July 1, 1999

Dr. Dan Neumann, Chair
SNS Instrument Oversight Committee
National Institute of Standards and Technology
Gaithersburg, MD 20899

Dear Dan:

The purpose of this letter is to express our support for the development of two small-angle neutron scattering (SANS) instruments at the Spallation Neutron Source (SNS) and also to express our intention of assisting this development effort. A SANS Instrument Advisory Team (IAT) has been formed based on participation in a formal discussion at the Small Angle Scattering conference at Brookhaven National Laboratory in May of 1999. As you might expect, we anticipate that our IAT membership may grow or otherwise change with time. The current IAT membership is as follows:

M. Agamalian, ANL
K. Blasie, Univ. Penn. (*Ex. Com.*)
R. Briber, Univ. Maryland (*Ex. Com.*)
F. Boué, Saclay
S.-H. Chen, MIT (*Ex. Com.*)
E. Gilbert, Australian Natl. Univ.
B. Heuser, Univ. Illinois, (*Ex. Com.*)
R. Hjelm, LANL (E*x. Com.*)
H. Huang, Rice Univ. (*Ex. Com.*)
X. Li, ANL
K. Littrell, ANL
L. Magid, Univ. Tennessee (*Ex. Com.*)
Y. Melnichenko, ORNL
S. Murthy, Allied Signal
P. Thiyagarajan, ANL (*Ex. Com.*)
V. Urban, ANL

The IAT has also selected an Executive Committee and these members are indicated above as well. Sow-Hsin Chen and I will serve as co-spokespersons for the IAT. Our IAT membership is comprised of scientists engaged in a wide variety of research spanning many disciplines and includes a significant level of expertise in time-of-flight SANS.

We believe the construction of two SANS instruments at the SNS is very important. SANS is one of the most oversubscribed neutron scattering techniques; the majority of neutron scattering facilities in the U.S. and abroad have two or three SANS instruments to meet this demand. While we understand that the 60 Hz operation places constraints on the design of a SANS instrument, we believe that the two SANS instruments we propose, one with high-Q capability and one with low-Q capability, can be designed that will effectively use the strengths of the SNS primary target. We anticipate that the low-Q instrument will be required to meet the future demands of the majority of the SANS user base. One the other hand, the high-Q instrument represents a special opportunity to take full advantage of the SNS power. These instruments will provide capabilities that currently do not exist and will therefore enable new scientific opportunities. As members of the SANS IAT we have a strong desire to see the development of SANS at the SNS and are willing to help in appropriate ways. This will include, at the very least, input in the design of SNS SANS instruments. Our immediate plan is to present a scientific case and general SANS instrument parameters at the July, 1999 IOC meeting.

Sincerely,

Brent J. Heuser, Ph.D.
Assistant Professor

c.: Kent Crawford, ANL
Thom Mason, ORNL
SANS-IAT members