

LT24 FINAL REPORT

The 24th International Conference on Low Temperature Physics

Venue and program

The 24nd International Conference on Low Temperature Physics was organized by the University of Florida and convened at the Hilton Hotel and Conference Center at the Walt Disney Resorts in Orlando, Florida USA from August 10-17, 2005. All events connected with the conference, except a trip to the Kennedy Space Center, were at this venue. This was the first meeting of the LT series in the western hemisphere since 1993 when LT20 was held in Eugene, Oregon USA.

The conference program followed the usual format of the last several LTs:

1. Day 0 (Wednesday) Registration and Welcome Reception
2. Day 1 (Thursday)
 - a. Opening ceremony
 - b. London Award presentation and lectures (3x45 minutes)
 - c. Simon Award presentation and lecture (45 minutes)-first time at LT
 - d. Plenary Talk (45 minutes)
 - e. Poster Sessions
3. Days 2 and 3 (Friday and Saturday)
 - a. Six half-plenary talks (30 minutes) in 2 parallel sessions
 - b. Forty talks (15 minutes) in 5 parallel sessions in the categories:
 - 1) Quantum Gases, Fluids, and Solids
 - 2) Superconductivity
 - 3) Magnetism and Properties of Solids
 - 4) Quantum Electron Transport and Mesoscopic Physics
 - 5) Applications, Materials, and Techniques.
 - a. Poster Sessions
 - b. A public session held Friday evening was composed of two lectures.
3. Day 4 (Sunday) Mid-conference break-- an all-day excursion to the Kennedy Space Port, a short bus ride from Orlando. Most participants had lunch with an astronaut.
4. Day 5 and 6 (Monday and Tuesday) same as Days 2 and 3.
5. Day 7 (Wednesday) Two plenary talks and closing ceremony

The conference was organized by the local committee in Gainesville, FL USA, composed of Chairman Gary Ihas, Secretary Mark Meisel, and Proceedings Editor Yasu Takano. These three were the only to physically meet during the preparations for the conference. All other organization was done with the various committees by e-mail, internet, and telephone.

All transactions involving participants in the conference were done electronically:

1. An internet site was established about two years before the conference convened and was constantly up-dated. As of this writing the site is still being used: <http://www.phys.ufl.edu/~LT24/>
2. Announcements were sent out by e-mail to 3,500 potential participants periodically starting about 14 months before the conference. This list of "customers" was generated by combining the participant lists from LT22, LT23, the QFS series, and various other sources. This list was made available to the organizers of LT25. See schedule later in this document.
3. Pre-registration on the internet was encouraged by offering a discount. Most participants pre-registered. Initially, PayPal was used to transfer funds from participants to the conference organization, but as the deadline approached, this became

intractable. This was because PayPal institutes filters to lower the risk of fraud. One of these stops payments if the rate of influx of funds to an account exceeds a certain level. In the case of a conference with a registration deadline, this will inevitably occur, making the use of PayPal impossible. It is recommended that PayPal not be used. Our organization began using Faxed credit card forms, for security purposes, when PayPal ceased to be viable. See Statistics later in this document.

4. Abstracts could only be submitted electronically unless the local organizers were contacted. All abstracts were submitted electronically. Abstracts were reviewed by the Program Committee.

Attendance

During the 56-year history of LT conferences the attendance has fluctuated. The attendance at LT24 was the lowest in decades, possibly reflecting the expansion of many other conference series. Because much of the details of the planning could be delayed until just before the conference started, participation was encouraged right up to the beginning of the conference. As of August 10, 1120 people were expected to attend the conference, as indicated by registration and pre-registration activity. A total of 853 people from 34 countries attended the conference, with 267 no-shows, many of whom paid registration fees (see Statistics). Effort was made to involve Central and South America, resulting in attendance from Argentina, Brazil, Columbia, Mexico, and Venezuela. Other efforts were made to attract participants from developing nations, resulting in participation from 14 such nations. It is interesting that Japan had the most participants (328) followed by 258 from the USA. The attendance at LT23 in Hiroshima, Japan was 1466, and the Japanese attendance was 918. There were 387 Japanese participants at LT22 in Helsinki.

