

Vita

Name: Morris Podolak
Arrival in Israel: Sept. 1976
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Date of Birth: March 6, 1949
Citizenship: U.S.A., Israel
Address: Dept. of Geophysics
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Tel Aviv University
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Education

1971-1974	Yeshiva University	Ph.D. (Physics)
1969-1971	Yeshiva University	M.A. (Physics)
1965-1969	Brooklyn College	B.S. (Physics)

Doctoral Dissertation: Realistic Models of the Giant Planets

Advisor: A.G.W. Cameron

Experience

Oct. 1991 - Present	Tel Aviv University, Professor of Planetary Sciences
July 1989 - Aug. 1990	NASA Ames Research Center, NAS/NRC Senior Research Associate
July 1986 - Aug. 1986	Observatoire de Meudon, Visiting Scientist
Feb. 1986 - Oct. 1991	Tel Aviv University, Associate Professor
July 1984 - July 1985	NASA Ames Research Center, NAS/NRC Senior Research Associate
Oct. 1980 - Feb. 1986	Tel Aviv University, Senior Lecturer
July 1977 - Aug. 1977	Stanford University, NASA-ASEE Summer Faculty Fellow
Oct. 1976 - Oct. 1980	Tel Aviv University, Lecturer
July 1976 - Aug. 1976	Stanford University, NASA-ASEE Summer Faculty Fellow
July 1975 - July 1976	Princeton University, Research Associate
Oct. 1973 - June 1975	Yeshiva University, Research Associate
June 1973 - July 1974	Brooklyn College, Adj. Asst. Professor
Sep. 1969 - June 1973	Yeshiva University, Teaching Assistant

Awards and Honors

2006 - present	Secretary, COSPAR Israel
2007 - 2010	Member, SESAME working group 3
1989 - 1991	Member, Editorial Board of <i>Icarus</i>
1979	Member, Expert's Panel for Pioneer 11 Saturn Encounter
1976	Member, Sigma Xi
1969	Smits Award for Astronomy
1969	Associate Member, Sigma Xi
1969 - 1971	New York State Regents Fellowship for Beginning Doctoral Study
1969	Woodrow Wilson Designate

Publications

Articles

1. Podolak, M., and A. G. W. Cameron (1974). Models of the giant planets. *Icarus* **22**, 123 - 148.
2. Podolak, M., and A. G. W. Cameron (1974). Possible formation of meteoric chondrules and inclusions in the precollapse Jovian protoplanetary atmosphere. *Icarus* **23**, 326 - 333.
3. Podolak, M., and A. G. W. Cameron (1975). Further investigations of Jupiter models. *Icarus* **25**, 627 - 634.
4. Podolak, M. (1976). Methane rich models of Uranus. *Icarus* **27**, 473 - 477.
5. Podolak, M. (1977). The abundance of water and rock in Jupiter as derived from interior models. *Icarus* **30**, 155 - 162.
6. Podolak, M., and R. E. Danielson (1977). Axial dust on Saturn and Titan. *Icarus* **30**, 479 - 492.
7. Podolak, M. (1978). Models of Saturn's interior: Evidence for phase separation. *Icarus* **33**, 342 - 350.
8. Podolak, M., and L. P. Giver (1979). On inhomogeneous scattering models of Titan's atmosphere. *Icarus* **37**, 361 - 376.
9. Bar-Nun, A., and M. Podolak (1979). The photochemistry of hydrocarbons in the atmosphere of Titan. *Icarus* **38**, 115 - 122.
10. Podolak, M., and A. Bar-Nun (1979). A constraint on the distribution of Titan's atmospheric aerosols. *Icarus* **39**, 272 - 276.
11. Podolak, M., N. Noy, and A. Bar-Nun (1979). Photochemical aerosols in Titan's atmosphere. *Icarus* **40**, 193 - 198.
12. Noy, N., A. Bar-Nun, and M. Podolak (1979). Acetylene photopolymers in Jupiter's stratosphere. *Icarus* **40**, 199 - 204.
13. Otterman, J., S. Ungar, Y. Kaufman, and M. Podolak (1980). Atmospheric effects on radiometric imaging from satellites. *Remote Sensing of Environment* **9**, 115 - 129.
14. Otterman, J., Y. Kaufman, M. Podolak, and S. Ungar (1980). Dependence of the global irradiance on aerosol properties and surface reflectivity. *Solar Energy* **24**, 279 - 286.
15. Podolak, M., and E. Podolak (1980). A numerical study of aerosol growth in Titan's atmosphere. *Icarus* **43**, 74 - 83.
16. Noy, N., M. Podolak, and A. Bar-Nun (1981). Photochemistry of phosphine and Jupiter's great red spot. *J. Geophys. Res.* **86**, 11985 - 11988.

