

# Curriculum Vitae

**Paul T. P. Ho**

**Address:** **Academia Sinica Institute of Astronomy and Astrophysics,**  
11F of Astronomy-Mathematics Building, AS/NTU  
No.1, Sec. 4, Roosevelt Rd, Taipei 10617, Taiwan  
pho@asiaa.sinica.edu.tw

**Positions:**

|           |   |
|-----------|---|
| 2015-     | <b>Director</b><br>James Clerk Maxwell Telescope                                    |
| 2014-     | <b>Director General</b><br>East Asian Observatory                                   |
| 2021-     | <b>Corresponding Fellow</b>   |
| 2002-2021 | <b>Distinguished Research Fellow</b>  |
| 2005-2014 | <b>Director</b>   |
| 2002-2003 | <b>Director</b><br>Academia Sinica Institute of Astronomy and Astrophysics          |
| 2011-     | <b>Greenland Telescope Principal Investigator</b>                                   |
| 2019-2021 | <b>ELT/METIS Co-Investigator</b>  |
| 2013-2018 | <b>ERG-Taiwan Principal Investigator</b>  |
| 2005-2015 | <b>ALMA-Taiwan Principal Investigator</b>   |
| 2002-2014 | <b>AMiBA Principal Investigator</b>   |
| 2005-2014 | <b>SMA-Taiwan Principal Investigator</b>  |
| 2008-2014 | <b>Subaru HSC-Taiwan Principal Investigator</b>                                     |
| 2011-2014 | <b>SUMIRE/PFS-Taiwan Principal Investigator</b>                                     |
| 2015-2018 | <b>Distinguished Visiting Fellow</b><br>Korea Astronomy and Space Science Institute |
| 1989-2015 | <b>Senior Astrophysicist</b>  |
| 1989-2005 | <b>SMA Project Scientist</b><br>Smithsonian Astrophysical Observatory               |

2018-            **Joint Professor of Physics**  
National Cheng Kung University

2006-            **Adjunct Professor of Physics**  
National Tsing Hua University

2003-            **Adjunct Professor of Astronomy**  
National Central University

2003-2015      **Joint Professor of Physics**  
National Taiwan University

1986-1990      **Associate Professor of Astronomy**  
1982-1986      **Assistant Professor of Astronomy**  
Harvard University

1979-1982      **Miller Fellow, Research Associate**  
Radio Astronomy Laboratory  
University of California, Berkeley

1977-1979      **Research Associate**  
Five College Radio Astronomy Observatory  
University of Massachusetts, Amherst

**Education:**            **Ph.D.** (1977),            Physics, MIT  
                                 **S.B.** (1972),            Physics, MIT

**Fellowships**            **Albert Einstein Medal to EHT Team, 2020**  
**and Awards:**            **Breakthrough Prize in Fundamental Physics to EHT Team, 2020**  
                                 **Bruno Rossi Prize to EHT Team, 2020**  
                                 **Nelson P. Jackson Aerospace Award to EHT Team, 2019**  
                                 **CTCI Foundation Science Contribution Award to EHT Team, 2019**  
                                 **NSF Diamond Achievement Award to EHT Team, 2019**  
                                 **Smithsonian American Ingenuity Awards to EHT Team, 2019**  
                                 **Humboldt Research Award, 2017**

**ASROC Heaven Quest Award, 2014**  
**Fellow, Academy of Sciences for the Developing World, 2010**  
**Academician, Academia Sinica, 2008**  
**Alfred P. Sloan Research Fellowship, 1984-1986**  
**Henri Chretien Award, 1982**  
**Miller Fellowship, 1979-1981**  
**National Needs Fellowship, 1979-1980 (declined)**

**Professional  
Societies:**

**American Astronomical Society**  
**International Astronomical Union**

## Publications

Paul T. P. Ho

1. **Time Variations and Spectral Structure of the Methanol Maser in Orion A**, Barrett, A.H., Ho, P., and Martin, R.N., *Ap. J. (Letters)*, **198**, L119 (1975).
2. **Formaldehyde in the Rho Ophiuchi Dark Cloud**, Myers, P.C., and Ho, P.T.P., *Ap. J. (Letters)*, **202**, L25 (1975).
3. **A Lower Limit to the Angular Size of the Methanol Source in Orion**, Barrett, A.H., Bologna, J.M., Cheung, A.C., Chui, M.F., Ho, P.T.P., Johnston, K.J., Martin, R.N., Matsakis, D., Moran, J.M., and Schwartz, P.R., *Ap. J. (Letters)*, **18**, L13 (1976).
4. **Ammonia in the Kleinmann-Low Nebula**, Barrett, A.H., Ho, P.T.P., and Myers, P.C., *Ap. J. (Letters)*, **211**, L39 (1977).
5. **Anomalous Ammonia Absorption in DR21**, Matsakis, D.N., Brandshaft, D., Cheung, A.C., Chui, M.F., Yngvesson, K.S., Cardiasmenos, A.G., Shanley, J.F., and Ho, P.T.P., *Ap. J. (Letters)*, **214**, L67 (1977).
6. **Gas Temperatures and Motion in the Taurus Dark Cloud**, Ho, P.T.P., Martin, R.N., Myers, P.C., and Barrett, A.H., *Ap. J. (Letters)*, **215**, L29 (1977).
7. **Search for Methanol Masers**, Buxton, R.B., Barrett, A.H., Ho, P.T.P., and Schneps, M.H., *Astron. J.*, **82**, 985 (1977).
8. **Atomic and Molecular Observations of the Rho Ophiuchi Dark Cloud**, Myers, P.C., Ho, P.T.P., Schneps, M.H., Chin, G., Pankonin, V., and Winnberg, A., *Ap. J.*, **220**, 864 (1978).
9. **The Effects of Rotation on Microwave Spectral Line Profiles: A Study of CRL437**, Schneps, M.H., Martin, R.N., Ho, P.T.P., and Barrett, A.H., *Ap. J.*, **221**, 124 (1978).
10. **A New Compact Far-Infrared Source in the W31 Region**, Fazio, G.G., Lada, C.J., Kleinmann, D.E., Wright, E.L., Ho, P.T.P., and Low, F.J., *Ap. J. (Letters)*, **221**, L77 (1978).
11. **Ammonia Survey of Small Dark Clouds**, Ho, P.T.P., Martin, R.N., and Barrett, A.H., *Ap. J. (Letters)*, **221**, L117 (1978).
12. **First Detection of a Nonmetastable Ammonia Line in Absorption**, Ho, P.T.P., and Barrett, A.H., *M.N.R.A.S.*, **184**, 93P (1978).
13. **A New Dynamical Model for the Orion Molecular Cloud**, Ho, P.T.P., and Barrett, A.H., *Ap. J. (Letters)*, **224**, L23 (1978).
14. **Molecular Hydrogen in Globular Clusters: A Search for Carbon Monoxide**, Schneps, M.H., Ho, P.T.P., Barrett, A.H., Buxton, R.B., and Myers, P.C., *Ap. J.*, **225**, 808 (1978).
15. **Detection of Extragalactic Ammonia**, Martin, R.N., and Ho, P.T.P., *Astron. Astrophys.*, **74**, L7 (1979).
16. **Observations of the SiO Maser in Orion**, Genzel, R., Moran, J.M., Lane, A.P., Predmore,

- C.R., Ho, P.T.P., Hansen, S.S., and Reid, M.J., *Ap. J. (Letters)*, **231**, L73 (1979).
17. **Observations of HC<sub>5</sub>N and NH<sub>3</sub> in Taurus**, Myers, P.C., Ho, P.T.P., and Benson, P.J., *Ap. J. (Letters)*, **233**, L141 (1979).
  18. **Ammonia Observations of the Orion Molecular Cloud**, Ho, P.T.P., Barrett, A.H., Myers, P.C., Matsakis, D.N., Cheung, A.C., Chui, M.F., Townes, C.H., and Yngvesson, K.S., *Ap. J.*, **234**, 912 (1979).
  19. **Radio Observations of Water Vapor, Hydroxyl, Silicon Monoxide, Ammonia, Carbon Monoxide, and Compact HII Regions in the Vicinities of Suspected Herbig-Haro Objects**, Rodriguez, L.F., Moran, J.M., Ho, P.T.P., and Gottlieb, E.W., *Ap. J.*, **235**, 845 (1980).
  20. **Observations of Herbig-Haro Objects and Their Surrounding Dark Clouds**, Ho, P.T.P., and Barrett, A.H., *Ap. J.*, **237**, 38 (1980).
  21. **The Elephant-Trunk Globules in the Rosette Nebula: CO Observations**, Schneps, M.H., Ho, P.T.P., and Barrett, A.H., *Ap. J.*, **240**, 84 (1980).
  22. **Anisotropic Mass Outflow in Cepheus A**, Rodriguez, L.F., Ho, P.T.P., and Moran, J.M., *Ap. J. (Letters)*, **240**, L149 (1980).
  23. **OB Star Formation in the S128 Region**, Ho, P.T.P., Haschick, A.D., and Israel, F.P., *Ap. J.*, **243**, 526 (1981).
  24. **Molecular Clouds Associated with Compact HII Regions: I. General Properties**, Ho, P.T.P., Martin, R.N., and Barrett, A.H., *Ap. J.*, **246**, 761 (1981).
  25. **Venus: I. Carbon Monoxide Distribution and Molecular Line Searches**, Wilson, W.J., Klein, M.J., Kakar, R.K., Gulkis, S., Olsen, E.T., and Ho, P.T.P., *Icarus*, **45**, 624 (1981).
  26. **Formation of OB Clusters: VLA Observations**, Ho, P.T.P., and Haschick, A.D., *Ap. J.*, **248**, 622 (1981).
  27. **A New Thermometer for External Galaxies**, Martin, R.N., Ho, P.T.P., and Ruf, K., *Nature*, **296**, 632 (1982).
  28. **Kinematics of Orion-KL: Aperture Synthesis Maps of 86 GHz SO Emission**, Plambeck, R.L., Wright, M.C.H., Welch, W.J., Bieging, J.H., Baud, B., Ho, P.T.P., and Vogel, S.N., *Ap. J.*, **259**, 617 (1982).
  29. **NH<sub>3</sub> in Orion-KL: A New Interpretation**, Genzel, R., Downes, D., Ho, P.T.P., and Bieging, J., *Ap. J. (Letters)*, **259**, L103 (1982).
  30. **Anisotropic Mass Outflow in Regions of Star Formation**, Rodriguez, L.F., Carral, P., Ho, P.T.P., and Moran, J.M., *Ap. J.*, **260**, 635 (1982).
  31. **Mass Outflow in Star Formation Regions: Cepheus A**, Ho, P.T.P., Moran, J.M., and Rodriguez, L.F., *Ap. J.*, **262**, 619 (1982).
  32. **Temperatures and Sizescales of Giant Cloud Complexes in the Spiral Galaxy IC342**, Ho, P.T.P., Martin, R.N., and Ruf, K., *Astron. Astrophys.*, **113**, 155 (1982).
  33. **Water-Vapor Masers Located Near Herbig-Haro Objects**, Haschick, A.D., Moran, J.M., Rodriguez, L.F., and Ho, P.T.P., *Ap. J.*, **265**, 281 (1983).

