Protostars and Planets V

Hilton Waikoloa Grand Ballroom

Oral Program

Speakers are listed in italics

MONDAY October 24, 2005

6:45 a.m. - 8:00 a.m. Breakfast and Posters

Chair morning session: Ewine van Dishoeck

8:00 a.m. - 8:15 a.m. Welcome

I. CLOUDS AND CORES

8:15 a.m. - 8:50 a.m.
Giant Molecular Clouds in Galaxies
Leo Blitz, Yasuo Fukui, Akiko Kawamura, Adam Leroy, Norikazu Mizuno, Erik Rosolowsky

8:50 a.m. - 9:25 a.m.
Near-Infrared Extinction and the Structure and Nature of Molecular Clouds
Charles J. Lada, João F. Alves, Marco Lombardi, and Elizabeth A. Lada

9:25 a.m. - 10:00 a.m.
Molecular Cloud Turbulence and Star Formation
Javier Ballesteros-Paredes, Ralf S. Klessen, Mordecai-M. Mac Low, Enrique Vazquez-Semadeni

10:00 a.m. - 10:30 a.m. Break and Posters

10:30 a.m. - 11:05 a.m.
Structure and Evolution of Low Mass Dense Cores: An Observational Perspective
James Di Francesco, Philippe André, Derek Ward-Thompson, Paola Caselli, Mario Tafalla, Philip C. Myers, Neal J. Evans, Yancy L. Shirley, Yuri Aikawa, Doug Johnstone, Richard M. Crutcher, Christine D. Wilson, and Toshikazu Onishi

11:05 a.m. - 11:40 a.m.
Extreme Deuteration and Hot Corinos:
The Earliest Signatures of Low-Mass Star Formation
Cecilia Ceccarelli, Paola Caselli, Xander Tielens, Eric Herbst, and Emmanuel Caux
II. STAR FORMATION AND PROTOSTARS

11:40 a.m. - 12:15 p.m.
Current Advances in the Computational Simulation of the Formation of Low-Mass Stars
Richard I. Klein, Shu-ichiro Inutsuka, Paolo Padoan, Kohji Tomisaka

12:15 p.m. - 1:45 p.m. Lunch

Chair afternoon session: Hans Zinnecker

1:45 p.m. - 2:20 p.m.
Stellar Properties of Embedded Protostars
R. White, T. Greene, G. Doppmann, L. Hillenbrand, and K. Covey

2:20 p.m. - 2:55 p.m.
The Origin of the IMF
Ian A. Bonnell, Richard B. Larson and Hans Zinnecker

2:55 p.m. - 3:30 p.m.
Fragmentation of Cores and the Origin of the Primordial Binary Population
Simon Goodwin, Andi Burkert, Alyssa Goodman, and Pavel Kroupa

3:30 p.m. - 4:00 p.m. Break and Posters

III. BINARIES AND MULTIPLES

4:00 p.m. - 4:35 p.m.
New Observational Frontiers in the Multiplicity of Young Stars
Gaspard Duchêne, Karl E. Haisch Jr, Laurent Loinard, Luis F. Rodríguez, and Eduardo Delgado-Donate

4:35 p.m. - 5:10 p.m.
Disk Evolution in Young Binaries: From Observations to Theory
J.-L. Monin, C. Clarke, L. Prato, and C. McCabe

5:10 p.m. - 5:45 p.m.
The Masses of Pre-Main-Sequence Stars:
Fundamental Tests of the Physics of Young Stars
R. Mathieu, K. Stassun, I. Baraffe, M. Simon, and R. White
TUESDAY October 25, 2005

6:45 a.m. - 8:00 a.m. Breakfast and Posters

Chair morning session: Sylvie Cabrit

IV. NEWBORN MASSIVE STARS

8:00 a.m. - 8:35 a.m.
Ultracompact HII Regions and the Early Lives of Massive Stars
Melvin Hoare, Peter Hofner, Eric Keto, Stan Kurtz, and Susana Lizano

8:35 a.m. - 9:10 a.m.
The Formation of Massive Stars
Henrik Beuther, Ed Churchwell, Christopher McKee, Jonathan Tan

9:10 a.m. - 9:45 a.m.
Disks around Young O-B (Proto)Stars: Observations and Modeling
R. Cesaroni, D. Galli, G. Lodato, C.M. Walmsley, and Q. Zhang

9:45 a.m. - 10:15 a.m. Break and Posters

V. JETS AND OUTFLOWS

10:15 a.m. - 10:50 a.m.
Observations of Jets and Outflows from Young Stars
John Bally, Bo Reipurth, and Chris Davis

10:50 a.m. - 11:25 a.m.
Jets and Bipolar Outflows from Young Stars: Theory and Observational Tests
Hsien Shang, Zhi-Yun Li, Frank H. Shu, and Naomi Hirano

11:25 a.m. - 12:00 p.m.
Resolving the Central Engine: An Observational Perspective
Tom Ray, Catherine Dougados, Francesca Bacciotti, Jochen Eislöffel, and Antonio Chrysostomou