17. Podolak, M., and R. Reynolds (1981). On the structure and composition of Uranus and Neptune. *Icarus* **46**, 40 - 50.
18. Eviatar, A., and M. Podolak (1983). Titan's gas and plasma torus. *J. Geophys. Res.* **88**, 833 - 840.
19. Podolak, M., A. Bar-Nun, N. Noy, and L. P. Giver (1984). Inhomogeneous models of Titan's aerosol distribution. *Icarus* **57**, 72 - 82.
20. Podolak, M., and R. Reynolds (1984). Consistency tests of cosmogonic theories from models of Uranus and Neptune. *Icarus* **57**, 102 - 111.
21. Podolak, M. (1984). Is the polarization data consistent with constant flux models of Titan's atmosphere? *Icarus* **58**, 325 - 330.
22. Bar-Nun, A., N. Noy, and M. Podolak (1984). An upper limit to the abundance of lightning-produced amino acids in the Jovian water clouds. *Icarus* **59**, 162 - 168.
23. Podolak, M. (1984). The rotation of the Uranian system. *Phil. Trans. Roy. Soc. A* **313**, 141 - 146.
24. Eviatar, A., A. Bar-Nun, and M. Podolak (1985). European surface phenomena. *Icarus* **61**, 185 - 191.
25. Herman, G., and M. Podolak (1985). Numerical simulation of comet nuclei. I. Water ice comets. *Icarus* **61**, 252 - 266.
26. Podolak, M., and G. Herman (1985). Numerical simulation of comet nuclei. II. The effect of the dust mantle. *Icarus* **61**, 267 - 277.
27. Mekler, Y., and M. Podolak (1985). Estimation of cloud top heights from satellite imagery. *Appl. Optics* **24**, 2419 - 2422.
28. Podolak, M., R. Young, and R. Reynolds (1985). The internal structures and relative rotation rates of Uranus and Neptune. *Icarus* **62**, 266 - 271.
29. Bar-Nun, A., and M. Podolak (1985). The contribution by thunderstorms to the abundance of CO, C₂H₂, and HCN on Jupiter. *Icarus* **64**, 112 - 124.
30. Pollack, J. B., M. Podolak, P. Bodenheimer, and B. Christofferson (1986). Planetesimal dissolution in the envelopes of the forming giant planets. *Icarus* **67**, 409 - 443.
31. Podolak, M., and R. T. Reynolds (1987). The rotation rate of Uranus, its internal structure and the process of planetary accretion. *Icarus* **70**, 31 - 36.
32. Prialnik, D., A. Bar-Nun, and M. Podolak (1987). Radiogenic heating of comets by ²⁶Al and implications for their time of formation. *Astrophys. J.* **319**, 993 - 1002.
33. Podolak, M., J. B. Pollack, and R. T. Reynolds (1987). The interaction of planetesimals with protoplanetary atmospheres. *Icarus* **73**, 163 - 179.
34. Podolak, M., and Bar-Nun, A. (1988). Moist convection and the abundances of lightning produced CO, C₂H₂ and HCN on Jupiter. *Icarus* **75**, 566 - 570.
35. Mekler, Y., and Podolak, M. (1989). Spectrophotometric observations of Comet Austin (1982g). *Earth, Moon, and Planets* **44**, 39 - 46.

36. Podolak, M., Bunch, T. E., Cassen, P., Reynolds, R. T. and Chang, S. (1990). Processing of refractory meteorite inclusions (CAIs) in parent body atmospheres. *Icarus* **84**, 254 - 260.
37. Mekler, Y., D. Prialnik, and M. Podolak (1990). Evaporation from a porous cometary nucleus. *Astrophys. J.* **356**, 682 - 686.
38. Eviatar, A., Podolak, M., and Richardson, J. (1990). Molecular and atomic hydrogen from Titan in the outer Kronian magnetosphere. *J. Geophys. Res.* **95**, 21,007 - 21,016.
39. Podolak, M., R. T. Reynolds, and R. Young (1990). Post Voyager comparisons of the interiors of Uranus and Neptune. *Geophys. Res. Lett.* **17**, 1737 - 1740.
40. Bunch, T. E., P. Cassen, M. Podolak, R. Reynolds, S. Chang, P. Schultz, D. Brownlee, and J. Lissauer (1991). Are some chondrules formed by impact processes? Observations and experiments. *Icarus* **91**, 76 - 92.
41. Podolak, M., D. Prialnik, T. E. Bunch, P. Cassen, and R. Reynolds (1993). Secondary processing of chondrules and refractory inclusions (CAIs) by gasdynamic heating. *Icarus* **104**, 97 - 109.
42. Prialnik, D., U. Egozi, A. Bar - Nun, M. Podolak, and Y. Greenzweig (1993). On pore size and fracture in gas - laden comet nuclei. *Icarus* **106**, 499 - 507.
43. Mekler, Y. and M. Podolak (1994). Formation of amorphous ice in the protoplanetary nebula. *Planet. and Space Sci.* **42**, 865-870.
44. Podolak, M., A. Weizman, and M. Marley (1995). Comparative models of Uranus and Neptune. *Planet. and Space Sci.* **43**, 1517-1522.
45. Marley, M.S., P. Gomez, and M. Podolak (1995). Monte Carlo interior models for Uranus and Neptune. *J. Geophys. Res.* **100**, 23,349-23,353.
46. Prialnik, D. and M. Podolak (1995). Radioactive heating of porous icy bodies. *Icarus* **117**, 420-430.
47. Weizman, A., D. Prialnik, and M. Podolak (1996). Constraints of the structure and composition of Mars from thermal evolution models. *J. Geophys. Res.* **101**, 2235-2245.
48. Podolak, M. and D. Prialnik (1996). On the structure and evolution of comet P/Wirtanen. *Planet. and Sp. Sci.*, **44**, 655-664.
49. Pollack, J. B., O. Hubickyj, P. Bodenheimer, J. J. Lissauer, M. Podolak, and Y. Greenzweig, (1996). Formation of the giant planets by concurrent solid and gas accretion. *Icarus* **124**, 62-85.
50. Elperin, T., N. Kleeorin, M. Podolak, and I. Rogachevskii (1997). A mechanism for the formation of aerosol concentrations in the atmosphere of Titan. *Planet. Space Sci.* **45**, 923-929.
51. Weizman, A., D. Prialnik, and M. Podolak (1997). Phase transitions and melting in Mars. *J. Geophys. Res.*, **102**, 9205-9209.

