Curriculum Vitae

Houjun Mo

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Personal Data:

Name:	Houjun Mo
Date of birth:	May 3, 1963
Place of birth:	Anhui, China
Nationality:	USA
Sex:	Male
Address:	LGRT B619E, 710 North Pleasant St. Amherst, MA 01003, USA

Education:

9/1979-7/1983	BS (7/83; Phys.)	Anhui University
9/1983-4/1987	MS (1/86; Astrophys.)	Univ. of Sci. & Tech. of China
5/1987-6/1991	PhD (6/91; Astrophys.)	Munich University

Professional Employment:

1991 - 1994	Postdoctoral fellow	Institute of Astronomy, Cambridge
1994 - 1995	Postdoctoral member	Institute of Advanced Study, Princeton
1995 - 1998	Tenure-track position:	Max-Planck-Institut für Astrophysik
1999 - 2003	Tenured scientific staff	Max-Planck-Institut für Astrophysik
2003 - 2008	Tenured associate professor	Astronomy, UMass
2008 -	Tenured full professor	Astronomy, UMass

Honors and visiting positions

1. Visiting professor, T-D Lee Institute, Shanghai Jiatong University, June 2023 - December 2023
2. Distinguished visiting professor, Tsinghua University, 2016 - 2019
3. Distinguished visiting professor, University of Science and Technology of China, 2011 -2016
4. Book 'Galaxy formation and evolution' wins 2010 PROSE award
5. Visiting Professor, Univ. of Sci. & Tech of China, 2002
6. Honorary Professor, Shanghai Observatory, Chinese Academy of Sciences, 2000
7. Visiting Professor, Padova University, 2000
8. Key-Projects Reviewer, Chinese Academy of Sciences, 1999 - 2003
9. Outstanding Overseas Young Scientist, Chinese Academy of Sciences, 1999
10. PhD thesis with the highest honor (Summa Cum Laude)

Research collaborations

1. SUBARU/PFS collaboration: https://pfs.ipmu.jp/
2. SDSS/MaNGA: https://www.sdss.org/surveys/manga/
3. CHILES observation of HI galaxies: http://chiles.astro.columbia.edu/science.html
4. TolTEC Surveys: http://toltec.astro.umass.edu/science_legacy_surveys.php
5. Hydrodynamic simulations of the local universe: UMass; University of Science and Technology of China; University of Edinburgh

Mentoring and Advising

Postdoctoral fellows

1. Huiyuan Wang: former postdoctoral research associate at UMass.

2. Xiaohu Yang: former postdoctoral research associate at UMass.

3. At the Max-Planck-Institute for Astrophysics (MPA) where I held a faculty position from 1995 to 2003, postdoctoral fellows were all sponsored by the institute. Postdoctoral fellows whom I have worked with at MPA included Frank van den Bosch, Shude Mao, Yipeng Jing, Ravi Sheth, Tom Theuns, Tom Abel, David Syer, Beppi Tormen.

