

[JUMP Frequently Asked Questions – 2/28/2017 @ 1:00 pm EST](#)

Q1: Who are the official sponsors of the JUMP research announcement?

A1: As of 2/28/2017, the official JUMP sponsors are DARPA (Defense Advanced Research Projects Agency, www.darpa.mil), IBM Corporation, Northrop Grumman Corporation, Micron Technology, Inc., Intel Corporation, EMD Performance Materials (a Merck KGaA affiliate), Analog Devices Inc., Raytheon Company, Taiwan Semiconductor Manufacturing Company Ltd., and Lockheed Martin Corporation. Additional sponsors are anticipated.

Q2: Will JUMP accept a submission from a non-US institution?

A2: No. JUMP is only soliciting whitepapers from performers at US-universities.

Q3: Can you provide any guidance on the appropriate center size, number of participants, number of universities, etc.?

A3: Each center whitepaper should target \$4.0M - \$5.5M/yr. Our sponsors want to ensure there is a 'critical mind share' of the academics involved and that we aren't just maximizing our PI and university count. They have provided guidance of a *median* project size of $\geq 250k$ per project per PI. The median guidance allows for the use of smaller awards where it might 'seed' a new idea, evaluate a new PI, or deliver a key component for the center at a lower price point. This is approximately 16-22 professors per center. We have no guidance on the number of universities in a research center. However, we will say that too few schools is probably a small vision, whereas too many schools is just a collection of individual projects and lacks amplification via co-location. Again, the key thing to our sponsors is that we have a 'critical mind share' of the talent in the JUMP program.

Q4: How detailed should the budget be? Numbers divided by theme/tasks? A budget for every year?

A4: An itemized, overly detailed budget is not required at this first stage of the process. Please include your total annual budget request and be sure to include in that any overhead charges at your university. We would like to understand the number of tasks (projects) as well as expected student count. You do not need to break the total down by category at this point in time.

Q4(b): Can you please confirm that the following information would be sufficient for our budget during the whitepaper phase? We will provide both tables with a projected affiliation of the graduate students.

	Profs	Graduate Students	Post-docs
Number	# of Profs	# of Students	# of Post-docs
Requested budget	\$\$\$	\$\$\$	\$\$\$
Equipment/Materials	\$\$\$		
Total budget	\$\$\$		

Degree affiliation of graduate students:	Estimated Student Count
Degree 1	#
Degree 2	#
Degree 3	#
Degree 4	#
Degree 5	#

A4(b): Yes, this is in line with what we expect to see at this stage in the process although different whitepapers may present such information in different ways. Please make sure to include any overhead charges at your university.

Q5: We are involved in a Center proposal and need some clarification of the requirement for “leveraged funding” as stated in the research announcement. Could you please publish the answer to the following question in your online FAQ document? Are Center or Single Task proposals required to include cash commitments as part of the budget? If this is not required, then will these voluntary cash commitments be used as a factor during the merit review of proposals? We want to ensure that the exclusion of leveraged funding will not negatively impact the Center (whitepaper or) proposal review.

A5:

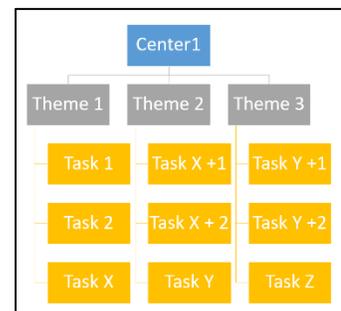
- Is cost sharing required? **No.**
- What are leveraged funds? Leveraged funds are commitments made outside JUMP funding that have a direct impact on and amplify the JUMP research agenda but do not generate roadblocks with respect to IP (background or foreground), publications, or the dissemination of information to our sponsors.
- Will my Center and/or Single-Task Whitepaper be considered if it does not contain “leveraged funding”? **Yes**, your whitepaper will be considered based on its merit per the following guidelines:
 - The evaluation of white papers and later proposals will be accomplished through a technical review of each white paper and proposal using the following criteria, which are listed in descending order of relative importance::
 1. Overall scientific and technical merit