12:00 p.m. - 1:30 p.m. Lunch

Chair afternoon session: Thierry Montmerle

1:30 p.m. - 2:05 p.m.
Disk Winds, Jets, and Outflows: Theoretical and Computational Foundations
R.E. Pudritz, R. Ouyed, Ch. Fendt, and A. Brandenburg
2:05 p.m. - 2:40 p.m.  
**Molecular Outflows from Newborn Stars**  
Hector G. Arce, Chin-Fei Lee, Frédéric Gueth, Debra Shepherd, Rafael Bachiller, Alex Rosen, and Henrik G. Beuther

VI. CLUSTERS AND ASSOCIATIONS

2:40 p.m. - 3:15 p.m.  
**The Structure and Evolution of Young Stellar Clusters**  
Lori Allen, Tom Megeath, Phil Myers, Scott Wolk, Judy Pipher, Rob Gutermuth, James Muzerolle, Erick Young, and Fred Adams

3:15 p.m. - 3:45 p.m. Break + Posters

3:45 p.m. - 4:20 p.m.  
**X-ray Properties of Young Stars and Stellar Clusters**  
Eric Feigelson, Manuel Guedel, Keivan Stassun, and Leisa Townsley

4:20 p.m. - 4:55 p.m.  
**The Taurus Molecular Cloud:**  
   - Multi-Wavelength Surveys with XMM-Newton, Spitzer Space Telescope, and CFHT  
M. Guedel & the XMM-Newton-Taurus Team,  
D. Padgett & the Spitzer-Taurus Team,  
C. Dougados & the CFHT-Taurus Team

4:55 p.m. - 5:30 p.m.  
**The Low-Mass Populations in OB Associations**  
Cesar Briceño, Thomas Preibisch, Bill Sherry, Eric Mamajek, Robert Mathieu, Fred Walter, and Hans Zinnecker

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WEDNESDAY October 26, 2005

6:45 a.m. - 8:00 a.m.  
Breakfast and Posters

Chair morning session: David Hollenbach

VII. T TAURO STARS AND DISKS

8:00 a.m. - 8:35 a.m.  
**Star-Disk Interaction and Magnetospheric Accretion in Classical T Tauri Stars**  
J. Bouvier, S. Alencar, T. Harries, C.M. Johns-Krull, and M. Romanova
8:35 a.m. - 9:10 a.m.  
**Rotation: From Solar-Mass Stars to Brown Dwarfs**  
*W. Herbst, J. Eislöffel, R. Mundt, and A. Scholz*

9:10 a.m. - 9:45 a.m.  
**Molecular Disks: Mm/Submm Interferometric Observations and their Interpretations**  
*A. Dutrey, S. Guilloteau, and P. Ho*

9:45 a.m. - 10:20 a.m.  
**Gas in Inner Disks**  
Joan Najita, Al Glassgold, *John Carr*, and Jeff Valenti

10:20 a.m. - 10:50 a.m. **Break and Posters**

10:50 a.m. - 11:25 a.m.  
**Multiwavelength Imaging of Young Stellar Object Disks: Toward an Understanding of Disk Structure and Dust Grain Evolution**  

11:25 a.m. - 12:00 p.m.  
**Spatially Resolved Observations of the Close Circumstellar Environment of Young Stars and Implications for Star, Disk and Planet Formation**  

12:00 p.m. - 12:35 p.m.  
**Models of Disk Structure, Spectra, and Evaporation**  
Cornelis Dullemond, David Hollenbach, *Inga Kamp*, and Paola D’Alessio

12:35 p.m. - 1:10 p.m.  
**Evolution of Circumstellar Disks Around Sun-like Stars: Placing Our Solar System in Context**  
*Michael R. Meyer*, Dana E. Backman, Alycia Weinberger, and Mark C. Wyatt

Afternoon free

6:30 p.m. - 9:00 p.m.  
**Conference Dinner for All Participants in the Grand Ballroom**
THURSDAY October 27, 2005

6:45 a.m. - 8:00 a.m. Breakfast and Posters

Chair morning session: Isabelle Baraffe

VIII. BROWN DWARFS

8:00 a.m. - 8:35 a.m. The Formation of Brown Dwarfs: Theory
Anthony Whitworth, Matthew Bate, Aake Nordlund, Bo Reipurth, and Hans Zinnecker

8:35 a.m. - 9:10 a.m. The Formation of Brown Dwarfs: Observations
Kevin Luhman, Charles J. Lada, James Muzerolle, Ilaria Pascucci, Viki Joergens, and Russel White

9:10 a.m. - 9:45 a.m. Not Alone: Tracing the Origins of Very Low Mass Stars and Brown Dwarfs through Multiplicity Studies
Adam J. Burgasser, Nick Siegler, Peter Allen, Laird Close, Patrick Lowrance, John Gizis, and I. Neill Reid

9:45 a.m. - 10:15 a.m. Break and Posters

IX. PLANET FORMATION AND EVOLUTION

10:15 a.m. - 10:50 a.m. Formation of Gas Giant Planets
Jack J. Lissauer and David J. Stevenson

