
SAMUEL N. JATOR

DEPARTMENT OF MATHEMATICS
AUSTIN PEAY STATE UNIVERSITY
CLARKSVILLE, TN 37044
PHONE: (931) 221 7313
EMAIL: JATORS@APSU.EDU

EDUCATION

Ph.D. , <i>Mathematics (Numerical Analysis)</i> University of Ilorin, Ilorin, Nigeria	1993-1997
M.B.A (<i>Accounting</i>) University of Phoenix, Phoenix, AZ	2004-2006
M.S. (<i>Mathematics</i>) University of Ilorin, Ilorin, Nigeria	1990-1993
B.S. (<i>Mathematics</i>) University of Ilorin, Ilorin, Nigeria	1987-1990

TEACHING EXPERIENCE

<i>Professor</i> Austin Peay State University Clarksville, TN.	August 2008 - Present
<i>Associate Professor</i> Austin Peay State University Clarksville, TN.	August 2002 - July 2008
<i>Assistant Professor</i> Austin Peay State University Clarksville, TN	August 1998 - July 2002
<i>Teacher</i> Unilorin Secondary School, Ilorin, Nigeria.	February 1997 - July 1997
<i>Graduate Assistant</i> University of Ilorin, Ilorin, Nigeria	September 1994 - August 1996
<i>Assistant Lecturer</i> University of Jos, Jos, Nigeria	June 1993 - June 1994

RESEARCH INTEREST

Numerical Analysis, Mathematical Biology, Ordinary and Partial Differential Equations, and Financial Mathematics

PUBLICATIONS

1. S. N. Jator and J. Li, A Self-Starting Linear Multistep Method for a Direct Solution of the General Second Order Initial Value Problem, *Intern. J. Comput. Math.*, 86, (5) (2009), 827-836.
2. S. N. Jator, Novel Finite Difference Schemes for Third Order Boundary Value Problems, *Intern. J. Pure & Appl. Math.*, 53, (1) (2009), 37-54.
3. S. N. Jator and J. Li, Boundary Value Methods via a Multistep Method with Variable Coefficients for Second Order Initial and Boundary Value Problems *Intern. J. Pure & Appl. Math.*, 50, (3) (2009), 403-420.
4. S. N. Jator, On the Hybrid Method with three-off step points for Initial Value Problems, *International Journal of Mathematical Education in Science and Technology* (Accepted, 2009).
5. S. N. Jator and J. Li, Solving Two-Point Boundary Value Problems by a Family of Linear Multistep Methods, *Neural, Parallel & Scientific Computations* (Accepted, 2009).
6. S. N. Jator, Numerical Integrators for Fourth Order Initial and Boundary Value Problems, *Intern. J. Pure & Appl. Math.*, 47, (4) (2008), 563-576.
7. S. N. Jator, On the Numerical Integration of Third Order Boundary Value Problems by a Linear Multistep Method, *Intern. J. Pure & Appl. Math.*, 46, (3) (2008), 375-388.
8. S. N. Jator, A Class of Initial Value Methods for the Direct Solution of Second Order Initial Value Problems, *Intern. J. Pure & Appl. Math.*, 46, (2) (2008), 225-230.
9. S. N. Jator, Multiple Finite Difference Methods for Solving Third Order Ordinary Differential Equations *Intern. J. Pure & Appl. Math.*, 43, (2) (2008), 253 - 265
10. S. N. Jator, A Sixth Order Linear Multistep Method for the Direct Solution of $y'' = f(x, y, y')$, *Intern. J. Pure & Appl. Math.*, 40, (4) (2007), 457 - 472.
11. S. N. Jator and Z. Sinkala, A High Order B-Spline Collocation Method for Linear Boundary Value Problems, *Appl. Math. Comput.*, 191, (1) (2007), 100-116.
12. S. N. Jator, Initial Value Methods Based on Backward Differentiation Formulas for Solving Stiff Second Order Initial Value Problems, *Proceedings of the Seventh International Conference on Computational and Mathematical Methods in Science and Engineering, CMMSE* (2007), 223-231.
13. S. N. Jator, A B-Spline Collocation Method for the Numerical Solution of Linear Integral Equations, *Intern. J. Pure & Appl. Math.*, 33, (4) (2006), 529-540.
14. S. N. Jator and Z. Sinkala, Uniqueness of Positive Radial Solutions for $\Delta u + f(u) = 0$ on the Annulus, *Intern. J. Pure & Appl. Math.* 12 (1) (2004), 23-32.
15. S. N. Jator, Improvements in Adams-Moulton Methods for the first Order Initial Value Problems, *J. Tennessee Acad. Sci.*, 76 (2) (2001), 57-60.
16. P. Onumanyi, U. W. Sirisena, and S. N. Jator, Continuous Finite Difference Approximations for Solving Differential Equations, *Intern. J. Comput. Math.*, 72 (1) (1999), 15-27.
17. P. Onumanyi, D. O. Awoyemi, S. N. Jator, and U. W. Sirisena, New Linear Multi-step Methods with Continuous Coefficients for first Order I. V. Ps, *J. Nig. Math. Soc.*, 13 (1994), 37-51.

