National Science Foundation
4201 Wilson Boulevard
Arlington, Virginia 22230

NSF 11-010

Dear Colleague Letter: Unsolicited Proposals at the Interface of the Biological, Mathematical and Physical Sciences

Divisions within the Directorate for Mathematical and Physical Sciences (MPS) have seen increasing numbers of proposals in recent years that focus on biological systems at all levels of biological organization, ranging from the sub-cellular level to the environment. At the same time, divisions in the Directorate for Biological Sciences (BIO) are receiving significantly more proposals that incorporate approaches and address questions that have traditionally been the domain of the mathematical and physical sciences. BIO and MPS therefore recognize that it is vital for biological, mathematical, and physical scientists to increase their collaborations, both in new research efforts and in ongoing research projects, to advance the frontiers of discovery and innovation. While many strong, vibrant interactions currently exist between the two directorates, this letter is to remind our research communities that MPS and BIO strongly encourage proposals from interdisciplinary research teams that involve collaborations among investigators from the biological, mathematical, and physical sciences and foster new interactions that span interfaces between MPS and BIO. Areas of potential mutual interest to MPS and BIO include:

- Physical and chemical mechanisms and mathematical/statistical theories that underlie biological processes
- The physical, chemical, mathematical and statistical basis of biology involving one or more levels of biological interaction or complexity
- The physical, chemical, genetic, and epigenetic principles that constrain how living systems adapt to changing environments

Unsolicited research proposals, depending on their scientific focus, can be submitted to the CHE Chemistry of Life Processes Program, the DMR Biomaterials Program, the DMS Mathematical Biology Program, the PHY Physics of Living Systems Program, or to any of the divisions within the Directorate for Biological Sciences. Investigators are encouraged to contact appropriate program directors to discuss their research topic and objectives prior to submitting a proposal. Proposals that address the interface between the biological, mathematical and physical sciences should include the label "MPS-BIO:" at the beginning of the proposal title. Such proposals will be jointly considered by appropriate program directors in both MPS and BIO. PIs should also consult the following NSF web sites for additional information:

Chemistry (Submission windows July 1-31 and November 1-30 annually):
http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=503417org=CHEfrom=home

Materials Research (Submission window September 1-October 31 annually):
http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=13699org=DMRfrom=home

Mathematical Sciences (Submission window December 18-January 13 annually):
http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=5690org=DMSfrom=home

Physics (Target date July 31 annually):
http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=6673org=PHYfrom=home

Biological Infrastructure (Deadlines vary-please see webpage):
http://www.nsf.gov/div/index.jsp?div=DBI

Environmental Biology (Deadlines January 9 and July 9 annually):
http://www.nsf.gov/div/index.jsp?div=DEB

Integrative Organismal Systems (Deadlines January 12 and July 12 annually):

http://www.nsf.gov/div/index.jsp?div=IOS

Molecular and Cellular Biosciences (Deadlines January 12 and July 12 annually): http://www.nsf.gov/div/index.jsp?div=MCB

Proposals must be submitted in accordance with the deadlines and proposal submission windows specified for unsolicited proposals for the respective programs.

For questions related to programs within MPS, please contact:

- Division of Chemistry, Chemistry of Life Processes (CLP), Dr. David Berkowitz, 703-292-4938, dberkowi@nsf.gov
- Division of Materials Research, Biomaterials (BMAT), Dr. David Brant, 703-292-4941, dbrant@nsf.gov
- Division of Mathematical Sciences, Mathematical Biology, Dr. Mary Ann Horn, 703-292-4879, mhorn@nsf.gov
- Division of Physics, Physics of Living Systems (PoLS), Dr. Krastan Blagoev, 703-292-4666, kblagoev@nsf.gov

For questions related to programs within BIO, please contact:

- Division of Biological Infrastructure, Dr. Anne Maglia, 703-292-7380, amaglia@nsf.gov
- Division of Environmental Biology, Dr. Samuel Scheiner, 703-292-7175, sscheine@nsf.gov
- Division of Integrative Organismal Systems, Dr. William Zamer, 703-292-7871, wzamer@nsf.gov
- Division of Molecular and Cellular Biosciences, Dr. Richard Rodeward, 703-292-7140, rrodewal@nsf.gov

Sincerely,

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