

# BIOGRAPHICAL SKETCH

## Birne Binegar

### PERSONAL INFORMATION

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### PROFESSIONAL PREPARATION

B.S., University of California, Los Angeles, September 1977,  
Major: Physics  
M.S., University of California, Los Angeles, June 1979,  
Major: Physics  
Ph.D., University of California, Los Angeles, December 1982,  
Major: Physics,

### PROFESSIONAL POSITIONS

1993– Associate Professor of Mathematics, Oklahoma State University, Stillwater, OK  
1988–1993 Assistant Professor of Mathematics, Oklahoma State University, Stillwater, OK  
1988 Postdoctoral Fellow, Mathematical Sciences Research Institute, Berkeley, CA  
1987–1988 Adjunct Professor, Palomar College, San Marcos, CA  
1986–1987 Postdoc, International School for Advanced Studies (S.I.S.S.A.), Trieste, Italy  
1985–1986 NSF-CNRS Research Fellow, Université de Dijon, Dijon, France  
1984–1985 Visiting Lecturer and Assistant Research Physicist, UCLA, Los Angeles, CA  
1982–1984 Monbusho Research Fellow, Research Institute for Mathematical Sciences, Kyoto, Japan

### RELEVANT PAPERS

- On a family of multiplicity-free  $K_{\mathbb{C}}$ -orbits, Preprint August, 2006  
([arXiv:math.RT/0608167](http://arxiv.org/abs/math.RT/0608167), <http://arxiv.org/abs/math.RT/0608167>). (accepted for publication by J. of Math. of Kyoto Univ.)
- Unitarization of a Singular Representation of  $SO(p, q)$ , (with R. Zierau), *Comm. Math. Phys.* **138**, 245-258 (1991).
- A Singular Representation of  $E_6$ , (with R. Zierau), (with R. Zierau), *Trans. Am. Math. Soc.*, **341**, 771-785 (1994).
- Relativistic Field Theories in Three Dimensions, *J. Math. Phys.* **23**, 1511 (1982).

### OTHER SIGNIFICANT PAPERS

- Linear Conformal Quantum Gravity, (with C. Fronsdal and W. Heidenreich), *Phys. Rev.* **D27**, 2249-2261 (1983).
- On the Unitarity of Conformal Supergravity, *Phys. Rev.* **D31**, 2497-2502 (1985).
- Conformal Superalgebras, Massless Representations and Hidden Symmetries, *Phys. Rev.* **D34**, 525-532 (1986).
- Cohomology and Deformations of Lie Superalgebras, *Lett. Math. Phys.* **12**, 301-308 (1987).

#### SYNERGISTIC ACTIVITIES

- Faculty Director of the Mathematics Learning Resource Center, Oklahoma State University, 1996-1997
- Authored LieTools, a Maple package for studying simple Lie algebras and their representations
- Principal Investigator for 1998 NSF SCREMS grant that provided a computational server for the Department of Mathematics at Oklahoma State University
- Member, Atlas for Lie Groups and Representations FRG, DMS 0554278

#### COLLABORATORS AND OTHER AFFILIATIONS

- **Graduate and Postdoctoral Advisors:**
  - Christian Fronsdal, Department of Physics, UCLA (thesis advisor)
  - Huzihiro Araki, sponsor, Monbusho Research Fellowship  
Research Institute for Mathematical Sciences, Kyoto University
  - Moshe Flato, sponsor, NSF-CNRS Research Fellowship, Université de Dijon
- **Coauthors:**
  - C. Fronsdal (UCLA), R. Zierau (Oklahoma State Univ.),