

**ManYee Betty Tsang, Professor, NSCL: <https://people.nsl.msu.edu/~tsang/>
Address: 640 S. Shaw Lane, Michigan State University, East Lansing, MI 48824**

a. Professional Preparation:

California State College, Bakersfield	Mathematics	BA 1973
University of Washington	Chemistry	Ph.D. 1980

b. Appointments:

1995-present	Professor, NSCL, Michigan State University
1993-present	Adjunct Professor, Dept of Physics and Astronomy, MSU
1990-1995	Senior Physicist, NSCL, Michigan State University.
1987-1990	Staff Physicist, NSCL, Michigan State University.
1984-1987	Physicist, NSCL, Michigan State University.

c. Publications:

Refereed Publications: 286 (Phys. Rev. Lett. 57, Phys. Lett. B, 41); Invited Talks: 110; Google "citations" (09/22/17): 14906, h-index=65, i10-index= 225

d. Synergistic Activities:

Gordon Research Conference on Nuclear Chemistry, 2008, Chair; 2007, Vice Chair.
Co-Organize 30 national and international conferences and advisor to 10 international conferences
Referee for Nuclear Physics A, Nuclear Instrument and Methods A, Physical Review Letters, Physical Review C, Physics Letter B.
Member-at-large, Forum of International Physics, APS, 2005-2008.
Member, MSU Woman Advisory Committee to the Provost, 2005-2008
Member, APS Andrei Sakharov Prize Committee, 2007-2009

e. Award:

Heinz-Pagels Human Rights Award, New York Academy of Science, 2000
Fellow, American Physical Society, 2006

f. Other Affiliations:

(i) Graduate & Postdoctoral Advisors:

Prof. C. Konrad Gelbke, NSCL/Michigan State University -- Post Doc Mentor
Prof. Robert Vandenbosch, University of Washington -- PhD Advisor

(ii) Thesis Advisor to

Juan Manfredi (2018, expected), Rachel Hodges Showalter (2015, industry), Jack Winkelbauer (2015, LANL), Jenny Lee (2010, Hong Kong University), Michal Mocko (2006, staff, LANL), Xiaodong Liu (2005, Staff, Medical physics).

(iii) Graduate Student Thesis Committee member: 13

(iv) Total number of undergraduate (Research, REU & SURE) students supervised: 30

(v) Total number of visiting scholars sponsored: 35

Selected Publications

1. [KATANA—A charge-sensitive triggering system for the S \$\pi\$ RIT experiment](#), P. Lasko, M. Adamczyk, J. Brzychczyk, P. Hirnyk, J. Łukasik, P. Pawłowski, K. Pelczar, A. Snoch, et al., Nuclear Instruments and Methods in Physics Research A 856, p. 92-98 (2017),
2. [Pion Production in Rare Isotope Collisions](#), M.B. Tsang, J. Estee, H. Setiawan, W.G. Lynch, J. Barney, M.B. Chen, G. Cerizza, P. Danielewicz, J. Hong, P. Morfouace, et al., Phys. Rev. C 95, 044614 (2017).
3. [White paper on nuclear astrophysics and low-energy nuclear physics, Part 2: Low-energy nuclear physics](#), J. Carlson, M. P. Carpenter, R. Casten, C. Elster, P. Fallon, A. Gade, C. Gross, G. Hagen, A. C. Hayes, D. W. Higinbotham, C. R. Howell, C. J. Horowitz, et al., Progress in Particle and Nuclear Physics (2017)
4. [A Gating Grid Driver for Time Projection Chamber](#), S. Tangwancharoen, W.G. Lynch, J. Barney, J. Estee, R. Shane, M.B. Tsang, Y. Zhang, T. Isobe, M. Kurata-Nishimura, et al., Nuclear Instruments and Methods in Physics Research A 853 (2017) p.44-52,
5. Beam commissioning of the S π RIT Time Projection Chamber, Genie Jhang, Jon Barney, Justin Estee, Tadaaki Isobe, Masanori Kaneko, Mizuki Kurata-Nishimura, et al., Journal of Korean Physics Society, 69, 144 (2016).
6. [S \$\pi\$ RIT: A time-projection chamber for symmetry-energy studies](#), R. Shane, A. McIntosh, T. Isobe, W.G. Lynch, H. Baba, J. Barney, Z. Chajecski, M. Chartier, J. Estee, M. Famiano, et al., Nuclear Instruments and Methods in Physics Research A, 784, pg. 513-517 (2015)
7. [SAMURAI in its operation phase for RIBF users](#), H. Otsu, S. Koyama, N. Chiga, T. Isobe, T. Kobayashi, Y. Kondo, M. Kurokawa, W.G. Lynch, T. Motobayashi, et al., Nuclear Instruments and Methods in Physics Research B 376 (2016) p.175.
8. [Understanding transport simulations of heavy-ion collisions at 100A and 400A MeV: Comparison of heavy-ion transport codes under controlled conditions](#), J. Xu, L.W. Chen, B. Tsang, H. Wolter, Y.X. Zhang, J. Aichelin, M. Colonna, D. Cozma, P. Danielewicz, Z.Q. Feng, A. Fevre, et al., Phys. Rev. C 93, 044609 (2016).
9. [A way forward in the study of the symmetry energy: experiment, theory, and observation](#), C. J. Horowitz, E. F. Brown, Y. Kim, W. G. Lynch, R. Michaels, A. Ono, J. Piekarewicz, M. B. Tsang, H. H. Wolter, J. Phys. G 41, 093001 (2014).
10. [Constraints on symmetry energy and nucleon effective mass splitting with Heavy Ion Collisions](#), Yingxun Zhang, M. B. Tsang, Zhuxia Li, et al, Phys. Lett. B 732, 186 (2014).
11. [Constraints on the Symmetry Energy and Neutron Skins from Experiments and Theory](#), M.B. Tsang, J. R. Stone, F. Camera, P. Danielewicz, S. Gandolfi, K. Hebeler, C. J. Horowitz, Jenny Lee, et al., Phys. Rev. C 86, 015803 (2012).
12. [Constraints on the density dependence of the symmetry energy](#), M. B. Tsang, Y.X. Zhang, P. Danielewicz, et al, Phys. Rev. Lett. 102, 122701 (2009).
13. [Isospin Diffusion in Heavy Ion Reactions](#), M. B. Tsang T.X. Liu, L. Shi, P. Danielewicz, C.K. Gelbke, X.D. Liu, et al., Phys. Rev. Lett. 92, 062701 (2004).
14. [Isotope Scaling in Nuclear Reactions](#), M. B. Tsang, W.A. Friedman, C.K. Gelbke, W.G. Lynch, G. Verde, H. Xu, Phys. Rev. Lett. 86, 5023 (2001).
15. [Isospin fractionation in nuclear multifragmentation](#), HS Xu, MB Tsang, TX Liu, XD Liu, WG Lynch, WP Tan, et al., Phys. Rev. Lett 85, 716 (2001)