Graduate students

1. Haochen Jiang: Umass astronomy, initial research project (IRP)

2. Jenny Zhang: UMass graduate student, thesis.

3. Darren Stroupe: UMass graduate student, first year research project.

4. Lisiyuan Yang: UMass graduate student, first year research project.

5. Yangyao Chen: visiting graduate student from Tsinghua University, PhD thesis.

6. Kai Wang: visiting graduate student from Tsinghua University, PhD thesis.

7. Jiacheng Meng, Tsinghua graduate student, projects through PFS collaboration

8. Xiao Li, Tsinghua graduate student, projects through PFS collaboration

9. Xuanyi Wu, Tsinghua graduate student, projects through PFS collaboration

10. Pengfei Li, undergraduate student from USTC, summer internship, 2019.

11. Seunghwan Lim: former UMass graduate student, PhD thesis.

12. Yue Liu, former UMass student, first year research project.

13. Shuang Zhou, former Tsinghua graduate student, projects through MaNGA collaboration

14. Sirinrat Sithajan: former UMass graduate student, second year project.

15. Zhankui Lu: former UMass graduate student, PhD thesis.

16. Bomee Lee: former UMass graduate student, second year project.

17. Ran Li: former graduate student from Peking University, worked with me for two years at UMass, PhD thesis.

18. Yu Lu: former UMass graduate student, PhD thesis.
19. Yun Li: former UMass graduate student, PhD thesis.
20. Yicheng Guo: UMass graduate student, second year project.
21. Shiyin Shen: former MPA graduate student, PhD thesis
22. Xiaohu Yang: former USTC graduate student, worked with me for one year at MPA, PhD thesis.
23. Lidia Tasca: former MPA graduate student, PhD thesis.
24. Rigoberto Casas-Miranda: former MPA graduate student, PhD thesis.
25. Xi Kang: former SHAO graduate student, worked with me for two years at MPA, PhD thesis
26. Michael Platzöder: former MPA Diplom (master) student, Diplom thesis.
27. Weipeng Lin: former MPA graduate student, PhD thesis.
28. Wolfgang Salzmann, former PMA Diplom (master) student, Diplom thesis
29. Matteo Viel, former graduate student from Padova University, worked with me for two years at MPA, PhD thesis.
30. Donghai Zhao, former graduate student from Shanghai Observatory, worked with me for one year at MPA, PhD thesis.

Thesis committees served

1. Lisiyuan Yang, UMass astronomy
2. Sara Feyzbakhsh, UMass physics
3. Zhiyuan Ji, UMass astronomy
4. Tianyang Shen, UMass physics
5. Shuiyao Huang, UMass astronomy
6. Jed McKinney, UMass astronomy

7. Seunghwan Lim, UMass astronomy
8. Hansung Gim, UMass astronomy
9. Zhankui Lu, UMass astronomy
10. Christina Williams, UMass astronomy
11. John Cybulski, UMass astronomy
12. Basem Mahmoud Elmenoufi, UMass physics
13. Yu Lu, Umass astronomy;
14. Yun Li, Umass astronomy;
15. Yicheng Guo, UMass astronomy
16. Kushick Dutta, UMass physics;
17. Shikui Tang, UMass astronomy;
18. Yuxi Chen, UMass astronomy;
19. Dusan Keres, UMass astronomy;
20. Jun-hwan Choi, UMass astronomy;
21. Sanchayeeta Borthakur, UMass astronomy;
22. Jason Austerman, UMass astronomy;

Publications

Please use the following link to see my publications: `Publication list.`

Talks and presentations

1. The co-evolution of dark matter halos, galaxies and supermassive black holes. Invited speaker (remote), in "AGN and feedback", Shanghai, 10/13-10/16/2024
2. Reconstructing the formation of the observed universe to explore the cosmic web. Invited speaker, in 'Shanghai Texas Symposium", Shanghai, 12/11/2023-12/13/2023

3. Reconstructing and stacking: a systematic way to investigate the cosmic web. Invited speaker, in 'Galaxy Assembly Bias', Suzhou 6/19/2023-6/22/2023

4. The structure and evolution of our Universe. Public talk at Shanghai Jiao Tong University, Shanghai 12/8/2023.

5. Two phases of halo assembly, a key to understanding galaxy formation and supermassive black hole growth. Invited speaker, in 'AGN feedback and galaxy formation', Hangzhou 10/9/2023 -10/14/2023.

6. Galaxy formation, perspective from dwarf galaxies. Invited speaker, in 'Resolving Galaxies' , Hong Kong 12/11/2023 - 12/15/2023.

7. From SDSS to JWST, Invited speaker:, in Galaxy formation in the JWST era, Beijing, 11/15/2023-11/20/2023.

8. MAHGIC-ly ELUCID-ating Galaxy Formation and the Cosmic Web. Invited speaker, in 'Workshop on DESI and Euclid', Shenzhen 7/28/2023-7/30/2023

9. Two phases of halo assembly, a key to understanding galaxy formation and supermassive black hole growth. Invited speaker, in Active galactic nuclei and supermassive black holes, Wuhu 9/1/2023-9/6/2023

10. Colloquium, Department of Astronomy, Shanghai Jiao Tong University, Shanghai 12/6/2023: Two phases of halo assembly, a key to understanding galaxy formation and supermassive black hole growth

11. Colloquium, Shanghai Astronomical Observational, Shanghai, 6/29/2023: Reconstructing the local universe to simulate the cosmic web

12. Colloqium, Physics Department, Zhejiang University, Hangzhou 10/16/2023: Matter/energy contents of the Universe

13. Colloquium: Purple Mountain Observatory, Nanjing 11/8/2023: Reconstructing and stacking: a systematic way to explore the cosmic web