34. **Formation of OB Clusters: OH Maser Observations**, Ho, P.T.P., Haschick, A.D., Vogel, S., and Wright, M.C.H., *Ap. J.*, **265**, 295 (1983).
35. **Formation of OB Clusters: W33 Complex**, Haschick, A.D., and Ho, P.T.P., *Ap. J.*, **267**, 638 (1983).
36. **VLA Observations of Warm NH<sub>3</sub> Associated with Mass Outflow in W51**, Ho, P.T.P., Genzel, R., and Das, A., *Ap. J.*, **266**, 596 (1983).
37. **Interstellar Ammonia**, Ho, P.T.P., and Townes, C.H., *Ann. Rev. Astron. Astrophys.*, **21**, 239 (1983).
38. **Sources of the High Velocity Molecular Flow in Orion**, Wright, M.C.H., Plambeck, R.L., Vogel, S.N., Ho, P.T.P., and Welch, W.J., *Ap. J. (Letters)*, **267**, L41 (1983).
39. **VLA Observations of Massive Star Formation in Spiral Nuclei**, Turner, J.L., and Ho, P.T.P., *Ap. J. (Letters)*, **268**, L79 (1983).
40. **A Search for Neutral Hydrogen Near Nine Globular Clusters**, Birkinshaw, M., Ho, P.T.P., and Baud, B., *Astron. Astrophys.*, **125**, 271 (1983).
41. **Interstellar Toroids as the Focusing Agent of the Bipolar Molecular Outflows**, Torrelles, J.M., Rodriguez, L.F., Canto, J., Marcaide, J., Moran, J.M., and Ho, P.T.P., *Ap. J.*, **274**, 214 (1983).
42. **VLA Observations of Extragalactic NH<sub>3</sub> in IC342**, Ho, P.T.P., and Martin, R.N., *Ap. J.*, **272**, 484 (1983).
43. **An Aperture Synthesis Map of HCN Emission Close to W3IRS4**, Wright, M.C.H., Dickel, H.R., and Ho, P.T.P., *Ap. J. (Letters)*, **281**, L71 (1984).
44. **VLA Observations of Smooth, Rapidly Rotating NH<sub>3</sub> in the SgrA '15 km s<sup>-1</sup> Cloud'**, Armstrong, J.T., Ho, P.T.P., and Barrett, A.H., *Ap. J.*, **288**, 159 (1985).
45. **Interactions Between the Continuum Sources in the Galactic Center and Their Immediate Molecular Environment**, Ho, P.T.P., Jackson, J.M., Barrett, A.H., and Armstrong, J.T., *Ap. J.*, **288**, 575 (1985).
46. **VLA Observations of Ammonia and Continuum in Regions with High Velocity Gaseous Outflows**, Torrelles, J.M., Ho, P.T.P., Rodriguez, L.F., and Canto, J., *Ap. J.*, **288**, 595 (1985).
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48. **The Molecular Core Associated with DR21**, Dickel, H.R., Ho, P.T.P., and Wright, M.C.H., *Ap. J.*, **290**, 256 (1985).
49. **Formation of OB Clusters: CO, NH<sub>3</sub>, and H<sub>2</sub>O Observations of the Distant HII Region Complex in S128**, Haschick, A.D., and Ho, P.T.P., *Ap. J.*, **292**, 200 (1985).
50. **Molecular Clouds Associated with Compact HII Regions: II. The Rapidly Rotating Condensation Associated with ON1**, Zheng, X.W., Ho, P.T.P., Reid, M.J., and Schneps, M.H., *Ap. J.*, **293**, 522 (1985).
51. **Millimeter and Submillimeter Wave Astronomy**, Ho, P.T.P., in *Infinite Vistas: New Tools*

*for Astronomy* (Scribner) (1985).

52. **An Ammonia Toroid Aligned Perpendicular to the HH1 and HH2 Bipolar Outflow**, Torrelles, J.M., Canto, J., Rodriguez, L.F., Ho, P.T.P., and Moran J.M., *Ap. J. (Letters)*, **294**, L117 (1985).
53. **The One Parsec Radio Core and Possible Nuclear Ejection in NGC253**, Turner, J.L., and Ho, P.T.P., *Ap. J. (Letters)*, **299**, L77 (1985).
54. **The Double Radio Source Associated with L1551 IRS5: Binary System or Ionized Circumstellar Torus?"** Rodriguez, L.F., Canto, J., Torrelles, J.M., and Ho, P.T.P., *Ap. J. (Letters)*, **301**, L25 (1986).
55. **Molecular Clouds Associated with Compact HII Regions. III. Spin-Up and Collapse in the Core of G10.6-0.4**, Ho, P.T.P., and Haschick, A.D., *Ap. J.*, **304**, 501 (1986).
56. **Formation of OB Clusters: Radiation-Driven Implosion?** Ho, P.T.P., Klein, R.I., and Haschick, A.D., *Ap. J.*, **305**, 714 (1986).
57. **The Kinetic Temperature Gradient and the Structure of a Thin Molecular Disk in Cepheus A**, Torrelles, J.M., Ho, P.T.P., Rodriguez, L.F., and Canto, J., *Ap. J.*, **305**, 721 (1986).
58. **Ammonia Observations of Regions with Molecular Outflows**, Torrelles, J.M., Ho, P.T.P., Moran, J.M., Rodriguez, L.F., and Canto, J., *Ap. J.*, **307**, 787 (1986).
59. **Hot Gas in the Nucleus of IC342**, Martin, R.N., and Ho, P.T.P., *Ap. J. (Letters)*, **308**, L7 (1986).
60. **Infrared Spectroscopy of Star Formation in Interacting Galaxies**, Beck, S.C., Turner, J.L., and Ho, P.T.P., *Ap. J.*, **309**, 70 (1986).
61. **Neutral Hydrogen in Star Burst Galaxies**, Jackson, J.M., Barrett, A.H., Armstrong, J.T., and Ho, P.T.P., *Astron. J.*, **93**, 531 (1987).
62. **Recombination Spectroscopy of Star Formation in the Nucleus of M83**, Turner, J.L., Ho, P.T.P., and Beck, S.C., *Ap. J.*, **313**, 644 (1987).
63. **Temperature and Density Structure of the Collapsing Core of G10.6-0.4**, Keto, E.R., Ho, P.T.P., and Haschick, A.D., *Ap. J.*, **318**, 712 (1987).
64. **H<sub>2</sub>O Maser Emission from the Nuclei of NGC 253 and M51**, Ho, P.T.P., Martin, R.N., Henkel, C., and Turner, J.L., *Ap. J.*, **320**, 663 (1987).
65. **Interaction of the High-Density Gas with the Bipolar Outflow in Cepheus A**, Torrelles, J.M., Ho, P.T.P., Rodriguez, L.F., Canto, J., and Moran, J.M., *Ap. J.*, **321**, 884 (1987).
66. **Hot Gas in the Nucleus of IC342: Detection of J = 3-2 CO Emission**, Ho, P.T.P., Turner, J.L., and Martin, R.N., *Ap. J. (Letters)*, **322**, L67 (1987).
67. **Gravitational Collapse in Molecular Cloud Cores Around Ultracompact HII Regions: Two Candidates**, Keto, E.R., Ho, P.T.P., and Reid, M.J., *Ap. J. (Letters)*, **323**, L117 (1987).
68. **The Observed Structure of the Accretion Flow Around G10.6-0.4**, Keto, E.R., Ho, P.T.P., and Haschick, A.D., *Ap. J.*, **324**, 920 (1988).
69. **Elongated CO Structure in the Starburst Galaxy NGC2146**, Jackson, J.M., and Ho, P.T.P.,

- Ap. J. (Letters)*, **324**, L5 (1988).
70. **Observational Evidence of a Possible Collimating Agent of the HH1-2 Outflow**, Marcaide, J.M., Torrelles, J.M., Guesten, R., Menten, K.M., Ho, P.T.P., Moran, J.M., and Rodriguez, L.F., *Astron. Astrophys.*, **197**, 235 (1988).
  71. **Interstellar Matter, Proceedings of the Second Haystack Observatory Meeting, A Symposium on Interstellar Molecules and Grains in Honor of Alan H. Barrett**, ed. J.M. Moran and P.T.P. Ho (*Gordon and Breach*) (1988).
  72. **A Rotating Circumstellar Molecular Disk Surrounding NGC6334 I**, Jackson, J.M., Ho, P.T.P., and Haschick, A.D., *Ap. J. (Letters)*, **333**, L73 (1988).
  73. **CO in Optically Selected Starburst Galaxies**, Jackson, J.M., Snell, R.L., Ho, P.T.P., and Barrett, A.H., *Ap. J.*, **337**, 680 (1989).
  74. **Ammonia Observations of Outflow Regions**, Anglada, G., Rodriguez, L.F., Torrelles, J.M., Estalella, R., Ho, P.T.P., Canto, J., Lopez, R., and Verdes-Montenegro, L., *Ap. J.*, **341**, 208 (1989).
  75. **Ammonia Observations of the AFGL 2591 Region: A Possible Cavity in the Molecular Cloud**, Torrelles, J.M., Ho, P.T.P., Rodriguez, L.F., and Canto, J., *Ap. J.*, **343**, 222 (1989).
  76. **Excess 10- $\mu$ m Emission in Extragalactic Nuclei**, Ho, P.T.P., Turner, J.L., Fazio, G.G., and Willner, S.P., *Ap. J.*, **344**, 135 (1989).
  77. **Further Studies of the Role of Dense Molecular Clouds Around Outflow Sources**, Verdes-Montenegro, L., Torrelles, J.M., Rodriguez, L.F., Anglada, G., Lopez, R., Estalella, R., Canto, J., and Ho, P.T.P., *Ap. J.*, **346**, 193 (1989).
  78. **VLA Observations of Ammonia and Continuum in Regions with High-Velocity Gaseous Outflows. II.**, Torrelles, J.M., Ho, P.T.P., Rodriguez, L.F., Canto, J., and Verdes-Montenegro, L., *Ap. J.*, **346**, 756 (1989).
  79. **Far-Infrared and Radio Observations of the W31 Star-Forming Region**, Ghosh, S.K., Iyengar, K.V.K., Rengarajan, T.N., Tandon, S.N., Verma, R.P., Daniel, R.R., and Ho, P.T.P., *Ap. J.*, **347**, 338 (1989).
  80. **NH<sub>3</sub> Observations of Compressed Post-Shock Molecular Gas in Ionization-Shock Fronts around W33**, Keto, E.R., and Ho, P.T.P., *Ap. J.*, **347**, 349 (1989).
  81. **Brackett Line Spectroscopy of Bursts of Star Formation in Nuclei of Galaxies**, Ho, P.T.P., Beck, S.C., and Turner, J.L., *Ap. J.*, **349**, 57 (1990).
  82. **Monoceros R2: Interactions of a Molecular Cloud Core with a Stellar Wind?** Torrelles, J.M., Ho, P.T.P., Rodriguez, L.F., and Canto, J., *Ap. J.*, **349**, 529 (1990).
  83. **Hot Gas in the Nucleus of M82: <sup>12</sup>CO and <sup>13</sup>CO J = 3-2 Observations**", Turner, J.L., Martin, R.N., and Ho, P.T.P., *Ap. J.*, **351**, 418 (1990).
  84. **Formation of OB Clusters: Detection of SiO  $v = 0, J = 1-0$  Emission as an Indicator of Compact Outflow Sources**", Haschick, A.D., and Ho, P.T.P., *Ap. J.*, **352**, 630 (1990).
  85. **VLA Observations of the Herbig-Haro 1-2 System**, Rodriguez, L.F., Ho, P.T.P., Torrelles,



