

## INTERCOUNTRY LECTURESHIP QUESTIONNAIRE 2009

**NAME:** Robert DuBois

**GRANT PERIOD:** Sept. 16,2009 – Feb. 15,2010

**EMAIL ADDRESS:** dubois@mst.edu

**BORN:** 19/06/1948

**PRESENT POSITION US:** professor, Missouri Univ. of Science and Technology

**LANGUAGES:** English (native speaker); German (partially fluent); Danish (conversational)

### GERMAN HOST INSTITUTION

Ruprecht-Karls-Universität, Heidelberg      homepage links to host colleague's homepages are:  
<http://www.physi.uni-heidelberg.de/Forschung/apix/aphd/index.php>  
[http://www-linux.gsi.de/~stoe\\_exp/](http://www-linux.gsi.de/~stoe_exp/)

### ACADEMIC DISCIPLINE

Physics

### AREAS OF RESEARCH

Experimental atomic collision physics

### POSSIBLE LECTURE TOPICS

Positron impact ionization  
Electron loss by fast, low-charge-state, heavy ions  
Charged particle guiding in insulating capillaries  
Differential coincidence studies of interaction dynamics  
Double ionization mechanisms  
Fully kinematic studies for lepton impact  
Molecular fragmentation by slow, highly-charged ions

### ACADEMIC TRAINING AND DEGREES

Bachelor of Science (physics): University of Nebraska, 1970  
Masters of Science (physics): University of Nebraska, 1972  
Ph. D. (atomic physics): University of Nebraska, 1975

### PREVIOUS POSITIONS

1971-75      Post doctoral position: Joint Institute for Laboratory Astrophysics (Boulder, CO, USA)  
1977-78      Lektorvikor: University of Århus (Århus, Denmark)  
1978-79      Visiting scientist: Hahn-Meitner-Institut für Kernphysik (Berlin, Germany)  
1980      Visiting assistant professor: Kansas State University (Manhattan, KS, USA)  
1981-95      Staff scientist: Pacific Northwest Laboratories (Richland, WA, USA)  
1989-90      Fulbright Fellow: Institut für Kernphysik der J.W. Goethe University (Frankfurt, Germany)  
1995-present      Professor of Physics: Missouri University of Science and Technology [formerly called the University of Missouri-Rolla (Rolla, MO, USA)]  
2001-2002      Visiting Professor: Albert Ludwig Universität Freiburg (Freiburg, Germany)

### PUBLICATIONS (selected)

Stolterfoht, N., R.D. DuBois and R.D. Rivarola. 1997. Electron Emission in Heavy Ion-Atom Collisions, Springer Series in Atoms and Plasmas (Springer Verlag, Berlin Heidelberg)

R.D. DuBois, O.G. de Lucio, A.C.F. Santos, 2008. 'Positron Impact Differential Ionization Studies' Book chapter in Radiation Physics Research Progress, ed. by Aidan N. Camilleri, (Nova Publishers), ISBN 1-60021-988-8 (2008).

R.D. DuBois, T. Schlathölter, O. Hadjar, R. Hoekstra, R. Morgenstern, R. Feeler and R.E. Olson, 1999. High-field Effects on Molecular Fragmentation for Slow Highly-charged Ion Impact. Europhys. Lett.49: 41-7.

A.C.F. Santos and R.D. DuBois, 2004. "Scaling Laws for Single and Multiple Electron Loss from Projectiles in Collisions with a Many-electron Target", Phys. Rev. A 69, 042709.

O. de Lucio, J. Gavin and R.D. DuBois, 2006. "Differential Electron Emission for Single and Multiple Ionization of Argon by 500 eV Positrons", Phys. Rev. Lett. 97, 243201.

R D DuBois, J Gavin and O G de Lucio, 2009. "Projectile Charge Effects in Differential Ionization by Positrons and Electrons", Application of Accelerators in Research and Industry, AIP Conference Proceedings, Vol 1099, ed. F D McDaniel and B L Doyle, p847

R.D. DuBois, J. Gavin and O.G. de Lucio, 2009. "Information about TS-1 and TS-2 Double Ionization Mechanisms for Positron and Electron Impact Ionization of Argon", Nuclear Instruments and Methods in Physics Research Section B 267, 358-361.

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