There were hundreds of people accompanying the participants of LT24, but few of them registered. Orlando is a resort city, so no program was planned for these participants besides the conference excursion. Most of them took advantage of the Space Port tour, including having lunch with an astronaut.

Talks and Posters

There were a total of 193 oral presentations, as outlined in the above program description. The Simon Prize winner, for the first time, presented his work on the opening day together with the London Prize winners. If this is to continue, rules for the selection of the prize winners and the presentation of their work at LT must be established.

Very active poster sessions, totaling 922 posters, were held during 4 afternoons of the conference. The poster stands were positioned at angles with spaces between each stand so that people could easily move around any poster. The combination of the posters, exhibits, and afternoon snacks and beverages made the session extremely well attended and last well past their planned ending time.

Abstracts, manuscripts, and Proceedings

Everything connected with the written results of LT24 was processed on the internet. Altogether 1626 abstracts were submitted, with 12 rejected and 19 withdrawn. These were published in the conference booklet and distributed to all participants at the conference. They were followed by 813 manuscripts, all of which have been refereed and those not rejected (27) or withdrawn (16) were edited and sent to the AIP for publication. All but 2 of the withdrawn papers were done so after the referee reports. This high acceptance rate required an immense amount of work by a paid

editorial assistant and the editors. The remaining 770 manuscripts (1700 pages) will appear in the American Institute of Physics Conference Proceedings No. 850 on September 15, 2006. This significant delay in processing the manuscripts occurred because of the large number of manuscripts that required significant editing after being reviewed. Reviews were done on-line using the AIP Peer Express system. The proceedings are being sent to all participants on CD ROM, with 15 hard copies given to the ICTP for dissemination to libraries of developing nations. Through the AIP conference series subscription program, the proceedings are available to individuals and libraries. The AIP archives all proceedings they publish on line (<http://scitation.aip.org/proceedings/numerindex.jsp>). Access to this web site is free to all those within a domain attached to a paid subscription. Conference attendees may access this site free for one year. The proceedings may be purchased by anyone by direct order on line or by telephone or mail to the AIP.

Committee Structure

The conference organizers were supported by six committees (see complete lists in Appendix III):

1. Local Organizing Committee
2. Program Committee
3. Publication Committee
4. Financial Aid Committee
5. International Advisory Committee
6. North American Advisory Committee

The Advisory Committees offered suggestions for speakers and areas of concentration for the conference. Over 350 speakers were suggested for the 187 speaking slots. This turned out not to be enough, given the need for diversity of research areas, geography, and gender. The local organizers had to expend much time and energy to solicit further suggestions. It is suggested that in the future the advisory committee be done away with, and all those on the possible-participants-list be seriously and strenuously solicited for suggestions. Pre-registrants should be told that submitting an abstract is not sufficient to be considered for an oral presentation, and that anyone interested should self-nominate, including suggestions of other coordinated speakers.

The Program Committee has the job of reducing these suggestions to an interesting, coordinated, and useful series of presentations. The Program Committee Chairman and Section Chairs are key in this process. For LT24, the original Program Chair was Jack Crow, who very unfortunately died before much work was done. Fortunately, Allen Goldman stepped in and served through the successful conclusion of the conference.

The Publication Committee had the giant task of bringing the Proceedings to publication in a timely fashion, as discussed above..

The Financial Aid Committee received all applications and assigned the funds available. A total of \$38,150 was distributed. A total of 334 participants received some kind of aid, either discounting or complete waiver of registration fees, or cash, or both. The maximum given any participant was \$900, except for those who received funds with our help from the CDRF, who received \$3,600. This aid includes the waiver of invited speaker registration fees for all those outside North America, it being more expensive for them to travel to the conference. One North American speaker refused to pay his fee, claiming to be a "foreigner".