- J.M., Curiel, S., and Canto, J., *Ap. J.*, **352**, 645 (1990).
86. **VLA Imaging of Extragalactic Ammonia: Hot Gas in IC342"** Ho, P.T.P., Martin, R.N., Turner, J.L., and Jackson, J.M., *Ap. J. (Letters)*, **355**, L19 (1990).
  87. **15 GHz Compact Structure in Galactic Nuclei**, Carral, P., Turner, J.L., and Ho, P.T.P., *Ap. J.*, **362**, 434 (1990).
  88. **Gas Feeding of the Galactic Center: Molecular Gas in the Central 10 pc**, Ho, P.T.P., Ho, L.C., Szczepanski, J.C., Jackson, J.M., Armstrong, J.T., Barrett, A.H., *Nature*, **350**, 309 (1991).
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  91. **VLA Imaging of a Possible Circumstellar Disk Around HL Tauri**, Rodriguez, L.F., Canto, J., Torrelles, J.M., Gomez, J.M., and Ho, P.T.P., *Ap. J. (Letters)*, **393**, L29 (1992).
  92. **On the Nature of the Excitation of the Herbig-Haro Object 2**, Torrelles, J.M., Rodriguez, L.F., Canto, J., Anglada, G., Gomez, J.F., Curiel, S., and Ho, P.T.P., *Ap. J. (Letters)*, **396**, L95 (1992).
  93. **On the Nature of the Bipolar Molecular Outflow in AFGL437**, Gomez, J.F., Torrelles, J.M., Estalella, R., Anglada, G., Verdes-Montenegro, L., and Ho, P.T.P., *Ap. J.*, **397**, 492 (1992).
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  95. **Warm Molecular Gas in a Starburst: CO (3-2) Observations of Maffei 2,"** Hurt, R.L., Turner, J.L., Ho, P.T.P., and Martin, R.N., *Ap. J.*, **404**, 602 (1993).
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  97. **The Centre of the Milky Way**, Blitz, L., Binney, J., Lo, K.Y., Bally, J., and Ho, P.T.P., *Nature*, **361**, 417 (1993).
  98. **Heterogenous Array Observations of IC 342: The CO Isotopic Ratio**, Wright, M.C.H., Ishizuki, S., Turner, J.L., Ho, P.T.P., and Lo, K.Y., *Ap. J.*, **406**, 470 (1993).
  99. **A Flattened Cloud Core in NGC2024**, Ho, P.T.P., Peng, Y.L., Torrelles, J.M., Gomez, J.F., Rodriguez, L.F., and Canto, J., *Ap. J.*, **408**, 565 (1993).
  100. **Further Studies on the Champagne Phase of GM 24 (IRAS 17136-3617)**, Gomez, J.F., Torrelles, J.M., Tapia, M., Gomez, Y., Rodriguez, L.F., Roth, M., and Ho, P.T.P., *Ap. J.*, **409**, 269 (1993).
  101. **From Bipolar to Quadrupolar: The Collimation Processes of the Cepheus A Outflow**, Torrelles, J.M., Verdes-Montenegro, L., Ho, P.T.P., Rodriguez, L.F., and Canto, J., *Ap. J.*, **410**, 202 (1993).

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103. **Upper Limits to the Detection of Ammonia from Protoplanetary Disks Around HL Tau and L1551-IRS 5**, Gomez, J.F., Torrelles, J.M., Ho, P.T.P., Rodriguez, L.F., and Canto, J., *Ap. J.*, **414**, 333 (1993).
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107. **Platform deformation refined pointing and phase correction for the AMiBA hexapod telescope**, Koch,Patrick; Kesteven,Michael; Chang,Yu-Yen; Huang,Yau-De; Raffin,Philippe; Chen,Ke-Yung; Chereau,Guillaume; Chen,Ming-Tang; Ho,PaulT.P.; Huang,Chih-Wie; and 19 coauthors, in *Advanced Optical and Mechanical Technologies in Telescopes and Instrumentation. Edited by Atad-Ettedgui, Eli; Lemke, Dietrich. Proceedings of the SPIE, Volume 7018*, (2008).
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121. **The Greenland Telescope (GLT): antenna status and future plans**, Raffin, Philippe; Algaba-Marcosa, Juan Carlos; Asada, Keiichi; Blundell, Raymond; Burgos, Roberto; Chang, Chih-Cheng; Chen, Ming-Tang; Christensen, Robert; Grimes, Paul K.; Han, C. C.; Ho, Paul T. P.; Huang, Yau-De; Inoue, Makoto; Koch, Patrick M.; Kubo, Derek; Leiker, Steve; Liu, Ching-Tang; Martin-Cocher, Pierre; Matsushita, Satoki; Nakamura, Masanori; Nishioka, Hiroaki; Nystrom, George; Paine, Scott N.; Patel, Nimesh A.; Pradel, Nicolas; Pu, Hung-Yi; Shen, H.-Y.; Snow, William; Sridharan, Tirupati K.; Srinivasan, Ranjani; Tong, Edward; Wang, Jackie, *Proceedings of the SPIE, Volume 9145, id. 91450G 10 pp. (2014)*.
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123. **Progress with the Prime Focus Spectrograph for the Subaru Telescope: a massively multiplexed optical and near-infrared fiber spectrograph**, Sugai, Hajime; Tamura, Naoyuki; Karoji, Hiroshi; Shimono, Atsushi; Takato, Naruhisa; Kimura, Masahiko; Ohyama, Youichi; Ueda, Akitoshi; Aghazarian, Hrand; de Arruda, Marcio V.; Barkhouser, Robert H.;

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124. **225GHz opacity measurements at Summit camp, Greenland, for the GreenLand Telescope (GLT) site testing**, Martin-Cocher, Pierre L.; Asada, Keiichi; Matsushita, Satoki; Chen, Ming-Tang; Ho, Paul T. P.; Chen, Chien-Ping, *Proceedings of the SPIE, Volume 9147, id. 91473N 8 pp. (2014).*
125. **Instrumentation for single-dish observations with The Greenland Telescope**, Grimes, Paul K.; Asada, K.; Blundell, R.; Burgos, R.; Chang, H.-H.; Chen, M. T.; Goldie, D.; Groppi, C.; Han, C. C.; Ho, P. T. P.; Huang, Y. D.; Inoue, M.; Kubo, D.; Koch, P.; Leech, J.; de Lera Acedo, E.; Martin-Cocher, P.; Nishioka, H.; Nakamura, M.; Matsushita, S.; Paine, S. N.; Patel, N.; Raffin, P.; Snow, W.; Sridharan, T. K.; Srinivasan, R.; Thomas, C. N.; Tong, E.; Wang, M.-J.; Wheeler, C.; Withington, S.; Yassin, G.; Zeng, L.-Z., *Proceedings of the SPIE, Volume 9153, id. 91531V 11 pp. (2014)*
126. **The Processing of the Clumpy Molecular Gas in the Galactic Center and the Star-Formation**, Liu, H. B.; Ho, P. T. P.; Wright, M. C. H.; Su, Y. N.; Hsieh, P. Y.; Sun, A. L.; Kim, S. S.; Minh, Y. C., *Massive Young Star Clusters Near and Far: From the Milky Way to Reionization. 2013 Guillermo Haro Conference, Eds. Y. D. Mayya, D. Rosa González and E. Terlevich. INAOE & AMC, June 2014. ISBN: 978-607-8379-01-9, pp.39-42 (2014).*
127. **Magnetic field morphologies at mpc scale**, Tang, Ya-Wen; Koch, Patrick M.; Ho, Paul T. P.;

- Guilloteau, Stephane; Dutrey, Anne, *Highlights of Astronomy, Volume 16, pp. 392-392 (2015).*
128. **Spiral Arms and Mass Accretion in the Circumbinary Disk around the Protostellar Binary System L1551 NE Revealed with ALMA**, Takakuwa, S.; Saito, M.; Saigo, K.; Matsumoto, T.; Lim, J.; Hanawa, T.; Ho, P. T. P., *Revolution in Astronomy with ALMA: The Third Year. Proceedings of a Conference held at the Tokyo International Forum, Tokyo, Japan 8-11 December 2014. Edited by Daisuke Iono, Ken-ichi Tatematsu, Alwyn Wootten, and Leonardo Testi. ASP Conference Series Vol. 499. San Francisco: Astronomical Society of the Pacific, 2015, p.287 (2015)*
129. **Local Magnetic Field Role in Star Formation**, Koch, P. M.; Tang, Y. W.; Ho, P. T. P.; Zhang, Q.; Girart, J. M.; Chen, H. R. V.; Lai, S. P.; Li, H. B.; Li, Z. Y.; Liu, H. B.; Padovani, M.; Qiu, K.; Rao, R.; Yen, H. W.; Frau, P.; Chen, H. H.; Ching, T. C., *Conditions and Impact of Star Formation. Edited by R. Simon, R. Schaaf and J. Stutzki. EAS Publications Series, Volume 75-76, 2016, pp.159-162 (2016).*
130. **The Greenland Telescope: antenna retrofit status and future plans**, Raffin, Philippe; Ho, Paul T. P.; Asada, Keiichi; Blundell, Raymond; Bower, Geoffrey C.; Burgos, Roberto; Chang, Chih-Cheng; Chen, Ming-Tang; Christensen, Robert; Chu, You-Hua; Grimes, Paul K.; Han, C. C.; Huang, Chih-Wei L.; Huang, Yau-De; Hsieh, Fang-Chia; Inoue, Makoto; Koch, Patrick M.; Kubo, Derek; Leiker, Steve; Lin, Lupin; Liu, Ching-Tang; Lo, Shih-Hsiang; Martin-Cocher, Pierre; Matsushita, Satoki; Nakamura, Masanori; Meyer-Zhao, Zheng; Nishioka, Hiroaki; Norton, Tim; Nystrom, George; Paine, Scott N.; Patel, Nimesh A.; Pu, Hung-Yi; Snow, William; Sridharan, T. K.; Srinivasan, Ranjani; Wang, Jackie, *Proceedings of the SPIE, Volume 9906, id. 99060U 8 pp. (2016).*

## Invited Talks (1990-- ):

1. **A Submillimeter and Far-Infrared Interferometer on the Moon**, Ho, P.T.P., at Workshop on Astrophysics From the Moon, Annapolis, Maryland (February 1990).
2. **Imaging of Extragalactic Ammonia: Hot Gas in the Nucleus of IC342**, Ho, P.T.P., at The Interpretation of Modern Synthesis Observations of Spiral Galaxies, Albuquerque, New Mexico (March 1990).
3. **Interferometric Observations of IC342**, Ho, P.T.P., at Herzberg Institute of Astrophysics, Ottawa, Canada (May 1990).
4. **Extragalactic Astronomy from Space-Based Submillimeter Interferometer**, Ho, P.T.P., at Workshop on Sub-Millimeter Interferometry from Space, Columbia, Maryland (December 1990).
5. **Image Reconstruction**, Ho, P.T.P., at Science and Technology of Astronomical Interferometry, Taipei, Taiwan (March 1992).
6. **The Smithsonian Submillimeter Array**, Ho, P.T.P., at Science and Technology of Astronomical Interferometry, Taipei, Taiwan (March 1992).
7. **Studies of the Interstellar Medium**, Ho, P.T.P., at Science and Technology of Astronomical Interferometry, Taipei, Taiwan (March 1992).
8. **The Smithsonian Submillimeter Array**, Ho, P.T.P., at Workshop on the Future of Millimeter and Submillimeter Interferometry in Canada, Hamilton, Ontario (April 1992).
9. **The Smithsonian Submillimeter Array**, Ho, P.T.P., at Nanjing University, Shanghai Observatory, People's Republic of China (September 1992).
10. **The Smithsonian Submillimeter Array**, Ho, P.T.P., at IAU Colloquium No. 140: Astronomy with Millimeter and Submillimeter Wave Interferometry, Hakone, Japan (October 1992).
11. **Infall to the Galactic Center**, Ho, P.T.P., at University of Illinois, Urbana, Illinois (February 1993).
12. **Infall to the Galactic Center**, Ho, P.T.P., at Boston University, Boston, Massachusetts (April 1993).
13. **Formation of Massive Stars**, Ho, P.T.P., at Wuxi Summer School on Star Formation, Wuxi, China (July 1993).
14. **The Galactic Center**, Ho, P.T.P., at Wuxi Summer School on Star Formation, Wuxi, China (July 1993).
15. **Comparison of the Nuclear Interstellar Media in Our and Nearby Galaxies**, Ho, P.T.P., at Nuclei of Normal Galaxies: Lessons from the Galactic Center, Ringberg, Germany (July 1993).