2. Ingenuity, novelty, and impact of overall Center
 3. Impact of proposed research on needs of the Consortium Industry Sponsors and DARPA
 4. Capabilities of proposed investigators
 5. Cost effectiveness, realism
- If two (or more) center whitepapers are considered to be of equal technical merit, additional consideration will be given to the following (in no particular order of preference):
 - Centers that can illustrate how leveraged funding will be helpful towards the research goals / objectives.
 - Centers that are able to put forward a top-tier proposal while also considering the STEM initiatives of the Consortium’s sponsors.
 - Centers that are able to use co-location and increased ‘mind share’ of Center PIs to better amplify the efforts of JUMP funding.
 - Additional clarification / guidance will be provided for participants invited to submit a full center proposal as a comprehensive strategy / budget will be required at that time.

Q6: I’m constructing my center whitepaper proposal. I understand that each research center should have themes (sub-center goals) and tasks (the specific projects)? How many themes and projects should a research center whitepaper / full center proposal have?

A6: First, we’d like to emphasize that the JUMP program has six themes. Each of these themes will become a center. For example, the RF to THz sensors and communication systems theme will create a single research center. The cognitive computing theme will create another research center. We will have six research centers, one for each of the JUMP themes. This “JUMP theme” is different from the “Center themes” below.

Now, each center should have an overarching goal. These goals are often sub-divided into research themes that are made up of research tasks (or projects). The tasks contain the line item budget, the staffing / student model, the specific scope of work, etc. The number of tasks is defined by your overall budget and allocation of money to each task.



Center themes are meant to be a collection of tasks that deliver a key component of the research center’s overall mission. They are led by a theme leader and/or co-theme leader. We have found that research centers of this magnitude operate best when they are made of 3 or 4 themes - Too few center themes and your vision and impact is probably a bit too narrow; Too many center themes and you basically have a loose collection of ideas and projects that lacks a critical mass and does not amplify the research effort.

We’d also like to apologize. In the original RA, we had a typo regarding center themes. The RA suggested that center organization should be “< 4 themes.” This should have read “less than or equal to 4 themes.” As such, we have updated the JUMP RA (on 2/10/2017) to read “≤ 4 themes” to match our intent. We appreciate your understanding.

Q7: Do all funded faculty on the project constitute as PIs, or can we select leaders within our project (as we do with NSF and typical DoD proposals)?

A7: We encourage you to present your center concept at the whitepaper phase. However, we anticipate the six research centers will be organized / structured as follows:

- Our research centers have a single Center Director. They often have an Assistant Director that can be either technical and/or operations-oriented.
- The Center is then divided into ≤ 4 research themes. These themes represent the “working groups” for the projects that collectively make up the working parts of the overall center vision. The themes have a single Theme Leader.
- The Tasks (projects) are then grouped within those Themes. Tasks have a Task Leader and additional Researchers (Professors) as dictated by the Task scope of work.
- Post-docs and Students are assigned to specific Tasks.

Q8: By “Assistant Director”, do you mean an administrative person (like an administrative coordinator) or a faculty (PI), Assistant Director of Operations?

A8: This is referring to an Assistant Center Director or Assistant Director of Operations as you stated above. The position is traditionally a faculty (PI) who assists the Center Director with both the operations as well as the technical diversity of the research Center.

Q9: How can I get the details of the JUMP proposers’ day workshop and / or register to attend the event?

A9: Details and registration for the JUMP proposers’ day workshop will be made available on 12/15/2016 @ 3 pm EST at the JUMP RA website. Please check back at that time or later. Registration for the event will be made available on a first-come basis to a defined number of participants. Attendance at the proposers’ day workshop is not a requirement for the submission of a whitepaper to any category.

UPDATE (12/20/2016): Registration for the proposers’ day workshop is nearly full, with several of the themes hitting their max capacity and being closed. If you are interested in attending and registration has closed because the deadline has occurred or capacity has been reached, you can be added to a waitlist upon communication with Mary Nichols.

UPDATE (2/3/2017): Thanks to our sponsors and the academic community for making this sold out event a success. To assist those unable to attend, we have posted the material from the event to <https://www.src.org/calendar/e006128/>. We are still >4 weeks from the whitepaper submission deadline - so there is plenty of time. Best of luck to all!

