at risk every year if the agencies get significant cuts.

Fortunately, in the last...well, since 2015 or so we've been at least flat, if not growing [in funding] every year. And last year was kind of the high watermark for science funding since the sequester started in 2011.

Khari: Does CRA have an official view on what kind of timeline they would want to see from a budgeting standpoint? Like two to five years or something like that?

Peter: We haven't taken a formal position on it only because realistically it's not going to happen, so we haven't expended too much time and effort to do it. The sort of default alternative would be to go to biennial budgeting — you're only going through this whole process every two years and that would provide a little bit more stability.

But it also means if things aren't going the way you thought, like if you got a less than adequate level of funding in that first level, you have to wait two years to get it corrected. So there are pluses and minuses to that. It doesn't mean it's impossible to get it, but it means it would be a special act of Congress to go ahead and do it. It wouldn't be part of the normal appropriations process, but honestly it's hard to see appropriators giving up that influence that they have every year in the process to allow biannual budgeting to go through. I'm not sure what the crisis would be to motivate it to get enough support to pass it, but there are pluses to it.

Khari: So, I guess we kind of talked about the [Leadership and Science Policy Institute program](#) (LISPI) and encouraging science. but beyond that, is there anything else that members of the science community can do to sort of push past these politics of austerity or whatever you want to call it in the federal government?

Peter: Well, run for offices, you can do that. I say that sort of glibly, like it's an easy thing to do — it's not an easy thing to do. But there were more folks with STEM backgrounds who ran in the 2018 election than we've had in decades. That's great because it will raise the science literacy somewhat in Congress and I think will result in better legislation and a better understanding of the importance of the federal role in promoting innovation and funding science.

But running, like I say, is a big step and requires a lot. And it doesn't just mean you can run for federal level seats. There are plenty of opportunities in your local community and stuff that could

use people with real technical backgrounds, but there are even easier ways to have some influence in the process. I used to work for a guy who was the chairman of the [House Science Committee](#) way back in the Clinton years. [Jim Sensenbrenner](#) from Wisconsin and he was Republican. He used to ask every scientist who came in to sort of make their pitch for research funding. He would say, "Have you gone to your local Rotary Club to make that pitch? Have you gone to your Qantas club to let them know how important this stuff is and what you're doing? Because you know what? I have to go to all those places. And I have to explain it to them when I tell them I want to support science. It would be way better for me if you went and made the case."

[Laughter]

So that was a real wake call. and it's usually a wake up call to scientists. They don't recognize that they have some role in promoting their own research and promoting the importance of the federal government actually spending money on it. And I actually think that's really good advice.

So to the extent you can find opportunities to speak within your own neighborhoods and communities about the importance of the work that you do and why it's important for taxpayers to fund it...And you should be thinking about that in your head, too. Why is this important that the taxpayers pay for it? It will help you understand the value and the broader impacts of your work. That's the easier step than running for office. But like I say, we have, I think, 18 members of Congress this time around to have some STEM backgrounds and that more than doubled the number in 2018, which is a great sign. I think [March for Science](#) had a lot to do with that and the current administration obviously had a lot to do with that too. But to the extent that you can get involved in the political process in a not necessarily partisan way, but in a promotional way, promoting the value of the federal investment, I'd love to help you do that.

Khari: Yeah. So reach out to CRA, reach out to Peter, find the [Tire Tracks Diagram](#) and bring it to your next neighborhood barbecue and get some people…

Peter: That's the way to go, man. The nice thing about the Tire Tracks Chart, it's almost opaque. If you look at it, it doesn't tell its story immediately so you have to have a narrative to explain that. So it's a great piece to take in and talk to somebody with, because you just sort of walk

them through the pieces and the light bulb starts going off. It's the single most effective piece of advocacy we have, I think.

Khari: Yeah. It is sort of interesting, that by making it somewhat more opaque, it increases its viability as a tool.

Peter: Yeah, my wife, who's a cartographer and really cares about the visual display of information, hates it because she says it's convoluted. But I'm more of a pragmatist and I love the opportunity. You can't just hand it to a member of Congress and let them walk away and understand it. It becomes a cause for conversation and so it works out.

[Restrictions on Foreign Researchers Receiving Federal Funding - 11:38]

Khari: Another sort of policy related question, can you talk about CRA's position with regards to the new [restrictions on foreign grad students receiving federal funding](#) to work on different kinds of technologies?

Peter: Yeah and also — this is for broader context — there were a whole series of policy recommendations that have come out primarily through the administration, but some through Congress as well, that have targeted foreign involvement in U.S. research. And you can argue it goes all the way back to the very first days of the administration with the establishment of the travel ban, which limited visas or prohibited visas for citizens of seven, I think, mostly Muslim nations.