52. Shoshani, Y., E. Heifetz, D. Prialnik, and M. Podolak (1997). A model for the changing pore structure and dust grain size distribution in a porous comet. *Icarus*, **126**, 342-350.
53. Podolak, M., and Y. Mekler (1997). Dirty ice grains in the protoplanetary nebula. *Planet. Space Sci.*, **45**, 1401-1406.
54. Shoshany, Y., M. Podolak, D. Prialnik, and B. Berkowitz (1999). A monte carlo model for the flow of dust in a porous comet nucleus, *Icarus*, **137**, 348-354.
55. Prialnik, D. and M. Podolak (1999). Changes in the structure of comet nuclei due to radioactive heating. *Space Sci. Rev.*, **90**, 169-178.
56. Podolak, M., J. I. Podolak, and M. Marley (2000). Further investigation of random models of Uranus and Neptune, *Planet. and Sp. Sci.*, **48**, 143-151.
57. Weizman, A., D. J. Stevenson, D. Prialnik, and M. Podolak (2001). Modeling the volcanism on Mars, *Icarus*, **150**, 195-205.
58. Shoshany, Y., D. Prialnik, and M. Podolak (2002). Monte Carlo modeling of the thermal conductivity of porous cometary ice. *Icarus*, **157**, 219-227.
59. Podolak, M., Y. Mekler, and D. Prialnik (2002). Is the D/H ratio in the comet coma equal to the D/H ratio in the comet nucleus? *Icarus*, **160**, 208-211.
60. Cohen, M., D. Prialnik, and M. Podolak (2003). A quasi-3D model for the evolution of shape and temperature distribution of comet nuclei-application to Comet 46P/Wirtanen. *New Astronomy*, **8**, 179-189.
61. Podolak, M. (2003). The contribution of small grains to the opacity of protoplanetary atmospheres. *Icarus*, **165**, 428-437.
62. Podolak, M. (2003). The origin of the solar system. *Nakladem Polskiej Akademii Umiejetnosci*, **8**, 11-23.
63. Podolak, M., Y. Mekler, and D. Prialnik (2004). Comment on "Is the D/H Ratio in the Comet Coma Equal to the D/H Ratio in the Comet Nucleus?" by M. Podolak, Y. Mekler, and D. Prialnik – rebuttal. *Icarus*, **168**, 221-222.
64. Podolak, M. (2004). Dust opacity and the contraction of protoplanetary atmospheres. *Revista Mexicana de Astronomia y Astrofisica (Serie de Conferencias)*, **22**, 104-107.
65. Podolak, M., and S. Zucker (2004). A note on the snowline in protostellar accretion disks. *Meteoritics and Planet. Sci.*, **39**, 1859-1868.
66. Beer, E. H., M. Podolak, and D. Prialnik (2006). The contribution of icy grains to the activity of comets. Part I. Grain lifetime and distribution. *Icarus*, **180**, 473-486.
67. Lecar, M., M. Podolak, D. Sasselov, and E. Chiang (2006). On the location of the snow line in a protoplanetary disk. *Astrophys. J.*, **640**, 1115-1118.
68. Helled, R., M. Podolak, and A. Kovetz (2006). Planetesimal capture in the disk instability model. *Icarus*, **185**, 64-75.
69. Iaroslavitz, E., and M. Podolak (2007). Atmospheric mass deposition by captured planetesimals. *Icarus*, **187**, 600-610.

70. Beer, E., D. Prialnik, and M. Podolak (2008). The contribution of grains to the activity of comets II. The brightness of the coma. *Icarus*, **195**, 340-347.
71. Helled, R., M. Podolak, and A. Kovetz (2008). Grain sedimentation in a giant gaseous protoplanet. *Icarus*, **195**, 863-870.
72. Movshovitz, N. and M. Podolak (2008). Grain opacity in protoplanetary atmospheres. *Icarus*, **194**, 368-378.
73. Levi, A. and M. Podolak (2009). Corona-like atmospheric escape from KBO's I. Gas dynamics. *Icarus*, **202**, 681-693.
74. Levi, A. and M. Podolak (2009). Corona-like atmospheric escape from KBO's II. The behavior of aerosols. *Icarus*, **203**, 610-625.
75. Movshovitz, N., Bodenheimer, P., Podolak, M., and Lissauer, J. J. (2010). Formation of Jupiter using opacities based on detailed grain physics. *Icarus*, **209**, 616-624.
76. Helled, R., Anderson, J. D., Podolak, M., and Schubert, G. (2011). Interior models of Uranus and Neptune. *Astrophys. J.*, **726**, 15-21.
77. Podolak, M., Mayer, L., and Quinn, T. (2011). Evolution of coated grains in spiral shocks of self-gravitating protoplanetary disks. *Astrophys. J.*, **734**, 56-68.
78. Levi, A. and M. Podolak (2011). Estimating the Density of Intermediate Size KBOs from Considerations of Volatile Retention. *Icarus*, to appear.