Q10: It often happens that a PI is working on several distinct technologies that may fit in to several target vertical/parallel centers. Is this allowed and/or are there any limitations?

A10: Great question and we agree. We are limiting center directors / assistant directors to submitting only one center proposal from their “lead institution” for a single theme. However,

- A given PI may be present on multiple center whitepapers.
- A given PI may submit several single task whitepapers.
- Center directors and / or assistant directors may be involved as a PI in somebody else’s center or single task whitepaper.
- (If part of the teams awarded,) a given PI may eventually be in multiple JUMP centers.

Q11: Are Federally Funded Research and Development Centers (FFRDCs) allowed to apply as either a prime (lead institution) or sub (networked institution) in JUMP?

A11: No. FFRDCs are not authorized to participate as prime or sub-contractors on JUMP proposals as they are not academic enterprises. Performers are limited to U.S. universities.

Q12: Is it permissible for a JUMP Center to have an advisory board with members of the Federal Government (e.g., National Laboratories)? How about someone from an application company on such an advisory board that can provide data and context for the challenge application?

A12: No. For now, so as to avoid any conflicts of interest or getting someone involved who is not from a paying sponsor, we recommend that center leadership just be made up of key professors / academics.

Once our 6 research centers are selected, we plan to revisit the question of our center leadership model with our paying sponsors and the centers. At that time, we may be authorized to create center advisory boards made up of non-academics. However, it would be at the discretion of our sponsors.

Q13: I am a Postdoctoral Fellow interested in submitting a single task white paper in response to your JUMP Research Announcement. If I am applying for this award under my current University and we have a highly regarded whitepaper that is successfully incorporated into a full center proposal and that center is funded this year, would it be possible to transfer the award to my new institution after I have moved to a PI role there?

A13: The short answer is yes, the transfer of a contracted professor’s research from institution A to institution B is possible if that work is part of one of our 6 selected research centers.

Given your status as a Postdoc, we believe the primary path for you to be part of a JUMP research center is for you to contact professors that are leading a center white paper in your area of interest, excite them about your ideas, and join their team. A list of registrants that attended our proposers’ day workshop is available [here](#). There are many center whitepaper leaders that are not on this list.

If you have a concrete job offer as a professor at a US University and they will allow you to file under their affiliation for your single task whitepaper submission, it will streamline the process.

Q14: I'm working with a few people on a potential team, and was wondering if I can include individuals who have an adjunct appointment at a US university?

A14: Yes, an adjunct professor at an accredited US university can be on a center or single-task whitepaper. The adjunct professor would receive additional scrutiny on a case-by-case basis during our full proposal review or during the contract/invoicing phase (after the selection of our six research centers). Either could disqualify the individual but would not disqualify the proposal or selected center. Of course, if the adjunct professor can submit both the whitepaper and full proposal under their US affiliation, that is greatly preferred.

The remaining questions were taken and summarized from the audience QnA at our Proposers' Day Workshop on 1/23/2017. We encourage you to listen to that session, which is available here: <https://www.src.org/calendar/e006128/#tab-recordings>

Q15: What are the expectations surrounding how the JUMP program will support the creation of or evolve into new, future DARPA programs?

A15: There are many ways that the JUMP program can influence future DARPA programs – with three possible scenarios suggested by Linton Salmon in his proposers' day workshop presentation. For example, the results from one or more centers could drive a new DARPA program that is completely separate and new, but has its genesis or shares ideas with the original JUMP center (or centers).

Maybe an "ideal case" is as follows: During the first three years, DARPA sees an "awesome project opportunity" with direct application in and a clear transition opportunity into the defense industry - It's fantastic! DARPA could use that as the basis to form a new DARPA program. However, the existing JUMP center (or centers) would keep going with their planned scope of work. The important point is that the JUMP program will serve as a way to engage and inspire DARPA program managers and should offer significant influencing opportunities for future DARPA programs.

Q16: I would like to get a sense of how serious SRC is about software, algorithms, compilers, run time systems, operating systems, file systems, and all the software that system researchers spend our lives worrying about? Is that core to the JUMP vertical centers?