16. **Contracting Molecular Cloud Cores**, Ho, P.T.P., at Leiden University, Leiden, Netherlands (August 1993).
17. **Infall to the Galactic Center**, Ho, P.T.P., at Observatoire de Paris-Section de Meudon, Meudon, France (September 1993).
18. **Molecular Gas Surrounding the Galactic Center**, Ho, P.T.P., at 2nd Cologne- Zermatt Symposium: The Physics and Chemistry of Interstellar Molecular Cloud, Zermatt, Switzerland (September 1993).
19. **Is there a Black Hole in the Galactic Center**, Ho, P.T.P., at City College of the City University of New York, New York, New York (November 1993).
20. **The Galactic Center**, Ho, P.T.P., at Lawrence Livermore National Laboratory, Livermore, California (April 1994).
21. **The Smithsonian Astrophysical Observatory Submillimeter Array Project**, Ho, P.T.P. at Radio Astronomy: Visions for the 21st Century, Penticton, Canada (August 1994).
22. **The Submillimeter Array**, Ho, P.T.P., at The 19th International Conference on Infrared and Millimeter Waves, Sendai, Japan (October 1994).
23. **Expectations from New Instruments**, Ho, P.T.P., at Circumstellar Disks, Outflows, and Star Formation, Cozumel, Mexico (November 1994).
24. **The Submillimeter Array**, Ho, P.T.P., at The 52nd Okazaki Conference on Laboratory and Astronomical Submillimeter-Wave Spectroscopy: Present Status and Future Trends, Okazaki, Japan (March 1995).
25. **The Submillimeter Array**, Ho, P.T.P., at Smithsonian Associates Study Program on Astronomy, Cambridge, Massachusetts (May 1995).
26. **Status of the Submillimeter Array**, Ho, P.T.P., at URSI Meeting on Large Millimeter Arrays, Tucson, Arizona (May 1995).
27. **The Submillimeter Array**, Ho, P.T.P., at The 1995 Star Formation Workshop: Star and Planet Formation at High Angular Resolution, Nankang, Taiwan (July 1995).
28. **The Galactic Center**, Ho, P.T.P., at Smithsonian Astrophysical Observatory Summer Intern Program, Cambridge, Massachusetts (August 1995).
29. **The Smithsonian Submillimeter Array**, Ho, P.T.P., at Jet Propulsion Laboratory, Pasadena, California (March 1996).
30. **The Smithsonian Submillimeter Array**, Ho, P.T.P., at University of California, Los Angeles, Los Angeles, California (March 1996).
31. **Conference Summary**, Ho, P.T.P., at The Galactic Center, La Serena, Chile (March 1996).
32. **Massive Star Forming Regions**, Ho, P.T.P., at NASA/SAO/CfSFS Star Formation Workshop 96: Star Formation in Clusters, Wellesley (July 1996).
33. **Detecting Circumstellar Disks and Brown Dwarfs**, Ho, P.T.P., at 2nd International Chinese Physicist Meeting in Honor of Wu Ta-You, Nankang, Taiwan (August 1997).
34. **Circumstellar Disks and Brown Dwarfs**, Ho, P.T.P., at Northwestern University, Evanston,

- Evanston, Illinois (October 1997).
35. **Opening Address**, Ho, P.T.P., at Protostars and Planets IV, U.C. Santa Barbara, (July 1998).
  36. **The Submillimeter Array**. Ho, P.T.P., at Imaging at Radio through Submillimeter Wavelengths, Tucson, Arizona (June 1999).
  37. **Observational Aspects of Protostellar Disks**, Ho, P.T.P., at Disks, Planetesimals and Planets, Tenerife, Spain (January 2000).
  38. **A Puff of Ejection from a Young Star in Cepheus**, Ho, P.T.P., at Academia Sinica Institute of Astronomy and Astrophysics, Nankang, Taiwan (March 2001).
  39. **Summary of Workshop**, Ho, P.T.P., at The Earliest Phases of Massive Star Birth, Boulder, Colorado (August 2001).
  40. **Future Prospects for ALMA Studies**, Ho, P.T.P., at Galactic Star Formation Across the Stellar Mass Spectrum, La Serena, Chile (March 2002).
  41. **Science with the SMA**, Ho, P.T.P., at University of Barcelona, Barcelona, Spain (April 2002).
  42. **Protoplanetary Disks**, Ho, P.T.P., at National Normal University, Taipei, Taiwan (November 2002).
  43. **Hot Gas in the Galactic Center**, Ho, P.T.P., at NCU/ASIAA Biannual Meeting, National Central University, Taiwan (December 2002).
  44. **Current Status of AMiBA Project**, Ho, P.T.P., at Cosmology and Particle Astrophysics, Chinese Physical Society Annual Meeting, Dong Hwa University, Hualin, Taiwan (February 2003).
  45. **Current Activities at ASIAA**, Ho, P.T.P., at National Taiwan University, Taipei, Taiwan (February 2003).
  46. **Hot Gas at the Galactic Center**, Ho, P.T.P., at National Taiwan University, Taipei, Taiwan (February 2003).
  47. **Current Activities at ASIAA**, Ho, P.T.P., at Academia Sinica Institute of Physics, Nankang, Taiwan (February 2003).
  48. **Astrophysics at the ASIAA**, Ho, P.T.P., at National Taiwan University Astronomy Camp, Taipei, Taiwan (February 2003).
  49. **Status of Radio Astronomy in Taiwan**, Ho, P.T.P., at Chinese Astronomical Society Meeting 2003, Taipei, Taiwan (April 2003).
  50. **Frontiers of Astronomy**, Ho, P.T.P., at Wu Chien-Shiung Science Camp 2003, Shitou, Taiwan (August 2003).
  51. **Frontiers of Astronomy**, Ho, P.T.P., at National Chung Hsing University, Taichun, Taiwan (November 2003).
  52. **Status of the Submillimeter Array Project**, Ho, P.T.P., at East Asian Young Astronomers Meeting 2003, Tien Lai, Taiwan (November 2003).
  53. **Status of the AMiBA Project**, Ho, P.T.P., at 2003 International Symposium on Cosmology

- and Particle Astrophysics, Taipei, Taiwan (November 2003).
54. **Submillimeter Array Status**, Ho, P.T.P., at SMA Dedication, Hilo, Hawaii (November 2003).
  55. **Japan's Role in International Academic Collaborations in Asia**, Ho, P.T.P., at 9th Sokendai International Symposium on Internationalization of Basic Researches in Japan, Hayama, Kanagawa, Japan (January 2004).
  56. **The Future of AMiBA in the Next Five Years**, Ho, P.T.P., at Cosmology and Particle Astrophysics, Chinese Physical Society Annual Meeting, National Tsinghua University, Hsinchu, Taiwan (February 2004).
  57. **Frontiers in Astronomy and the Submillimeter Array**, Ho, P.T.P., at CfA Open House, CfA, Cambridge (April 2004).
  58. **Search for Other Worlds**, Ho, P.T.P., at Wu Ta-You Science Camp 2004, Shitou, Taiwan (August 2004).
  59. **The Closest Supermassive Black Hole in the Center of the Milky Way**, Ho, P.T.P., at Wu Ta-You Science Camp 2004, Shitou, Taiwan (August 2004).
  60. **Massive Star Formation**, Ho, P.T.P., at Academia Sinica Institute of Astronomy and Astrophysics, Taipei, Taiwan (August 2004).
  61. **Early Science with the Submillimeter Array**, Ho, P.T.P., at Columbia University, New York, New York (September 2004).
  62. **Early Science with the Submillimeter Array**, Ho, P.T.P., at Carnegie Observatory, Pasadena, California (September 2004).
  63. **Emission Processes in the Interstellar Medium**, Ho, P.T.P., at IAOC Workshop on the Cool Universe: Observing the Cosmic Dawn, Valparaiso, Chile (October 2004).
  64. **Early Science with the Submillimeter Array**, Ho, P.T.P., at NRAO/AOC, Socorro, New Mexico (January 2005).
  65. **Submillimeter Array Project**, Ho, P.T.P., at CFA Interferometry Workshop, Cambridge, Massachusetts (March 2005).
  66. **Science with the Submillimeter Array**, Ho, P.T.P., at Harvard-Smithsonian Center for Astrophysics, Cambridge, Massachusetts (March 2005).
  67. **New Frontiers with the Submillimeter Array**, Ho, P.T.P., at Haystack Observatory, Westford, Massachusetts (July 2005).
  68. **East Asian Astronomy: View from Taiwan**, Ho, P.T.P., at East Asian Core Observatories Association Meeting, Mitaka, Japan (September 2005).
  69. **Overview of AMiBA Project**, Ho, P.T.P., at AMiBA Workshop, Hilo, Hawaii (September 2005).
  70. **Some Interesting SMA Problems for Theory**, Ho, P.T.P., at Harvard-Smithsonian Center for Astrophysics, Cambridge, Massachusetts (September 2005).
  71. **Besides Cosmic Strings**, Ho, P.T.P., at National Taiwan University, Taipei, Taiwan



- (November 2005).
72. **What's New at the ASIAA**, Ho, P.T.P., at National Taiwan University, Taipei, Taiwan (November 2005).
  73. **Status of SMA and ALMA-T**, Ho, P.T.P., at Workshop on Submillimeter Astronomy and Receiver Technologies, Nanjing, China (December 2005).
  74. **AMiBA Progress Report**, Ho, P.T.P., at Workshop on Submillimeter Astronomy and Receiver Technologies, Nanjing, China (December 2005).
  75. **ASIAA and ALMA-T**, Ho, P.T.P., at National Tsinghua University, Hsinchu, Taiwan (December 2005).
  76. **Supermassive Black Hole SgrA\***, Ho, P.T.P., at Physical Society of Republic of China, Taipei, Taiwan (January 2006).
  77. **Preparing for ALMA**, Ho, P.T.P., at National Cheng Kung University, Tainan, Taiwan (February 2006).
  78. **East Asian Astronomy: Progress in Taiwan**, Ho, P.T.P., at 1<sup>st</sup> East Asian Core Observatories Association Meeting, Aoyama, Japan (March 2006).
  79. **ALMA-J: Progress in Taiwan**, Ho, P.T.P., at 1<sup>st</sup> East Asian Core Observatories Association Meeting, Aoyama, Japan (March 2006).
  80. **ALMA-J: Progress in Taiwan**, Ho, P.T.P., at Astronomical Society of Japan Meeting, Wakayama, Japan (March 2006).
  81. **Taiwan Joins ALMA**, Ho, P.T.P., at National Taiwan University, Taipei, Taiwan (April 2006).
  82. **Studying Black Holes**, Ho, P.T.P., at Spring Talk Series at National Taiwan University, Taipei, Taiwan (April 2006).
  83. **ALMA-Taiwan: Current Status**, Ho, P.T.P., at CAST ALMA Briefing, Taichung, Taiwan (April 2006).
  84. **Precision Astrophysics**, Ho, P.T.P., at Academia Sinica Institute of Physics, Nankang, Taiwan (May 2006).
  85. **SMART and ALMA-Taiwan**, Ho, P.T.P., at OCPA 5 Meeting, Taipei, Taiwan (June 2006).
  86. **Precision Astrophysics: Galactic Center**, Ho, P.T.P., at Furano Summer School, Furano, Japan (September 2006).
  87. **Interstellar Medium in the Submm**, Ho, P.T.P., at Furano Summer School, Furano, Japan (September 2006).
  88. **ALMA-Taiwan: Current Status**, Ho, P.T.P., at 2nd ALMA-Taiwan Town Hall Meeting, Taipei, Taiwan (October 2006).
  89. **Experimental Cosmology in Taiwan**, Ho, P.T.P., at National Taiwan University, Taipei, Taiwan (January 2007).
  90. **Studies in Radio Astronomy**, Ho, P.T.P., at Radio Astronomy Winter School, Mitaka, Japan (January 2007).

