

Curriculum Vitae of Dániel Apai

Born: Jan 11, 1977
Citizenship: Hungarian

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Research Interests

Planetary Sciences, Star and Planet Formation, Astrobiology

Education/Employment

2008- Assistant Astronomer, Science Policies Group,
Space Telescope Science Institute, Baltimore
2004 Research Associate, Steward Observatory and Laplace Astrobiology Center
2004 PhD, Max Planck Institute for Astronomy, Advisor: Th. Henning
2000 Researcher-Grade University Diploma in Physics, University of Szeged, Hungary

Languages: Hungarian (mother tongue), English and German (fluent), Italian (basic)

Professional Memberships

International Astronomical Union, Meteoritical Society, American Astronomical Society,
American Association for the Advancement of Science, Astrobiology Society

Awards

2004 Patzer Prize for the best publication at the MPA in 2004 (with I. Pascucci)
2000 Fellowship, German Academic Exchange Office
1999 Award of Excellence from the Hungarian Republic
1998 Erasmus Undergraduate Fellowship

Teaching Experience

2006 Lead of the Bok 90" Telescope Activity in the Laplace Astrobiology School
2003 Undergraduate Astronomy Lab Lead, 8 hours/week at Univ. of Heidelberg

Graduate Students Supervised

Veselin Kostov, Johns Hopkins University, 2009-
Justin Rogers, Johns Hopkins University, 2008-

Undergraduate Students

Laszlo Szűcs, 2009
Emily Hardegree-Ullman, 2006
Yancey Sechrest, 2005

Additional Training

2007 Evolutionary Watersheds Workshop, Biosphere 2, Arizona
2005 Friday Harbor Marine Biology Workshop, Washington State
2002 Optical Interferometry Winter School, Les Houches, France
2000 NEON Observing School, Calar Alto Observatories, Spain

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Major Telescope Time Allocations as PI include

VLT: NACO (10 nights), ISAAC (3 nights), HAWK-I (2 nights),
MMT (20 nights), Spitzer (60 hours), Gemini/Michelle, IRAM-30m

Service as Reviewer or Referee

- Referee for the *Astrophysical Journal*, *Astronomy & Astrophysics* (repeatedly)
- 2009 Member, HST Director's Discretionary Time Committee
- 2008 Giacconi Fellowship Committee
- 2008 Reviewer, Swiss National Science Foundation
- 2008 Reviewer, NASA Astrobiology Institute, Director's Discretionary Funds
- 2008 Time Allocation Committee, Hubble Space Telescope
- 2007 Panelist, NASA's Kepler Mission Program Review
- 2006 Reviewer for the NASA *Postdoctoral Fellowship* program
- 2006 Reviewer for the NASA *Origins of Solar Systems* program

Meeting Organization and Community Service

- 2009 STScI–JHU Astrobiology Seminars: *Life, Planets, and Universe*
- 2009 Organizing Committee, Decadal Survey Townhall Discussion, Baltimore
- 2009 SOC, Beyond JWST: Next Steps in UV/OPT/NIR Space Astronomy, Baltimore
- 2008 Member of the Executive Council Nomination Committee, Astrobiology Society
- 2007 Science Program Committee member for 70th Annual Meteoritical Society Meeting
- 2007 Organizer: Special Session at the Annual Meteoritical Society Meeting
- 2006 Organizer: Cool Stars Splinter Session: Disks around Cool Stars and Brown Dwarfs
- 2006 Organizer: Planet Formation Workshop, Tucson (40 participants)
- 2005 Organizing Committee of the Laplace Astrobiology School 2006
- 2005-7 Organizer of the Laplace Astrobiology Lunch Series (~1,100+ participants in total)
- 2004-7 Organizer of the Laplace Astrobiology Journal Club
- 2003 Local Organizing Committee: DARWIN/TPF Meeting, Heidelberg