14. Colloquium: Astronomy Department, Nanjing University, Nanjing 11/9/2023: Two phases of halo assembly, a key to understanding galaxy formation and supermassive black hole growth

15. Colloquium: Kavli Institute, Peking University, Beijing 11/23/2023: Two phases of halo assembly, a key to understanding galaxy formation and supermassive black hole growth

16. Colloquium: Astronomy Department, Tsinghua University, Beijing 11/21/2023: Two phases of halo assembly, a key to understanding galaxy formation and supermassive black hole growth

17. Colloquium, National Astronomical Observatory, Beijing 7/26/2023: Reconstructing and stacking: a systematic way to explore the cosmic web

18. Colloquium, Physics Department, Chinese University Hong Kong, 12/18/2023: Reconstructing initial conditions to simulate the observed universe

19. ELUCID: Reconstruct the Initial Density Field to Simulate the Cosmic Web, invited talk, in 'The Cosmic Web in the Local Universe', Leiden, 1/26 - 2/1/2020

20. Matter content of the cosmic web, colloquium, Department of Physics, UMass, 10/30/2019

21. The origin of assembly bias, invited talk, in 'Workshop on assembly bias', Shanghai, 6/10-6/14/2019

22. Cosmology: the origin, structure, and evolution of the Universe, Lectures given at UMass summer internship program, Amherst, 7/11/2019

23. Circum-galactic medium perspective of galaxy formation, invited talk, in 'PAST, CURRENT AND FUTURE GALAXY SURVEYS', CANDELS Meeting and TolTEC Workshop, Amherst MA, 10/22-10/26/2018

24. Probing SZ effects with Toltec, in CANDELS Meeting and TolTEC Workshop, Amherst MA, 10/22-10/26/2018

25. Reconstructing and stacking: a systematic way to investigate the cosmic web, colloquium, Department of Astronomy, UMass, 10/18/2018

26. Gas around galaxies (CGM) and in the intergalactic medium (IGM). Invited talk, Workshop on galaxy formation and evolution, Guizhou, China. 8/6-8/10/2018

27. PFS-TOLTEC Synergy, in PFS collaboration meeting, Shanghai, 12/10-12/14/2018

28. Reconstruction and resimulation, department colloquium , Department of Astronomy, Beijing Normal University. 9/28/2017

29. Reconstructing the local universe, invited talk, Galaxy distribution and distance scales, Kavli Institute of Astronomy and Astrophysics, Peking University, Beijing. 9/11/2017

30. Galaxy groups and constrained simulations: from SDSS to PFS. Invited talk, PFS collaboration meeting, IPMU, Tokyo, Japan . 12/10/2017

31. Relationships Between Galaxies, Dark Halos And Large-Scale Structure, invited talk, Galaxy Evolution Across Time, Proceedings of a conference held 12-16 June, 2017 in Paris.

32. Lectures on 'Galaxy formation and cosmology', IPMU, Japan, 2017

33. Lectures on 'Progress in galaxy formation', Weihai, China, 2017

34. Re-simulating the actual history of the local Universe, Invited talk on International Conference on Galaxy Formation and Large-scale Structure, Hefei, China, 07/2017

35. Exploring the Local Universe with re- Constructed Initial Density fields, Colloquium at IPMU, Tokyo, 10/2016

36. Re-simulating the actual local Universe, Invited talk at Chinese-German workshop on Galaxies and Structure Formation, Guangzhou, China, 12/2016

37. Re-simulating the actual local Universe, Invited review, MaNGA collaboration meeting, Shanghai, 11/2016

38. Re-simulating the actual local Universe with constrained initial conditions, KIAA colloquium, Peking University, 12/2016

39. ELUCID: Exploring the Local Universe with re-Constructed Initial Density fields, Colloquium, Xiamen University, 11/2016

40. Re-simulating the actual local Universe: Invited talk, Annual conference of Chinese AAS. 11/2016

41. Reconstructing the initial conditions ti simulate the observed Universe, PFS workshop, Baltimore 12/2016

42. ELUCID: Exploring the local universe with reconstructed initial density field, invited talk, 19th Guoshoujing conference on Galaxies and cosmology, Beijing, July 4-July 7, 2016.

43. Warm and hot medium: a missing piece in an almost complete puzzle, invited talk, Workshop on missing baryons, Beijing, July 8, 2016.