But we've seen other instances of it; like in June of last year the State Department issued, to its consular employees, new instructions on restrictions for Chinese graduate students studying in particular areas. So if you were a Chinese graduate student seeking a student visa to come to the U.S. to study robotics or advanced manufacturing or aeronautics, I think, instead of being able to get a five-year student visa, you would be restricted to a one-year visa, which makes much more uncertainty in the process there and likely discourages them from from coming and studying in those areas in the U.S. On top of that, there's been language in Congress that's popped up in a defense authorization bill, that is targeted at faculty members or folks who receive defense research funding. If they have ever taken part in what's called a foreign talent

recruitment program from the Chinese government, something like the [Confucius Institutes](#) that exist on a lot of college campuses.

Khari: And what are those, for people that dont know?

Peter: Confucius Institutes are actual cultural exchange programs that are paid for by the Chinese government and exist on quite a few U.S. campuses, although a number of campuses have actually shut them down in response to some of this controversy. But they're supposed to provide cultural exchange and a lot of different countries do it, but the Chinese one is under particular scrutiny because there is a fear among the administration and among the national security community that there is a mass amount of IP exfiltration going on — espionage, industrial espionage. And one of the vectors they want to pay some more attention to is whether or not this is happening at the graduate student level.

CRA is in an interesting position on this, because obviously foreign graduate students are a huge part of our graduate community. Over 50% of graduate students in computer computing are foreign born and about 1/3 of those, I think, come from China. So this would be a huge part of our community that would be impacted by these restrictions, and we would argue they're based on a kind of faulty premise, which is, number one, that these students aren't contributing to the scholarship that's going on in the U.S. when they come to U.S. universities. That they're simply parasites, they're just taking what they've learned and moving on with it. We argue that's not true and it's demonstrably not true given the influence of so many Chinese nationals in the US economy. You can look at almost every major company and see great contributions by those folks. So we also argue it doesn't really help the thing that they're trying to protect, and in fact it may actually hurt the kind of thing that they're trying to protect. If you make the U.S. a much less attractive place to do research for foreign students, if you create uncertainty in this visa process for foreign students, they can stop coming here and we're going to stop getting the benefit of being the place that the best minds in the world come to to do research. So we've come out specifically against policies that we don't believe will be effective. We're not coming out saying that the national security concerns are unwarranted about this sort of stuff, but where the work is focused on fundamental research that's freely publishable, the basic research that is going on in just about all of our member institutions, we don't see restrictions as having the kinds of impacts

that the State Department and the current administration thinks they will. So we'll argue against those, but we won't necessarily argue…

Well, so there are other policies that are coming out that are in similar veins that we need to look at. One is this idea of participating in a foreign talent recruitment program that is worded so vaguely in the legislation, that it essentially means if you've gotten support from any Chinese entity, then the Secretary of Defense would have the authority to strip you of the right to receive any future defense research funding. So you could hypothetically say…

Khari: [Stripped of funding] for your entire life?

Peter: For as long as he deems it necessary. The authority is broad and it's not limited. And we can look at that and say, "Does that mean if you've ever had a research collaborator from China? Does that mean if you've ever received funding from a Chinese company like [Huawei](#), who have been particularly aggressive in funding fundamental computing research at U.S. universities? Are those folks now tainted?"

The good news there is that the Defense Department didn't adopt that language. Congress didn't ultimately include that language in the bill. The bad news is it seems to have inspired similar language coming out of the agencies themselves. So the Department of Energy has announced...I shouldn't say announced. It has been reported that the Department of Energy has circulated a couple of memos to department heads within the agency spelling out a future set of restrictions on both researchers at the labs, but also grantees of the labs that would also restrict any further funding if you've got foreign collaborations with researchers from, it appears, 30 different sensitive countries on the list, among them China.

Khari: Who are the other major countries on there?

Peter: Interestingly, not countries like Iran, which were part of the original travel ban. But countries like Iraq and Afghanistan and Yemen and those sort of terror producing countries that usually find their way onto the list. But there's a standard list that DOE has circulated in the past, for other sensitive research that they do, that includes 30 different countries. What we understand from talking to folks at actual DOE facilities is they believe this is going to be

specifically tailored for the Chinese. But we don't know that for a fact yet. We haven't seen the list. There's also a science and technology risk matrix that DOE is in the process of producing, which will delineate which areas of research are deemed sensitive enough to have these restrictions put on them. We haven't seen that risk matrix yet. We understand the researchers in the labs haven't yet seen that.

So like I say, there's a lot we don't know. We're kind of on our tippy toes trying to figure out what's going on in the labs, but we will keep an eye on it. And like I say, we would oppose those specific policies that we don't think would be effective. We would have to take a look at exactly what the DOE was doing and whether or not we thought that was ultimately hurting the U.S. scientific enterprise or if it's a reasonable step to take in the light of a clear national security threat. So we'll see when we know.