Budget

Income

fees	204,700
exhibit	46,800
LT23	8,000
IUPAP	10,000
Oxford donation	20,000
NSF	20,000
NHMFL	5,000
UF	11,000
Total	325,500

Expenses

Travel Grants/Conf. Waivers (see App. IV.)	38,150
Audio/Visuals at Site	30,910
Proceedings	37,430
Poster Boards/Materials	6,500
Banquet	13,800
Banquet Entertainment	2,600
Coffee Breaks	25,000
Lunches	50,000
Beer Garden	40,000
Welcome Party	11,700
Conference Bags	10,322
Printing	10,248
Internet	1,520
Miscellaneous	14,295
LT Graduate Student Travel Endowment	40,000
LT25 Donation	10,000
London Prize Donation	8,000
Total	325,500

Discussion of budget

The successful funding of the conference on a registration fee of \$400 was only possible because the organizers did all the work of a conference organizing company (saving about \$50,000) and used AIP to publish the proceedings (saving about \$30,000). In the end, it was possible to supply all participants with food and drink sufficient for both breakfast and lunch, as well as snacks and drinks during the poster sessions. A generous donation from Oxford Instruments provided a sumptuous reception faire, including ample beverages. Thus, all participants were supplied, included in their registration, breakfast and lunch everyday except Sunday, and one dinner.

Conference Banquet

The banquet was on Monday evening, and had live music-jazz to dance to with a vocalist who sang in 5 languages. Many enjoyed the dancing and “best dancer” prizes were awarded (Disney T shirts). The banquet cost \$50, including unlimited wine.

Exhibition

The commercial exhibition was the largest ever at an LT, with 27 booths (23 companies) placed in the same hall in the middle of the poster area. The afternoon (no-cost) refreshments were also served in this hall

EXHIBITION PARTICIPANTS

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Janis Research Company	Ann Carroll	sales@janis.com

Hard Copy Proceedings for Developing Nations

Fifteen hard copies of the proceedings were sent for distribution to libraries in developing nations to the Abdus Salam International Centre for Theoretical Physics (Maria Fasanella). This was done because internet reliability is still low in these nations.

LT Graduate Student Travel Endowment

The excess funds from the conference were deposited in the University of Florida Foundation as a permanent endowment—that is, these funds can never be spent. The yield from this deposit has been assigned to fund graduate student travel to condensed matter conferences, with one every three years being designated “The LT24 Student Travel Award”. It is expected that this award will provide up to \$6,000 every three years for travel to the LT conference and its satellites. Any unspent funds will be re-invested in the endowment, as will any other contributions that are subsequently made to this fund. This choice was made after serious attempts by various members of the IUPAP organization to find a fair way to endow future LT meetings directly.

Satellite Conferences

Six satellite conferences were convened in conjunction with LT24, which are listed in the appendix II.

Gainesville, March 1, 2007

Gary Ihas
Chairman, LT24

Appendices

I. LT24 scientific attendance by country

Argentina	3	Korea	12
Austria	5	Mexico	1
Belarus	1	Moldova	1
Belgium	2	Morocco	1
Brasil	1	Netherlands	11
Canada	9	Poland	7
Columbia	1	PR China	4
Czech Republic	6	RO China	14
Estonia	1	Russia	17
Finland	24	Scotland	1
France	14	Slovakia	6
GB	18	Spain	1
Germany	32	Sweden	5
Hungary	1	Switzerland	5
India	2	Ukraine	5
Israel	13	USA	258
Italy	9	Venezuela	2
Japan	328		

Total: 34 countries
853 participants (including exhibitors)

II. Satellites Conferences to LT24

Conference on Vortex Rings and Filaments in Classical and Quantum Systems

6 - 8 June 2005, Miramare - Trieste, Italy (<http://users.ictp.trieste.it/~smr1661/>)

Workshop on New Experimental Techniques for the Study of Quantum Turbulence

9 - 10 June 2005, Miramare - Trieste, Italy (<http://users.ictp.trieste.it/~smr1661/>)

11th International Workshop on Low Temperature Detectors (LTD-11)

31 July -- 5 August 2005, Takeda Hall, University of Tokyo, Tokyo, Japan

<http://www.astro.isas.jaxa.jp/ltd11/>

Physical Phenomena at High Magnetic Fields - V (PPHMF-V)