44. Reconstructing the initial density field to re-simulate the local universe, Tsinghua Center of Astrophysics Colloquium, 2016.

45. The star formation history and stellar mass assembly in dark matter halos, invited talk, Workshop on galaxies and active galactic nuclei, Hefei, 2015

46. The connection between halos and galaxies, colloquium, Shanghai Observatory, 2015

47. The link between galaxies and dark matter halos. Workshop on galaxy-halo connection, Aspen, Colorado. 8/24/2014

48. The star formation history and stellar mass assembly in dark matter halos, colloquium, Johns Hopkins University, March 2014

49. Reconstruct the initial density field of the local universe, invited highlight talk, in Galaxy formation and cosmology, May 18- May 23, 2014, Xi'an, China.

50. Halo structure, galaxy-halo connection and large-scale structure, colloquium, Shanghai Observatory

51. A Bayesian approach to the semi-analytic model of galaxy formation Invited talk at 'The ecosystem of galaxies' , Hefei, 2012

52. Challenges in galaxy formation. invited talk at 'Astrophysics Symposium', Shanghai, 2012

53. Bayesian galaxy formation, Colloquium, Purple Mountain Observatory, 2012

54. The formation and structure of dark matter halos, Santa Cruz Workshop on Galaxies, 2009

55. Cold dark matter halos, Lectures at Santa Fe Summer Workshop on Cosmology, 2009.

56. The formation and structure of dark matter halos, Frontier of astronomy and astrophysics, Kavli Institute of Astronomy and Astrophysics, an Kavli Institute Openning Symposium, 2008

57. The origin of cold dark matter halo density profiles, Frontier of astronomy and astrophysics, workshop to celebrate 50th anniversary of USTC, 2008.

58. Dark matter, dark energy and the structure of the universe. Public talk, Frontier of astronomy and astrophysics, celebrating the 50th anniversary of USTC, 2008.

59. The formation and structure of dark matter halos, keynote talk, Galaxy Growth in a Dark Universe, Heidelberg 2007

60. The galaxy-dark matter connection, keynote talk, Galaxy formation in the local and high-redshift universe, Lijiang, 2007

61. The relationship between galaxies and dark matter, Institute of Astronomy, Academia Sinica, Taipei, 2007

62. Cosmology and galaxy formation, Yunan University, Kunmin 2007

63. Establishing the relationship between galaxies and dark matter: invited talk, IAU Symposium No 235, Galaxy evolution across the Hubble time, Prague, 2006

64. Killing dwarf galaxies with hot pancakes, invited talk, Galaxies in the Cosmic Web, Las Cruces, 2006

65. The origin of cold dark matter halo density profiles
Mo, H. J., 2006, in EAS Publications Series, Volume 20, 2006, pp.51-54

66. The relationship between galaxies and dark mater halos, Astronomy Department, Columbia University, 2006

67. The galaxy-dark matter connection, KITP, Santa Barbara, 2006

68. The galaxy-dark matter connection, Astronomy Department, Univ. of California at Berkeley, 2006

69. The galaxy-dark matter connection, Astronomy Department, Queen's Univ., Kingston, 2006

70. Cold gas in dark halos and the formation of late-type galaxies, invited talk, IAU colloquium 199, Shanghai, 2005

71. The origin of cold dark matter halo profiles, invited talk, 21st IAP Colloquium, Paris, 2005

72. Cold gas in dark matter halos and the formation of late-type galaxies
Mo H.J., Yang X., van den Bosch F.C., Katz N.S., 2005, invited talk, Probing Galaxies through Quasar Absorption Lines, IAU Colloquium 199, Shanghai 2005. Eds.: P.R. Williams, C. Shu and B. Menard, Cambridge Univ. Press, Cambridge 2005, p205

73. The origin of CDM halo density profiles
Mo H.J., 2005, in Mass Profiles and Shapes of Cosmological Structures, 21st IAP Colloquium, Paris 2005. Eds.: G.A. Mamon, F. Combes, C. Deffayet, B. Fort, EDP Sciences Publisher, 2005