10:50 a.m. - 11:25 a.m. Gravitational Instabilities in Gaseous Protoplanetary Disks and Implications for Giant Planet Formation
Richard H. Durisen, Alan P. Boss, Lucio Mayer, Andrew F. Nelson, Tom Quinn, W.K.M. Rice

11:25 a.m. - 12:00 p.m. Gaseous Planets and Protostars: Birth and Fate
G. Chabrier, I. Baraffe, F. Selsis, T. Barman, and P. Hennebelle

12:00 p.m. - 1:15 p.m. Lunch
Chair afternoon session: Yvonne Pendleton

1:15 p.m. - 1:50 p.m.
**The Diverse Origins of Terrestrial-Planet Systems**
Makiko Nagasawa, *Ed Thommes*, Doug Lin, and Scott Kenyon

1:50 p.m. - 2:25 p.m.
**Disk-Planet Interactions during Planet Formation**
John Papaloizou, *Richard Nelson*, Willy Kley, Frédéric Masset, and Pawel Artymowicz

2:25 p.m. - 3:00 p.m.
**Planet Migration in Debris Disks**
H. Levison, A. *Morbidelli*, R. Gomes, K. Tsiganis, and D.A. Backman

3:00 p.m. - 3:30 p.m. **Break and Posters**

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**X. EXTRASOLAR PLANETS**

3:30 p.m. - 4:05 p.m.
**A Decade of Radial-Velocity Exoplanet Discoveries**
S. *Udry*, D. Fischer and D. Queloz

4:05 p.m. - 4:40 p.m.
**When Extrasolar Planets Transit Their Parent Stars**
David Charbonneau, *Timothy M. Brown*, Adam Burrows, and Gregory Laughlin

4:40 p.m. - 5:15 p.m.
**Direct Imaging of Extra-Solar Planets**
J.-L. Beuzit, D. Mouillet, *B. Oppenheimer*, and J. Monnier

5:15 p.m. - 5:50 p.m.
**Atmospheres and Evolution of Extrasolar Giant Planets**
*Mark Marley*, Jonathan Fortney, Sara Seager, and Travis Barman

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7:30 p.m. - 10:00 p.m.
Chair evening session: Stephen Unwin
**Beaches Beyond Earth: Future Studies of Extrasolar Planets**
A special session organized by NASA/JPL
FRIDAY October 28, 2005

6:45 a.m. - 8:00 a.m. Breakfast and Posters

Chair morning session: Thomas Henning

XI. DUST AND PROTOPLANETARY DISKS

8:00 a.m. - 8:35 a.m.
The Chemical Evolution of Proto-Planetary Disks
Edwin Bergin, Yuri Aikawa, Geoffrey Blake, and Ewine van Dishoeck

8:35 a.m. - 9:10 a.m.
Dust in Protoplanetary Disks: Properties and Evolution
A. Natta, N. Calvet, Th. Henning, L. Testi, L. Waters and D. Wilner

9:10 a.m. - 9:45 a.m.
Aggregation and Transport of Dust in Disks as Initial Steps toward Planet Formation
Carsten Dominik, Jürgen Blum, Jeffrey Cuzzi, and Gerhard Wurm

9:45 a.m. - 10:15 a.m. Breakfast and Posters

XII. EARLY SOLAR SYSTEM

10:15 a.m. - 10:50 a.m.
A Brief History of Trans-Neptunian Space
Eugene Chiang, Marc Buie, Matthew Holman, and Yoram Lithwick

10:50 a.m. - 11:25 a.m.
Physical Properties of Trans-Neptunian Objects
Dale P. Cruikshank, Antonella Barucci, Joshua P. Emery, Yanga Fernández, Will Grundy, Keith Noll, and John A. Stansberry

11:25 a.m. - 12:00 p.m.
Water in Small Solar System Bodies
David Jewitt, Robert Grimm, Lysa Chizmadia, and Dina Prialnik

12:00 p.m. - 1:30 p.m. Lunch
Chair afternoon session: Karen Meech

1:30 p.m. - 2:05 p.m.
Comet Grains and Implications for Heating and Radial Mixing in the Protoplanetary Disk

2:05 p.m. - 2:40 p.m.
Astronomical and Meteoritic Evidence for Thermal Processing of Interstellar Dust in Protoplanetary Disks
C.M.O’D. Alexander, A.P. Boss, L.P. Keller, J.A. Nuth, and A. Weinberger

2:40 p.m. - 3:15 p.m.
From Dust to Planetesimals:
Time Scales from Short-lived Radionuclides in the Early Solar System

3:15 p.m. - 3:45 p.m. Break and Posters

3:45 p.m. - 4:20 p.m.
Origin and Evolution of Oxygen Isotopic Compositions of the Solar System
Hisayoshi Yurimoto, Alexander N. Krot, Jeffrey N. Cuzzi, Kiyoshi Kuramoto, Mark H. Thiemens, James R. Lyons, and Edward R. D. Scott

XIII. ASTROBIOLOGY

4:20 p.m. - 4:55 p.m.
From Protoplanets to Protolife: The Emergence and Maintenance of Life
Eric Gaidos, Nicholas Moskovitz and Franck Selsis

4:55 p.m. - 5:05 p.m. Closing Remarks