

# THE JOINT INSTITUTE FOR HEAVY ION RESEARCH

J. D. Garrett, C. R. Bingham<sup>1</sup>, and J. H. Hamilton<sup>2</sup>

The Joint Institute for Heavy Ion Research (JIHIR), administered jointly by the University of Tennessee, Vanderbilt University, and Oak Ridge National Laboratory, has continued its strong support of the HRIBF and its research program. About two-thirds of the JIHIR's funding is derived from the State of Tennessee through the Science Alliance at the University of Tennessee. The remainder is provided by Vanderbilt University and ORNL. The "Joint Institute" is housed in two buildings adjacent to the HRIBF. Its stated mission is:

"to promote and support research at the Holifield Facility by providing an intellectual center and physical support for researchers who work at the Holifield."

During fiscal years FY 1997 and 1998, the two years covered by this report, the Joint Institute has provided full or partial support for the 138 guests listed in Table 1. The distribution of the 53 guests from within the United States is shown in Figure 1. Likewise, the distribution of the 85 international guests among 20 countries also is given in the lower left-hand portion of this figure. As in previous years a major portion of the guest support was for nuclear structure and nuclear astrophysics theorists to assist in creating a milieu for nuclear structure and radioactive ion beam research at ORNL. The goal is to fill what is perceived as a substantial need in U.S. nuclear science and to complement the experimental program of the HRIBF. Recently the JIHIR also has helped to provide "startup" funding for a theoretical nuclear astrophysics program at ORNL.

During the conversion of the Holifield Facility to a radioactive ion beam facility, the JIHIR financed several guests with special technical expertise to assist in the construction of the HRIBF and the associated ancillary experimental equipment for this facility. Most recently support has been granted for guests involved in planning the Next-generation ISOL (NISOL) Facility, a new radioactive ion beam facility, which is being proposed for construction at the Spallation Neutron Source (SNS) site. The NISOL Facility is described in the "Major Initiatives" section of this report.

The Joint Institute hosted several workshops given in Table 2 during FY 1997 and 1998. It also was involved in organizing the HRIBF Dedication December 12-13, 1997.