A16: We expect it to lead several of the JUMP centers in terms of their research priorities. Historically, SRC has been more focused on the bottom of the stack. That was "SRC 1.0," when Moore's law drove the need for basic 2D scaling, new materials, the search for a better switch, etc. That's getting significantly harder. If you look at the transition from the FCRP to STARnet programs in 2012, the research agenda pushed further up that complexity stack. With JUMP, we think of this as "SRC 2.0," where the research agenda is moving quite a bit further up the stack again. We see a future where pervasive, heterogeneous electronics meet the world's computing, storage, sensing, and actuation demands. This, in turn, requires that JUMP focus on system- and application-driven innovation; algorithms, compilers, run time systems, virtualization, etc. as well as their co-optimization with and implications for hardware are at the heart of

the JUMP program. As a result, we expect JUMP grand challenges to be in the systems, architecture, and application space. JUMP won't be successful without researchers like you.

Q17: When a center submits a white paper, should they be anticipating the possibility of being connected with other single task whitepapers? Should they leave room for expansion? Or should they just submit a whitepaper for the full scope with the team they have? What are the teaming opportunities?

A17: You should anticipate, encourage, and be creating new teaming opportunities. In fact, that's why we are here today. If you miss something and we notice it when reviewing your whitepaper, we will let you know. We won't share proposals, but will and can encourage connection or teaming. We are looking to the perspective center leaders to encourage and drive that growth, organically. Target your budget for the budget scope we are asking for; if we want to add additional tasks or people, we have some flexibility there.

Q18: With the kind of budgets we have, can we have an engineering staff member to assist with administrations, lab coordination, etc.?

A18: Yes, put your best proposal forward. The only restriction we impose is that each center must have a clear, single, center director that is located at the prime university. Beyond that, you are able to staff the center with an assistant director, an administrative assistant, lab coordinator, etc. to maximize the impact and innovation of the research center.

Q19: How will the single task whitepaper process work?

A19: By submitting a white paper (center or single task) to the JUMP research announcement, you authorize SRC to share contact information (name, university, email, address, and phone number). The contents of white papers will not be shared by the SRC as this information is confidential and proprietary.

Following the white paper review phase, JUMP leadership will look to facilitate relationships between the PIs that submitted single task white papers of interest to the consortium (the highest rated whitepapers for each theme) and potential JUMP center leaders that have been invited to submit a full center proposal. It will then be up to the single task PIs and center leaders to discuss their ideas to see if there is a shared vision and organic teaming opportunity. Contracts will not be awarded for single task white papers that are not successfully incorporated into an awarded full center proposal. All PIs will be expected to comply with winning center guidelines.

Q20: Should everyone in the vertical centers be focused on building "real things" as part of a center's grand challenge or benchmarking effort?

A20: At the center level, building tangible "real things" as part of a grand challenge or benchmarking activity is not a formal requirement that everyone must participate in. However, the JUMP consortia does

believe that “building things” allows a team to [1] focus on the stated overarching goals of a research center, [2] uncover scientific and engineering pain points that folks experience only when they are trying to prototype their innovations, and [3] help to push on the frontier. This does not mean that you should emphasize experiment over theory or do a lot of prototyping in a very expensive process node. You must have balance, creativity, and be intelligent about how you deploy the center’s resources to illustrate the innovations of your team. So, while it is not a formal requirement, we would argue that if you aren’t building some kind of hardware as part of your JUMP research effort, then you might want to ask yourself if your scope of work is what the JUMP program is looking for?...

Q21: Some of our ideas may span multiple themes or occupy the spaces between themes. What is the consortium’s view on that?

A21: We agree. We think that these problems and research opportunities are inherently complex, with many spanning the six discrete themes here. You must pitch your ideas into a specific theme. However, once the research is selected, there will be opportunities for the six research centers and PIs to cross-pollinate and amplify their areas of interest and impact.

Q22: Background IP. Do we need to worry about disclosing IP that was generated as part of the FCRP or STARnet programs?

A22: We are asking all proposers to do a diligent job of disclosing relevant background IP, both from work within SRC-sponsored research programs such as GRC, FCRP, STARnet, and NRI (these should be fairly easy for the PIs to add on to their submission) as well as IP that was generated via other funding mechanisms. During the initial whitepaper phase, we are asking PIs to identify any blocking pre-existing intellectual property on which new results will be based. However, a full background IP disclosure is not required until submitted as part of the invited, full center proposals.