5 - 9 August 2005, [National High Magnetic Field Laboratory \(NHMFL\)](#), Tallahassee, Florida

<http://pphmf5.magnet.fsu.edu/>

Ultra-Low Temperature Physics Conference 2005 (ULT 2005)

18 - 20 August 2005, University of Florida, Gainesville, Florida

<http://www.clas.ufl.edu/ULT2005/>

**6th International Symposium on Crystalline Organic Metals,
Superconductors, and Ferromagnets**

11 - 16 September 2005, Wyndham Casa Marina Resort, Key West, Florida

<http://iscom.magnet.fsu.edu/>

III. Committees

Organizing Committee

Chair: Gary G. Ihas, University of Florida, USA
Secretary: Mark W. Meisel, University of Florida, USA
Publications: Yasu Takano, University of Florida, USA

Program Committee

Chair: A. M. Goldman, University of Minnesota, Minneapolis, USA

Section A: Quantum Gases, Fluids and Solids

Director: J. Beamish, University of Alberta, Edmonton, Canada
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T.-L. Ho, Ohio State University, Columbus, USA
I. A. Fomin, Kapitza Institute, Moscow, Russia
J. E. Thomas, Duke University, Durham, USA

Section B: Superconductivity

Co-Director: K. A. Moler, Stanford University, Stanford, USA
Co-Director: M. R. Beasley, Stanford University, Stanford, USA
P. B. Littlewood, University of Cambridge, Cambridge, UK
F. Steglich, Max Planck Institute, Dresden, Germany
M. Randeria, Ohio State University, USA

Section C: Magnetism and Properties of Solids

Director: I. K. Schuller, University of California, San Diego, USA
C. Pepin, CEA-Saclay, Gif-sur-Yvette, France
S. Sachdev, Yale University, New Haven, USA
H. Tanaka, Tokyo Institute of Technology, Tokyo, Japan

Section D: Conducting Electrons in Condensed Matter

Director: D. C. Ralph, Cornell University, Ithaca, USA
R. H. McKenzie, University of Queensland, Brisbane, Australia
V. J. Goldman, State University of New York, Stony Brook, USA
Y. Iye, University of Tokyo, Tokyo, Japan

Section E: Materials, Techniques, and Applications

Director: G. M. Seidel, Brown University, Providence, USA

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J. R. Owers-Bradley, University of Nottingham, Nottingham, UK
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Laboratory, Los Alamos, NM
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Andrew Millis, Columbia University, New York, NY
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Zlatko Tesanovic, Johns Hopkins University, Baltimore, MD
John E. Thomas, Duke University, Durham, NC
Daniel C. Tsui, Princeton University, Princeton, NJ
Stephan von Molnar, Florida State University, Tallahassee, FL
Clare C. Yu, University of California, Irvine, CA
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Invited Speakers

Jan Aarts, Leiden University, Netherlands
Yoichi Ando, Materials Science Research Laboratory, CRIEPI, Tokyo, Japan
Sébastien Balibar, Ecole Normale Supérieure, Paris, France
Dimitri N. Basov, University of California, San Diego, USA
Ernst Bauer, Vienna University of Technology, Wien, Austria
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Cheng Chin, University of Chicago, USA
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Yuichiro K. Kato, University of California, Santa Barbara, USA
Shingo Katsumoto, University of Tokyo, Japan
Wolfgang Ketterle, Massachusetts Institute of Technology, Cambridge, USA
Alexander V. Khaetskii, Institute of Microelectronics Technology, RAS, Mos-
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Jinhee Kim, Korea Research Institute of Standards and Tech., Yuseong Daejeon,
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Teunis M. Klapwijk, Delft University of Technology, Netherlands
Yoonseok Lee, University of Florida, Gainesville, USA
Philippe Lerch, Paul Scherrer Institute, Villigen, Switzerland
Brian J. LeRoy, Delft University of Technology, Netherlands
Ying Liu, Pennsylvania State University, University Park, USA
Andy P. Mackenzie, University of St. Andrews, Scotland
Jan Martinek, Institute of Molecular Physics, Polish Academy of Sciences,
Poznan, Poland
Nadya Mason, Harvard University, Cambridge, USA
Peter P. V. McClintock, Lancaster University, UK
Joel Mesot, Paul Scherrer Institut, Villigen, Switzerland
Kazumasa Miyake, Osaka University, Japan
Naoto Nagaosa, University of Tokyo, Japan
Yasunobu Nakamura, NEC, Tsukuba, and RIKEN, Wato, Japan
Joseph J. Niemela, Abdus Salam International Centre for Theoretical Physics, Tri-
este, Italy
Takuji Nomura, Japan Atomic Energy Research Institute, Hyogo, Japan
Alžbeta Orendáčová, Šafárik University, Košice, Slovakia
Douglas D. Osheroff, Stanford University, USA
Richard E. Packard, University of California, Berkeley, USA
Wei Pan, Sandia National Laboratories, Albuquerque, USA
Christos Panagopoulos, University of Cambridge, UK
Jukka Pekola, Helsinki University of Technology, Finland