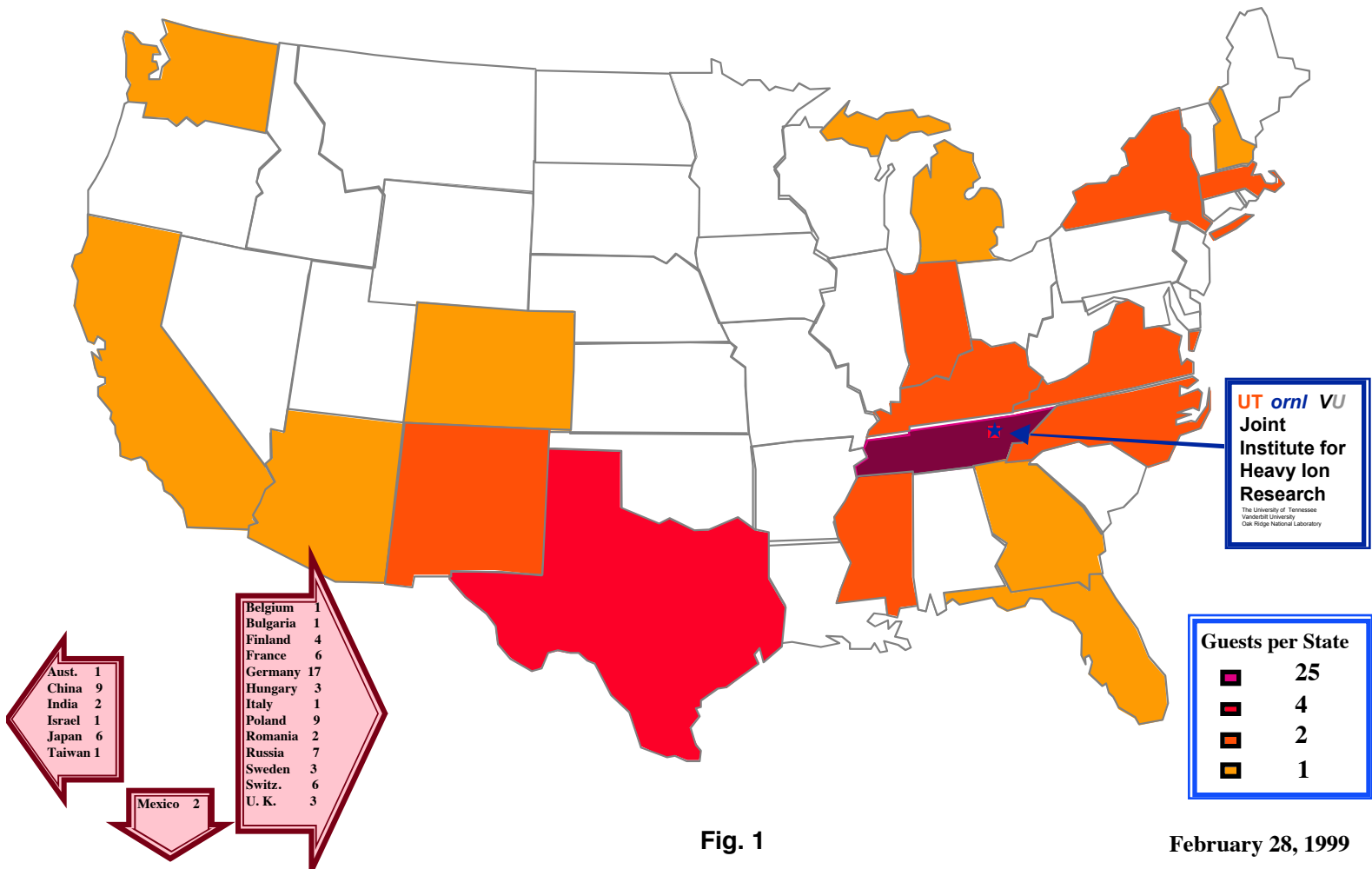
The Joint Institute also provides free lodging for users and guests associated with the scientific program of the Holifield Facility. During FY 1997 and 1998, 137/2586 person/nights of accommodations were utilized.

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# Distribution of JHIR Guests FY 1997 & 1998



**UT ornl VU**  
**Joint**  
**Institute for**  
**Heavy Ion**  
**Research**  
The University of Tennessee  
 Vanderbilt University  
 Oak Ridge National Laboratory

Guests per State	
■	25
■	4
■	2
■	1

Belgium	1
Bulgaria	1
Finland	4
France	6
Germany	17
Hungary	3
Italy	1
Poland	9
Romania	2
Russia	7
Sweden	3
Switz.	6
U. K.	3

Aust.	1
China	9
India	2
Israel	1
Japan	6
Taiwan	1

Mexico 2

**Table 1. Joint Institute Visitors  
October 1, 1996 - September 30, 1998**

NAME	INSTITUTION	DATES
<b>Arima, Akito</b>	RIKEN (Japan)	12/1/96-12/13/96
<b>Aysto, Juha</b>	Univ. of Jyväskylä (Finland)	7/30/97-8/1/97
<b>Bailey, James</b>	JHIR	7/18/94-7/31/97
<b>Bao, Yi-wen</b>	China Institute of Atomic Energy , Beijing (China)	6/24/97-6/24/98
<b>Baranger, Michel</b>	M.I.T.	5/28/98-6/2/98
<b>Barmore, Bryan</b>	College of William & Mary Williamsburg (VA)	8/10/98-8/16/98 9/8/98-Present
<b>Belikov, Sergei</b>	Inst. for High Energy Physics (Russia)	2/9/98-Present
<b>Bellaiche, Frederic</b>	Institut de Physique Nucleaire de Lyon (France)	11/10/97-12/31/98
<b>Bender, Michael</b>	Johann Wolfgang Universität (Germany)	11/3/97-11/7/97
	Univ. of North Carolina at Chapel Hill/Univ. of Tennessee	9/23/98-10/2/98
<b>Bennaceur, Karim</b>	GANIL, Caen (France)	6/1/97-6/7/97
<b>Bhatt, Kumar</b>	Univ. of Mississippi Oxford (MS)	5/12/97-8/14/97 1/18/98-1/25/98 3/8/98-3/15/98 6/29/98-8/14/98
<b>Blankenship, James</b>	JHIR	7/1/91-Present
<b>Bombarger, Shelly</b>	Univ. of Tennessee	8/10/96-8/7/97
<b>Bruenn, Stephen</b>	Florida Atlantic Univ.	5/12/97-5/16/97 6/15/97-6/19/97 8/18/98-8/21/98
<b>Cao, Zhong</b>	Univ. of Tennessee	2/1/97-12/31/97
<b>Chatterjee, Lali</b>	Univ. of Tennessee	7/1/96-10/9/96 2/1/97-9/30/97
<b>Christian, Onzie</b>	JHIR	9/1/97-11/30/97
<b>Chen, Yong-Shou</b>	China Institute of Atomic Energy, Beijing (China)	3/14/97-6/17/97
<b>Cruise, Robert</b>	Indiana Univ.	11/17/97-11/18/97
<b>Csoto, Attila</b>	Los Alamos National Lab.	8/8/97-8/11/97
<b>Cui, Baoqun</b>	China Institute of Atomic Energy, Beijing (China)	2/28/96-2/28/98
<b>Cwiok, Stefan</b>	Warsaw Univ. of Technology (Poland)	9/16/96-10/17/96 9/1/98-9/30/98

