

### BIOGRAPHICAL SKETCH

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NAME <b>Tricia Renee Serio</b>	POSITION TITLE <b>Associate Professor of Medical Science</b>		
eRA COMMONS USER NAME (credential, e.g., agency login) <b>tserio</b>			
<i>EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)</i>			
INSTITUTION AND LOCATION	DEGREE <i>(if applicable)</i>	YEAR(s)	FIELD OF STUDY
Lehigh University, Bethlehem, PA	BS	1991	Molecular Biology
Yale University, New Haven, CT	MPhil, PhD	1995, 1997	Molecular Biology
The University of Chicago, Chicago, IL		1997-2001	Biochemistry/Genetics

#### A. Positions and Honors

##### Positions

1991-1997 Graduate Student (Full time)

Yale University, Dept. of Molecular Biophysics & Biochemistry, New Haven, CT

Advisor: I. George Miller, M.D.

1997-2000 Post-doctoral fellow (Full time)

The University of Chicago, Dept. of Molecular Genetics & Cell Biology, Chicago, IL

Advisor: Susan Lindquist, Ph.D.

2000-2001 Research Associate (Full time)

The University of Chicago, Dept. of Molecular Genetics & Cell Biology, Chicago, IL

2001-2002 Associate Research Scientist (Full time, non-tenured)

Yale University, Dept. of Molecular Biophysics & Biochemistry, New Haven, CT

2002-2008 Assistant Professor (Full time, tenure-track)

Brown University, Dept. of Molecular Biology, Cell Biology, & Biochemistry, Providence, RI

2008- present Associate Professor (Full time, tenured)

Brown University, Dept. of Molecular Biology, Cell Biology, & Biochemistry, Providence, RI

##### Honors

1990 Phi Eta Sigma

1990 Phi Beta Kappa

1991 BS, highest honors, departmental honors

1991-1996 Pre-doctoral fellow, Howard Hughes Medical Institute

1997-2000 Post-doctoral fellow, Damon Runyon Walter Winchell Cancer Research Fund

2001 Special Fellow, Leukemia & Lymphoma Society

2001-2006 Howard Temin Award, NCI

2003-2008 Pew Scholar in the Biomedical Sciences

#### B. Publications

1. **Serio T.R.**, Angeloni A., Kolman J., Gradoville, L., Sun R., Katz D., Van Grunsven W., Middeldorp J., and Miller G. Two 21-Kilodalton Components of the Epstein-Barr Virus Capsid Antigen Complex and Their Relationship to ZEBRA-Associated Protein p21 (ZAP21). *J Virol* 70:8047-54 (1996).

2. **Serio T.R.**, Kolman J.L., and Miller G. Late Gene Expression from the Epstein-Barr Virus BcLF1 and BFRF3 Promoters Does Not Require DNA Replication in cis. *J Virol* 71:8726-34 (1997).
3. **Serio T.R.**, Cahill N., Prout M.E., and Miller G. A Functionally Distinct TATA Box Required for Late Progression Through the Epstein-Barr Virus Life Cycle. *J Virol* 72:8338-8343 (1998).
4. Lindquist S., DebBurman S.K., Glover J.R., Kowal A.S., Liu J.J., Schirmer E.C. and **Serio T.R.** Amyloid fibers of Sup35 support a prion-like mechanism of inheritance in yeast. *Biochem Soc Trans* 26:486-90 (1998)
5. **Serio T.R.**, Cashikar A.G., Moslehi J.J., Kowal A.S., and Lindquist, S.L. Yeast Prion [PSI+] and Its Determinant, Sup35p. *Meth Enz* 309: 649-73 (1999).
6. **Serio T.R.** and Lindquist S.L. [PSI+]: An Epigenetic Modulator of Translation Termination Efficiency. *Ann Rev Cell Dev Biol* 15:661-703 (1999).
7. **Serio T.R.**, and Lindquist S.L. Protein-only inheritance in yeast: Something to get [PSI+]-ched about. *Trends Cell Biol* 10:98-105 (2000).
8. **Serio T.R.**, Cashikar, A.G., Kowal, A.S., Sawicki G.J., Moslehi J.J., Serpell L., Arnsdorf M.F., and Lindquist S.L. Nucleated Conformational Conversion and the Replication of Conformational Information by a Prion Determinant. *Science* 289:1317-21 (2000).
9. **Serio T.R.**, Cashikar A.G., Kowal A.S., Sawicki G., and Lindquist S.L. Self-Perpetuating Changes in Sup35 Protein Conformation as a Mechanism of Heredity in yeast. In *Biochem Soc Symp* 68:35-43 (2001).
10. **Serio T.R.** and Lindquist S.L. [PSI+], Sup35, and Chaperones. *Adv Prot Chem* 57:335-66 (2001).
11. **Serio T.R.** and Lindquist S.L. The Yeast Prion [PSI+]: Molecular Insights and Functional Consequences. *Adv Prot Chem* 59:391-412 (2001).
12. Satpute-Krishnan P. and **Serio T.R.** Prion protein remodeling confers an immediate phenotypic switch. *Nature* 437: 262-5 (2005).
13. Satpute-Krishnan P., Langseth S.X., and **Serio T.R.** Hsp104-Dependent Remodeling of Prion Complexes Mediates Protein-Only Inheritance. *PLoS Biology* 5:e24 (2007).
14. Pezza J.A. and **Serio T.R.** Prion Propagation, The Role of Protein Dynamics. *Prion* 1: 36-43 (2007).

### C. Research Support

#### On-going projects:

RO1 GM069802001 2/1/06-1/31/11

National Institutes of Health (NIGMS)

Prion Cycle Regulation In Vivo

The major goal of this project is to determine the factors contributing to the stable propagation of the prion form of Sup35 *in vivo*.

Principal Investigator: Tricia R. Serio

F32 GM080907 5/1/07-4/30/10

National Institutes of Health (NIGMS)

In vivo Analysis of Dynamic Protein Conformations

The major goal of this project is to determine the relationship between Sup35 functional and conformational states.

Principal Investigator: John A. Pezza

Mentor: **Tricia R. Serio**

F32 GM085976 8/1/08-12/31/09

National Institutes of Health (NIGMS)

“Role of the Actin Cytoskeleton in Yeast Prion Propagation”

The major goal of this project is to determine the role of the cytoskeleton in the inheritance of the Sup35 prion state.

Principal Investigator: Aaron Derdowski

Sponsor: **Tricia R. Serio**

F31 AG032818 9/1/08-8/31/11

National Institutes of Health (NIA)

Investigating the Mechanism of Prion Curing by [PSI<sup>+</sup>] No More Mutations

The major goal of this project is to determine the mechanism by which Sup35 prion-domain mutants dominantly induce loss of the prion form.

Principle Investigator: Susanne DiSalvo

Sponsor: **Tricia R. Serio**

Completed Research Projects:

K01 CA96402-01 9/01-8/06

National Cancer Institute

Modulation of Translation Termination Fidelity

The major goals of this project were to 1) identify the intracellular pool of Sup35 that is the in vivo substrate for conversion and the effects of Hsp104 on this process, 2) determine the factors active in and the signals regulating discreet steps in the translation termination process, 3) identify and characterize the functions and targets of modifiers of translation termination efficiency.

Principal Investigator: Tricia R. Serio

2001-000389 7/03-6/08

Pew Charitable Trusts

Prion Regulation of Translation Termination

The major goal of this project is to develop novel single cell assays to characterize the dynamics of prion protein physical state, function and subcellular distribution in living cells.

Principal Investigator: Tricia R. Serio