Chapters in Books

1. Podolak, M. (1982). The origin of Uranus: Compositional considerations. In *Uranus and the Outer Planets. Proceedings of the IAU/RAS Colloquium #60* (G. Hunt, ed.) Cambridge University Press, Cambridge, pp. 93 - 109.
2. Podolak, M., and R. T. Reynolds (1985). What have we learned from modeling giant planet interiors? In *Protostars and Planets II* (D. Black and M. Matthews, eds.) University of Arizona Press, Tucson, pp. 847 - 872.
3. Podolak, M., W. B. Hubbard, and D. J. Stevenson (1991). Models of Uranus' interior and magnetic field. In *Uranus* (J. Bergstralh, D. Miner, and M. Matthews, eds.) University of Arizona Press, Tucson, pp. 29 - 64.
4. Podolak, M., W. B. Hubbard, and J. B. Pollack (1993). Gaseous accretion and the formation of giant planets. In *Protostars and Planets III* (G. Levy, J. I. Lunine, and M. Matthews, eds.) University of Arizona Press, Tucson, pp. 1109-1147.
5. Hubbard, W. B., M. Podolak, and D. J. Stevenson (1994). The interior of Neptune. In *Neptune and Triton* (D. Cruickshank, ed.) University of Arizona Press, Tucson, pp. 109-138.
6. Podolak, M. and D. Prialnik (1996). ^{26}Al and liquid water environments in comets. In *Comets and the Origin of Life* (P. Thomas, C. H. Chyba, and C. P. McKay, eds.) Springer-Verlag, New York, pp. 259-272.

7. Podolak, M. and W. B. Hubbard (1998). Ice in the outer planets. In *Ice in the Solar System* (B. Schmitt, C. deBergh, and C. Festou, eds.) Kluwer Academic Publishers, Dordrecht, pp. 735-748.
8. Prialnik, D. and M. Podolak (1999). Changes in the structure of comet nuclei due to radioactive heating. In *Composition and Origin of Cometary Materials* (K. Altwegg, P. Ehrenfreund, J. Geiss, and W. Huebner, eds.) Kluwer Academic Publishers, Dordrecht, pp. 169-180.
9. Podolak, M., and D. Prialnik (2000). Conditions for the production of liquid water in comet nuclei. In *Bioastronomy '99: a New Era in Bioastronomy* (G. A. Lemarchand, K. J. Meech, eds.) Sheridan Books, Chelsea, pp. 231-234.
10. Brosch, N., L. S. Schijvarg, M. Podolak, and M. R. Rosenkrantz (2001). Meteor observations from Israel. In: Proceedings of the Meteoroids 2001 Conference, 6 - 10 August 2001, Kiruna, Sweden. (B. Warmbein, ed.). ESA SP-495, ESA Publications Division, Noordwijk. pp. 165 - 173
11. Podolak, M. (2003). The snowline in protostellar disks. In *Scientific Frontiers in Research on Extrasolar Planets*. (D. Deming and S. Seager, eds.) ASP Conference Series, vol. 294, San Francisco, pp. 295-298.
12. Prialnik, D., J. Benkhoff, and M. Podolak (2005). Modeling the structure and activity of comet nuclei. In *Comets II*. (M. C. Festou, H. U. Keller, and H. A. Weaver, eds.), University of Arizona Press, Tucson, pp. 359-390.
13. Podolak, M. and D. Prialnik (2006). The conditions for liquid water in cometary nuclei. In *Comets and the Origin and Evolution of Life* (P. J. Thomas, R. D. Hicks, C. F. Chyba, and C. P. McKay, eds.) Springer Berlin, pp. 303-314.
14. Movshovitz, N. and M. Podolak (2008). Collisions between small dust particles reduce the formation time of giant planets. In *Extreme Solar Systems* (D. Fischer, F. A. Rasio, S. E. Thorsett, and A. Wolszczan, eds.) Am. Astron. Soc. Pacific, San Francisco, pp. 257-258.
15. Podolak, M. (2009). The location of the snow line in protostellar disks. In *Icy Bodies in the Solar System – Proceedings IAU Symposium 263*, (D. Lazzaro, D. Prialnik, R. Schulz and J. A. Fernandez, eds), pp 19-28.
16. Vazan, A., Kovetz, A., and M. Podolak (2010). The Effect of Opacity on the Evolution of Giant Planets. In *The Astrophysics of Planetary Systems – Proceedings IAU Symposium 276*, (A. Sozzetti, M. G. Lattanzi and A. P. Boss, eds),

Papers Presented at Scientific Meetings and Abstracts

1. Podolak, M. - Models of the giant planets - 5th GEOP Conference, Columbus, Ohio, Oct. 1973.
2. Podolak, M. - Interior models of Jupiter and Uranus - DPS Meeting, Columbia, Maryland, Feb. 1975. Published in *Bull. A. A. S.* 7, 383 (1975).
3. Podolak, M. - The interior of Uranus - AGU Meeting, Washington, D. C., June, 1975.