18. P. Onumanyi, S. N. Jator and U. W. Sirisena, A New Direct Method of Integration of Non-Stiff First Order ODEs, *Nig. J. Math. Appl.*, 7 (1994), 50–67.
19. P. Onumanyi, U. W. Sirisena, and S. N. Jator, Continuous Adams Moulton Methods for a Direct Solution of Non-stiff Boundary Value Problems, *Nig. J. Math. Appl.*, 6 (1993), 75 – 84.

PUBLISHED ABSTRACTS

1. A. E. Dexter and S. N. Jator, Direct Integration of Second Order Differential Equations by a Five-Step Backward Differentiation Formula, *Journal of the Tennessee Academy of Science*, Vol. 83, (2008), 32.
2. J. W. Henry and S. N. Jator, A Five-step Linear Multistep Method for the Numerical Integration of the time Independent Wave Equation, *Journal of the Tennessee Academy of Science*, Vol. 83, (2008), 32.
3. S. N. Jator, Linear Multistep Methods for $y'''=f(x, y, y', y'')$, Abstracts of papers presented to the *American Mathematical Society*, Volume 28, Issue 4, (2007), 53.
4. S. N. Jator, A Class of Initial Value Methods for the Direct Solution of Second Order Initial Value Problems, Abstracts of papers presented to the *Fourth International Conference of Applied Mathematics and Computing*, Volume 2, (2007), 236.
5. N. Lardizabal, C. Cox, R. Rylee, and S. N. Jator, Solution for the Time-Independent Schrodinger Equation Using the Runge-Kutta Method, *Journal of the Tennessee Academy of Science*, Vol. 82, 29, 2007.
6. D. Purcell, A. Vinson, P. Wilkerson, and S. Jator, Numerical Solutions of Higher-Order Differential Equations, *Journal of the Tennessee Academy of Science*, Vol. 82, 29, 2007.
7. A. Parker, J. Kinnard, J. Traverso and S. N. Jator, Euler Methods and Error Analysis, *Journal of the Tennessee Academy of Science*, Vol. 82, (2007), 29.
8. C. Druyor, B. Hall, C. Leffel, and S. N. Jator, Approximating Solutions of Second –Order Boundary-Value Problems using Finite Difference and the Shooting Methods, *Journal of the Tennessee Academy of Science*, Vol. 82, (2007), 30.
9. S. N. Jator, Solving Differential Equations using Predictor-Corrector Methods, *Journal of the Tennessee Academy of Science*, Vol. 82, (2007), 30.
10. S. N. Jator and T. Agee, A Trapezoidal Type Method with Rational Coefficients for Initial Value Problems, *Journal of the Tennessee Academy of Science*, Vol. 77, (2002), 30.
11. S. N. Jator, Block Simpson-Type Methods for the Numerical Solution of Initial Value Problems, *Journal of the Tennessee Academy of Science*, Vol. 76, (2001), 28.
12. S. N. Jator, Adams Methods with Continuous Coefficients for First Order Initial Value Problems, *Journal of the Tennessee Academy of Science*, Vol. 75, (2000), 31.

NEWSLETTER

W. Burton, S. N. Jator and M. Gold, An Assessment of the Science and Mathematics Apprenticeship Summer Program of some Minority Students from two Clarksville High Schools, *International Mentoring Association Newsletter*, 2008, available at <http://www.mentoring-association.org/sma.html>.

INVITED TALKS

- A Family of Hybrid Methods for Ordinary differential Equations, presented at the *First International Conference on the Mathematical Sciences*, University of Buea, Cameroon, May 12 –16, 2009

- Linear Multistep Methods for $y'''=f(x, y, y', y'')$, American Mathematical Society Southeastern Meeting, Murfreesboro, TN, November 3 - 4, 2007
- A Class of Initial Value Methods for the Direct Solution of Second Order Initial Value Problems, Fourth International Conference of Applied Mathematics Computing, Plovdiv, Bulgari, August 12 – 18, 2007
- Initial Value Methods Based on Backward Differentiation Formulas for Solving Stiff Second Order Initial Value Problems, Seventh International Conference of Computational and Mathematical Methods in Science and Engineering, Illinois, Chicago, June 20 – 23, 2007