Khari: Alright. Well, stay tuned.

Peter: Follow the blog!

[Laughter]

[Growth of the Computing Research Association - 19:11]

Khari: Well, I guess in less serious news… how have you seen CRA grow over your 18 years with the organization?

Peter: So we started with like six or seven people in the office. And now we have, I don't know how many… 17 in the office right now, 18…16?

Khari: Yeah, I think something like that.

Peter: At least double from when I started. So CRA was always formed to be the eyes and ears of the computing research community in Washington. We've always had that kind of policy role. It's in these other roles, like CCC, where we become kind of a visioning body for the field. That evolution has been pretty amazing, and frankly, it makes me proud to be part of the organization.

There are two other areas that maybe are well, one isn't so underappreciated, it's our CRA-W [now CRA-WP] committee and the work they do, with things like the grad cohort for women and underrepresented groups. Having gone to a few of our grad cohort events which attract 600 women in computing, graduate students trying to understand what it takes to have a successful career and sometimes be among the very few people who look like them within their own department...understanding how to find mentorship and all that and understanding all the different programs that are available to help them out. That's a really inspiring event to go to. The energy that flows in those conferences is really palpable. And like I say, it makes me proud to be a part of an organization that would run that.

And then the other one that I just would highlight is CERP, our Center for Evaluating the Research Pipeline. This is a really unique kind of resource. It's basically our staff, social scientists who very rigorously can evaluate the effectiveness of the programs that we run and can do them with this Data Buddies program. Everybody can look at people who have applied to a program and how well they did, if they were accepted or even if they weren't accepted, sometimes you can track those people. The Data Buddies people can get students who had nothing to do with the programs, like had no exposure to them. So it's a whole different control that you can have and you can use that to really evaluate the effectiveness of the different things that you do.

And I think that's an amazing resource and it's a useful way beyond CRA. And they do evaluations for other groups and stuff. But I would argue that's the real untapped resource in that community right now, is the fact that they have data on 60,000 students and how they're doing and identify the ones who received interventions, the one who didn't receive interventions, they know it all. So I think they're fantastic. I hope they get overwhelmed with work in the future, but they're doing well right now.

Khari: Another CRA plug, I guess, just because I heard some people who didn't know about this, but the Taulbee Survey, which contains a lot of information about hiring and graduation in computer science. So that's another great CRA resource.

Peter: The good news with that is I think all of our department chairs have a really good sense of Taulbee because they all use it to compare salaries and that sort of thing. But no, that's a hugely useful resource. We generate a lot of press interest every year about what the enrollment numbers look like, what this means for the IT economy, where all the graduates are going, what are the hot fields, all that sort of stuff. And a lot of that can be gleaned from the good work that Betsy does with Taulbee. [Betsy Bizot](#) is our Director of Surveys.

Khari: Yeah, that's right. So another notable thing that people might want to know about that Government Affairs does is host a [Tisdale Fellow](#) every summer. Can you talk a little bit about that?

Peter: Yeah, we do. We're fortunate enough to participate in this program named after [Eben Tisdale](#), who was a tech policy person at Hewlett-Packard and who passed away early. So a fellowship was established in his name. It's now run by the [Fund for American Studies](#), and what they do is they find, basically, graduate students or junior senior level undergraduates who have some interest in tech policy, either because they're pursuing a technology degree but have an interest in policy or because they're pursuing a law track and they have a real interest in technology.

And these fellows are superstars. I mean really amazing, we haven't had any that I would really complain about. They've been fantastic and they've gone on to do some pretty great things too. So they spend a summer with us, we show them around town, we show them how policy gets made, we put them in hearings, we have them track bills and research legislation, and kind of just get a real grunt level understanding of how policy gets done in this town.They get lots of other exposure to other groups from their cohort, all the organizations that they're employed at. So they get a real, kind of, rounded sense of what it is like to do tech policy. And then they graduate and they go off and they run their own firms, advocacy firms, or they go run their startups. They have a few tech policy startups, they go take big positions at Google, or they run think tanks. One of our Tisdale Fellows is Executive Director of the [Mercatus Center at George Mason](#), which is an influential think tank out here. It's a great opportunity if you know someone of age, either early years of their graduate studies or the last two years of their undergrad who has an interest in this field. It's the Eben Tisdale Technology Policy Fellowship program. If you Google that, I'm certain you will find the application process.

Khari: And to be paired with CRA, does the Fellowship make the choice or do you select when you apply?

Peter: So we run it kind of like a fantasy football draft. They'll accept the number of openings that they have in the program that year and then we'll get to pick and choose from the folks that they accept. We're kind of a unique player in the space because we're the only nonprofit research based organization that has a Fellow. All the other ones are like Dell or the Business Software Alliance or big tech firms or tech organizations. So instead of being on K Street, like all those firms, they're on the non-profit street. We're on L Street. And so it's a slightly different experience but, you know, they can sleep well at night.