4. Podolak, M., and R. E. Danielson - The scattering properties of the Axel dust present in the atmospheres of Titan and Saturn - DPS Meeting, Austin, Texas, April, 1976. Published in *Bull. A. A. S.* **8**, 467 (1976).
5. Podolak, M. - The abundance of rock and water in Jupiter as derived from interior models - DPS Meeting, Austin, Texas, April, 1976. Published in *Bull. A. A. S.* **8**, 476 (1976).
6. Giver, L. P., and M. Podolak - Interpretation of the red methane absorption bands in the spectrum of Titan - DPS Meeting, Honolulu, Hawaii, Jan. 1977. Published in *Bull. A. A. S.* **9**, (1977).
7. Podolak, M. - The envelopes of Jupiter and Saturn - COSPAR Meeting, Tel Aviv, Israel, June 1977. Published in *COSPAR: Space Research* **XVIII**.
8. Podolak, M., and L. P. Giver - The albedo of Titan - COSPAR Meeting, Tel Aviv, Israel, June 1977. Published in *COSPAR: Space Research* **XVIII**.
9. Podolak, M., and A. Bar-Nun - Photochemistry of hydrocarbons in the atmosphere of Titan - COSPAR Meeting, Innsbruck, Austria, June 1978. Published in *COSPAR: Space Research* **XIX**.
10. Giver, L. P., L. M. Trafton, M. Podolak, and K. Rages - An upper limit on the effective pressure in Titan's atmosphere determined from the 8400 Å CH₄ band - DPS Meeting, St. Louis, Missouri, Oct. 1979. Published in *Bull. A. A. S.* **11** (1979).
11. Giver, L. P., L. M. Trafton, K. Rages, and M. Podolak - Curves of growth of methane lines in model atmospheres of Titan - AAS Meeting, San Francisco, California, Jan. 1980. Published in *Bull. A. A. S.* **12**, 619 (1980).
12. Smith, S. M., J. B. Pollack, L. P. Giver, J. N. Cuzzi, and M. Podolak - Inhomogeneous models of Venus clouds containing sulfur - AAS Meeting, San Francisco, California, Jan. 1980. Published in *Bull. A. A. S.* **12**, 619 (1980).
13. Noy, N., M. Podolak, and A. Bar-Nun - Phosphine photolysis and the colors of Jupiter - COSPAR Meeting, Budapest, Hungary, June 1980.
14. Podolak, M. - The origin of Uranus - IAU/RAS Symposium, Bath, England, April 1981.
15. Eviatar, A., Y. Mekler, and M. Podolak - Titan's gas and plasma torus - AGU Meeting, Philadelphia, Pennsylvania, May 1982.
16. Podolak, M., A. Bar-Nun, N. Noy, and L. P. Giver - Inhomogeneous models of Titan's aerosol distribution - Saturn Meeting, Tucson, Arizona, May 1982.
17. Podolak, M. - Is the polarization data consistent with constant flux models of Titan's atmosphere - IAU Colloquium #77, Ithaca, New York, July, 1983.
18. Podolak, M. - The rotation of the Uranian system - Discussion Meeting of the Royal Society, London, England, March 1984.
19. Podolak, M., L. P. Giver, and D. Goorvitch - Are the aerosols on Uranus and Neptune composed of methane photopolymers? - Conference on Giant Planet Atmospheres, New York, New York, May, 1985.

20. Podolak, M. - Comets - Meeting of Planetarium Directors, Land Between the Lakes, Kentucky, June 1985.
21. Pollack, J. B., M. Podolak, and P. Bodenheimer - Planetesimal dissolution in the envelopes of the forming giant planets - DPS Meeting, Baltimore, Maryland, October 1985. Published in *Bull. A. A. S.* **17**, 702 (1985).
22. Bar-Nun, A., and M. Podolak - Titan aerosols - COSPAR Meeting, Toulouse, France, July 1986.
23. Bunch, T. E., Chang, S., Blake, D., Cassen, P., Reynolds, R. T. Podolak, M., and Erlichman, J. - Thermal processing of Allende components in a transient parent body atmosphere - Lunar and Planetary Science Conference, 1988. Published in *LPS XIX*.
24. Podolak, M. - Interiors of Uranus and Neptune - High Pressure Physics and Planetary Interiors Workshop, Livermore, California, March 1989.
25. Podolak, M., T. E. Bunch, P. Cassen, R. T. Reynolds, S. Chang, and D. Prialnik - Can refractory meteorite inclusions (CAIs) be processed in parent body atmospheres? - DPS Meeting, Providence, Rhode Island, November, 1989. Published in *Bull. A. A. S.* **21**, 976 (1989).
26. Bunch, T. E., P. Schultz, D. Brownlee, M. Podolak, R. Reynolds, P. Cassen, and S. Chang - Hypervelocity impact penetration experiments - a guide to the origin of rims on chondrules. - Lunar and Planetary Science Conference, Houston, Texas, March 1990. Published in *LPS XXI*.
27. Pollack, J., W. B. Hubbard, and M. Podolak - Gaseous accretion and the formation of giant planets. - Protostars and Planets III, Tucson, Arizona, March, 1990.
28. Bunch, T. E., P. Schultz, D. Brownlee, J. Lissauer, P. Cassen, R. Reynolds, and M. Podolak (1990). Alteration of hypervelocity accreting projectiles (chondrules, CAIs) on impact with parent body, low density particulate surfaces - an experimental approach. - Protostars and Planets III, Tucson, Arizona, March, 1990.
29. Pollack, J. B., M. Podolak, O. Hubickyj, P. Bodenheimer, J. Lissauer, and Y. Greenzweig (1990). Simulations of the accretion of the giant planets. DPS Meeting, Charlottesville, Virginia, Oct. 1990.
30. Podolak, M., and A. Bar-Nun (1990). Will the aerosols on Jupiter and Titan affect planned entry probes? Israeli Assoc. for Aerosol Research Meeting, Tel Aviv, Israel, Dec. 1990.
31. Bunch, T., P. Cassen, R. Reynolds, S. Chang, M. Podolak, D. Prialnik, and P. Schultz. Could chondrule rims be formed or modified by parent body accretion events? Annual Meeting of the Meteorological Society, Monterey, California, July 1991.
32. Podolak, M., and M. Marley (1991). Interior model constraints on super - abundances of volatiles in the atmosphere of Neptune. DPS Meeting, Palo Alto, California, Nov. 1991. Published in *Bull. A. A. S.* **23**, 1164, 1991.
33. Pollack, J. B., O. Huickyj, P. Bodenheimer, J. Lissauer, Y. Greenzweig, and M. Podolak. Formation of the giant planets, DPS Meeting, Palo Alto, California, November 1991. Published in *Bull. A. A. S.* **23**, 1225, 1991.
34. Hubbard, W. B., J. C. Pearl, M. Podolak, and D. J. Stevenson. The interior of Neptune, Neptune and Triton Meeting, Tucson, Arizona, January 1992.

