# Section 5
# NATIONAL LASER USERS FACILITY NEWS

This report covers the activities of the National Laser Users Facility (NLUF) during the quarter April to June 1983. During this period, three users conducted experiments on LLE facilities. The visiting scientists associated with these experiments represented the University of Pennsylvania, the University of Connecticut, and the Naval Research Laboratory and are listed below:

1. J. K. Blaise, D. Pierce, D. Pascolini, and A. Scarpa (University of Pennsylvania).
2. L. Herbette and R. McDaniel (University of Connecticut).
3. R. Elton and T. N. Lee (Naval Research Laboratory).

During this quarter, on May 13, 1983, the NLUF Steering Committee held its fourth meeting to review and approve proposals, and to recommend funding of approved proposals in inertial fusion to the Department of Energy. This funding allocation is separate from LLE's operation contract, and is designed to provide research funds to users in the inertial fusion field. Users in other fields may use the facility but must provide their own research funds.

The Steering Committee membership changed somewhat from the previous meeting as several new people were invited to serve on the committee. We expect this rotation to continue for future meetings. The scientists participating as Steering Committee members represented a broad range of research areas including laser fusion,

astrophysics, biophysics, optics, nuclear physics, and magnetic fusion. The committee membership consisted of:

**Brian J. Thompson**, Chairman
(Dean, College of Engineering, University of Rochester)

**Thomas C. Bristow**, non-voting Executive Secretary
(NLUF Manager)

**David T. Attwood**
(Laser Program, Lawrence Livermore National Laboratory)

**John C. Browne**
(Los Alamos National Laboratory)

**Donald L. D. Caspar**
(Rosenstiel Research Center, Brandeis University)

**Gordon P. Garmire**
(Department of Astronomy, Pennsylvania State University)

**Wulf B. Kunkel**
(Department of Physics, University of California at Berkeley)

**Barry H. Ripin**
(Naval Research Laboratory)

**Donald C. Slater**
(KMS Fusion, Inc.)

The committee approved 11 of the 22 proposals. The approved experiments are in the areas of plasma physics, laser fusion, and x-ray biophysics. The new approved proposals are:

1. **Prof. J. Kent Blasie** (University of Pennsylvania): "A Continuation Proposal for Time-Resolved Structural Studies of the $Ca^{2+}$-ATPase of Sarcoplasmic Reticulum Membranes Utilizing a Laser-Plasma X-Ray Source."
2. **Dr. Phillip G. Burkhalter** (Naval Research Laboratory): "X-Ray Spectroscopy to Determine Line Coincidences Between K- and M-Series Transitions."
3. **Prof. Carl B. Collins** (University of Texas at Dallas): "The Study of Nuclear Fluorescence Excited by Laser-Plasma X Rays."
4. **Dr. Raymond C. Elton** (Naval Research Laboratory): "Pumping of a Soft X-Ray Laser as a High-Density Plasma Probe."
5. **Dr. Uri Feldman** (Naval Research Laboratory): "A Proposal for the Measurement of the Spectra of Neon-Like Ions Relevant to X-Ray Lasers Using the OMEGA Laser Facility."
6. **Prof. Hans R. Griem** (University of Maryland): "Shifts and Widths of Hydrogenic Ion Lines: Experimental Proposal for Continuation of Measurements at the University of Rochester Laser Users Facility."

7. **Dr. Allan Hauer** (Los Alamos National Laboratory): "Diagnosis of High-Density Laser-Driven Compressions with Novel X-Ray Spectroscopic Techniques."

8. **Prof. Burton L. Henke** (University of Hawaii at Manoa): "Evaluation and Application of a Streak Camera and Photographic Camera Coupled Elliptical-Analyzer Spectrograph System for the Diagnosis of Laser-Produced X-Ray Sources (100-10,000 eV Region)."

9. **Prof. Leo G. Herbette** (University of Connecticut Health Center): "Time-Resolved X-Ray Diffraction of Acetylcholine Receptor Membranes."

10. **Prof. Chan Joshi** (UCLA) and **Prof. Nizarali A. Ebrahim** (Yale University): "Studies of the Two-Plasmon Decay and Stimulated Raman Scattering Instabilities in Hot, Long-Scale-length Plasmas."

11. **Prof. Benjamin Post** (Polytechnic Institute of New York): "X-Ray Crystal Devices for Measuring Compression and Stability of Laser-Fusion Targets."

Further information on the NLUF is available by writing to:

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