

# INTERCOUNTRY LECTURESHIP QUESTIONNAIRE 2010

For Professors and Journalists

NAME: Steven Tomsovic  
GRANT PERIOD: 4 months in April - August  
EMAIL ADDRESS: tomsovic@wsu.edu  
BORN: 04/17/58 in New Orleans, LA  
PRESENT POSITION US: Professor and Chair of Physics and Astronomy  
LANGUAGES: English and French

## GERMAN HOST INSTITUTION

(please provide links to homepages, if available)

Technische Universitaet Dresden, Germany

<http://tu-dresden.de/>

## ACADEMIC DISCIPLINE

Theoretical Physics

## AREAS OF RESEARCH

Chaos and wave mechanics, extreme statistics, long range ocean acoustics

## POSSIBLE LECTURE TOPICS

1. Extreme statistics in quantum eigenfunctions
2. What is quantum chaos?
3. Interaction corrections to electron ground states
4. Chaos-assisted tunneling

## ACADEMIC TRAINING AND DEGREES

Ph.D. Physics in theoretical nuclear physics

## PREVIOUS POSITIONS

Chair, Washington State University, Physics and Astronomy, 2002-present

Professor, Washington State University, 2003-present

Visiting Professor, Indian Institute of Technology Madras, Chennai, 2010-2011

Gutzwiller Fellow, Max-Planck-Institut für Physik komplexer Systeme, Dresden, 2006-2007

Associate Professor, Washington State University, 2000-2003

Assistant Professor, Washington State University, 1994-2000

Visiting Scholar, Harvard University, 1993-94

Visiting Fellow, Harvard-Smithsonian Center for Astrophysics, 1993-94

Research Assistant Professor, University of Washington, 1991-1994

Visiting scientist, part time, University of California, 1991-92

Postdoctoral Research Associate, University of Washington, 1988-91

Joliot-Curie Fellow, Institut de Physique Nucléaire, Orsay, France, 1986-88

## PUBLICATIONS (selected)

1. Friedel oscillations in microwave billiards  
A. Bäcker, B. Dietz, T. Friedrich, M. Miski-Oglu, A. Richter, F. Schäfer and S. Tomsovic,  
Phys. Rev. E 80, 066210 (2009).
2. Semiclassical theory of non-local statistical measures: residual Coulomb interaction  
D. Ullmo, S. Tomsovic, and A. Bäcker, Phys. Rev. E 79, 056217 (2009).
3. Extreme statistics of complex random and quantum chaotic states  
A. Lakshminarayan, S. Tomsovic, O. Bohigas, and S. N. Majumdar, Phys. Rev. Lett. 100, 044103 (2008).
4. Fluctuations of finite-time stability exponents in the standard map and the detection of small islands  
S. Tomsovic and A. Lakshminarayan, Phys. Rev. E 76, 036207 (2007).
5. Ocean acoustic wave propagation and ray method correspondence: internal waves fine structure  
K. C. Hegewisch, N. R. Cerruti, and S. Tomsovic, J. Acoust. Soc. Am. 117 (3), 1582 (2005).
6. Ray dynamics in long-range deep ocean sound propagation  
M. G. Brown, J. A. Colosi, S. Tomsovic, A. L. Virovlyansky, M. A. Wolfson, and G. M. Zaslavsky,  
J. Acoust. Soc. Am. 113, 2533 (2003).
7. A Uniform Approximation for the Fidelity in Chaotic Systems  
N. R. Cerruti and S. Tomsovic, J. Phys. A: Math. Gen. 36, 3451 (2003).
8. Sensitivity of wave field evolution and manifold stability in chaotic systems  
N. R. Cerruti and S. Tomsovic, Phys. Rev. Lett. 88, 054103 (2002).
9. Semiclassical theory of Coulomb blockade peak heights in chaotic quantum dots  
E. E. Narimanov, H. U. Baranger, N. R. Cerruti, and S. Tomsovic, Phys. Rev. B 64, 235329 (2001).
10. Tunneling and Chaos  
S. Tomsovic, Physica Scripta T90, 162 (2001).