35. Pollack, J. B., O. Huickyj, P. Bodenheimer, J. Lissauer, Y. Greenzweig, and M. Podolak. Formation of the giant planets, Neptune and Triton Meeting, Tucson, Arizona, January 1992.
36. Prialnik, D., U. Egozi, A. Bar - Nun, M. Podolak, and Y. Mekler. Release of trapped gases in the interior of porous comet nuclei. DPS meeting, Munich, Germany, 1992. Published in *Bull. A. A. S.* **24**, 1019, 1992.
37. Bunch, T., J. Paque, R. Reynolds, P. Cassen, M. Podolak, and D. Prialnik. Further considerations of UOC opaque rim formation and precursor dust. DPS Meeting, Boulder, Colorado, 1993.
38. Pollack, J. B., O. Hubickyj, P. Bodenheimer, J. J. Lissauer, M. Podolak, and Y. Greenzweig. Formation of the giant planets by concurrent solid and gas accretion. DPS meeting, Boulder, Colorado, 1993.
39. Bunch, T., J. Paque, R. Reynolds, M. Podolak, and D. Prialnik. Ablation rinds as analogs for the origin of rims on chondrules. *Meteoritics* **28**, 334, 1993.
40. Podolak, M., and W. B. Hubbard. Ice in the outer planets. Ice in the Solar System meeting, Toulouse, France, 1995 (invited talk).
41. Marley, M., P. Gomez, and M. Podolak. Random models of Uranus and Neptune. DPS meeting, Honolulu, Hawaii, 1995.
42. Weizman, A., D. Prialnik, and M. Podolak. Phase transitions and melting in Mars. Lunar and Planetary Science Conference, Houston Texas, 1996.
43. Podolak, M. Recent advances in comet modeling. Meeting of the Israel Physics Society, Beersheva, Israel, 1997.
44. Podolak, M., J. I. Podolak, and M. S. Marley. More random models of Uranus and Neptune. DPS Meeting, Boston, Massachusetts, 1997. Published in *Bull. A. A. S.* **29**, 994, 1997.
45. Podolak, M., and D. Prialnik. Conditions for the production of liquid water in comet nuclei. Protostars and Planets IV Meeting, Santa Barbara, California, 1998.
46. Weizman, A., D. Prialnik, and M. Podolak. Models of the thermal and volcanic evolution of Mars. 5th International Conference on Mars, Pasadena, California, 1999. Published in conference proceedings, 6043.
47. Shoshany, Y., D. Prialnik, and M. Podolak. Modelling the Thermal Conductivity of Porous Comet Nuclei. Asteroids, Comets, Meteors meeting, Ithaca, New York, 1999.
48. Podolak, M., and D. Prialnik. Conditions for the production of liquid water in comet nuclei. Bioastronomy 99 meeting, Kona, Hawaii, 1999.
49. Podolak, M., E. Baer, and D. Prialnik. The Contribution of grains to the water production of comets. DPS meeting, Padova, Italy, 1999.
50. Shoshany, Y., D. Prialnik, and M. Podolak. Modelling the thermal conductivity of porous comet nuclei. DPS meeting, Padova, Italy, 1999.

51. Podolak, M. A glimpse at two “ice giants”: Uranus and Neptune. Physics at High Pressures: Interiors of Giant Planets, Extrasolar Planets and Brown Dwarfs. ITP Miniprogram, Santa Barbara, California, 2001 (invited talk).
52. Podolak, M. Models of Giant Planet Formation. Gordon Conference, New London, Connecticut 2001 (invited talk).
53. Brosch, N., L. S. Schijvarg, M. Podolak, and M. Rozenkrantz. Meteor Observations from Israel. Meteoroids 2001 Meeting, Kiruna, Sweden (2001).
54. Radar Measurements of the Leonid Meteor Shower URSI Meeting 2002.
55. Brosch, N., L. S. Schijvarg, M. Podolak, M. Rozenkrantz, R. Helled, and D. Polischuck. Optical and Radar Observations of Meteors in Israel. Asteroids, Comets, Meteors Meeting, Berlin, Germany 2002.
56. Beer, E., H., M. Podolak, and D. Prialnik. The contribution of grains to the activity of comets. Asteroids, Comets, Meteors Meeting, Berlin, Germany 2002.
57. Podolak, M. The Snowline in Protostellar Disks. New Frontiers in Extrasolar Planets Meeting, Washington, D.C. (2002).
58. Podolak, M. The Origin of the Solar System. Meeting of the Polish Academy of Arts and Sciences, Cracow, Poland 2002.
59. Podolak, M. and S. Zucker. Ice Grain Growth and the Snowline in Protostellar Disks. Gordon Conference on the Origin of Solar Systems, Bristol, Rhode Island 2003.
60. Podolak, M. Dust Opacity and the Contraction of Protoplanetary Atmospheres. Conference on Gravitational Collapse, Ensenada, Mexico 2003.
61. Helled, R., A. Kovetz, and M. Podolak. Settling of Small Grains in an Extended Protoplanet, Gordon Conference on the Origin of Solar Systems, New London, Connecticut 2005.
62. Iaroslavitch, E., and M. Podolak. Planetesimal Capture and the Stability of Protoplanetary Atmospheres, Gordon Conference on the Origin of Solar Systems, New London, Connecticut 2005.
63. Helled, R., A. Kovetz, and M. Podolak. Settling of Small Grains in an Extended Protoplanet, DPS Meeting, Oxford, England 2005. Published in *Bull. A. A. S.* **37**, 675 (2005).
64. Helled, R., A. Kovetz, and M. Podolak. Planetesimal Capture and Grain Sedimentation in the Disk Instability Model, IoA Conference 2006: The Planet-Disc Connection, Cambridge, England 2006.
65. Movshovitz, N., and M. Podolak. Collisions between small dust particles reduce the formation time of giant planets, Extreme Solar Systems Conference, Santorini, Greece 2007.
66. Haghighipour, N., and M. Podolak. Gas drag-induced capture of planetesimals in the proto-atmosphere of a forming gas giant planet, AAS meeting, Long Beach, CA 2009.
67. Haghighipour, N. and M. Podolak. Planetesimal capture by an evolving Jupiter, Solar/Extrasolar meeting, Moffett Field, CA 2009.

