FACULTY EVALUATION: MINI CURRICULUM VITAE
HOMER L. DODGE DEPARTMENT OF PHYSICS AND ASTRONOMY
2013

HOWARD BAER, Homer L. Dodge Professor of High Energy Physics

1. TEACHING

Spring 2013	Phys 5573 Electrodynamics I	16
Spring 2013	Phys 5990 Special Studies	2
Summer 2013	Phys 6980 Research Drs Dissertation	1
Fall 2013	Phys 4213 Nuclear & Particle Physics	9
Fall 2013	Phys 5213 Nuclear & Particle Physics	11
Fall 2013	Phys 5990 Special Studies	1
Fall 2013	Phys 6980 Research Drs Dissertation	3
Fall 2013	Phys 3980 Honors research	1

Dissertations Completed during CY2013 0
Graduate Advisees (Ph.D.): Dan Mickelson, Maren Padeffke, Hasan Serci 3
Awards/Recognitions: Carl T. Bush theory award

2. RESEARCH AND CREATIVE ACTIVITY

1. Dark Radiation Constraints on Mixed Axion/Neutralino Dark Matter (with K. J. Bae and A. Lessa) JCAP**1304** (2013) 041.

2. Same sign diboson signature from supersymmetry models with light higgsinos at the LHC (with V. Barger, P. Huang, D, Mickelson, A. Mustafayev, W. Sreethawong and X. Tata), Phys. Rev. Lett. **110** (2013) 151801.

3. Direct and indirect detection of higgsino-like WIMPs: concluding the story of electroweak naturalness (with V. Barger and D. Mickelson) Phys. Lett. **B726** (2013) 330.

4. Electroweak versus high scale finetuning in the 19-parameter SUGRA model (with V. Barger and M. Padeffke-Kirkland), Phys. Rev. **D88** (2013) 055026.

5. Post LHC8 SUSY benchmark points for ILC physics (with J. List), Phys. Rev. **D88** (055004) 2013.

6. Mainly axion cold dark matter from natural supersymmetry (with K. J. Bae and E. J. Chun), arXiv:1309.0519.

7. How conventional measures overestimate electroweak fine-tuning in supersymmetric theory (with V. Barger and D. Mickelson), Phys. Rev. **D88** (2013) 095013.

8. Mixed axion/neutralino dark matter in the SUSY DFSZ axion model (with K. J. Bae and E. J. Chun), JCAP**1312** (2013) 028.

9. Radiatively-driven natural supersymmetry at the LHC (with V. Barger, P. Huang, D. Mickelson, A. Mustafayev, W. Sreethawong and X. Tata) JHEP**1312** (2013) 013.

10. Naturalness implies intra-generational degeneracy for decoupled squarks and sleptons (with V. Barger, M. Padeffke-Kirkland and X. Tata), arXiv:1311.4587.

11. Physics Case for the ILC Project: Perspective from Beyond the Standard Model (Snowmass report with Berggren, List, Nojiri, Perelstein, Pierce, Porod and Tanabe) arXiv:1307.5248 .

12. Supersymmetry and Dark Matter post LHC8: why we may expect both axion and WIMP detection, proceedings of Particle Physics and Cosmology meeting (PPC2013), July 8, 2013, Deadwood, South Dakota, arXiv:1310.1859.

13. Dark Matter in the Coming Decade: Complementary Paths to Discovery and Beyond (Snowmass CF-4 report with S. Arrenberg *et al.*), October, 2013, arXiv:1310.8621.

14. New Particles Working Group Report of the Snowmass 2013 Community Summer Study (with Y. Gershtein *et al.*), arXiv:1311.0299.

15. Plus 5 other reports associated with US HEP Snowmass summer study

3. GRANTS External Funding:

DOE (2013)	$290,000	PI of OUHEP Task B theory

4. EXHIBITIONS: Conference Activities and Invited Seminars

(a) 12 invited talks at conferences and workshops

(b) 3 other talks at conferences

(c) 2 seminars and colloquiua

(d) 1 public talk (CCDP)

5. SERVICES

(a) Department: QM Qualifying Exam; QM problems

(b) Department: Awards committee

(c) Department: GSC committee

(d) Department: Board of vistors committee

(e) Department: publicity committee

(f) University: Dep't of P&A Research Liaison