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Research Grants

Year	Program	PI	Grant (USD)
2009	NSF Stellar Astronomy & Astrophysics [Pending] <i>Ground-based Chemical Composition studies of exoplanetary atmospheres via primary transits</i>	M. Lopez-Morales	763,960
2009	NASA Astrobiology [Pending] <i>Icy Planetesimals and the Delivery of Volatiles to Forming Planets</i>	D. Apai	697,000
2009	STScI Director's Discretionary Funds <i>A JHU-STScI Astrobiology Seminar Series</i>	D. Apai	10,000
2009	NASA Origins [Pending] <i>Exploring the Giant Planet Population via High-Contrast Imaging</i>	D. Apai	419,800
2009	NSF Stellar Astronomy & Astrophysics <i>Physical Properties of Hot Jupiters from Ground-based Eclipse Photometry</i>	M. Lopez-Morales	319,000
2009	Hubble Data Analysis, 75 orbits	M. Robberto	280,564
2008	STScI Director's Discretionary Funds	D. Apai	44,268
2008	Spitzer Data Analysis	A. Kóspál	61,953
2007	Spitzer Data Analysis	P. Ábrahám	46,920
2006	Spitzer Data Analysis	D. Apai	103,670
2006	Spitzer Data Analysis	I. Pascucci	43,282
2006	Hubble Data Analysis	C. Grady	149,859
2005	Spitzer Data Analysis	S. Mohanty	34,230
2005	Spitzer Data Analysis	P. Abraham	62,510
2005	Spitzer Data Analysis	J. Bouwman	40,529
2004	Spitzer Data Analysis	D. Apai	61,578

Publication List

**36 refereed papers, 11 as first author, 13 as second author, 540+ citations [ADS]
1 book edited**

36 J. Rogers, **D. Apai**, M. Lopez-Morales, D. K. Sing, A. Burrows, ApJ 2009, in press:
*Ks-band Detection of Thermal Emission and Color Constraints to CoRoT-1b:
A Low-albedo Planet with Inefficient Atmospheric Energy Redistribution and Temperature Inversion*

35 M. Kasper, P. Amico, E. Pompei, N Ageorges, **D. Apai**, et al. ESO Messenger 137, 8
Direct Imaging of Exoplanets and Brown Dwarfs with the VLT/NACO Pupil-Stabilized Lyot Coronagraphy at 4 micron

34 C. Grady and 26 authors, including **D. Apai**, 2009 ApJ 699, 1822:
Revealing the Structure of a Pre-Transitional Disk: The Case of the Herbig F Star HD 135344B

33 M. Janson, **D. Apai**, M. Zechmeister, W. Brandner, M. Kürster, M. Kasper, S. Reffert, M. Endl, D. Lafreniere, K. Geißler, S. Hippler, Th. Henning, 2009 MNRAS, in press:
Imaging search for the unseen companion to ϵ Ind A - Improving the detection limits with 4 μ m observations

32 A-M. Lagrange, M. Kasper, A. Boccaletti, G. Chauvin, D. Gratadour, T. Fusco, D. Ehrenreich, **D. Apai**, D. Mouillet 2009 A&A, in press:
Constraining the Orbit of the Possible Companion to Beta Pictoris – New Deep Imaging

31 A. Moór, **D. Apai**, I. Pascucci, P. Ábrahám, C. Grady, Th. Henning, A. Juhász, Cs. Kiss, Á. Kóspál 2009 ApJ 700, L25:
The discovery of New Warm Debris Disks around F-type Stars

30 **D. Apai** 2009 Earth, Moon & Planets, 105, 311
The Origins of Planetary Systems: Constraints and Challenges

29 G. Meeus, A. Juhász, Th. Henning, J. Bouwman, C. Chen, Lawson, **D. Apai**, I. Pascucci, Sicilia-Aguilar 2009 A&A, 497, 379:
MBM 12: Young Protoplanetary Disks at High Galactic Latitude