68. Haghighipour, N. and M. Podolak. Gas drag-induced capture of planetesimals in the proto-atmosphere of a forming gas giant planet, Planet formation and evolution meeting, Tubingen, Germany 2009. Published in *Bull. A. A. S.* **41**, 514 (2009).
69. Haghighipour, N. and M. Podolak. Dynamical evolution and capture of planetesimals in the protoatmosphere of a growing giant planet, IAU symposium 261, Virginia Beach, VA (2009). Published in *Bull. A. A. S.* **41**, 896 2009.
70. Podolak, M. The location of the snow line in protostellar disks. IAU Symposium 263, Rio de Janeiro, Brazil 2009 (invited talk).
71. Kruger, H., K. Seidensticker, I. Apathy, H.-H. Fischer, A. Hirn, A. Loose, A. Peter, M. Podolak, and R. Roll. Rosetta lander instrument DIM (Dust Impact Monitor). Dusty Visions Workshop, Gottingen, Germany, 2010.
72. Vazan, A., A. Kovetz, and M. Podolak. The Effect of Opacity on the Evolution of Giant Planets. IAU Symposium 276, Torino, Italy 2010.
73. Vazan, A., A. Kovetz, and M. Podolak. The Effect of Opacity on the Evolution of Giant Planets. IPS Tel Aviv, Israel 2010.
74. Levi, A. and M. Podolak. Gas and Dust Transient Atmospheres Surrounding Intermediate Sized KBO's. IPS Tel Aviv, Israel 2010.
75. Kruger, H., T. Ossowski, K. Seidensticker, I. Apathy, H.-H. Fischer, A. Hirn, A. Loose, A. Peter, M. Podolak, R. Roll, and M. Sperl. Laboratory calibration of the dust impact monitor onboard the Rosetta lander Philae. AOGS Conference Taipei 2011.

Other Publications

1. Smith, S. H., J. B. Pollack, L. P. Giver, J. N. Cuzzi, and M. Podolak (1979). Inhomogeneous models of the Venus clouds containing sulfur. NASA TM 78558.
2. Podolak, M. (1982). The rotation of Uranus: Clues to the origin of the solar system. In *Astronomical yearbook* (P. Moore, ed.) Sidgwich and Jackson, Ltd., London pp. 158 - 164.
3. Reynolds, R. T., and M. Podolak (1985). The structure and composition of Uranus and Neptune. In *Reports of Planetary Geology and Geophysics Program - 1984*, pp. 58 - 59.
4. Podolak, M. (1986). Review of *Physics of Planetary Interiors* by G. H. C. Cole in *Physics Today* (July).
5. Reynolds, R. T., and M. Podolak (1987). Uranus and Neptune: Questions and possible answers. In *Reports of Planetary Geology and Geophysics Program - 1986*, NASA TM 89810 pp. 109 - 111.
6. Reynolds, R. T., and M. Podolak (1988). Composition of Uranus and Neptune: Nonsolar ice to rock ratios? In *Reports of Planetary Geology and Geophysics Program - 1987*, NASA TM 4041 pp. 79 - 81.

7. Podolak, M., R. T. Reynolds, and R. Young (1990). The interiors of Uranus and Neptune - A post Voyager comparison. In *Reports of Planetary Geology and Geophysics Program - 1990*, NASA TM 4210 pp. 195 - 197.
8. Contributor to Dictionary of Geophysics, Astrophysics, and Astronomy (2001). R. A. Matzner, ed. CRC Press, Boca Raton.

