

## **Appendix A: Interview Request Email**

Dear NSF Grant [Principal Investigator, Co-investigator, or Industry Partner]:

I'm writing on behalf of the National Science Foundation Centers for Chemical Innovation (CCI) Program Evaluation to schedule a phone call with you. During that phone call, I would like to interview you about your participation in research grant activities funded through an NSF Centers for Chemical Innovation award.

This will help NSF to understand, from the perspective of its grantees, the role of the Center in research, collaboration, and broader impacts activities and outcomes; grantee satisfaction with the Center structure and with two-phase funding models; and challenges encountered.

The call should take 30-60 minutes.

To schedule the phone call, please respond to this email with your availability on any of the following date and times:

[To be updated by NSF Representative or Contractor sending: available dates and times]

I look forward to connecting with you soon and learning more about your work.

Sincerely,

[Name of NSF Representative or Contractor]

## Appendix B: Interview Protocols

### Consent Language

*Thank you so much for making time today to talk with me about NSF-funded Center-based research programs. We are interviewing a sample of participants (PIs, co-investigators, and industry partners) from the Centers for Chemical Innovation research community. All of these interviews will help NSF understand the strengths and weaknesses of this funding strategy.*

*Your answers will be aggregated with these of other respondents and the information you provide will not be attributed to you personally. Your participation is voluntary. Please feel free to skip any question you do not want to answer.*

*We would like to audio-record this interview to make sure we accurately capture everything you say. These recordings will not be shared outside of our team and will be destroyed in the end of the study.*

*Do you agree to be audio-recorded? Do you have any questions before we start?*

*The OMB control number for this project is 3145-0215. Public reporting burden for this collection of information is estimated to average [60 minutes per PI/Co-investigator; 30 minutes per industry partner] respondent, including the time for consenting. Send comments regarding this burden estimate or any other aspects of this collection of information, including suggestions for reducing this burden, to Suzanne H. Plimpton, Reports Clearance Officer, National Science Foundation, 4201 Wilson Boulevard, Suite 1265, Arlington, Virginia 22230 or send e-mail to splimpto@nsf.gov.*

### Interviews of CCI PIs and Co-investigators (60 minutes)

*Center PIs only*

1. What motivated you to lead this research Center?

*Center co-investigators only*

2. What is the history of your partnership? Whose initiative was it? How well did you know the other participants?
3. How involved is your group in the center activities? Has the nature and level of involvement changed over time?

*All*

4. In what way, if at all, has being part of the Center changed your scientific or engineering interests, visibility, productivity? Are there any disadvantages to you from leading/participating in the center?
5. In your opinion, are there certain types of problems that are better suited to Center funding or that require Center funding? If so, what are the characteristics that define such problems?
6. What do you see as the most important scientific or engineering accomplishments of the Center? Would they have been possible without it? If not, how were these accomplishments enabled by the Center?
7. What do you see as the most important non-scientific accomplishments of the Center (e.g. in workforce development, knowledge transfer, economic benefits, educating the general public)? Would they have been possible without the center? If not, how were these accomplishments enabled by the Center?
8. In what ways has your Center demonstrated leadership in your field and responsiveness to developments in the field?

9. Did you have a history of collaborating with the various partners prior to the Center? In retrospect, is it helpful to your Center to have had pre-existing collaborations with these partners? If yes, in what way? How have the partnerships evolved?
10. What aspects of the Center evolved in unexpected ways and/or deviated from the original goals? Did these changes lead to positive outcomes for your Center?
11. Do you expect the programs, partnerships, and processes created by the Center to remain in place after the funding ends? Can you give some examples of the lasting impacts you anticipate?
12. Is the Center well known to your community? In what way, if at all, has your community benefited from the Center?
13. In retrospect, what processes, policies, partnerships, and other organizational components of your Center do you see as the most and least effective?
14. What have been the main challenges for you/your group? For the Center as a whole? What would you do differently if you could start again?
15. What do you see as the main advantages of the Center model? What has the Center enabled you to do that could not be done under a single investigator award?
16. What are the disadvantages of the Center model?
17. Some Center-based research programs have a two-phase funding model. Phase 1 provides resources to develop the science, management, and broader impacts of a major center before requesting Phase 2 funding. What are the strengths and weaknesses of a 2-phase funding model? In hindsight, do you think a 1-phase or 2-phase mechanism would be more effective for this program? Why or why not?

#### **Interviews of Industry Partners (30 minutes)**

1. Can you describe your role and how it is related to the Center partnership?
2. What is the history of your partnership? How well did you know the other participants?
3. What is the nature and extent of your partnership? Has it changed over time?
4. What benefits of the partnership have you anticipated for yourself and your organization? To what extent have these benefits occurred? Can you give some examples of the benefits?

*[I have a few questions about the Center contributions more generally. Let me know if you are familiar enough with the Center to be able to comment.]*

5. What do you see as the most important scientific and engineering accomplishments of the Center? Do you think they would they have been possible without it? If not, how were these accomplishments enabled by the Center?
6. What do you see as the most important non-scientific accomplishments of the Center (e.g. in workforce development, knowledge transfer, educating the general public)? Would they have been possible without the Center? If not, how were these accomplishments enabled by the Center?
7. Do you expect your partnership to persist after the funding ends? If yes, how do you envision the partnership developing?

8. Have you experienced any challenges partnering with the Center? What were they and how have they been resolved, if at all?
9. Do you have a view about the Center organization and processes? Do you think these are effective? Are there components you would change?