28 **D. Apai**, D. Lauretta 2010, review in *Protoplanetary Dust* book, Cambridge Univ. Press
Protoplanetary Dust and Planet Formation

27 I. Pascucci, **D. Apai**, K. Luhman et al. 2008 ApJ 696, 143
The different evolution of gas and dust in disks around sun-like and cool stars

26 A. Gáspár, G. H. Rieke, K. Y. L. Su, Z. Balog, D. Trilling, J. Muzzerole, **D. Apai**, Kelly, B. ApJ 697, 1578: *The low level of debris disk activity at the time of the Late Heavy Bombardment: a Spitzer study of Praesepe*

25 **D. Apai**, H. C. Connolly, Jr., D. Lauretta 2010, review in *Protoplanetary Dust* (Cambridge University Press): *Thermal processing in Protoplanetary Nebulae*

24 A. Juhász, Th. Henning, J. Bouwman, C. P. Dullemond, I. Pascucci, **D. Apai** 2009 ApJ 695, 1024: *Do we really know the dust? Systematics and Uncertainties of the spectral decomposition method*

Publication List

- 23 Á. Kóspál, P. Ábrahám, **D. Apai**, D. R. Ardila, C. A. Grady, Th. Henning, A. Juhász, W. D. Miller, A. Moór 2008 MNRAS 383, 1015: *High-resolution polarimetry of Parsamian 21: revealing the structure of an edge-on FU Ori disc*
- 22 **D. Apai**, M. Janson, A. Moro-Martín, M. R. Meyer et al. 2008 ApJ 672, 1196
A Survey for Massive Giant Planets in Debris Disks with Evacuated Inner Cavities
- 21 I. Pascucci, **D. Apai**, E. Hardegree-Ullman, J.-S. Kim, J. Bouwman, M. R. Meyer 2008 ApJ 673, 477
Intermediate-separation binaries do not affect the early stages of planet formation
- 20 M. Kasper, **D. Apai**, M. Janson, W. Brandner 2007 A&A 472, 312
An L-band imaging search for giant planets in the Tucana and β Pictoris moving groups
- 19 S. P. Quanz, **D. Apai**, Th. Henning 2007 ApJ 656, 287
Dust Rings and Filaments around the Isolated Young Star V1331 Cygni
- 18 **D. Apai**, A. Bik, L. Kaper, Th. Henning, H. Zinnecker 2007 ApJ 655, 484
Massive Binaries in High-Mass Star-Forming Regions: A Multi-Epoch Radial Velocity Survey of Embedded O-Stars
- 17 C. P. Dullemond, **D. Apai**, S. Walch 2006 ApJ 640, 67:
Crystalline silicates as a probe of disk formation history
- 16 A. Móór, P. Ábrahám, A. Derekas, Cs. Kiss, L. L. Kiss, **D. Apai**, C. Grady, Th. Henning 2006 ApJ 644, 525:
Nearby debris disk systems with high fractional luminosity reconsidered
- 15 **D. Apai**, I. Pascucci, J. Bouwman, A. Natta, Th. Henning, C. P. Dullemond 2005 Science 310, 834: *The onset of planet formation in brown dwarf disks*
- 14 E. Puga, M. Feldt, C. Alvarez, Th. Henning, **D. Apai**, E. Le Coared, A. Chalabaev, B. Stecklum 2006 ApJ 641, 373: *Outflows, disks, and stellar content in a region of high-mass star formation: G5.89-0.39 with adaptive optics*
- 13 **D. Apai**, H. Linz, Th. Henning, B. Stecklum 2005 A&A 434, 987:
Infrared portrait of the nearby massive star-forming region IRAS 09002-4732
- 12 **D. Apai**, L. V. Tóth, Th. Henning, R. Vavrek, Z. Kovács, D. Lemke 2005 A&A 433, L33: *HST/NICMOS observations of a proto-brown dwarf candidate*
- 11 M. F. Sterzik, I. Pascucci, **D. Apai**, N. van der Bliet, C. P. Dullemond 2004 A&A 427, 245: *Evolution of young brown dwarf disks in the mid-infrared*
- 10 **D. Apai**, I. Pascucci, M. F. Sterzik, N. van der Bliet, J. Bouwman, C. P. Dullemond, Th. Henning 2004 A&A 426, L53: *Grain growth and dust settling in a brown dwarf disk. Gemini/TReCS observations of CFHT-BD-Tau 4*
- 9 H. Wang, Th. Henning, **D. Apai**, R. Mundt 2004 ApJ 617, 1191:
Optical Outflows in the R Coronae Australis Molecular Cloud
- 8 I. Pascucci, **D. Apai**, B. Stecklum, Th. Henning, B. Brandl 2004 A&A 426, 523:
The Hot Core – UCHII Connection in G10.47