<b>Davinson, Thomas</b>	Univ. of Edinburgh (United Kingdom)	7/14/97-7/17/97 2/28/98-3/13/98
<b>Di Bartolo, Gaetano</b>	Inst. Nazionale Fisica Nucleare, Catania (Italy)	11/23/97-11/26/97
<b>Dickens, Justin</b>	JHIR	1/1/96-12/31/96 4/1/97-Present
<b>Dobaczewski, Jacek</b>	Warsaw Univ. (Poland)	1/21/97-1/31/98 8/9/98-8/16/98
<b>Dodonov, Alexander</b>	Russian Academy of Science	9/26/98-10/3/98
<b>Dragulescu, Emilian</b>	Institute for Nuclear Physics & Engineering (Romania)	6/15/97-7/13/97
<b>Dunn, Gordon</b>	Univ. of Colorado (JILA)	12/2/97-12/6/97
<b>Ejisman, Renato</b>	Univ. of Rochester	12/2/97-12/6/97
<b>Engel, Jonathan</b>	Univ. of North Carolina	1/3/98-1/6/98
<b>Fokine, Serguei</b>	Kurchatov Institute of Atomic Energy (Russia)	6/29/97-10/31/97
<b>Forkel-Wirth, Doris</b>	CERN (Switzerland)	7/26/97-8/2/97
<b>Fox, John</b>	JHIR	8/8/97-8/15/97
<b>Grawe, Hubert</b>	Gesellschaft für Schwerionenforschung (GSI) (Germany)	6/7/97-6/15/97
<b>Greife, Uwe</b>	Ruhr Universität Bochum (Germany)	11/30/97-12/12/97
<b>Greiner, Walter</b>	Inst. für Theoretische (Germany)	10/26/96-11/10/96 1/29/97-2/14/97 1/3/98-1/11/98 3/23/98-3/30/98
<b>Guber, Klaus</b>	JHIR	7/25/94-7/20/97
<b>Gupta, Mohini</b>	Univ. of Bombay (India)	6/14/96-12/1/96
<b>Habs, Dieter</b>	Ludwig-Maximilians-Univ. (Germany)	12/12/96-12/13/96
<b>Halbert, Melvyn</b>	JHIR	1/1/95-Present
<b>Hansen, Gregors</b>	Michigan State Univ.	12/11/96-12/14/96
<b>Harvey, Jack</b>	JHIR	5/1/95-Present
<b>Hauschildt, Peter</b>	Univ. of Georgia	12/2/97-12/6/97
<b>Heenen, Paul-Henri</b>	Universite Libre de Bruxelles (Belgium)	8/10/97-8/22/97
<b>Heil, Michael</b>	Forschungszentrum Karlsruhe (Germany)	12/2/97-12/6/97
<b>Heisenberg, Jochen</b>	Univ. of New Hampshire	5/19/98-5/21/98
<b>Hirsch, Jorge</b>	CINVESTAV (Mexico)	4/6/97-4/17/97
<b>Hix, William</b>	Univ. of Texas at Austin JHIR	7/23/97-7/27/97 9/1/97-Present
<b>Horen, Daniel</b>	JHIR	1/1/96-12/31/96
<b>Iimura, Hideki</b>	Japan Atomic Energy Research Institute (Japan)	6/27/98-6/30/98

