Dear Colleagues,

You are invited to participate in a Research Coordination Network (RCN), initially funded in 2003 by the U.S. National Science Foundation and now focusing on Emerging Methodologies for Molecular Structure Determination of Biological Solids.

Four research groups from New York and Texas spearheaded the current effort to form an interactive community that advances forefront technology and synergistic use of SPM, CEM, and solid-state NMR for structural studies of biologically important macromolecular assemblies that are not amenable to study by traditional crystallographic methods. Additional experimental or computational methodologies are included as they develop. The RCN-SCN network sponsors symposia, workshops, intensive short courses, research planning meetings, and a ‘living’ website.

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An interactive community of researchers advancing emerging methodologies for macromolecular structure determination in biological solids
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Who should join the RCN-SCN?

You head a research group in a university, governmental research institute, or private industry. Each Principal Investigator should represent his or her group and serve as a point of contact for group members.

Practitioners: you currently use scanning probe microscopy (SPM), cryoelectron microscopy (CEM), solid-state NMR (ssNMR), and/or other emerging techniques for structural studies of biological macromolecular assemblies; you teach these techniques to undergraduate or graduate students.

Affiliates: your interest in such methods stems from your related work: SPM or CEM in materials science, solution-state NMR of biomolecules, solid-state NMR of engineered materials, etc.

How can we share information about seminars and meetings?

Send us information about speakers at your institution, symposia on SCN topics, seminars on related themes in molecular biophysics, structural biology, or bio-nanotechnology. Give us your links!

Can we use the network to share employment information?

Send us your ads and have a look at ours. Post a notice if you are looking for a job doing SPM, CEM, or NMR of biological solids. Check the Jobs tab on our website.

How do we share technical resources?

Our website highlights recent publications by RCN participants, and we encourage you to send us your favorite books, review articles, and ‘hot’ findings. Our Resources tab includes links to experimental and analytical protocols and simulation tools, journals, and vendors. We have organized focus groups for SCN pedagogy and structure deposition standards. Finally, our password-secured WebTechForum hosts discussions on equipment evaluation, curriculum design, and YOUR SUGGESTED TOPICS.

Will we also meet face-to-face?

Yes! Electronic communication serves many purposes, but it does not substitute fully for face-to-face interactions. In addition to gathering at the ENC and Rocky Mountain magnetic resonance meetings, co-sponsored events include training schools, FASEB and Gordon Conferences, and American Chemical Society symposia. Check our website to keep informed and provide critical feedback.

What plans are in the works for symposia and in-lab workshops?

We’d like to have participating research groups take turns as hosts; we will pay for guest speakers, student travel, materials needed to set up lab demonstrations, etc. The topics may include cryoelectron microscopy of macromolecular assemblies, remote-access AFM tutorials, and new NMR approaches to membrane proteins, intractable biopolymers, or soil organic matter. Check out the RECENT EVENTS and UPCOMING ACTIVITIES in this brochure, then tell us what you’d like to focus on and how we can partner with you.

How else can we network?

We have initiated joint activities with other methodology-intensive networks in Europe and elsewhere. For lab-to-lab and broadcast links, we would benefit greatly from your technical experience and leads. Should we archive our presentations or create a wiki? Let us know what works and what doesn’t, both technically and as collaborative tools.

Recent Events

Our NSF RCN has organized or co-sponsored the following events:

RESEARCH SYMPOSIA
- Rocky Mountain Conference on Analytical Chemistry, Solid-state NMR Symposium. Copper Mountain, CO (7/12)
- NY Structural Biology Discussion Group Winter Meeting. NY Academy of Sciences (1/13)

SPEAKERS
- Geoffrey Bodenhausen (Paris & Lausanne), “Dynamic Nuclear Polarization in NMR: from solid biomolecular complexes via silica surfaces to complexation in liquids,” City College of NY (4/13);

SHORT COURSES
- 3rd U.S.–Canada Winter School on Biomolecular Solid-state NMR. Stowe, VT (1/13)

TECHNOLOGY eTRANSFER
- Journal of Visualized Experiments: “Protocols for isolation and biophysical study of fruit cuticles.” (3/12)
- Journal of Chemical Education. “Touring the Tomato: A Suite of Chemistry Laboratory Experiments,” (12/12)