Publication List

- 7 M. Kun, **D. Apai**, I. Pascucci, S. Nikolic, M. Eredics, 2004, BaltA, 13, 434:
Initial Conditions of Low, Intermediate and High Mass Star Formation
- 6 C. Grady, B. Woodgate, C. A. O. Torres, Th. Henning, **D. Apai**, and 11 coauthors 2004 ApJ 608,
809: The Environment of the Optically Brightest Herbig Ae Star HD 104237
- 5 H. Wang, **D. Apai**, Th. Henning, I. Pascucci 2004 ApJ 601, L83:
FU Orionis – A Binary Star?
- 4 **D. Apai**, I. Pascucci, W. Brandner, Th. Henning, R. Lenzen, D. E. Potter,
A.-M. Lagrange, G. Rousset 2004 A&A 415, 671: NACO Polarimetric Differential Imaging of TW
Hya: A Sharp Look at the Closest T Tauri Disk
- 3 I. Pascucci, **D. Apai**, Th. Henning, C. P. Dullemond 2003 ApJ 590, L111:
The First Detailed Look at a Brown Dwarf Disk
- 2 R. Klein, **D. Apai**, I. Pascucci, Th. Henning, L. B. F. M. Waters 2003 ApJ 593, L57:
First Detection of Millimeter Dust Emission from Brown Dwarf Disks
- 1 **D. Apai**, I. Pascucci, Th. Henning and 4 coauthors 2002 ApJ 573, L115:
Probing Dust around Brown Dwarfs: The naked LP 944-20 and the Disk of ChaH α 2

Books

Protoplanetary Dust: The Astrophysical and Cosmochemical Perspectives
Editors: **D. Apai** and D. Lauretta
Planetary Science Series, Cambridge University Press,
Edited volume, 450 pp., 21 authors, 40 referees
Publication: in press, to Feb 2010

Thesis and Dissertation

- D. Apai 2004 PhD Thesis, University of Heidelberg
Exploring the environment of young stars: disks, companions, and clusters
- D. Apai 2000 MSc Thesis, University of Szeged
Multi-wavelength study of ultracompact HII regions

Selected Public Outreach Activities

- STScI Public Lecture, 2009
Toward Earth's Origins: A Voyage through Astronomy, Meteoritics, and Deserts
- D. Apai, 2006 SETI Explorer Magazine
Forming Planets around Brown Dwarfs
- D. Apai, R. Vavrek, 2003, Hungarian Annuals of Astronomy
The Formation of Massive Stars