<b>James, Arthur</b>	Univ. of Liverpool (United Kingdom)	8/20/97-9/3/97 6/16/98-6/25/98 8/5/98-8/18/98
<b>Janas, Zenon</b>	Univ. of Warsaw (Poland)	6/6/98-6/22/98
<b>Johnson, Gary</b>	George Mason Univ.	11/15/96-11/18/96
<b>Johnson, Noah</b>	JHIR	1/1/95-Present
<b>Jones, Charles</b>	JHIR	1/1/96-10/31/96 1/1/97-4/30/97
<b>Kahane, Sylvian</b>	Nuclear Research Center- Negev (Israel)	6/14/97-7/20/97 7/13/98-8/15/98
<b>Kaneko, Kazunari</b>	Kyushu Sangyo Univ. (Japan)	9/1/96-8/31/97
<b>Kangasmaki, Aki</b>	Univ. of Helsinki (Finland)	10/25/97-11/1/97
<b>Kamyshkov, Yuri</b>	Inst. for Theoretical & Experimental Physics (ITEP) (Russia)	7/1/96-Present
<b>Karny, Marek</b>	Univ. of Warsaw (Poland)	3/2/98-7/7/98
<b>Keinonen, Juhani</b>	Univ. of Helsinki (Finland)	6/12/97-6/19/97
<b>Kormicki, Jan</b>	Vanderbilt Univ.	7/1/98-Present
<b>Kratz, Karl-Ludwig</b>	Inst. für Kernchemie der Universität Mainz (Germany)	12/2/97-12/6/97
<b>Kolbe, Edwin</b>	Univ. of Basel (Switzerland)	12/1/97-12/16/97
<b>Kruppa, Andras</b>	Institute of Nuclear Research, Hungarian Academy of Science (Hungary)	7/6/98-8/1/98
<b>Kumar, Krishna</b>	Tennessee Technological Univ. (Intermittent trips)	5/16/97-7/21/98
<b>Laird, Chris</b>	Eastern Kentucky Univ.	7/14/98
<b>Lalazissis, Georgios</b>	Technische Universität München (Germany)	11/5/97-11/8/97 1/6/98-4/26/98
<b>Langer, Norbert</b>	Universität Potsdam (Germany)	12/2/97-12/6/97
<b>Lara, Juan</b>	Univ. of Texas at Austin	12/2/97-12/7/97
<b>Larson, J. D.</b>	JHIR	1/1/96-12/31/96
<b>Lattanzio, John</b>	Monash Univ. (Australia)	12/1/97-12/6/97
<b>Lebedev, Alexander</b>	Kurchatov Institute of Atomic Energy (Russia)	6/29/97-10/31/97 3/28/98-4/5/98
<b>Lewitowicz, Marek</b>	GANIL, Caen (France)	6/30/98-7/4/98
<b>Li, Zhen-Ping</b>	Peking Univ. (China)	6/11/97-6/25/97
<b>Liang, Junjien</b>	Univ. of Washington	1/22/97-1/24/97
<b>Liebendoerfer, Matthias</b>	Univ. of Basel (Switzerland)	10/25/97-11/1/97
<b>Liu, Yuan</b>	Hoechst Industry Limited (Japan)	1/1/97-3/8/98
<b>Lobner, Kurt G.</b>	Ludwig-Maximilians-Univ. München (Germany)	9/4/96-10/1/96 8/26/97-10/16/97