74. The connection between dark halos and galaxies, Max-Plank-Institut für Astronomie, 2005

75. Linking galaxies with dark matter halos, University of Pennsylvania, 2005

76. The connection between galaxies and dark halos, Harvard, 2004

77. Linking galaxies with dark matter halos, MIT, 2004

78. The clustering of dark matter halos, Aspen, 2002

79. Modeling galaxy clustering in the universe, Univ. of Massachusetts, 2002

80. Galaxy formation and evolution, Beijing Obs., 2002

81. The formation of galaxies in CDM cosmogony Shanghai Obs., 2001

82. The origin of the Tully-Fisher relation
    Mo, H. J., Mao, S., 2001, in Progress in Astronomy, Vol. 19, Supp., p. 84

83. Formation and evolution of galaxies
    Mo, H., 2001, in Progress in Astronomy, Vol. 19, Supp., p. 112

84. Cosmological Formation of Disk Galaxies
    Mo, H. J., Mao, S., 2000, in Dynamics of Galaxies: from the Early Universe to the Present, Paris, Eds.: F. Combes, G.A. Mamon, and V. Charmandaris, ASP 197, p.145.

85. The formation of galaxy disks, UC Santa Barbara, 2000

86. The formation of disk galaxies, Padova Univ., 2000

87. The formation and evolution of disk galaxies
    Mo H.J., in: IAP conference on Galactic Dynamics, Paris, 1999 eds. F. Combes et al., ASP Series, Vol. 197, p145
    item The Formation and Evolution of Disk Galaxies
    Mo H.J., 1999, in From Stars to Galaxies to the Universe, Tegernsee 1998. Eds: G. Boerner, H. Mo., p.116

88. The origin of the scaling relations of disk galaxies, Padova Univ., 1999

89. The formation and evolution of disk galaxies, Heidelberg, 1999

90. The properties of damped Lyman alpha systems, UC San Diego, 1999

91. The properties of Lyman break galaxies, CalTech, 1999

92. Gaseous galactic halos and QSO absorption line systems
Mo H.J., in: UC Santa Cruz Workshop on Galactic Halos, 1998, eds. D. Zarisky, ASP Series, Vol. 136, p178

93. The formation of disk galaxies, Roma Univ., 1998

94. The formation of disk galaxies, Munich Univ., 1998

95. The formation and evolution of disk galaxies, Ringberg, 1998

96. An analytical model of dark matter clustering, Edinburgh Univ., 1997

97. Analytical approximations to galaxy clustering
Mo H.J., in: Ringberg Workshop on The Evolving Universe, 1997 ed. D. Hamilton, Kluwer, p343

98. Analytical approximations to the large-scale gravitational clustering
Mo, H.J., Jing Y.P., Börner G., In: Astrophysics Reports., Proc. of the Hangzhou Workshop on Cosmology at High and Low Redshift., Ed. Z.G. Deng and Z.L. Zou. Publications of the Beijing Astron. Obs. Special Issue, No. 2, 1997, 15–42.

99. Constraints on the cosmic structure formation models from early formation of galaxies
Mo H.J., In: The 21st Century Chinese Astronomy, Hong Kong 1996, eds. K.S. Cheng, K.L. Chan. World Scientific, Singapore 1997, 453–456.

100. The clustering of dark matter and dark matter halos, Univ. of Arizona, 1996

101. Gaseous galaxy halos and QSO absorption line systems, Stony Brook, 1995

102. The clustering of dark halos and bias, Space Telescope Science Institute, 1995

103. Galaxy clustering and bias, Univ. of Illinois, 1995

104. Damped Lyman alpha systems and galaxy formation, Potsdam, 1995

105. Constraining galaxy formation models by damped Lyman alpha systems
Mo, H.J., Miralda-Escude J., In: Astrophysics Reports., Proc. of the Nandaihe Workshop on The Formation and Evolution of Galaxies., Ed. Z.L. Zou et al. Publications of the Beijing Astron. Obs. Special Issue, No. 1, 1995, 22–26.

106. Constraining galaxy formation models by observations of damped Lyman alpha systems
Mo, H.J. and J. Miralda-Escude: In: Large Scale Structure in the Universe, Potsdam 1994, Eds. J.P. Mücket et al. World Scientific, Singapore 1995, 268–272.

107. QSO Absorption line systems as pressure-confined clouds in galactic haloes
Mo, H.J.: In: ASO Absorption Lines. Proc. of the ESO Workshop Garching 1994, Ed. G. Meylan. Springer, Berlin 1995, 445–446.