91. **Studying the Radio Universe**, Ho, P.T.P., at National Taiwan University, Taipei, Taiwan (April 2007).
92. **ALMA-Taiwan: Current Status**, Ho, P.T.P., at 3rd ALMA-Taiwan Town Hall Meeting, Tainan, Taiwan (June 2007).
93. **Recent Progress and Activities of ASIAA**, Ho, P.T.P., at *2<sup>nd</sup> East Asian Core Observatories Association Meeting*, Beijing, China (August 2007).
94. **Status of SMA-Taiwan**, Ho, P.T.P., at SMA Advisory Committee Meeting, Cambridge, Massachusetts (September 2007).
95. **Current Status of Astronomy at ASIAA and in Taiwan**, Ho, P.T.P., at *7<sup>th</sup> East Asian Meeting of Astronomy*, Fukuoka, Japan (October 2007).
96. **SMA to ALMA-Taiwan**, Ho, P.T.P., at Center for Astrophysics and Space Sciences, University of California, San Diego, California (October 2007).
97. **The Y.T. Lee AMiBA Project**, Ho, P.T.P., at *2007 International Symposium on Cosmology and Particle Astrophysics*, National Taiwan University, Taipei, Taiwan (November 2007).
98. **Current Status of The ALMA-Taiwan Project**, Ho, P.T.P., at 2008 NSC/NSF Annual Bilateral Meeting, Taipei (January 2008).
99. **Large Scale International Collaboration Projects in Astronomy**, Ho, P.T.P., at Physical Society of Republic of China, Hsinchu, Taiwan (January 2008).
100. **Frontiers of Astrophysics: Origin of Everything**, Ho, P.T.P., Plenary Talk at Physical Society of Republic of China, Hsinchu, Taiwan (January 2008).
101. **Taiwan Participation in Subaru Project**, Ho, P.T.P., at *Subaru Telescope Users Meeting*, Tokyo, Japan (January 2008).
102. **Submillimeter Array to the Atacama Large Millimeter/submillimeter Array**, Ho, P.T.P., at Boston University, Boston (February 2008)
103. **Submillimeter Wavelength Studies of Star and Planet Formation**, Ho, P.T.P. at *GMT Meeting*, Australian National University, Canberra, Australia (March 2008).
104. **Non-Cosmological Astrophysics**, Ho, P.T.P., at National Taiwan University, Taipei, Taiwan (April 2008).
105. **Astronomy at the ASIAA**, Ho, P.T.P., at National Tsing Hua University, Hsinchu, Taiwan (May 2008).
106. **Astronomy at the ASIAA**, Ho, P.T.P., at *2<sup>nd</sup> East Asia Radio Astronomy School*, Taipei, Taiwan (July 2008).
107. **Studying the Radio Universe**, Ho, P.T.P., at *2<sup>nd</sup> East Asia Radio Astronomy School*, Taipei, Taiwan (July 2008).
108. **The Y.T. Lee AMiBA Project**, Ho, P.T.P., at *2008 International Symposium on Cosmology and Particle Astrophysics*, POSCO International Center, Pohang, Korea (October 2008).

109. **Astronomy at the ASIAA**, Ho, P.T.P., at Yonsei University, Seoul, Korea (November 2008).
110. **Astronomy in Taiwan**, Ho, P.T.P., at Korea Astronomy and Space Science Institute, Daejeon, Korea (November 2008).
111. **SMA Studies in preparation for ALMA**, Ho, P.T.P., at Seoul National University, Seoul, Korea (November 2008).
112. **SMA to ALMA and the ASIAA**, Ho, P.T.P., at University of Florida at Gainesville, Florida (December 2008).
113. **Experimental Cosmology in Taiwan**, Ho, P.T.P., at NTU/UC Davis Workshop on *From LHC to the Universe*, at National Taiwan University, Taipei, Taiwan (December 2008).
114. **Experimental Cosmology in Taiwan**, Ho, P.T.P., at National Tsing Hua University, Hsinchu, Taiwan (January 2009).
115. **SMA and ALMA: Discovery Prospects for Massive Star Formation**, Ho, P.T.P., at CRyA Workshop on *The Infancy of Massive Stars*, Morelia, Mexico (January 2009).
116. **How to Prepare a Career in Science**, Ho, P.T.P., at *Taiwan International Science Fair*, Taipei, Taiwan (February 2009).
117. **Future Directions in Star Formation Studies**, Ho, P.T.P., at TIARA Winter School on *Star Formation*, at National Tsing Hua University, Hsinchu, Taiwan (February 2009).
118. **Millimeter and Submillimeter Interferometry in Preparation for ALMA**, Ho, P.T.P., at RIA Workshop on *Impact of ALMA on the Spanish Extragalactic Astronomy*, at Instituto de Astrofísica de Andalucía, Granada, Spain (February 2009).
119. **Astronomy at ASIAA**, Ho, P.T.P., at the *3<sup>rd</sup> East Asian Core Observatories Association Meeting*, at ASIAA, Taipei (March 2009).
120. **Challenges in the Submillimeter**, Ho, P.T.P., at the *Ishiguro Retirement Symposium*, at NAOJ, Mitaka, Japan (July 2009).
121. **IRAM and ALMA**, Ho, P.T.P., at *IRAM 30<sup>th</sup> Anniversary Meeting: to the Edge of the Universe*, at Grenoble, France (September 2009).
122. **Whispers from the Universe: the Submillimeter Array Listens**, Ho, P.T.P., at *International Year of Astronomy Directors' Lecture Series*, at Waimea, Hawaii (October, 2009).
123. **Whispers from the Universe: the Submillimeter Array Listens**, Ho, P.T.P., at *International Year of Astronomy Directors' Lecture Series*, at Hilo, Hawaii (October, 2009).
124. **Preparing for the ALMA Era: The Submillimeter Array**, Ho, P.T.P., at University of California at Berkeley, California (October, 2009).
125. **Preparing for the ALMA Era: The Submillimeter Array**, Ho, P.T.P., *Karl Kamper Lecture* at University of Toronto, Toronto, Canada (November, 2009).
126. **Observational Cosmology in Taiwan**, Ho, P.T.P., at the National Central University, Chungli, Taiwan (December 2009).
127. **Astronomy at the ASIAA and the AMiBA Project**, Ho, P.T.P., at the *First Asia Pacific*

- CosPA Winter School*, Taipei, Taiwan (January 2010).
128. **Status of the ALMA Project**, Ho, P.T.P. at Physical Society of Republic of China, Tainan, Taiwan (February 2010).
  129. **ASIAA in 2010**, Ho, P.T.P., at the 4<sup>th</sup> *East Asian Core Observatories Association Meeting*, Jeju Island, Korea (May 2010).
  130. **First 20 Years of ASIAA**, Ho, P.T.P., Plenary Talk at Astronomical Society of Republic of China, Taipei, Taiwan (May 2010).
  131. **The Galactic Center**, Ho, P.T.P., at the *Science Opportunities for New Instrumentation, Asilomar 2010*, SOFIA Workshop, Asilomar, California (June 2010).
  132. **The Submillimeter Array Preparing for ALMA**, Ho, P.T.P., at the *Asia Pacific Radio Science Conference 2010*, Toyama, Japan (September 2010).
  133. **The Golden Age of Astronomy**, Ho, P.T.P., at the 2010 Academia Sinica Open House, Nankang, Taiwan (October 2010).
  134. **Growth of Radio Astronomy in Taiwan**, Ho, P.T.P., at the *South African Square Kilometre Array Project 2010 Postgraduate Bursary Conference*, Stellenbosch, South Africa (December 2010).
  135. **Preparing for the ALMA Era: The Submillimeter Array**, Ho, P.T.P., at the University of Barcelona, Barcelona, Spain (December 2010).
  136. **ASIAA Perspective on HSC/PFS**, Ho, P.T.P., at the *Subaru Users Meeting*, Mitaka, Japan (January 2011).
  137. **Interferometers of the World**, Ho, P.T.P., at the *East Asian Interferometer School*, Tokyo, Japan (February 2011).
  138. **Origins of Everything: Precision Astrophysics**, Ho, P.T.P., at the National Taiwan University, Taipei, Taiwan (March 2011).
  139. **2011 Status of The ALMA-Taiwan Project**, Ho, P.T.P., at 2011 NSC/NSF Annual Bilateral Meeting, Taipei (April 2011).
  140. **Submillimeter VLBI Project**, Ho, P.T.P., at the National Science Foundation, Washington, D.C (May 2011).
  141. **International Projects at ASIAA**, Ho, P.T.P., at 2011 Academia Sinica Retreat, Nankang, Taiwan (June, 2011)
  142. **ASIAA in the ALMA Era**, Ho, P.T.P., at the *Spectroimaging Star Formation Workshop*, Taipei, Taiwan (June 2011).
  143. **ASIAA Participation on HSC/PFS**, Ho, P.T.P., at the *PFS Collaboration Meeting*, Institute for the Physics and Mathematics of the Universe, Tokyo, Japan (July 2011).
  144. **Preparing for the ALMA Era: The Submillimeter Array**, Ho, P.T.P., at the Center for Radio Astronomy and Astrophysics, Morelia, Mexico (August 2011).
  145. **ASIAA in the ALMA Era**, Ho, P.T.P., at the Center for Astrophysics and Space Sciences, University of California, San Diego, California (August 2011).