<b>Lohwasser, Reinhard</b>	Ludwig-Maximilians-Univ. München (Germany)	5/30/96-5/29/97
<b>Ma, Zhan-Wen</b>	China Institute of Atomic Energy, Beijing (China)	7/8/97-Present
<b>Macfarlane, Malcolm</b>	Indiana Univ.	11/17/97-11/18/97
<b>Madani, Houria</b>	Instituto de Fisica/UNAM (Mexico)	2/1/97-6/30/97
<b>Magierski, Piotr</b>	Royal Institute of Technology (Sweden)	4/13/98-4/20/98
<b>Mallory, Merrit</b>	Clements High School Houston, TX	6/2/97-8/1/97 6/1/98-7/31/98
<b>Maruhn, Joachim</b>	Univ. of Frankfurt (Germany)	10/2/96-10/9/96 8/6/97-8/26/97 8/2/98-8/23/98
<b>Mas, Joseph</b>	Univ. of Tennessee	4/26/97-Present
<b>Messer, Otis</b>	Univ. of Tennessee	1/11/97-1/15/97
<b>Mezzacappa, Anthony</b>	JHIR	12/1/94-8/31/96
<b>Middleton, Jerry</b>	Mississippi State Univ.	10/1/96-9/30/97
<b>Mizutori, Shojiro</b>	Lund Institute of Technology (Sweden)	1/4/96-3/31/97
<b>Nestor, Charles</b>	JHIR	1/1/95-Present
<b>Olive, Don</b>	Campbellsville College	9/1/96-8/31/98
<b>Papp, Tibor</b>	Inst. of Nuclear Research Hungarian Academy of Sciences (Hungary)	7/17/97-9/11/97
<b>Petrovici, Alexandrina</b>	Central Institute of Physics (Romania)	4/1/98-4/30/98
<b>Pfutzner, Marek</b>	Warsaw Univ. (Poland)	11/2/97-11/9/97
<b>Ploszajczak, Marek</b>	GANIL, Caen (France)	6/1/97-6/7/97
<b>Prantzos, Nikos</b>	Institut d'Astrophysique de Paris (France)	12/1/97-12/7/97
<b>Qian, Yong-Zhong</b>	California Institute of Technology	12/1/97-12/7/97
<b>Ratynski, Wojciech</b>	Soltan Inst. for Nuclear Studies (Poland)	12/1/96-12/11/96 10/16/97-10/31/97
<b>Ravn, Helge</b>	CERN (Switzerland)	11/11/96-11/15/96 12/12/96-12/13/96 5/19/98-5/21/98
<b>Reddy, Sanjay</b>	State Univ. of New York at Stony Brook	12/2/97-12/6/97
<b>Reinhard, Paul-G.</b>	Inst. für Theoretische Physik II (Germany)	10/14/96-11/2/96 10/15/97-10/29/97 9/20/98-10/3/98
<b>Rembges, Felix</b>	Univ. of Basel (Switzerland)	12/1/97-12/12/97
<b>Rudolph, Dirk</b>	Lund Univ. (Sweden)	8/4/98-8/23/98