[Laughter]

Khari: Yeah. So if you know anyone that's interested or you yourself are interested and of age, check out the Tisdale Fellowship. I think we covered most of everything I wanted to talk about. Do you have anything we didn't mention that you want to bring up?

Peter: It really is a position I love because I feel a sense of honor working for a community that has been a source of undeniable good for the world. There have been negative influences of the technology as well. But I think by and large, we've been a force for good in the world and have led to an incredible amount of change. It's nice to be able to represent that kind of community and this kind of organization in town. Like I say, I've been doing it for 18 years. I really like it. And we can sleep at night because the stuff we do is good and that is not something that very many folks who work in advocacy in this town can say. So if you had to pick a special interest group to work for, working for the hard-working computing researchers of the United States and Canada is a good one to pick.

Khari: That is certainly true. I guess one minor thing, because technically CRA does not lobby right?

Peter: We are not prohibited from lobbying. We're a 501(c)(3) organization. We don't have a PAC or anything. We don't take partisan positions on things. We provide only non-partisan

advice. We could lobby if we wanted to. We do not do enough lobbying to meet the threshold for registering under the Lobbyist Disclosure Act. So I'm not technically a lobbyist. I'm the closest thing we have to one, but I'm not. And nor is [Brian Mosley](#), who's our Policy Analyst on staff here.

That said, I don't think in the last year we even charged any dollars to our lobbying activities, so we do very little of it. And that's in part because we're a kind of a trusted voice in the community, so we get asked for our opinions on all the stuff that really matters to us. If you're asked for your opinion on something, it's not actually lobbying under the [Lobbyist Disclosure Act](#).

Khari: So to be considered a lobbyist, you have to be actively...

Peter: There's a very specific definition of what lobbying is and what constitutes things that are required for reporting. They involve, is this a meeting at your instigation or are you meeting with a covered person? Are you talking about a specific piece of legislation? We talk about specific pieces of legislation, but almost always at the request of the person who either introduced it or who wants to amend it or something. If you're responding to a question or a request for information from members of Congress, you're not actually lobbying. So we do a lot of educating instead of lobbying. And even on our congressional day visits, we almost never go in there with a specific legislative ask. It's almost always a desire to see federal support for research go up. But we're not going in there saying on H.R. 620, please change title two to X. Which is good, because actually not being registered lobbyists gives us access to more folks in both the administration and the agencies than if we were lobbyists. There are some rules in place for who lobbyists can talk to or who agency people can talk to, if they're registered lobbyists. So fortunately, we don't run afoul of any of those.

The flipside is we're an organization that doesn't have a PAC. We don't fly members of Congress around on congressional delegation visits to far-off exotic places for fact-finding tours. We can't buy influence in any of those sorts of ways. So the only way that we can have an influence on the process is by having a really good story. And fortunately, we have a really good story so we can go in and make a pretty compelling case that this stuff is really important. And I think by and large, our budgets have shown that we've made a pretty compelling case.

There was a chart that I think [AAAS](#) produced a couple of years ago that was trying to show that there was this particularly particular legislative proposal back then that was going to cut funding for the NSF Social, Behavioral, and Economic Sciences ([SBE](#)) Directorate. Which we opposed, of course, because we think SBE is great. So they charted out the growth of all the directorate's in NSF since 2000, just so that they could show that as of 2015 or whatever, if you cut this [funding to] SBE, it would be this huge drop off. But in the interim, you could look and see which Directorates did proportionately better than all the other Directorates and [CISE](#) was way at the top of that list, in part because we started off relatively small and have grown relatively large with almost a billion dollar Directorate now at NSF; but also because everything that this community does is relevant to some national priority. I think the NSF Directors have recognized that and certainly all the ADs for CISE have recognized that. There's almost always a role for computing in anything the country wants to get done, so that's a great position to be in. You don't have to yell and scream so much that you're important and they still fund you.

Khari: Yeah, so there'll be links posted. But check out the [CRA Government Affairs Policy Blog](#) and [website](#) for all the things we've been talking about today.

Peter: That sounds great.

Khari: Anything else?

Peter: Go Caps.

Khari: Well, thanks for joining me today, Peter.

Peter: Thank you so much, Khari. This was great.

[Outro - 31:50]

Khari: That's it for this episode on Catalyzing Computing. We'll be back soon with new episodes. But in the meantime, we're trying something new. If you have any questions for Peter related to federal funding, science policy, or government affairs feel free to send us an email at cccpodcastletters@cra.org. Again that's cccpodcastletters@cra.org. I'll bring

Peter back to answer those questions in a future episode of the podcast. Remember to like, subscribe, and rate us five stars. Until next time. Peace.