FUNDED INTERNATIONAL COLLABORATIVE GRANTS:

Award Number	Award Date	Expiration Date	Award Amount	Award Title
NSF 8922454	8/1/1990	1/31/1992	\$11,826	US-Federal Republic of Germany Cooperative Research: Bombarding Energy Dependence of Multi-fragmentation (Co-PI)
NSF	9/15/1999	8/31/2003	\$349,322	Development of a High Resolution Charged Particle Array/Rad Beam Experiment (Participant)
NSF 9908727	2/1/2000	1/31/2003	\$12,000	U.S.-Brazil Cooperative Research: Nuclear Multifragmentation at Intermediate Energies (PI)
NSF 0336704	6/15/2003	5/31/2004	\$3,000	International Conference on "Topics in Heavy Ion Collisions", Montreal, Canada, June 25-28, 2003 (PI)
NSF 0124186	1/1/2002	12/31/2005	\$36,000	U.S.-Japan Cooperative Science: Collision Dynamics of Nuclei with High Isospin Asymmetry (PI)
NSF 0228058	4/1/2003	3/31/2007	\$15,800	U.S.-Brazil Collaborative Research: Non-Equilibrium and Isospin Effects in Nuclear Fragmentation (CoPI)
NSF 0218329	8/1/2002	7/31/2006	\$61,520	U.S.-Russia Collaborative Research: Isospin Sependence of Fragmentation and Spallation Reactions (PI)
NSF 0828050	6/1/2008	5/31/2009	\$5,000	Support of Junior Scientists to Participate in the 2008 Gordon Conference on Nuclear Chemistry, new London, NH, June 2008 (PI)
NSF 1042519	9/1/2010	8/31/2011	\$5,000	Support of Junior Scientists to Participate in the 2010 International Symposium on Nuclear Symmetry Energy at Wako, Japan (PI)
DOE DE-08ER41548	7/1/2008	6/30/2009	\$72,000	Benchmarking Heavy Ion Transport Codes PHITS; FLUKA; HETC-HEDS; AND MARSII (CoPI)
DOE DE-SC0004835	10/1/2010	9/30/2016	\$1,200,000	U.S.-Japan Collaborative Research: Determination of the Equation of State of Asymmetric Nuclear Matter (PI)
DOE DE-SC0014530	8/15/2015	8/14/2018	\$675,000	Constraining the Equation of State of Dense Neutron-rich Matter (PI)
NNSA DE-NA0002923	3/15/2016	3/14/2019	\$600,000	NNSA/SSAA Research: Asymmetric Nuclear Matter under Extreme Conditions (CoPI)