146. **ASIAA in 2011**, Ho, P.T.P., at *5<sup>th</sup> East Asian Core Observatories Association Meeting*, Kyoto, Japan (November 2011).
147. **ASIAA in 2011**, Ho, P.T.P., at Kyung Hee University, Seoul, Korea (November 2011).
148. **Meeting Summary**, Ho, P.T.P., at the *Workshop on East-Asian Collaboration for the Square Kilometer Array*, Korean Astronomy and Space Science Institute, Daejeon, Korea (December 2011).
149. **Cosmology at ASIAA in 2012**, Ho, P.T.P., at LeCosPA Symposium, National Taiwan University, Taipei, Taiwan (February 2012).
150. **Origins of Everything: Precision Astrophysics**, Ho, P.T.P., at National Cheng Kung University, Tainan, Taiwan (March 2012).
151. **Atacama Large Millimeter/submillimeter Array**, Ho, P.T.P., at Academia Sinica Institute of Physics, Nangang, Taiwan (May 2012).
152. **EACOA Report on ASIAA in 2012**, Ho, P.T.P., at *6<sup>th</sup> East Asian Core Observatories Association Meeting*, Beijing, China (August 2012).
153. **Status of ASIAA in 2012**, Ho, P.T.P., at the Department of Astronomy, University of California, Berkeley, California (August 2012).
154. **Origins of Everything: Precision Astrophysics**, Ho, P.T.P., at Taiwan Tamkang University, Taipei, Taiwan (February 2013).
155. **The Greenland Telescope**, Ho, P.T.P., at *CRyA 10<sup>th</sup> Anniversary Workshop*, Morelia, Mexico (March 2013).
156. **EACOA Report on ASIAA in 2013**, Ho, P.T.P., at *7<sup>th</sup> East Asian Core Observatories Association Meeting*, Hawaii, (June, 2013).
157. **EACOA Status and Prospects**, Ho, P.T.P., at *9<sup>th</sup> East Asian Meeting on Astronomy*, Jhongli, Taiwan, (October, 2013).
158. **Research at ASIAA**, Ho, P.T.P., at the Herzberg Institute of Astrophysics, Victoria, Canada (December, 2013).
159. **Research at ASIAA**, Ho, P.T.P., at the Chinese University of Hong Kong, Sha Tin, Hong Kong (March, 2014).
160. **SPICA in the Era of JWST and ALMA**, Ho, P.T.P., at *SPICA Science Workshop*, Leiden, the Netherlands (May 2014).
161. **Astronomy in Taiwan in 2014**, Ho, P.T.P., at *2014 ASROC Annual Meeting*, Nantou, Taiwan (May 2014).
162. **Astronomy in Taiwan in 2014**, Ho, P.T.P., at *Cross-Strait Astrophysics Symposium*, Taipei, Taiwan (June 2014).
163. **EACOA Report on ASIAA in 2014**, Ho, P.T.P., at *8<sup>th</sup> East Asian Core Observatories Association Meeting*, Daejeon, Korea (August, 2014).
164. **Aspirations for East Asian Astronomy**, Ho, P.T.P., at *APRIM 2014, 12<sup>th</sup> Asia-Pacific Regional IAU Meeting*, Daejeon, Korea (August, 2014).

165. **10 Years of SMA Research**, Ho, P.T.P., at *31<sup>st</sup> URSI General Assembly and Scientific Symposium*, Beijing, China (August, 2014).
166. **Future of East Asian Observatory**, Ho, P.T.P., at the *JCMT Workshop*, Tokyo, Japan (September, 2014).
167. **Future of JCMT Operations**, Ho, P.T.P., at the *UK JCMT Workshop*, London, United Kingdom (September, 2014)
168. **The Greenland Telescope Project**, Ho, P.T.P., at the *DARK Cosmology Centre*, Copenhagen, Denmark (October, 2014).
169. **Origins of Everything: Precision Astrophysics**, Ho, P.T.P., at *37<sup>th</sup> New England Association of Chinese Professionals*, Cambridge, Massachusetts (November, 2014).
170. **Future of the East Asian Observatory**, Ho, P.T.P., at the *6<sup>th</sup> South East Asian Astronomy Net Meeting*, Manila, Philippines (December, 2014).
171. **Research at ASIAA and Status of the EAO**, Ho, P.T.P., at the *Korea Astronomy and Space Science Institute*, Daejeon, Korea (January, 2015).
172. **The ALMA-Taiwan Project**, Ho, P.T.P., at the *2015 Annual Meeting of the Physics Society of Republic of China*, National Tsing Hua University, Hsinchu, Taiwan (January, 2015).
173. **Aspirations for East Asia: Future of EAO**, Ho, P.T.P., at the *2015 Subaru Users Meeting, at the National Astronomical Observatory of Japan*, Tokyo, Japan (January, 2015).
174. **Aspirations for East Asia: Future of EAO**, Ho, P.T.P., at the *2015 Astronomical Society of Japan Meeting*, Osaka, Japan (March, 2015).
175. **Submillimeter Wavelength Astronomy**, Ho, P.T.P., at the *Ohio State University*, Columbus, Ohio (May, 2015).
176. **Research at ASIAA and the Greenland Telescope**, Ho, P.T.P., at the *Observatoire de Paris*, Paris, France (July, 2015).
177. **The Greenland Telescope Project**, Ho, P.T.P., at the *Purple Mountain Observatory*, Nanjing, China (July 2015).
178. **SMA in the ALMA Era**, Ho, P.T.P., at the *Nanjing University*, Nanjing, China (July 2015).
179. **The East Asian Observatory**, Ho, P.T.P., at the *IAU General Assembly*, Honolulu, Hawaii (August, 2015).
180. **The Greenland Telescope Project**, Ho, P.T.P., at the *Korea Astronomy and Space Science Institute*, Daejeon, Korea (October, 2015).
181. **East Asian Observatory, a Joint Dream**, Ho, P.T.P. at the *Korean Astronomical Society Meeting*, Daemyung, Korea (October, 2015).
182. **The Greenland Telescope Project**, Ho, P.T.P., at the *GLT Workshop*, Denmark Technical University, Lyngby, Denmark (November, 2015).
183. **The James Clerk Maxwell Telescope and the Radio Universe**, Ho, P.T.P., at *Keck Fund Raising Event*, Waimea, Hawaii (March, 2016).
184. **The East Asian Observatory**, Ho, P.T.P., at the *2016 ASROC Meeting*, NCKU, Tainan,

- Taiwan (May 2016).
185. **The Greenland Telescope Project**, Ho, P.T.P., at the *M87 Workshop*, ASIAA, Taipei, Taiwan (June 2016).
  186. **Summary Talk at Meeting on Star Formation in Different Environments**, Ho, P.T.P., at the *Star Formation in Different Environments Meeting*, Quy Nhon, Vietnam (August 2016).
  187. **Growth of Astronomy in Taiwan**, Ho, P.T.P., at the *Vietnam Astro Workshop*, Quy Nhon, Vietnam (August 2016).
  188. **Status of the James Clerk Maxwell Telescope**, Ho, P.T.P., at the *Cardiff JCMT Workshop*, Cardiff University, Cardiff, United Kingdom (September, 2016).
  189. **Status of the East Asian Observatory**, Ho, P.T.P., at the *10<sup>th</sup> East Asian Meeting on Astronomy (EAMA10)*, Seoul, Korea (September 2016).
  190. **Summary Talk at EAMA10**, Ho, P.T.P., at the *10<sup>th</sup> East Asian Meeting on Astronomy (EAMA10)*, Seoul, Korea (September 2016).
  191. **SMA in the ALMA Era: EAO Access to SMA Starting in 2017**, Ho, P.T.P., at the Korea Astronomy and Space Science Institute, Daejeon, Korea (November, 2016).
  192. **History of ALMA-Taiwan**, Ho, P.T.P., at the *ALMA Band 1 Science Workshop*, ASIAA, Taipei, Taiwan (January 2017).
  193. **The Greenland Telescope Project**, Ho, P.T.P., at the Purple Mountain Observatory, Nanjing, China (April 2017).
  194. **ALMA: into the Future**, Ho, P.T.P., at the Korea Astronomy and Space Science Institute, Daejeon, Korea (April, 2017).
  195. **Role of Asia in World Wide Astronomy**, Ho, P.T.P. at the *Perspectives on O/IR Astronomy in the Mid-2020s, a Workshop for JSPS "Science in Japan" Forum*, Washington DC (June 2017).
  196. **EACOA/EAO/JCMT Status**, Ho, P.T.P., at the *Cross-Strait Symposium of Astrophysics*, ASIAA, Taipei, Taiwan (July 2017).
  197. **Status of East Asian Observatory: Progress from 2015-2017**, Ho, P.T.P., at the *APRIM 2017, 13<sup>th</sup> Asia-Pacific Regional IAU Meeting*, Taipei, Taiwan (July, 2017).
  198. **Pushing the Astronomical Frontier in East Asia**, Ho, P.T.P., at the *Koenigstuhl Colloquium*, MPIA, Heidelberg, Germany (July 2017).
  199. **Status of East Asian Observatory: Progress from 2015-2017**, Ho, P.T.P., at the *Chinese Astronomical Society Meeting*, Urumqi, China (August, 2017).
  200. **Status of East Asian Observatory: Progress from 2015-2017**, Ho, P.T.P., at the Max Planck Institute for Radio Astronomy, Bonn, Germany (October, 2017).
  201. **Science Drivers for Next Generation Submillimeter/millimeter Instrumentation**, Ho, P.T.P., at the *19<sup>th</sup> East Asia Sub-millimeter-wave Receiver Technology Workshop*, Taipei, Taiwan (November 2017).
  202. **Development of Astronomy in Taiwan**, Ho, P.T.P., at the *Space Science and Technology*

- Conference at the International University - Vietnam National University at Ho Chi Minh City, Vietnam (December 2017).*
203. **East Asian Astronomy and the East Asian Observatory**, Ho, P.T.P., at the University of Malaya, Kuala Lumpur, Malaysia (July 2018).
  204. **Astrophysics in Asia**, Ho, P.T.P., and N.D. Pham, at *The Cosmic Cycle of Dust and Gas in the Galaxy: From Old to Young Stars*, Quy Nhon, Vietnam (July 2018).
  205. **Development of Astronomy in Taiwan**, Ho, P.T.P., at the Vietnam National Space Center, Hanoi, Vietnam (August 2018).
  206. **Astrophysics in Asia and the East Asian Observatory**, Ho, P.T.P., at the *Windows on the Universe*, Quy Nhon, Vietnam (August 2018).
  207. **Status of the East Asian Observatory: Progress 2015-2018**, Ho, P.T.P., at the Shanghai Astrophysical Observatory, Shanghai, China (September 2018).
  208. **Status of the East Asian Observatory: Progress 2015-2018**, Ho, P.T.P., at the *10<sup>th</sup> South East Asian Astronomy Net Meeting*, Lampung, Indonesia (October 2018).
  209. **Status of the East Asian Observatory: Progress 2015-2018**, Ho, P.T.P., at the National Astronomical Observatories, Chinese Academy of Sciences, Beijing, China (November 2018).
  210. **Observational Cosmology in Taiwan: Pauchy's Imprint on Taiwan Astrophysics**, Ho, P.T.P., at *From Quarks to Black Holes, Professor Wowi-Yann Pauchy Hwang Memorial Symposium*, Taipei (December 2018).
  211. **Recent Experimental Research on Studying Supermassive Black Holes**, Ho, P.T.P., at *NCTS Annual Theory Meeting 2018: Particles, Cosmology and Strings*, Hsinchu (December 2018).
  212. **East Asian Observatory Prospectives**, Ho, P.T.P., at *EAO Subaru Science Workshop 2019*, Daejeon, Korea (January 2019).
  213. **East Asian Observatory Status**, Ho, P.T.P., at *The 5<sup>th</sup> China-Chile Bi-lateral Astronomy Science Meeting*, Kunming, China (January 2019).
  214. **East Asian Observatory: Subaru?** Ho, P.T.P., at the *Subaru Users Meeting FY2018*, Mitaka, Japan (January 2019).
  215. **Status of the Greenland Telescope Project**, Ho, P.T.P., at the *Meeting on Danish Involvement in the Greenland Telescope*, Copenhagen, Denmark (February 2019).
  216. **The Development of the East Asian Observatory for all of Asia**, Ho, P.T.P., at the *XXXVII Meeting of Astronomical Society of India*, Bangaluru, India (February 2019).
  217. **Gender Balance on Mauna Kea**, Ho, P.T.P., at the *Astronomical Society of India Working Group for Gender Equity Meeting, XXXVII Meeting of Astronomical Society of India*, Bangaluru, India (February 2019).
  218. **Indonesia in the East Asian Observatory**, Ho, P.T.P., at the Institut Teknologi Bandung, Bandung, Indonesia (March 2019).



