CURRICULUM VITAE OF DASHUN XU

I. PROFESSIONAL AFFILIATION AND CONTACT INFROMATION

A. Present University Department: Department of Mathemacits

B. Office Address: 273 Neckers Hall A Wing; E-mail: dxu@math.siu.edu

II. EDUCATIOIN

1. Sep. 1989 - Jul.1993: B. Sc. in Mathematics, Hubei Institute for Nationalities, Hubei, China.

2. Sep. 1994 - Apr. 1997: M. Sc. in Applied Mathematics, Beijing Polytechnic University, Beijing, China.

3. Sep. 2001 - Jul. 2004: Ph. D. in Applied Mathematics, Memorial University of Newfoundland, St. John's, Canada.

III. PROFESSIONAL EXPERIENCE

1. Apr. 1997 - Aug. 1999: Lecturer in Dept. of Applied Math., Beijing Polytechnic University, Beijing, China.

2. Sep. 1999 - Aug. 2001: Research Fellow in Institute of Mathematics, Chinese Academy of Sciences, Beijing, China.

3. Jan. 2004 - May 2006: Visiting assistant professor in Dept. of Math., Purdue University, USA.

4. Aug. 2006 - current: Assistant professor in Dept. of Math., Southern Illinois University Carbondale, USA.

IV. RESEARCH AND CREATIVE ACTIVITY

A. Interests and Specialties: Mathematical Biology, Differential Equations and Dynamical Systems, and Applied Mathematics.

B. Current Projects:

1 Modeling complex dynamics of host-parasite interactions (collaborating with biologists and mathematicians in Purdue University and University of Wisconsin La Crosse), which is supported by NSF: DMS-0719783;

2 Modeling the movement of plant hopper and its population dynamics (collaborating with biologists and mathematicians in Southern Illinois University Carbondale).

C. Grants Applied for:

1 NSF (Biological Sciences) 2009 (Jan. 9) (with professors in Math. and Zoology Dept.)

2 NSF (Biological Sciences) 2008 (Jan. 21) (with professors in Plant Life Biology and Computer Science Depts in SIUC)

3 NSF (Biological Mathematics) 2007 (Jan. 22)

4 Faculty Seed Grant(Oct. 2006)

D. Grants Received:

1 Start-up funds from the College of Science and the Dept. of Mathematics

2 NSF grant (PI, DMS-0719783) effective from Sep. 1, 2007 to Aug. 31, 2010. http://www.nsf.gov/awardsearch/showAward.do?AwardNumber=0719783

F. Papers and Presentations at Professional Meetings:

i. Presentations at Professional Meetings

1 20-minute talk at the "Joint Conference of the Society for Mathematical Biology (USA) and the Chinese Society for Mathematical Biology" in Hangzhou, China, June 14-17, 2009. The title of the talk: "The evolution of drug resistance of schistosome".

2 25-minute talk at the conference titled "Differential Equations and Applications in Ecology and Epidemiology" in West Lafayette, IN, Dec. 8-Dec. 10, 2008. The title of the talk: "On the role of age-targeted treatments in the evolution of drug resistant schistosome".

3 30-minute talk at the special session on "Mathematical Biology: Modeling, Analysis, and Simulations" of the 1044th AMS Meeting, Huntsville, Alabama, Oct. 23 - Oct.25, 2008. The listed title of the talk: "On the role of age-targeted treatments in the evolution of drug resistant schistosome", but the actual title is "Distributed Development Times and Stability in Host-Parasitoid Models".

4 30-minute talk at DIMACS Computational and Mathematical Epidemiology Workshop (titled "Modeling the Impact of Policy Options during Public Health Crises") in Banff, Canada, July 27, 2008. The title of the talk: "Using Age-structured Models to Examine Age-targeted Control Strategy".

5 25-minute talk at the special session "Dynamical systems in Biology and Medicine" of the 7th AIMS International Conference on Dynamical Systems, Differential Equations and Applications, Arlington, Texas, USA, May 18, 2008. The title of the talk: "On the role of schistosome mating structure in the maintenance of drug resistant strains".

6 20-minute talk at MITACS Biomedical Theme Meeting, Banff International Research Station, Banff, Canada, Oct. 22nd, 2003.

7 30-minute talk at The Fourth Geoffrey J. Butler Memorial Conference, University of Alberta, Edmonton, Canada, Oct. 18th, 2003.

8 30-minute talk at the Symposium on Dynamical Systems (CMS Summer Meeting, June 14-16, 2003, Edmonton), Canada, June 14th, 2003.

9 50-minute talk at the International Workshop on Nonlinear Dynamical Systems with Applications (July 15-18, 2002, St. John's), Canada, July 17th, 2002.