<b>Samant, Alka</b>	Bhabha Atomic Research Centre (India)	4/11/98-8/31/98
<b>Satula, Wojciech</b>	Univ. of Warsaw (Poland)	2/1/96-6/15/98 8/15/98-8/18/98
<b>Segev, Bilha</b>	Harvard Univ.	9/23/97-9/28/97 1/31/98-2/6/98
<b>Starrfield, Sumner</b> <b>Stiessberger, Johann</b>	Arizona State Univ. Ludwig-Maximilians-Univ. München (Germany)	12/2/97-12/7/97 3/1/98-5/2/98
<b>Stoitsov, Mario</b>	Bulgarian Academy of Sciences, Sofia (Bulgaria)	11/3/97-12/2/97
<b>Stracener, Daniel</b> <b>Strieder, Frank</b>	JHIR Ruhr Universitaet Bochum (Germany)	6/3/96-11/6/98 12/7/97-12/20/97
<b>Sun, Yang</b> <b>Szymanski, Zdzislaw</b> <b>Szerypo, Jerzy</b>	JHIR/UT Warsaw Univ. (Poland) ATM Incorporated (Poland)	1/1/95-10/31/97 10/20/96-11/20/96 5/10/98-7/21/98
<b>Talbert, Willard</b> <b>Tanihata, Isao</b> <b>Thielemann, Friedrich</b>	Amparo Corp., Santa Fe, NM RIKEN (Japan) Univ. of Basel (Switzerland)	11/5/96-11/8/96 7/30/97-8/1/97 12/13/96-12/15/96 7/30/97-8/1/97 12/2/97-12/16/97 8/30/98-9/24/98
<b>Tian, Wei</b>	China Institute of Atomic Energy, Beijing (China)	4/27/96-10/27/96 9/15/98-Present
<b>Tikkanen, Pertti</b>	Univ. of Helsinki (Finland)	5/22/97-7/17/97 5/26/98-7/18/98
<b>Tolmachev, Aleksey</b> <b>Trzhaskovskaya, Malvina</b>	Associated Western Universities Petersburg Nuclear Research Institute of Russia C.N.R.S. (France)	9/26/98-10/3/98 4/22/97-6/20/97
<b>Vautherin, Dominique</b> <b>Vasilyev, Maxim</b> <b>Vertse, Tamas</b>	Texas A&M Univ. Inst. of Nuclear Research Hungarian Academy of Sciences (Hungary))	11/9/96-11/23/96 7/23/97-7/27/97 10/15/96-11/11/96 6/18/98-8/17/98
<b>Von Egidy, Christoph</b>	Technische Universität München (Germany)	3/2/98-3/27/98
<b>Werner, Klaus</b>	Univ. of Tübingen (Germany)	12/2/97-12/7/97

<b>Wollnik, Hermann</b>	Univ. of Giessen (Germany)	10/21/96-11/1/96 11/10/96-11/26/96 12/2/96-12/7/96 3/3/97-3/7/97 4/1/97-4/11/97 9/29/97-10/1/97 1/7/98-1/10/98 2/22/98-2/28/98 3/16/98-3/20/98 4/4/98-4/8/98 7/5/98-7/10/98 7/14/98-7/28/98 8/13/98-8/27/98 9/27/98-10/3/98
<b>Woods, Phillip</b>	Univ. of Edinburgh (United Kingdom)	12/12/96-12/13/96 7/13/97-7/17/97 9/28/97-10/3/97 2/28/98-3/13/98 7/5/97-7/15/97
<b>Wu, Cheng-Li</b>	Chung Yuan Christian Univ. (Taiwan)	
<b>Xu, Xiao-Ji</b>	Institute of Modern Physics, Lanzhou (China)	1/6/97-1/7/98
<b>Yonezawa, Chushiro</b>	Japan Atomic Energy Research Institute (Japan)	8/18/98-8/22/98
<b>Young, Meredith</b>	JHIR	6/8/98-8/14/98
<b>Zhang, Tianjue</b>	China Institute of Atomic Energy, Beijing (China)	7/1/98-Present
<b>Zhao, Kui</b>	China Institute of Atomic Energy, Beijing (China)	7/13/97-1/13/98
<b>Zucker, Alex</b>	JHIR	6/2/97-6/6/97

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**Table 2. Meetings Sponsored by the Joint Institute for  
Heavy Ion Research  
October 1, 1996 - September 30, 1998**

MEETING	DATE	ATTENDEES	CHAIRMAN
HRIBF Dedication Workshop	12/12/96-12/13/96	175	J. Garrett F. Bertrand
Mutree Workshop	2/6/97	30	G. Young
Vanderbilt Summer Science Collaborative	6/26/97-6/28/97	30	J. Hamilton
Workshop for an Advanced ISOL Facility	7/30/97-8/1/97	75	J. Garrett
Sanibel Conference	11/9/97-11/15/97	200	J. Hamilton
2nd Oak Ridge Symposium on Atomic & Nuclear Astrophysics	12/2/97-12/6/97	150	A. Mezzacappa
ORNL Storage Ring Workshop	2/20/98-2/21/98	40	S. Datz
NISOL Collaboration Meeting	5/20/98	30	J. Garrett
Vanderbilt Summer Science Collaborative	6/11/98-6/13/98	30	J. Hamilton
Workshop on the Experimental Equipment for an Advanced ISOL Facility	7/22/98-7/25/98	75	J. Garrett
Nuclear Structure 98 Conference	8/10/98-8/15/98	150	C. Baktash