Q23: How do you envision the overlap between the vertical and horizontal research centers?

A23: PIs should pitch their idea into the single theme(s) that they feel resonates best with their work. Don’t worry too much about what other applicants are planning to submit. Applicants submitting to vertical centers should have an eye on innovation that impacts the stated end application space. PIs submitting to horizontal centers should look to foundational breakthroughs and benchmarking across a wider set of applications and workloads. As the JUMP program centers mature, there will be opportunities for closer intra- and inter-center research that ties and amplifies the efforts of all JUMP researchers.

Q24: There are two types of whitepapers – center whitepapers and single task whitepapers. What formal responses will each of these whitepapers receive?

A24: There are four possible responses following the whitepaper review:

Center Whitepapers

- A center whitepaper that is invited to submit a full center proposal. **Minority.**
- A center whitepaper that is not invited to submit a full center proposal. **Majority.**

Single Task Whitepapers

- A single task whitepaper that is “highly regarded” by our Science Advisory Board (SAB). **Minority.**
- A single task whitepaper that did not achieve the status of “highly regarded” by our Science Advisory Board (SAB). **Majority.**

Center whitepapers that are invited to submit a full center proposal will get a list of “highly regarded” single task whitepapers / PIs for their given theme. This will be contact information only.

“Highly regarded” single task whitepapers will be provided with a list of the center whitepapers / center directors in their given theme that have been asked to submit a full center proposal. This will be contact information only.

At this point, organic teaming that enriches the quality of the requested full center proposal may occur. Again, there is no funding available for “highly regarded” single task whitepapers that are not taken into a winning full center proposal submission.

Q24(b): Are the recommendations by the SAB for the single-task whitepapers binding?

A24(b): No. The centers that have been asked to submit a full center proposal are under no obligation to incorporate any single task whitepapers. We are opening up the research announcement via this single task whitepaper mechanism because we believe we can encourage researchers who may have an innovative individual idea but may lack connectivity into one of the proposed Center whitepapers and that these new teaming opportunities can greatly enhance the overall research agenda.

There will be more good ideas available than dollars available.

Q24(c): If I submit a whitepaper now and it is not incorporated into the JUMP research initiative, will it be OK to submit it again at a later date against ?

NOTE: This question was not mentioned at the Proposers’ Day Workshop. It is included here alongside similar questions from that event.

A24(c): Yes. There will be more good ideas than dollars available. We will also look to provide feedback to whitepapers where constructive feedback can be provided such that PIs might improve their whitepaper for future research calls.

Q25: In August, will there be six JUMP research centers selected?

A25: Yes, the intention is that we will select 1 JUMP center for each of the 6 described research themes in the JUMP research announcement, resulting in 6 JUMP research centers.

Should we add additional sponsors and grow the budget well beyond our current plan, we may find ourselves in a situation where we are able to add additional centers beyond the planned 6 centers.

Q26: How many PIs can be listed on a single-task whitepaper before there is no chance of that single-task whitepaper being successful?

A26: Our read is that single task whitepapers that have more than 2-3 PIs stand a significantly higher chance of being unsuccessful at incorporation into a full center proposal.

In case it isn't already clear, we highly encourage all PIs to try to team up before the March 6th whitepaper submission deadline and submit ideas that are incorporated into a center whitepaper!

Only center whitepapers will be invited to submit a full center proposal. Only full center proposals will be considered for funding.

Q27: What if I am leading a center and I have too many PIs / not enough money? Is it possible to increase the center's budget?

A27: One of the important parts of being a successful center director is managing the dynamics around the center research agenda and associated staffing needs. Of course, if more dollars are available, it is relatively easy for that director to add additional PIs or research scope to a JUMP research center. However, it is incumbent upon good leaders – the kind of leaders that we want in the JUMP program and as the head of our JUMP research centers – to be able to make the hard choices that can trim the team or research agenda when necessary. Successful directors need to stay agile, be able to change direction, and open to incorporating new personnel. Centers that have a good mechanism for adjusting to the needs of the paying sponsors will have a leg up on the completion.