

**William G. Mathews**  
Professor of Astronomy and Astrophysics  
Lecturer in Department of Music

**INTERESTS AND EXPERTISE**

Galaxies, high-energy astrophysics, gaseous nebulae; cornetto (music)

**ACADEMIC HISTORY**

1965 Ph.D. in Astronomy, University of California, Berkeley  
1959 M.S. in Physics, University of Chicago  
1958 B.S. in Physics, University of Washington

**POSITIONS HELD**

1976- Professor, UC Santa Cruz  
1994- Lecturer in Music Department  
1972-76 Associate Professor, UC Santa Cruz  
1970-72 Assistant Professor, UC Santa Cruz  
1967-70 Assistant Professor, UC San Diego  
1965-67 Assistant Research Physicist, UC San Diego  
1965 Postdoctoral Fellow, National Science Foundation, UC Berkeley

**HONORS AND AWARDS (selected)**

1965-67 National Science Foundation Postdoctoral Fellow  
1963-65 University Fellow  
1956 Elected to Phi Beta Kappa

**EXTERNAL RESEARCH SUPPORT (\$20,000 and over)**

2003-06	NASA X-Ray Observing Grant for XMM "Optically Dark Groups of Galaxies with Extreme Lx/LB"	\$43,500
	NASA Theory Grant NAG5-13275, "Hot Gas in Elliptical Galaxies and Environs"	\$251,534
2002-05	NASA X-Ray Observing Grant for XMM, NASA NAG5-15149, "NGC 1132: A Fully-Merged, Optically-Dark Group"	\$45,783
2001-04	NSF Grant AST-0098351, "Nature and Evolution of Gas in Galaxy Groups and Elliptical Galaxies"	\$270,000
2000-03	NASA X-Ray Observing Grant for XMM, NASA NAG5-9956, "Hot Gas Enrichment by Dwarf Galaxies in the NGC 5044 Galaxy Group"	\$30,000

**RECENT PUBLICATIONS (selected)**

Spitzer Observations of Transient, Extended Dust in Two Elliptical Galaxies: New Evidence of Recent Feedback Energy Release in Galactic Cores, Temi, P., Brighenti, F., Mathews, W. G. *ApJ*, (in press), 2007.

The concentration-velocity dispersion relation in galaxy groups, Faltenbacher, Andreas; Mathews, William G. *MNRAS*, **527**, 313, 2007.

Creation of X-ray cavities in galaxy clusters with cosmic rays, Mathews, W. G.; Brighenti, F., *ApJ* (in press), 2007.

Large Scatter in X-Ray Emission among Elliptical Galaxies: Correlations with Mass of Host Halo, Mathews, William G.; Brighenti, Fabrizio; Faltenbacher, Andreas; Buote, David A.; Humphrey, Philip J.; Gastaldello, Fabio; Zappacosta, Luca, *ApJ*, **652**, L17, 2006.

Stopping Cooling Flows with Jets, Brighenti, Fabrizio; Mathews, William G., *ApJ*, **638**, 659, 2006.

Heating Cooling Flows with Weak Shock Waves, Mathews, William G.; Faltenbacher, Andreas; Brighenti, Fabrizio, *ApJ*, **638**, 659, 2006.

Absence of Dwarf Galaxies at High Redshifts: Evidence from a Galaxy Group, Mathews, William G.; Chomiuk, Laura; Brighenti, Fabrizio; Buote, David A., *ApJ*, **616**, 745 2004.

Time-dependent Circulation Flows: Iron Enrichment in Cooling Flows with Heated Return Flows, Mathews, William G.; Brighenti, Fabrizio; Buote, David A., *ApJ*, **615**, 622, 2004.

Hot Gas in and around Elliptical Galaxies, Mathews, William G.; Brighenti, Fabrizio, *ARA&A*, **41**, 191, 2003.

Rapid Cooling of Dusty Gas in Elliptical Galaxies (W.G. Mathews and F. Brighenti), *Ap.J.Letters*, **590**, L5-L8, 2003.

## **UNIVERSITY SERVICE (selected)**

### **Administrative appointments**

2006-07 Chair, Colloquium Committee Winter Quarter  
Member, Development Committee  
2005-06 Member, Colloquium Committee  
Chair, Halliday Lecture Committee  
Member, Graduate Admissions committee  
2001-02 Chair, Preliminary Exam Committee  
Chair, Colloquium Committee Winter Quarter

### **Academic Senate Committees**

1991- Member, Senate Conflict of Interest Committee

## **PROFESSIONAL ACTIVITIES (selected)**

### **Five major presentations**

2003 Presented posters at "Riddle of the Cooling Flows" conference, Charlottesville, VA,  
2000 Colloquium at Carnegie Observatories, Pasadena, CA  
Talk at meeting "Gas and Galaxy Evolution," Socorro, NM

## **STUDENTS AND FELLOWS SUPERVISED (lifetime)**

### **Ph.D. Advisees**

K. Williams  
N. Turner  
J. Aroyan  
M. Weil  
J. Doane  
M. Loewenstein  
J. Hary  
R. Svensson  
J. Bregman  
K.H. Nordsieck  
D. Cox  
J. Baker  
L. Raschke  
A. Sheinis

### **Postdoctoral Fellows**

F. Brighenti  
C-Y Wang

### **Senior Theses**

B. Slye  
P. Wayman  
S. kkDasho  
L. Thornton  
D. Barsanti  
M. Gendreau  
D. Ogilvie  
H. Roderick  
P. Friedman  
S. Dawson

M. Wilson  
K. Williams  
B. Slye  
A. Nelson