Emil Polturak, Technion, Haifa, Israel
 Nikolai V. Prokof'ev, University of Massachusetts, Amherst, USA
 Mohit Randeria, Ohio State University, Columbus, USA
 Christian Ruegg, University College, London, UK
 Daniel Rugar, IBM Almaden Research Center, San Jose, USA
 Tarek Saab, NASA Goddard Space Flight Center, Greenbelt, USA
 Peter Samuelsson, Lund University, Sweden
 James A. Sauls, Northwestern University, Evanston, USA
 John Saunders, University of London, Egham, UK
 Vera Sazonova, Cornell University, Ithaca, USA
 Robert J. Schoelkopf, Yale University, New Haven, USA
 Keiya Shirahama, Keio University, Yokohama, Japan
 Mika Sillanpää, Helsinki University of Technology, Finland
 Oliver Stockert, Max-Planck-Institute for Chemical Physics of Solids, Dresden, Germany
 Christoph Strunk, University of Regensburg, Germany
 Masashi Takigawa, University of Tokyo, Japan
 John E. Thomas, Duke University, Durham, USA
 Erkki Thuneberg, University of Oulu, Finland
 Jose-Luis Vicent, Universidad Complutense de Madrid, Spain
 W. F. Vinen, University of Birmingham, UK
 Grigory Volovik, Landau Institute, Moscow, Russia, & Helsinki University of Tech., Finland
 Nobuo Wada, Nagoya University, Japan
 Hideo Yano, Osaka City University, Japan
 Eli Zeldov, Weizmann Institute, Rehovot, Israel
 Andrey Zheludev, Oak Ridge National Laboratory, USA
 Alexander Zimmers, University of Maryland, College Park, US

IV. NSF Travel Grants

Conf.Fee Waived	Paid at Conf.	Name	Title	Institution
400	500	Jorge	Dr.	University of Buenos Aires
400	750	Hallberg	Dr.	Centro Atomico Bariloche and Instituto Balseiro
400	500	CASTRO	Prof.	Universidad de los Andes
250	0	Geveden	Mr.	NASA
400	0	Packard	Prof.	University of California
100	300	Karvonen	Ms.	University of Jyvaskyla
100	300	Zou	Ms.	Royal Holloway, University of London
400	0	Wallraff	Dr.	Yale University
400	0	Folk	Prof.	University of British Columbia
400	500	Orendacova	Dr.	P.J. Safarik University
400	0	Zeldov	Prof.	Weizmann Institute of Science
400	0	Bauer	Prof.	Vienna University of Technology
100	300	Marrache-Kikuchi	Ms.	CSNSM
100	300	Martin	Ms.	Lancaster University

100	300	Okamoto	Ms.	Kyoto University
400	500	Millan	Dr.	Universidad Autonoma del Carmen
400	0	Pugh	Dr.	University of Cambridge
100	500	Bose	Ms.	Tata Institute of Fundamental Research
5250	4750			
Total=	10000			