

## BIOGRAPHICAL SKETCH

*Q. DANIEL WANG*

Q. Daniel Wang is a Professor in the Department of Astronomy at the University of Massachusetts at Amherst. He received his Ph.D. in Astronomy in 1990 from Columbia University. He was awarded the ASP Robert J. Trumpler Award for Outstanding North American Ph.D Dissertation Research in Astronomy. He was then an Edwin P. Hubble postdoctoral fellow at University of Colorado and later a Lindheimer fellow at Northwestern University. He was also a member of the Institute for Advanced Study and is the Siyuan Visiting Chair Professor at Nanjing University. He has over 100 refereed publications, covering a broad range of topics: quark/neutron stars, pulsars, X-ray binaries, supernova remnants, superbubbles, hot gas in intracluster and intergalactic space as well as in individual galaxies, hydrodynamic simulations of hot gas, and active galactic nuclei. His current research focuses on the hot interstellar and intergalactic media, the feedback and evolution of galaxies, and the Galactic center. He mainly uses infrared, ultraviolet, and X-ray observations to conduct these studies. He also carry out theoretical and computational studies.

### Major Current Research Projects

#### **Galactic Center:**

- 144 orbit Hubble/NICMOS Survey of the Galactic Center (PI): near-IR continuum and Paschen-Alpha line mapping over a  $32' \times 13'$  field of view around Sgr A\*
- Deep Chandra survey of the Galactic Center (Co-I)

#### **The Hot Interstellar Medium:**

- X-ray absorption line spectroscopy of diffuse hot gas, using Chandra/XMM-Newton grating and FUSE far-UV spectroscopy
- X-ray CCD imaging with Suzaku

#### **Feedback and Evolution of Galaxies:**

- Deep (300 ks) Chandra study of the starforming region N11 in the LMC (co-I: Y.-H. Chu et al.)
- X-ray study of M31 nucleus and bulge
- X-ray study of edge-on galaxies; Chandra
- FUSE Observations of edge-on galaxies
- Chandra study of AzTEC millimeter sources
- Hydrodynamic simulations of gaseous bulges and halos

### Sources of Research Funding

NASA, SAO, and STScI

### Awards, Fellowships, and Honors

2006 - present, Siyuan Visiting Chair Professorship at Nanjing University  
2005, Member of Institute for Advanced Study  
1997, First-Class Award for the Science and Technology Advance  
from the National Education Committee of P. R. China  
1994, Lindheimer Postdoctoral Fellowship  
1992, ASP Robert J. Trumpler Award for Outstanding North  
American Ph.D Dissertation Research in Astronomy  
1990-1993, Hubble Postdoctoral Fellowship  
1990, Harvard-Smithsonian Center for Astrophysics Fellowship (declined)  
1990, Canadian Institute for Theoretical Astrophysics Fellowship (declined)  
1985, Nanjing University "New Star" Award

### Professional Associations

American Astronomical Society,  
International Astronomical Union  
International Committee on Space Research

### Recent Invited Talks (2006-)

Special session on "Galactic Center Massive Stars and Magnetized ISM", AAS 213th meeting, Long Beach, 2009

Workshop on “The Local Bubble & Beyond II”, Philadelphia, 2008  
 Session on “The Interplay between the Interstellar and Intergalactic Media from High Redshifts to the Present”, The 37th COSPAR Scientific Assembly, Montreal, 2008  
 Workshop on “Galaxy Formation and Evolution as Revealed by Cosmic Gas”, Irvine, CA, 2008  
 University of Massachusetts – Amherst, 2008  
 University of Science and Technology of China, Hefei, China, 2008  
 Purple Mountain Observatory, China, 2008.  
 Nanjing University, China, 2008.  
 Shanghai Astronomical Observatory, China, 2008.  
 Workshop on “X-rays from Nearby Galaxies”, Madrid, Spain, 2007  
 Workshop on “X-ray Grating Spectroscopy”, Cambridge, MA, 2007  
 Visualization Seminar, Harvard/Smithsonian Astrophysical Observatory Center for Astrophysics, 2007  
 University of Georgia - Athens, 2006  
 University of Colorado - Boulder, 2006  
 American Astronomical Society High-energy Astrophysics Division Meeting, San Francisco, 2006.  
 California Institute of Technology, 2006.  
 Conference “Chemodynamics from first stars to local galaxies”, Lyon, France, 2006.  
 Tsinghua University, Beijing, China, 2006.  
 American Astronomical Society Summer Meeting, Topic Session “Warm-Hot Gas in and around Galaxies”, Calgary, 2006.  
 Galactic Center Workshop, Bad Honnef, Germany, 2006.