219. **First Direct Image of a Black Hole**, Ho, P.T.P., at the ASIAA/CCMS/IAMS/LeCosPA/NTU-Physics/NTNU-Physics Joint Colloquium, National Taiwan University, Taipei (May 2019).
220. **Summary Talk at EAO Futures Meeting**, Ho, P.T.P., at *International Workshop on EAO Futures: Future Science and Instrumentation*, Purple Mountain Observatory, Nanjing (May 2019).
221. **First Picture of a Black Hole**, Ho, P.T.P., at the International University-Vietnam National University, Ho Chi Minh City (IU-VNUHCM), Ho Chi Minh City, Vietnam (June 2019).
222. **First Image of a Black Hole**, Ho, P.T.P., at the *14<sup>th</sup> Annual Conference of the Thai Physics Society Siam Physics Congress 2019*, Hatyai, Songkhla, Thailand (June 2019).
223. **First Direct Image of a Black Hole**, Ho, P.T.P., at the National Astronomical Research Institute of Thailand, Chiang Mai, Thailand (June 2019).
224. **Thailand in the East Asian Observatory: Engaging the Science Programs at the JCMT**, Ho, P.T.P., at the National Astronomical Research Institute of Thailand, Chiang Mai, Thailand (June 2019).
225. **First Direct Image of a Black Hole**, Ho, P.T.P., at the *8<sup>th</sup> Applied Optics and Photonics China 2019 Conference*, Beijing, China (July 2019).
226. **First Direct Image of a Black Hole**, Ho, P.T.P., at the National Astronomical Observatories, Chinese Academy of Sciences, Beijing, China (July 2019).
227. **Infall Towards the Central SMBH**, Ho, P.T.P., at the Tsinghua University, Beijing, China (July 2019).
228. **Falling into the Center: Accretion towards SgrA\* SMBH in the Milky Way**, Ho, P.T.P., at the Kavli Institute of Astronomy and Astrophysics, Peking University, Beijing, China (July 2019).
229. **First Image of Black Hole**, Ho, P.T.P., at the *2019 Nature Science Camp*, National Tainan Girls' Senior High School, Tainan, Taiwan (August 2019).
230. **First Direct Image of a Black Hole**, Ho, P.T.P., at the *Simons Program: Physics and Astrophysics in the Era of Gravitational Wave Detection*, The Niels Bohr International Academy, Copenhagen, Denmark (August 2019).
231. **First Image of a Black Hole**, Ho, P.T.P., at the Physics Research Promotion Center Meeting, Taipei (September 2019).
232. **First Image of a Black Hole**, Ho, P.T.P., at the *Mini-workshop: Black Hole and Neutron Stars – Imagination and Reality*, VNU University of Science, Hanoi, Vietnam (September 2019).
233. **Asian Efforts to Drive the Frontier of Astronomical Research**, Ho, P.T.P., at the Vietnam National Space Center, Hanoi, Vietnam (September 2019).
234. **First Direct Image of a Black Hole**, Ho, P.T.P., at the National Cheng Kung University, Tainan, Taiwan (October 2019).

235. **Seeing the Unseeable: Little Known Stories behind Imaging a Monstrous Black Hole**, Ho, P.T.P., at the *Academia Sinica Open House*, Taipei, Taiwan (October 2019).
236. **JCMT Observatory Update**, Ho, P.T.P., at the *JCMT Users Meeting 2019*, at ASIAA, Taipei, Taiwan (November 2019).
237. **First Image of a Black Hole**, Ho, P.T.P., at the *International Conference on Frontier Sciences*, at the University of Chinese Academy of Sciences, Huairou District, Beijing, China (November 2019).
238. **First Image of a Black Hole**, Ho, P.T.P., at the Five-hundred-meter Aperture Spherical Radio Telescope, Guiyang, China (November 2019).
239. **First Image of a Black Hole**, Ho, P.T.P., at *NCTS Annual Theory Meeting 2019: Particles, Cosmology and Strings*, Hsinchu, Taiwan (December 2019).
240. **Instrumentation Development at EAO**, Ho, P.T.P., at the 39<sup>th</sup> *Symposium on Engineering in Astronomy*, NAOJ, Mitaka, Japan (January 2020).
241. **Event Horizon Telescope: First Image of Black Hole in Galaxy M87**, Ho, P.T.P., at the *Galaxy Forum Southeast Asia 2020 Thailand*, at the National Astronomical Research Institute of Thailand, Chiang Mai, Thailand (March 2020).
242. **The Nobel Prize Winning Work on the Nearest Supermassive Black Hole SgrA\***, Ho, P.T.P., at the *AAPPS-DACG Workshop on Astrophysics, Cosmology and Gravitation*, online workshop, Seoul, Korea (November 2020).
243. **EAO/JCMT as part of the EHT Project**, Ho, P.T.P., at the *Galaxy Forum Hawai'i 2020 Kamuela*, at the International Lunar Observatory Association, Kamuela, Hawaii (November 2020).
244. **The Supermassive Black Hole in the Galactic Center**, Ho, P.T.P., at *NCTS Annual Theory Meeting 2020: Particles, Cosmology and Strings*, Hsinchu, Taiwan (December 2020).

## Scientific Organizing Committees (1990- )

1. *Third Haystack Observatory Conference on Atoms, Ions, and Molecules: New Results in Spectral Line Astrophysics*; Westford, Massachusetts (May 1990).
2. *1991 Taipei Astrophysics Workshop: Relationships Between Active Galactic Nuclei and Starburst Galaxies*; Taipei, Taiwan (March 1991).
3. *1992 Taipei Astrophysics Workshop: Science and Technology of Astronomical Interferometry*; Taipei, Taiwan (March 1992).
4. *IAU Colloquium No. 140: Astronomy with Millimeter and Submillimeter Wave Interferometry*; Hakone, Japan (October 1992).
5. *IAUNAM Workshop: Circumstellar Disks and Out in Young Stars*; Cozumel, Mexico (November 1994).
6. *Fourth Center for Astrophysics Internal Symposium on Star and Planet Formation and Related Topics*; Chair; Cambridge, Massachusetts (June 1995).
7. *The 1995 Star Formation Workshop: Star and Planet Formation at High Angular Resolution*; Nankang, Taiwan (July 1995).
8. *Japan-U.S. Workshop on Millimeter and Submillimeter Astronomy at 10 Milli-Arcseconds Resolution*; Tokyo, Japan (March 1997).
9. *2003 International Symposium on Cosmology and Particle Astrophysics*; Co-Chair; Taipei, Taiwan (November 2003).
10. *2004 New Windows on Star Formation in the Cosmos*; Maryland (October 2004).
11. *Submillimeter Astronomy: in the era of the SMA*; Chair; Cambridge, Massachusetts (June 2005).
12. *AMiBA Workshop*; Chair; Hilo, Hawaii (September 2005).
13. *Workshop on Submillimeter Astronomy and Receiver Technologies*; Co-Chair; Nanjing, China (December 2005).
14. *ASIAA-TIARA Star Formation Workshop 2005: From Cloud Cores to Debris Disks*; Taipei (December 2005).
15. *2006 International Symposium on Cosmology and Particle Astrophysics*; Taipei, Taiwan (November 2006).
16. *Massive Star Formation: Observations Confront Theory*; Heidelberg, Germany (September 2007).
17. *Millimeter and Submillimeter Astronomy at High Angular Resolution*, Chair, Taipei, Taiwan (June 2009).
18. *Molecules in Galaxies*, Cambridge, United Kingdom (July 2010).
19. *Galaxy Mergers in an Evolving Universe*, Hualien, Taiwan (October, 2011).

20. *Workshop on East-Asian Collaboration for the Square Kilometer Array*, Daejeon, Korea (December 2011).
21. *NRAO-NAASC 2012 Workshop: Outflows, Winds and Jets: From Young Stars to Supermassive Black Holes*, Charlottesville, VA, (March 2012).
22. *New Trends in Radio Astronomy in the ALMA Era*, Hakone, Japan (December 2012).
23. *The Galactic Center: Feeding and Feedback in a Normal Galactic Nucleus*, Santa Fe, NM (September 2013).
24. *The Submillimeter Array: First Decade of Discovery*, Cambridge, MA (June 2014).
25. *M87 Workshop 2016*, Taipei, Taiwan (May 2016).
26. *Star Formation in Different Environments*, Vietnam (July 2016).
27. *ALMA Band 1 Science Workshop*, Taipei, Taiwan (January 2017).
28. *Black Hole Astrophysics with VLBI: Past, Present, and Future*, Mitaka, Tokyo, Japan (March 2017).
29. *The Cosmic Cycle of Dust and Gas in the Galaxy: from Old to Young Stars*, Quy Nhon, Vietnam (July 2018).
30. *Windows on the Universe*, Quy Nhon, Vietnam (August 2018).

## Professional Activities

1. **Referee for:** Astrophysical Journal, Astronomical Journal, Publication of the Astronomical Society of Japan, Astronomy and Astrophysics, Science, Nature, Icarus, Astrophysical Letters and Communications.
2. **Referee for:** National Radio Astronomy Observatory, National Optical Astronomy Observatories, United Kingdom Infrared Telescope, National Aeronautics and Space Administration, National Science Foundation, National Research Council of Canada, National Science Council of Taiwan.
3. **Past Managing Editor for:** Astrophysical Letters and Communications.
4. **Past Member of:** Harvard University Department of Astronomy Committee on Academic Studies; NRAO Users Committee; NSF Division of Astronomical Sciences Visiting Committee; USRA Astronomy and Space Physics Science Council; NRAO Visiting Committee; ALMA Cost Review Committee; ACA Preliminary Design Review Committee, Chair; ALMA North American Science Advisory Committee; National Taiwan University Physics Department Visiting Committee; National Tsing Hua University Physics Department Visiting Committee
5. **Past Member of:** SAO Colloquium Committee; SAO Fellowship Committee; SAO Central Engineering Advisory Committee; Submillimeter Array Steering Committee; SAO Federal Scientist Appointments Committee, Chair; SAO Professional Accomplishments Evaluation Committee; SMA Legacy Science Committee, Chair; Giant Segmented Mirror Telescope Science Working Group; Higher Education Evaluation and Accreditation Council of Taiwan; Panel to Advise on Science and EVLA Operations; Advisory Committee for the Academia Sinica Institute of Astronomy and Astrophysics; HyperSuprime Cam Steering Committee; Prime Focus Spectrograph Steering Committee; Ecole Normale Supérieure Physics Department Visiting Committee; NAOJ External Review Committee; China Thirty Meter Telescope Advisory Committee; Ecole Normale Supérieure Physics Department Astrophysics Senior Faculty Search Committee, Chair; Atacama Large Millimeter/submillimeter Array Board
6. **Member of:** Event Horizon Telescope Board
7. **Member of:** The Astronomy and Astrophysics Review Editorial Board

8. **Member of:** Kavli Institute of Astronomy and Astrophysics Science Advisory Committee
9. **Member of:** Selection Advisory Board to the Gruber Cosmology Prize (2018- )
10. **Member of:** Institut Radio Astronomie Millimetrique Visiting Committee (2018)
11. **Member of:** SOFIA Red Team Review (2019)