V. PUBLICATIONS AND CREATIVE WORKS

B. Articles in Professional Journals:

1. D. Xu, J. D. Reeve, X. Wang and M.-Q. Xiao, 2009. Developmental variability and stability in continuous-time host-parasitoid models. Submitted to *Theoretical Population Biology*.
2. M.-Q. Xiao, J. D. Reeve, and D. Xu, 2009. Mean occupancy time for biased edge movement between two different habitat types. Submitted to *Math. Biosci.*
3. Y. Chang, D. Xu and Z. Jing, 2009. Complex dynamics in swing equations of a power system model. Submitted to *IEEE Transactions on Circuit and Systems II*.
4. D. Xu and Z. Feng, 2009. A metapopulation model with local competitions. *Discrete and Continuous Dynamical Systems (Series B)*, 12(2): 495-511.
5. Z.Feng, Y. Yang, D. Xu, P. Zhang, M. M. McCauley, J. W. Glasser, 2009. Timely identification of optimal control strategies for emerging infectious diseases. *J. Theoretical Biology*, 259: 165-171.
6. Y. Yang, D. Xu, Z. Feng, 2008. Analysis of a model with multiple infectious stages and arbitrarily distributed stage durations. *Mathematical Modelling of Natural Phenomena*, 3(7): 180-193.
7. C. Castillo-Chavez, Z. Feng and D. Xu, 2008. A schistosomiasis model with mating structure and time delay. *Math. Biosci.*, 211: 333-341.
8. P. Zhang, G. Sandland, Z. Feng, D. Xu, and D. Minchella, 2007. Evolutionary implications for interactions between multiple strains of host and parasite. *J. Theoretical Biology*, 248: 225-240.
9. Z. Feng, D. Xu, and H. Zhao, 2007. Epidemiological models with non-exponentially distributed disease stages and applications to disease control. *Bulletin of Mathematical Biology*, 69(5): 1511-1536.
10. D. Xu, Z. Feng, L. Allen and R. K. Swihart, 2006. A spatially structured metapopulation model with patch dynamics. *Journal of Theoretical Biology*, 239, 469-481.
11. D. Xu, J. Curtis, Z. Feng and D. J. Minchella, 2005. On the role of schistosome mating structure in the maintenance of resistant strains. *Bulletin for Mathematical Biology*, 67: 1207-1226.
12. D. Xu and X.-Q. Zhao, 2005. Dynamics in a periodic competitive model with stage structure. *Journal of Mathematical Analysis and Applications*, 311: 417-438.

13. D. Xu and X.-Q. Zhao, 2005. Asymptotic speed of spread and traveling waves for a nonlocal epidemic model. *Discrete and Continuous Dynamical Systems Series B*, 5: 1043-1058.
14. D. Xu, 2005. Global dynamics and Hopf bifurcation of a structured population model. *Nonlinear Analysis: Real World Applications*, 6: 461-476.
15. D. Xu and X.-Q. Zhao, 2004. Bistable waves in an epidemic model. *Journal of Dynamics and Differential equations*, 16: 679-707.
16. D. Xu and X.-Q. Zhao, 2003. A nonlocal reaction-diffusion population model with stage structure. *Canadian Applied Mathematics Quarterly*, 11: 303-319.
17. Z. Jing, D. Xu, Y. Chang and L. Chen, 2003. Bifurcations, chaos, and system collapse in a three-node power system. *International Journal of Electrical Power and Energy Systems*, 25: 443-461.
18. Z. Jing, K. Y. Chan, D. Xu and H. Cao, 2001. Bifurcations of periodic solutions and chaos in Josephson system, *Discrete and Continuous Dynamical Systems*, 7(3): 573-592.
19. D. Xu and D. Meng, 1998. The model and simulation of inhibition in the extrinsic path of blood coagulation: the dynamic effects of protein C, *Acta Biophysica Sinica* (Chinese), 14, 657-665.

VI. TEACHING EXPERIENCE

A. Teaching Interests and Specialties: Graduate and undergraduate math courses.

D. Current Graduate Faculty Statues: regular member

E. Number of Master's and Ph.D. Committees on which you have served:

Served as a Ph. D. committee member for Min A. and a Master committee member for Q. Wang.

VII. UNIVERSITY SERVICE

A. Departmental Committees: Math Field Day (2007, 2008, 2009).

VIII. PROFESSIOINAL SERVICE

A. Membership in Professional Associations: Members of American Mathematical Society (AMS).

D. Evuluation of Manuscripts for Journals:

(1) Nonlinear Analysis Series A: Theory, Methods & Application

(2) Nonlinear Analysis Series B: Real World Applications

(3) Mathematical and Computer Modelling

(4) Discrete and Continuous Dynamical System - B

(5) Applicable Analysis

(6) Journal of Biological Systems

(7) Journal of Theoretical Biology

(8) Mathematical Biosciences

F. Other

– Organized a special session "Dynamical systems in Biology and Medicine " of the 7th AIMS International Conference on Dynamical Systems, Differential Equations and Applications, Arlington, Texas, USA, May 18, 2008.