

# Richard Lieu

## Personal Data

*Date of Birth:* 21 January, 1956.

*Nationality Status:* Citizen of the USA and UK (dual).

*Marital Status:* married with one child.

E-mail address: `lieur@uah.edu`

## Academic Qualifications:

Oct., 1975 - June, 1978: BSc (1st class honors), Imperial College London, Major in Physics.

Oct., 1978 - June, 1981: DIC, PhD, Imperial College London. Thesis title: *Radiation Transport within the source of Hard Cosmic X-ray Photons.*

## Career Record

21 June, 2008 - present: 10th Distinguished Professor and Chair of the Department of Physics, University of Alabama in Huntsville.

20 Aug., 2004 - 20 June, 2008: Professor at the Department of Physics, University of Alabama, Huntsville.

16 Aug., 1999 - present: Associate Professor at the Department of Physics, University of Alabama, Huntsville.

16 Aug., 1995 - 15 Aug., 1999: Assistant Professor at the Department of Physics, University of Alabama, Huntsville.

1 Nov., 1991 - 15 Aug., 1995: Assistant Research Astronomer at the Center for EUV Astrophysics, University of California, Berkeley.

1 Aug., 1985 - 31 Oct., 1991: Research Assistant at the Astrophysics Group, Blackett Laboratory, Imperial College, London, England.

1 Aug., 1981 - 30 June, 1985: Postdoctoral Research Fellow and Sessional Instructor at the Dept. of Physics and Astronomy, and at the Dept. of Electrical Engineering, University of Calgary, Alberta, Canada.

### **Awards and Prizes**

UAH Foundation Researcher of the year award, April 2007.

Sigma Xi Huntsville chapter ‘researcher of the year’ award, with Lloyd W. Hillman, April 2005.

Three times ‘Discovery of the year award’, 1995, 1994, and 1993, Center for EUV Astrophysics, UC Berkeley.

‘Outstanding software development of the year award 1993’, with James W. Lewis, Center for EUV Astrophysics, UC Berkeley.

### **Seminal papers**

212 publications (102 refereed); 2384 ADS citations (h-index 24, i-10 index 47).

‘Discovery of 0.5 MK Gas in the Center of the Virgo Cluster’, Lieu, R., Mittaz, J.P.D, Bowyer, S., Lockman, J., Hwang, C. -Y. & Schmitt, J.H.M.M., 1996, *ApJ*, **458**, L5 (143 citations).

‘The Diffuse EUV Emission from the Coma Cluster - Evidence for a Cooler Component at sub-MK Temperatures’, R. Lieu, J.P.D. Mittaz, S. Bowyer, J.O. Breen, F.J.Lockman, E.M. Murphy & C. -Y. Hwang, 1996, *Science*, **274**, 1335 (139 citations).

‘The First EUVE Source Catalog’, S. Bowyer, R. Lieu, M. Lampton, J. Lewis, X. Wu, J.J. Drake & R. Malina, 1993, *ApJS*, **93**, 569 (125 citations).

‘EUV Emission from Clusters of Galaxies: Inverse Compton Radiation from a Relic Population of Cosmic Rays ?’, C.L. Sarazin & R. Lieu, 1998, *ApJ*, 494, L17 (123 citations).

‘Non-thermal Origin of the EUV and HEX Excess Emission of the Coma Cluster - the Nature of the Energetic Electrons’, T.A. Ensslin, R. Lieu, & P.L. Biermann, 1999, *Astron Astrophys*, 344, 409 (109 citations).

### **Chief external lectures and committees**

‘In search of the missing baryons of the near Universe’, on the occasion of the Symposium at Imperial College to mark the 80th birthday of Tom Kibble, March 2013.

‘New Directions in Modern Cosmology’, at the Lorentz Center, Leiden, the Netherlands, September, 2010.

Constellation X Facility Science Team 2006 and 2002; to advise NASA on critical scientific goal of the mission.

Lecture at the ‘Physics of the 3rd Millennium’, the Von Braun Civic Center, Huntsville, in celebration of the Einstein year of 2005.

XEUS science team 2002; to advise ESA on critical scientific goal of mission.

Panel reviewer of NASA proposals.

Frequent referee for the *Astrophysical Journal*, *Astronomy & Astrophysics*, and *Royal Astronomical Society*.

### **Internal committee & services**

Served on a variety of University committees at the Department and College levels.

Participated in a wide spectrum of University service related activities at the Department and College levels.

## **Teaching record**

Full-time courses at levels ranging from 100 General Physics to 700 quantum electrodynamics. Student ratings average at above 90 % among all the courses.

Graduated 4 PhD (Bonamente, Gogus, Jiang, and Lackeos) and one MSc (Bandas) students.

Chair or member of many PhD and MSc committees.

## **Conference organizing activities**

‘The Warm and Hot Universe’, Columbia University, N.Y., May 2008, Chair of the SOC.

‘Outstanding questions for the standard cosmological model’, Imperial College London, UK. Chair of the SOC.

‘Soft X-ray emission from clusters of galaxies and related phenomena’, December 2002, Huntsville, AL, USA. Chair of the SOC.

‘Particle acceleration in geospace and beyond’, October 2002, Chattanooga, TN, USA. Member of the Scientific Organizing Committee (SOC).

## **Overseas Visiting Scholar**

*Tsinghua University, Beijing, China.* Two months with the Physics Department in the summers of 2007 to 2012.

*Institute Astrophysique Paris, France.* One month Research Fellowship during the summer of 2000, at the invitation of Dr Florence Durret.

*Institute of Space and Astronautical Science, Japan.* Visited for 3 months in the summer of 1982, on analysis of data from the X-ray Astronomy satellite HAKUCHO. Visited again for 3 months in the beginning of 1988, on analysis of magnetospheric electron data from the satellite EXOS-C.

*Max Planck Institut fuer Aeronomie, Germany.* Visited for several months every summer between 1987 and 1992, on analysis of magnetospheric data from the SPACELAB I mission, and on theoretical astrophysics research with Prof. W.I. Axford.

*Max Planck Institut fuer Extraterrestriche Physik, Germany.* Visited during three 6-weekly tours between 1991 and 1992, in the ROSAT Wide Field Camera Quick Look Facility.

### References

Prof. T.W.B. Kibble FRS, Theoretical Physics, Blackett Laboratory, Imperial College, London SW7, 2BZ, U.K. ([t.kibble@ic.ac.uk](mailto:t.kibble@ic.ac.uk))

Prof. R.D. Blandford FRS, KIPAC/SLAC, Stanford University, Varian Physics Building, 382 Via Pueblo Mall, Stanford, CA 94305-4060 ([rdb3@stanford.edu](mailto:rdb3@stanford.edu)).

Dr. Christine Jones, Harvard-Smithsonian Center for Astrophysics 60 Garden Street, office B-401, Cambridge, MA 02138, MS-02 ([cjones@cfa.harvard.edu](mailto:cjones@cfa.harvard.edu)).