## Research Highlights

1. **Top 10 Astronomical Results in 1987:** Ph.D. thesis of student Eric Keto on Collapsing Core in G10.6-0.4 was picked as one of the top 10 astronomical results in 1987 by the American Astronomical Society.
2. **Finalist in Apker Award:** Undergraduate thesis of student Luis Ho was among the three top undergraduate physics theses in the U.S. in 1990.
3. **M82 as NRAO Research Highlight in 1992:** Ph.D. thesis of student Min Yun on M82 featured as the cover of NRAO yearly research report to NSF.
4. **Student Prizes:** Goldberg Prizes to Luis Ho (1990), Lisa Norton (1991); Hoopes Prizes to Luis Ho (1989; 1990).
5. **Cover of Nature:** M81-M82 Interacting System (1994).
6. **Highlighted in Nature:** Gas Filaments in Orion (1996).
7. **Highlighted in Nature:** Puff of Ejection of Water Masers in Cepheus A (2001).
7. **Submillimeter Array:** Dedicated on Mauna Kea (2003)
8. **Special Astrophysical Journal Letters Volume:** Submillimeter Array (2004)
9. **Yuan Tseh Lee Array for Microwave Background Anisotropy:** Dedicated on Mauna Loa (2006).
10. **Astrophysical Journal:** First 7 AMiBA papers (2009)
11. **Atacama Large Millimeter/Submillimeter Array:** Dedicated on Atacama (2013)
12. **East Asian Observatory:** Incorporated in Hawaii (2014)
13. **Greenland Telescope:** First Light in Thule (2017)

14. **Event Horizon Telescope:** First 6 papers on the Shadow of the M87 Supermassive Black Hole (2019)



## Ph.D. Students Supervised

1. **Eric R. Keto** (2/1985 to 6/1987)  
**Harvard University**  
*Microwave Spectroscopy and Gravitational Collapse*
2. **Min S. Yun** (9/1986 to 6/1992)  
**Harvard University**  
*Study of Tidal Interactions in M81-M82-NGC3077 System*
3. **John C. Szczepanski** (9/1986 to 6/1993)  
**Massachusetts Institute of Technology**  
*Gas Feeding of the Galactic Center Region*
4. **Jose F. Gomez** (9/1990 to 6/1993)  
**University of Granada**  
*Observational Study of Protoplanetary Disks and Outflows  
in Regions of Star Formation*
5. **Jennifer J. Wiseman** (9/1989 to 6/1995)  
**Harvard University**  
*Large Scale Structure, Kinematics, and Temperature of the Orion Ridge*
6. **Qizhou Zhang** (2/1993 to 1/1997)  
**Harvard University**  
*Dynamical Collapse in Star Forming Cores*
7. **Jose M. Girart** (9/1993 to 10/1997)  
**University of Barcelona**  
*The Emission of the Ammonia and the Formyl Ion in Molecular Outflows*
8. **Maria T. Beltran** (10/1998 to 5/2002)  
**University of Barcelona**  
*Circumstellar Material Around Low- and Intermediate-Mass  
Very Young Stellar Objects*

9. **Robin S. McGary Herrnstein** (1/1999 to 6/2003)  
**Harvard University**  
*The Molecular Environment in the Central 10 Parsecs of The Milky Way*
10. **Daisuke Iono** (9/2001 to 8/2004)  
**University of Massachusetts**  
*Response of Atomic and Molecular Gas to a Disk-Disk Collision*
11. **Peter K. Sollins** (3/2000 to 8/2005)  
**Harvard University**  
*Accretion and Outflow in Massive Star Formation:  
Observational Studies at High Angular Resolution*
12. **Aina Palau Puigvert** (6/2003 to 3/2006)  
**University of Barcelona**  
*Star Formation in Cluster Environments at Mm and Submm Wavelengths*
13. **Luis Alberto Zapata Gonzalez** (1/2004 to 11/2006)  
**University of Mexico**  
*Centimeter and Millimeter Observations of the Massive Star  
Formation in the OMCI South Region*
14. **Maria Montero-Castano** (4/2003 to 2/2008)  
**Complutense University**  
*Study of High-Density Material in Circumnuclear Environments:  
Spectroscopical Analysis*
15. **Ya-Wen Tang** (9/2004 to 6/2009)  
**National Taiwan University**  
*Evolution of Magnetic Fields in High Mass Star Formation*
16. **Gemma Busquet** (11/2007 to 12/2010)  
**University of Barcelona**  
*Timing the Chemical Evolution of the Dense Gas in High-Mass  
Star-Forming Regions*
17. **Roberto J. Galvan Madrid** (9/2007 to 8/2011)  
**University of Mexico**

*The Formation of the Most Massive Stars in the Galaxy*

18.           **Hau-Yu Liu**                           (9/2007 to 6/2012 )  
              **National Taiwan University**  
              *The Origin of OB Clusters*
19.           **Pei-Ying Hsieh**                           (8/2008 to 8/2015)  
              **National Central University**  
              *The Infall and Outflows from Galactic Centers*

## Master Students Supervised

1. **Adrienne Cool** (2/1985 to 6/1987)  
G10.6-0.4
2. **Hongsong Chou** (9/1994 to 8/1997)  
Masers
3. **Jenny E. Greene** (10/2001 to 5/2003)  
HI in Seyferts
4. **Shin-Yi Lin** (9/2003 to 7/2005)  
Protoplanetary Disks
5. **Hau-Yu Liu** (9/2006 to 8/2007)  
Galaxy Cluster Finding Algorithm

## Undergraduate Students Supervised

|     |                          |   |
|-----|--------------------------|---|
| 1.  | <b>Buell Jannuzi</b>     | (1/1983 to 6/1983)                        |
| 2.  | <b>Bruce Jacob</b>       | (1/1987 to 6/1988)                        |
| 3.  | <b>Edward W. Pyne</b>    | (1/1987 to 6/1988)                        |
| 4.  | <b>Luis C. Ho</b>        | (1/1988 to 6/1990)                        |
| 5.  | <b>Nancy A. Levenson</b> | (1/1988 to 6/1988)                        |
| 6.  | <b>Ray Zollinger</b>     | (11/1988 to 6/1989)                       |
| 7.  | <b>Michael Pahre</b>     | (11/1988 to 6/1989)<br>(9/1991 to 8/1992) |
| 8.  | <b>Lisa Norton</b>       | (11/1989 to 6/1991)                       |
| 9.  | <b>Rebecca Shen</b>      | (9/1992 to 6/1993)                        |
| 10. | <b>Larry Lee</b>         | (11/1992 to 6/1995)                       |
| 11. | <b>Andrew Ross</b>       | (12/1992 to 6/1993)                       |
| 12. | <b>Cory Carter</b>       | (6/1993 to 6/1994)                        |
| 13. | <b>Michael DePrezio</b>  | (9/1994 to 8/1995)                        |
| 14. | <b>Alison Coil</b>       | (6/1996 to 8/1998)                        |
| 15. | <b>Naveen Reddy</b>      | (6/1999 to 8/1999)                        |
| 16. | <b>David Rothstein</b>   | (6/1999 to 8/1999)                        |
| 17. | <b>Cheng-Yu Kuo</b>      | (6/2002 to 8/2005)                        |
| 18. | <b>Shin-Yi Lin</b>       | (6/2002 to 8/2003)                        |
| 19. | <b>An-Li Tsai</b>        | (9/2003 to 8/2004)                        |
| 20. | <b>Ya-Wen Tang</b>       | (8/2003 to 8/2004)                        |
| 21. | <b>Vivian Chen</b>       | (1/2012 to 8/2012)                        |

## Postdoctoral Fellows Supervised

|     |                            |                     |
|-----|----------------------------|---------------------|
| 1.  | <b>Mary Barsony</b>        | (7/1990 to 8/1993)  |
| 2.  | <b>Mark Wolfire</b>        | (9/1990 to 8/1992)  |
| 3.  | <b>Jun-Hui Zhao</b>        | (7/1993 to 10/1997) |
| 4.  | <b>Merce Crosas</b>        | (2/1994 to 4/1997)  |
| 5.  | <b>Nimesh Patel</b>        | (9/1994 to 3/1996)  |
| 6.  | <b>Nagayoshi Ohashi</b>    | (9/1994 to 8/1997)  |
| 7.  | <b>Mark Gurwell</b>        | (9/1995 to 4/1998)  |
| 8.  | <b>Sridharan Tirupati</b>  | (8/1996 to 6/2000)  |
| 9.  | <b>Todd Hunter</b>         | (10/1996 to 3/1999) |
| 10. | <b>Charles Katz</b>        | (9/1997 to 8/2000)  |
| 11. | <b>Masao Saito</b>         | (10/1997 to 9/2000) |
| 12. | <b>Martina Wiedner</b>     | (10/1998 to 9/2002) |
| 13. | <b>Brad Wallace</b>        | (7/1999 to 11/2000) |
| 14. | <b>Christopher Moore</b>   | (7/1999 to 7/2000)  |
| 15. | <b>Satoki Matsushita</b>   | (4/2000 to 4/2003)  |
| 16. | <b>Kazushi Sakamoto</b>    | (9/2000 to 11/2004) |
| 17. | <b>Chunhua Qi</b>          | (9/2000 to 10/2003) |
| 18. | <b>Hiroko Shinnaga</b>     | (10/2001 to 8/2004) |
| 19. | <b>Alison Peck</b>         | (12/2001 to 9/2003) |
| 20. | <b>Tyler Bourke</b>        | (9/2002 to 8/2005)  |
| 21. | <b>David Fong</b>          | (9/2002 to 8/2005)  |
| 22. | <b>Shigehisa Takakuwa</b>  | (9/2002 to 6/2005)  |
| 23. | <b>Hiroaki Nishioka</b>    | (4/2003 to 6/2012)  |
| 24. | <b>Satoko Sawada-Satoh</b> | (4/2003 to 4/2007)  |
| 25. | <b>Patrick Koch</b>        | (4/2003 to 12/2010) |
| 26. | <b>Henrik Beuther</b>      | (9/2003 to 8/2005)  |
| 27. | <b>Ram Rao</b>             | (9/2003 to 7/2005)  |
| 28. | <b>Chin Fei Lee</b>        | (9/2003 to 8/2005)  |
| 29. | <b>Daisuke Iono</b>        | (9/2004 to 8/2005)  |
| 30. | <b>Glen Petitpas</b>       | (10/2004 to 8/2005) |

|     |                           |                      |
|-----|---------------------------|----------------------|
| 31. | <b>Sozo Yokogawa</b>      | (03/2005 to 2/2006)  |
| 32. | <b>Guo-Chin Liu</b>       | (09/2005 to 8/2008)  |
| 33. | <b>Bau-Ching Hsieh</b>    | (10/2005 to 3/2013)  |
| 34. | <b>A-Ran Lyo</b>          | (03/2006 to 7/2007)  |
| 35. | <b>Jun-ichi Nakashima</b> | (03/2006 to 8/2007)  |
| 36. | <b>Kai-Yang Lin</b>       | (08/2006 to 6/2011)  |
| 37. | <b>Daniel Espada</b>      | (09/2006 to 8/2009)  |
| 38. | <b>Tzu-Ching Chang</b>    | (12/2006 to 9/2010)  |
| 39. | <b>Satoko Takahashi</b>   | (08/2007 to 4/2013)  |
| 40. | <b>Li-Hwai Lin</b>        | (09/2007 to 7/2009)  |
| 41. | <b>Ya-Wen Tang</b>        | (07/2009 to 9/2010)  |
| 42. | <b>Victor Liao</b>        | (09/2009 to 9/2013)  |
| 43. | <b>Edwige Chapillon</b>   | (09/2011 to 10/2013) |
| 44. | <b>Ya-Wen Tang</b>        | (09/2012 to 8/2015)  |
| 45. | <b>Hsi-An Pan</b>         | (04/2016 to 8/2017)  |