### Recent Publications (2006-)

- [108] “Type-Ia Supernova-driven Galactic Bulge Wind”  
*Tang, S. K., Wang, Q. D., Mac Low M. M., & Joung, M. K. R.* 2009, MNRAS, submitted
- [107] “Scalability of Hydrodynamic Simulations”  
*Tang, S. K., & Wang, Q. D.* 2009, MNRAS, submitted
- [106] “X-raying the Intergalactic OVI Absorbers”  
*Y. Yao, T. M. Tripp, Q. D. Wang, C. W. Danforth, C. R. Canizares, J. M. Shull, H. L. Marshall, & L. Song* 2008, ApJ, submitted
- [105] “Energy Spectra of the Soft Diffuse Emission in Various Galactic Latitudes Observed with Suzaku”  
 with Yoshino et al. 2008, PASJ, submitted
- [104] “Distance Determination to the Crab-like PWN G54.1+0.3 and Search for Its Supernova Remnant Shell”  
*Leahy, D.A., & Tian, W., & Wang, Q. D.* 2008, AJ, 136, 147
- [103] “Chandra Observation of the Edge-on Spiral NGC 5775: Probing the Hot Galactic Disk-Halo Connection”  
*Li, J. T., Li, Z.-Y., Wang, Q. D., Irwin, J. A., & Rossa, J.* 2008, MNRAS, 390, 59
- [102] “Feedback from galactic stellar bulges and hot gaseous halos of galaxies”  
*Tang, S., Wang, Q. D., Lu, Y., & Mo, H. J.* 2008, MNRAS, 392, 77
- [101] “X-ray and UV spectroscopy of Galactic diffuse hot gas along the LMC x-3 sight line”  
*Yao, Y., Wang, Q. D., Hagihara, T., Mitsuda, K., McCammon, D., & Yamasaki, N. Y.* 2008, ApJ, 690, 143
- [100] “A Catalog of X-Ray Point Sources from Two Megaseconds of Chandra Observations of the Galactic Center”  
*Muno, M., et al.* 2008, ApJS, in press
- [99] “Limits on Hot Galactic Halo Gas from X-Ray Absorption Lines”  
*Yao, Y., Nowak, M. A., Wang, Q. D., Schulz, N. S., & Canizares, C. R.* 2008, ApJL, 672, 21
- [98] “Chandra Detection of Diffuse Hot Gas in and around the M 31 Bulge”

- Li, Zhiyuan & Wang, Q. D.* 2007, *ApJL*, 668, 39
- [97] “Radio and X-ray Images of the SNR G18.8.+0.3 Interacting with Molecular Clouds”  
Tian, W. W., Leahy, D. A., & **Wang, Q. D.** 2007, *A&A*, 474, 541
- [96] “Chandra View of DA 530: A Subenergetic Supernova Remnant with a Pulsar Wind Nebula?”  
*Jiang, B., Chen, Y. & Wang, Q. D.* 2007, *ApJ*, 670, 1142
- [95] “The Galactic Central Diffuse X-ray Enhancement: A Differential Absorption/emission Analysis”  
Yao, Y., & **Wang, Q. D.** 2007, *ApJ*, 666, 242
- [94] “VLA and XMM-Newton observations of the SNR W41/TeV Gamma-ray source HESS J1834-087”  
Tian, W. W., *Li, Z.-Y., Leahy, D. A., & Wang, Q. D.* 2007, *ApJL*, 657, 25
- [93] “X-ray Timing Observations of PSR J1930+1852 in the Crab-like SNR G54.1+0.3”  
Lu, F. J., **Wang, Q. D.**, Gotthelf, E., & Qu, J. 2007, *ApJ*, 663, 315
- [92] “Chandra and XMM-Newton Detection of Large-scale Diffuse X-ray Emission from the Sombrero Galaxy”  
*Li, Z.-Y., Wang, Q. D., & Hameed, S.* 2007, *MNRAS*, 376, 960
- [91] “The Non-isothermality and Extent of Galactic Diffuse Hot Gas Toward Mrk 421”  
Yao, Y., & **Wang, Q. D.** 2007, *ApJ*, 653, 121
- [90] “Chandra Detection of Fe XVII in Absorption: Iron Abundance in the Hot Gaseous Interstellar Medium”  
Yao, Y., Schulz, N., **Wang, Q. D.**, & Nowak, M. 2006, *ApJL*, 653, 121
- [89] “Chandra ACIS Spectroscopy of N157B – A Young Composite Supernova Remnant in a Superbubble”  
Chen, Y., **Wang, Q. D.**, Gotthelf, E. V., Jiang, B., Chu, Y.-H., & Gruendl, R. 2006, *ApJ*, 651, 237
- [88] “Predicting the Starquakes in PSR J0537-6910”  
Middleditch, J., Marshall, F. E., **Wang, Q. D.**, Gotthelf, E. V., & Zhang, W. 2006, *ApJ*, 652, 1531
- [87] “Non-Equilibrium Ionization Model for Stellar Cluster Winds and its Application”  
*Ji, L., Wang, Q. D., & Kwan, J.* 2006, *MNRAS*, 372, 497
- [86] “A Chandra Catalog of X-Ray Sources in the Central 150 pc of the Galaxy”  
Muno, M. P., Bauer, F. E., Bandyopadhyay, R. M., & **Wang, Q. D.** 2006, *ApJS*, 165, 173
- [85] “An XMM-Newton observation of the massive edge-on Sb galaxy NGC 2613”  
Li, Z., **Wang, Q. D.**, Irwin, J. A., & Chaves, T. 2006, *MNRAS*, 371, 147
- [84] “The Interplay between Star Formation and the Nuclear Environment of our Galaxy: Deep X-ray Observations of the Galactic Center Arches and Quintuplet Clusters”  
**Wang, Q. D.**, Dong, H., & Lang, C. C. 2006, *MNRAS*, 371, 38
- [83] “G359.95-0.04: Pulsar Candidate Near Sgr A\*”  
**Wang, Q. D.**, Lu, F. J., & Gotthelf, E. 2006, *MNRAS*, 367, 937
- [82] “X-ray Absorption Spectroscopy of the Multi-phase Interstellar Medium: Oxygen and Neon Abundances”  
Yao, Y.-S., & **Wang, Q. D.** 2006, *ApJ*, 641, 930
- [81] “The XMM-Newton/Chandra monitoring campaign on the Galactic center region: Description of the program and preliminary results”  
with Wijnands, R., et al. 2006, *A&A*, 449, 1117
- [80] “An Optical Study and Interstellar Environments of Seven Luminous and Ultraluminous X-ray Sources”  
with Ramsey, C. L., et al. 2006, *ApJ*, 641, 241