Active Participation in Scientific Meetings

1. October 1973 - 5th GEOP Conference, Columbus, Ohio
2. February 1975 - D.P.S. Meeting, Columbia, Maryland
3. June 1975 - A.G.U. Meeting, Washington, D.C.
4. April 1976 - D.P.S. Meeting, Austin, Texas
5. June 1977 - COSPAR Meeting, Tel Aviv, Israel
6. August 1979 - Expert Panel for Pioneer 11 Saturn Encounter, Moffett Field, California
7. April 1981 - IAU/RAS Symposium, Bath, England (invited paper)
8. July 1983 - Natural Satellites Meeting, IAU Colloquim #77, Ithaca, New York (member of organizing committee)
9. March 1984 - Royal Society Discussion Meeting, London, England (invited paper)
10. March 1985 - Symposium on Cosmogonic Processes, Boulder, Colorado (session chairman)
11. May 1985 - Giant Planet Atmospheres Meeting, New York, New York
12. May 1985 - Workshop on the Origin of the Solar System, Moffett Field, California (organizer)
13. June 1985 - Meeting of Planetarium Directors, Land Between the Lakes, Kentucky (invited paper)
14. July 1986 - COSPAR Meeting, Toulouse, France
15. June 1988 - Uranus Meeting, Pasadena, California (member of organizing committee, invited paper)
16. March 1989 - Workshop on High Pressure Physics and Planetary Interiors, Livermore, California (invited paper)
17. November 1989 - D.P.S. Meeting, Providence, Rhode Island
18. March 1990 - Protostars and Planets III Meeting, Tucson, Arizona (invited paper)
19. December 1990 - Israeli Association for Aerosol Research Meeting, Tel Aviv, Israel
20. November 1991 - DPS Meeting, Palo Alto, California

21. January 1992 - Neptune and Triton Meeting, Tucson, Arizona (organizing committee, invited paper)
22. March 1995 - Ices in the Solar System Meeting, Toulouse, France (invited paper)
23. April 1997 - Israel Physics Society Meeting, Beersheva, Israel (invited paper)
24. July 1997 - DPS Meeting, Boston, Massachusetts
25. July 1998 - Protostars and Planets IV Meeting, Santa Barbara, California
26. July 1999 – Asteroids, Comets, Meteors Meeting, Ithaca, New York
27. August 1999 – Bioastronomy '99 Meeting, Kona, Hawaii.
28. October 1999 - DPS Meeting, Padova, Italy.
29. January 2001 – ITP Miniprogram, Santa Barbara, California (invited paper).
30. June 2001 – Gordon Conference, New London, Connecticut (invited paper).
31. June 2002 - New Frontiers in Extrasolar Planets, Washington, DC.
32. November 2002 – Meeting of the Polish Academy of Arts and Sciences, Cracow, Poland (invited paper).
33. July 2003 – Gordon Conference on Origin of Solar Systems, Bristol, Rhode Island.
34. December 2003 – Conference on Gravitational Collapse in Honor of Peter Bodenheimer, Ensenada, Mexico (invited talk).
35. June 2005 – Gordon Conference on Origin of Solar Systems, New London, Connecticut.
36. September 2006 - Philae Science Workshop, Helsinki, Finland.
37. June 2007 – Extreme Solar Systems, Santorini, Greece.
38. December 2007 – Philae Science Workshop, Budapest, Hungary.
39. October 2008 – Rosetta Workshop, Darmstadt, Germany.
40. February 2009 – Solar/Extrasolar Planets meeting, Moffett Field, California.
41. March 2009 – Philae Science Workshop, Venice, Italy.
42. August 2009 – Icy Bodies in the Solar System IAU symposium, Rio de Janeiro, Brazil (invited talk).
43. December 2009 – Seminar in Astrophysics, Paris, France.

Master's Theses Supervised

1. Hazanovich, Yoel (1993) A Model of Ice Layer Evolution in a Porous Surface Layer in Antarctica and Mars (with D. Prialnik).

2. Weizman, Ayelet (1994) Thermal Evolution of Mars (with D. Prialnik).
3. Schijvarg, Shmuel (1995) Equation of State of Non-Ideal Gases.
4. Medzhibovsky, Alex (2002) Thermal Models of Io.
5. Barzilai, Yehudit (2004) Aerosols in Protoplanetary Atmospheres.
6. Iaruslavich, Eyal (2006) Enrichment of heavy elements in a protoplanetary atmosphere.
7. Shochat, Vered (2006) Trajectories of ice grains in a comet coma.
8. Movshovitz, Naor (2007) Coagulation of grains in a protoplanetary atmosphere.
9. Peles, Oren (2007) On secular perturbations effects in υ -Andromeda and similar planetary systems (with Tsevi Mazeh).
10. Levi, Amit (2008) Behavior of gas and dust in an escaping atmosphere.
11. Mamou, Joshua (in progress) Physics of coated grains.
12. Vazan, Allona (2010) Modeling giant planet evolution including heavy elements.
13. Vagner, Asia (in progress). Modeling grain sedimentation in evolving giant protoplanets.

Doctoral Theses Supervised

1. Noy, Noa (1981) Atmospheric Chemistry on Jupiter and Titan (with A. Bar-Nun).
2. Herman, Gary (1986) Models of Comets (with A. Bar-Nun).
3. Weizman, Ayelet (2000) Thermal Evolution Models of Mars Including Volcanism (with D. Prialnik).
4. Shoshani, Yossi (2002) Flow of Dust and Gas in Porous Cometary Nuclei (with D. Prialnik).
5. Beer, Ealeal (2005) Ice Grains in Comet Comae.
6. Schijvarg, Shmuel (2006) Meteors in the Atmosphere (with N. Brosch).
7. Helled, Ravit (2008) Accretion of planetesimals by an evolving protoplanet (with A. Kovetz).
8. Shochat, Vered (in progress)
9. Levi, Amit (in progress)
10. Allona Vazan (in progress)

Membership in Scientific Organizations

1. Division of Planetary Sciences of the American Institute of Physics.

2. American Geophysical Union
3. International Astronomical Union
4. Sigma Xi – scientific research organization