

Jonathan L. Mitchell
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EDUCATION

- ◆ Ph.D. in Mathematics, Southern Methodist University (SMU), Dallas, TX. (exp. May 2010)
Dissertation: Dynamics of Plasmodium falciparum infection with delayed immune response
Advisor: Thomas Carr.
- ◆ M.Sc. in Mathematics, Stephen F. Austin State University (SFASU), Nacogdoches, TX. (2006).
Thesis: An Exposition of Linear Algebra in Physics.
Advisor: Pamela Roberson.
- ◆ B.Sc. in Mathematics, Stephen F. Austin State University, Nacogdoches, TX. (2004).
Minor: Physics.

RESEARCH INTERESTS

- ◆ Mathematical modeling of infectious diseases.
- ◆ Host's delayed immune response.
- ◆ Delay-differential equations.
- ◆ Normal form transforms.

RESEARCH EXPERIENCE

- ◆ Graduate Researcher ('05-'06), Dept. of Math. and Stat., SFASU
 - An Exposition of Linear Algebra in Physics
- ◆ Graduate Researcher ('07-present), Dept. of Math., SMU
 - **Oscillations** in an intrahost model for *Plasmodium falciparum* malaria due to cross-reactive immune response
 - Asynchronous behavior in a **globally-coupled** system of delay-differential equations modeling *Plasmodium falciparum* infection
 - Asymptotic behavior for nonlinear **state-dependent delay** differential equations.

PUBLICATIONS

- ◆ J. L. Mitchell and T. W. Carr, Oscillations in an Intrahost Model of *Plasmodium falciparum* Malaria due to Cross-reactive Immune Response, Bull. Math. Biol., August, 2009.
DOI 10.1007/s11538-009-9462-2
- ◆ J. L. Mitchell and T. W. Carr, Synchronous versus Asynchronous Oscillations for Antigenically Varying *Plasmodium falciparum* with Host Immune Response (submitted to Mathematical Biosciences 12/21/09).

EXPERIENCE IN PROGRAMMING LANGUAGES

- ◆ Matlab, Maple, & Fortran

INVITED PRESENTATIONS

- ◆ R.W. Yeagy Colloquium, 4/20/09, Dept. of Math. and Stat., SFASU.
- ◆ Applied Mathematics Seminar, 4/24/09, Dept. of Math., University of North Texas.
- ◆ Mathematics Colloquium, 10/2/09, Dept. of Math. University of Dallas.

CONFERENCE PRESENTATIONS

- ◆ Contributed Presentation at the **2010 Joint Mathematics Meeting** in San Francisco: Synchronous versus asynchronous oscillations for an antigenically varying *Plasmodium falciparum* infection with host immune response
- ◆ Contributed Presentation at the **2009 SIAM Conference for Dynamical Systems: Asynchronous Oscillations** in an intrahost model of Plasmodium Infection
- ◆ Poster presentation at the **2008 Society of Mathematical Biology** meeting in Toronto: Recurrent Intrahost Epidemics in a Model of Malaria with Binary Immune Response

TEACHING EXPERIENCE

- ◆ Calculus ('09), Math Dept. [214-768-2506], **SMU**.
- ◆ Calculus III ('09), Bus. Calc ('09), Precal. ('09), Finite ('08), Math Division [972-238-6248], **Richland College**, Dallas, TX.
- ◆ Finite Math ('08), College Alg. ('08), Math Division [972-860-5211], **Cedar Valley College**, Lancaster, TX.
- ◆ College Alg. ('08), Math Dept. [972-860-2250], **El Centro College**, Dallas, TX.
- ◆ Intermed. Alg. ('07), Math Dept. [972-860-4549], **Brookhaven College**, Farmers Branch, TX.
- ◆ Intermed. Alg. ('04-'06), Dept. of Math. and Stat. [936-468-3508], **SFASU**.
- ◆ State Certified Tutor ('01-'04), Academic Assistance Resource Center [936-468-4108], **SFASU**.
- ◆ Teaching Assistant ('03-'04), **SFASU**.
- ◆ Teaching Assistant ('06-'10), **SMU**.

RELEVANT COURSES ON EFFECTIVE TEACHING

- ◆ EPS 380 Educational Psychology, SFASU ('02).
- ◆ SED 370 Introduction to Pedagogy and Active Learning, SFASU ('03).
- ◆ SED 371 Learner-Centered Curriculum – Instruction and Assessment, SFASU ('03).
- ◆ SED 372 Reading and Information Literacy in Secondary Classrooms, SFASU ('03).

SELECTED HONORS

- ◆ SMU Betty McKnight Speairs Award ('07, '08).
- ◆ SMU Mathematics Graduate Full-Scholarship ('06, '07, '08, '09).
- ◆ SFASU Department of Physics and Astronomy Scholarship ('03).
- ◆ SFASU Department of Mathematics and Statistics Scholarship ('02, '03, '04).
- ◆ Various Alumni Scholarships ('01 - '04).
- ◆ William D. Clark Mathematics Scholarship ('04).
- ◆ Doyle Alexander Mathematics Scholarship ('01, '02, '03).
- ◆ SFASU Academic Excellence Scholarship ('00, '01, '02).

SERVICE ACTIVITIES

- ◆ Co-organizer for Graduate Student Seminar ('09-'10), Dept. Math., SMU.
- ◆ President of Math Club ('03-'04), SFASU chapter of MAA.

PROFESSIONAL MEMBERSHIPS

- ◆ Society for Industrial and Applied Mathematics ('08 - present)
- ◆ Society for Mathematical Biology ('07 - present)
- ◆ American Mathematical Society ('04 – present)

REFERENCES

- ◆ Thomas Carr, Associate Professor of Applied Mathematics (teaching & research)
Southern Methodist University - Dallas
(214) 768 2506; tcarr@smu.edu
- ◆ Rich Haberman, Professor of Applied Mathematics
Southern Methodist University – Dallas
(214) 768 2506; rhaberma@mail.smu.edu
- ◆ Vladimir Ajaev, Associate Professor of Applied Mathematics
Southern Methodist University – Dallas
(214) 768 2506; ajaev@smu.edu
- ◆ Celeste Hernandez, Associate Dean (teaching)
Richland College – Dallas
(972) 238 6309; chernandez@dcccd.edu
- ◆ Richard Williams, Professor (teaching)
Southern Methodist University – Dallas
(214) 768 2506; richardw@mail.smu.edu
- ◆ Ian Gladwell, Professor
Southern Methodist University – Dallas
(214) 768 2506; igladwel@mail.smu.edu