

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, *Joao 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

WEDNESDAY October 26, 2005

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

Chair morning session: David Hollenbach

VII. T TAURI 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. Eisloffel, 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

Francois Ménard, Karl Stapelfeldt, Kenneth Wood, Alan Watson

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**

Rafael Millan-Gabet, F. Malbet, R. Akeson, Ch. Leinert, J. Monnier, and L.B.F.M. Waters

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** _____

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

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. **Break 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

D. H. Wooden, S. J. Desch, H.-P. Gail, *D. E. Harker*, and L. P. Keller

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

M. Wadhwa, Y. Amelin, A. M. Davis, G. W. Lugmair, B. Meyer, M. Gounelle, and S. Desch

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. Thieme, 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 Moskowitz and Franck Selsis

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