Recent Talks

Selected Recent Talks

Astrobio2010, Santiago de Chile, Jan 2010, Invited Talk

The Formation of Habitable Planetary Systems

Exoplanet Club, NASA Goddard Space Flight Center, Nov 2009, Seminar

Gas Giants beyond the Solar System: Direct Imaging and Eclipse Studies

Space Telescope Summer Student Program, Aug 2009, Invited Lecture

The Formation of Stars and Planets: Clues from Astronomy and Meteoritics

Meteoritical Society Workshop, Nancy, France, July 2009, invited talk

Disks around Cool Stars and Sun-like Stars: Differences in Organic Chemistry

Meteoritical Society Meeting, Nancy, France, July 2009, contributed talk

The Evolution of Protoplanetary Dust - The Astrophysical Perspective

Institute of Astronomy, Cambridge University, UK, June 2009

Mini Planetary Systems in the Making: Disks around the Coolest Stars and Brown Dwarfs

Department of Physics, Oxford University, UK, June 2009

Gas Giants Beyond the Solar System: Characterization of Hot Exoplanets

Imperial College, London, UK, June 2009, Seminar

Mini Planetary Systems in the Making: Disks around the Coolest Stars and Brown Dwarfs

Department of Physics and Astronomy, Johns Hopkins University, April 2009, seminar

Thermal Infrared Imaging of Exoplanets

STScI Public Lectures 2009

Toward Earth's Origins: A Voyage through Astronomy, Meteoritics, and Deserts

Disks & Exoplanets, Hawaii, Mar 2009, invited talk

High-Contrast Imaging at Long Wavelengths: Surveys for Exoplanets

ESO Headquarters, Garching, Star-formation Seminar, Feb 2009

The Properties of Protoplanetary Disks as a Function of Stellar Parameters

Solar-Extrasolar Meeting, NASA Ames Research Center, Feb 2009

Thermal Processing of Planetary Material around Young Stars and the Sun

Space Telescope Science Institute, Sep 2008, Research Seminar

Thermal Processing of Pre-planetary Materials

Future of Ground-based Solar System Research, Elba, Sep 2008, Invited Review

Origins of Solar Systems: Planet formation around the Sun and Other Stars

Vitacura Office, European Southern Observatory, June 2008, Colloquium

Planetary Systems around Cool Stars: Origins and Properties

Astrobiology Science Conference, Santa Clara, May 2008, Contributed Talk

Planets around Dim Red Stars and a Novel Way of Finding Them

Institute of Astronomy, ETH Zürich, Mar 2008, Colloquium

Planets around Cool Stars: Origins and Properties

Physics Department, University of Utah, Salt Lake City, Jan 2008, Colloquium

Planets around Cool Stars: Origins and Properties

American Astronomical Society Meeting, Austin, Jan 2008, Contributed Talk

Surveying Cool Stars in the Solar Neighborhood for Giant Planets

Recent Talks

- Princeton University, Dec 2007, Research Seminar
Planets around Cool Stars: Origins and Properties
- Space Telescope Science Institute, Baltimore, Nov 2007, Colloquium
Planets around Cool Stars: Origins and Properties
- Meteoritical Society Annual Meeting, Tucson, Aug 2007, Contributed talk
Dust Processing and Settling in Brown Dwarf Disks
- Arcetri Astrophysical Observatory, Florence, Italy, June 2007, Colloquium
Exploring Planets around Cool Stars
- Extreme Solar Systems, Santorini, Greece, June 2007, Contributed talk
Planetary Systems around the Coolest Stars: Formation, Properties, and Habitability
- Dept. of Terrestrial Magnetism, Carnegie Inst. of Washington, Jan 2007, Institute Seminar
Planets around Cool Stars: Origins and Properties
- 4th International TPF/DARWIN Workshop, Pasadena, July 2006, Contributed talk
Exploring the Closest Exoplanets through L'-band Angular Differential Imaging
- Cool Stars 14 – Disks around Cool Stars & Brown Dwarfs, Pasadena, 2006, Review Talk
Disk Structure and Mineralogy in Disks around Cool Stars & Brown Dwarfs
- Dust to Planetesimals, Ringberg, Germany, Nov 2006, Contributed talk
Dust Processing in Brown Dwarf Disks

References

Prof. Michael R. Meyer

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