

TRIP REPORT ON VISIT TO NSF 2/24/87 and 2/25/87

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Carl York from the System Development Foundation and I visited the NSF to discuss support for possible proposals for CCRMA projects. We spoke to the six people mentioned below. In general we gave each a handout consisting of the attached outlines of seven proposals, a copy of the attached Vocal Tract Project informal proposal and a reprint of the Scientific American article by John Pierce and myself.

GENERAL COMMENTS

It was great to have York come along. He knows a lot of people at NSF and he knows the ropes at asking for money and information from the government. Also, I strongly recommend never going alone on these soliciting trips--it is just too depressing. Having a companion to talk to helps make the business survivable. York also talked a secretary out of a NSF telephone book which is invaluable.

Most of the NSF proposals fit a pattern. One can deviate from the pattern, but one would probably need to argue to support the deviations. The pattern consists of \$50K to \$100K per year for three years to support a graduate student plus 1/4 to 1/2 of a professor's time. Summer salary for the professor is the easiest to justify. Academic release time will require an additional argument. So, I presume, will the support of a research professor. Cuttler should be able to advise us about research professors. NSF will put pressure on us to eliminate secretaries and program administrators from budget--they feel these should come from overhead. The graduate student's tuition can be an item in the proposal. The first year of the proposal can include extra monies for equipment. I got the strong feeling that most of NSF funds are intended to be clearly related to graduate student education.

Proposals can include names of possible reviewers and people whom we would not like to have review the project.

Some areas have deadlines for proposal submissions, others accept proposals anytime.

FURTHER CONTACTS

Except for proposals 5 and 6, none of the proposals fit directly into the areas of people we talked to. However, we got names of other people for most of the other projects. I will list these names here, organized by project. I plan to telephone these people shortly and if necessary go back to Washington to see some of them. Unless noted they are in NSF, mostly in engineering areas.

1. Speech synthesis--Joe Deken and Frank Huband
2. Acoustic work station--John Wooley, Biological Centers Program.
3. Keyboard and sensors--H. Bamford and L. Rosenberg, human interface interests.
4. Archive project--no NSF interest
- 5 and 6--see interview with Young and Platt
7. DSP chip synthesizers--B. Chern, microelectronic information processing systems.

SPECIFIC NOTES ON THE VARIOUS INTERVIEWS

Gordon Bell--Assistant director, directorate for computer and information science engineering

Gordon was his usual enthusiastic self. He was particularly charmed by the piano key project. He suggested Jim Gibbons (Stanford) as a consultant for mechanical construction of keyboard. He volunteered himself as consultant to industrialize keyboard. He strongly recommended patents to fend off the Japanese. On the DSP chip project, he suggested the Weitek floating point DSP chip as a 20 megaflop device (Art Collmeyer, Ed Sahn, Weitek, Sunnyvale, CA). He would like to talk to Jont Allen of Bell Labs about getting someone outside of AT&T to pick up hearing aid work if AT&T is not planning to continue. Gordon was very pleasant to chat with. As York pointed out, he doesn't directly pass out any money. He may move to his condominium in Palo Alto and we should build his interest in CCRMA

Donald Senich--Office of Small Business Research and Development

At York's suggestion, we talked for an hour with Senich. His office supports research to help small businesses get going. Stanford and CCRMA would not be directly eligible, but a music company we might spin off could be. Support can be requested for three phases; phase I, feasibility research, up to about \$50k for a six month study; phase II, principal research, about \$200k for a couple of man years work; and phase III, development, which is as yet not well defined. It seems possible to have a CCRMA person who was consulting for a startup business get some money from this source.

Rolf Sinclair--Atomic, molecular, and plasma physics

Sinclair supports three 19th century music people, Weinreich, Benade, and ?. I know their work from the acoustical society papers they present. It is good work but not in directions I or

CCARMA are interested. Any proposals Sinclair considers must look like physics research which none of ours do. He suggested seeking private foundation support and recommended The Foundation Center, 1001 Conn. Ave, 202-331-1400 as a source of information on foundations. I suspect Stanford already has equivilent information sources. For no explicit reasons, Sinclair is not willing to support areas like architecural acoustics. I wonder who does?

Joseph Young and Christopher Platt--Memory and cognitive processes and Sensory physiology and perception programs

We talked to these two program directors together and they seem to interact closely. In particular they said we didn't need to separate our proposals neatly into sensory and cognitive areas which, I think, is great. Both not only felt that musical psychology research was appropriate but they seemed enthusiastic. In addition to things we already have in mind, they support muscial motor control research, and this might relate to our sensor research. They were the only people we talked to that encouraged us to submit some of our present proposals directly to their programs. They did warn us that there is a lot of competition and only about 20% of the submitted proposals get funded. They use pannel reviews (not all areas of NSF do) and hence they have submission deadlines. The deadline for 1988 money is July 15.

To support our acoustic work stations project, Platt suggested we look into the Biological Centers Program which is a one time source of funds to equip biological centers. The program essentially passes out equipment monies in \$100k to \$500k chunks. Although our proposed research doesn't directly fit this program, the savings we propose should be very attractive and the multidiciplinary nature of our work stations is exactly what they are trying to promote. John Wooley, 357-7652, is running the program. Deadlines are April 1, August 1, and December 1.

Some support for speech reseach comes from the national institute of neurological and communicative deaseases and stroke--J.B.Ranney (301-496-1804) and Crysty Ludlow (301-496-5061).

Krumhansel gets support for her music work from the national institute of mental health.

Kent Curtis--Division of computer research

Although none of our projects fit directly into computer research, Curtis was very helpfu] in commenting on them and suggesting other people and areas for them. I suggested a possible additional project on real time computing, probably involving concurrent programs. He thought this would fit into his area if it was presented as a contribution to computer science. Most of our projects fit better with the more engineering oriented area, Information, Robotics and Intelligent

Systems under Y.T.Chien. Curtis thought that the acoustic work station project sounded too much like a fait accompli and needed a more research oriented description. He mentioned the following people in other parts of the government as being "good guys" whether or not they have specific interests related to CCRMA:

Saul Amarel, DARPA, an interesting character who is willing to consider far out things.

Charlie Holland, ONR, mathematician, Curtis's only contact at ONR.

K. Speierman, NSA, Chief scientist type, very broad charter.

Laurence Oliver, NSF, runs program supporting research experience for women and undergraduates. CCRMA might be able to get some money here.

Bill Raub, NIH deputy director, worked with Curtis, probably too high up to be directly useful to us.

Arnold Pratt, Nat Lib of Medicine, might be useful contact on our archiving program