PRESENTATIONS

- Direct Integration of Second Order Differential Equations by a Five-Step Backward Differentiation Formula, talk presented at the Tennessee Academy of Science, 117th Meeting, Volunteer Community College, Gallatin, Tennessee, November 16, 2007
- Approximations by B-Spline Basis Functions, talk presented at the GIS Day, Austin Peay State University, November 14, 2007
- Solving Differential Equations using Predictor-Corrector Methods, talk presented at the Tennessee Academy of Science, 116th Meeting, Austin Peay State University, Clarksville, TN, November, 2006
- A B-spline Collocation Method to Solve Radial Positive Solutions of the Laplace Equation, talk presented at the sixth Mississippi State - UAB conference on differential equations & computational simulations, Mississippi State University, May 13-14, 2005
- A Collocation Method for Volterra Equations, 83rd Annual Meeting of the Southeastern Section of Mathematical Association of America, Austin Peay State University, Clarksville, TN, March 26 - 27, 2004
- Numerical Solutions to a Semi-linear Elliptic Equation on an Annulus, talk presented at the 23rd Southeastern-Atlantic Regional Conference on Differential Equations, Kennesaw State University, October 17-18, 2003
- Failure of Development Initiatives in Africa, African – American Week, Austin Peay State University, February 4, 2003
- On the Solutions of Error Differential Equations for Continuous Adams Methods, talk presented at the 22nd Southeastern-Atlantic Regional Conference on Differential Equations, UT Knoxville, October 11-12, 2002
- Adams - Type Methods with Global Error Estimation for Boundary Value Problems, talk presented at the contributed paper sessions of the 80th Annual Meeting of the Southeastern Section of Mathematical Association of America, Huntingdon College, Montgomery, Alabama, March 30 - 31, 2001
- Block Simpson-Type Methods for the Numerical Solution of Initial Value Problems, talk presented at the Tennessee Academy of Science, 110th Meeting, Belmont University, Nashville, Tennessee, November 19, 2000
- Analysis of Continuous Finite Difference Approximations for Boundary Value Problems, talk presented at the contributed paper sessions of the 79th Annual Meeting of the Southeastern Section of Mathematical Association of America, University of North Carolina, Charlotte, North Carolina, March 10, 2000

- Adams Methods with Continuous Coefficients for First Order Initial Value Problems, talk presented at the Tennessee Academy of Science, 109th Meeting, University of Tennessee, Memphis, Tennessee, November 19, 1999
- Mathematics Education in Cameroon and Nigeria, talk presented at the initiation ceremony of new members of the Tennessee Chapter of Pi Mu Epsilon, Austin Peay State University, April 1999

CONFERENCES ATTENDED

- The 90th Annual Meeting of the Mathematical Association of America (MAA), New Orleans, GA, January 5- 8, 2007
- The 23rd Annual Mathematics Symposium (Mathematics from Zero to Infinity), Western Kentucky University, November 21–22, 2003
- The 87th Annual Meeting of the Mathematical Association of America (MAA), Baltimore, MD, January 2003
- The 81st Annual Meeting of the Southeastern Section of MAA and Southeast Regional AMS Section, Atlanta, GA, March 8-10, 2002
- The 111th Meeting of the Tennessee Academy of Science, Middle Tennessee State University, Murfreesboro, Tennessee, November 8 - 10, 2001
- Participated in Project NExT-SE (Project NExT -SE Fellow), 2000 Meeting, Charlotte, NC
- The Fifth Annual Conference for the African-American Researchers in the Mathematical Sciences held at the University of Michigan, June 22-25, 1999
- Middle Tennessee Academy of science, held at Austin Peay State University, April 1999

SUPERVISED STUDENT PRESENTATIONS

- A Block Method for Second Order Initial Value Problems, talk presented by Zachary Hodge and Scott Swindell at the Tennessee Academy of Science, 118th Meeting, Nashville Tennessee, November 2008
- Initial Value Methods for two-point Boundary Value Problems, talk presented by Jennifer Jones, at the Tennessee Academy of Science, 118th Meeting, Nashville Tennessee, November 2008
- Solving third Order Ordinary Differential Equations by Boundary Value Methods, talk presented by Robert French and Michael Northington at the Tennessee Academy of Science, 118th Meeting, Nashville Tennessee, November 2008
- A Five-Step Linear Multistep Method for the Numerical Integration of the Wave Equation, talk presented by Joshua W. Henry at the Tennessee Academy of Science, 117th Meeting, Volunteer Community College, Gallatin, Tennessee, November 16, 2007
- Solution for the Time-Independent Schrodinger Equation Using the Runge-Kutta Method by Nick Lardizabal, Chase Cox, and Richard Rylee, talk presented at the Tennessee Academy of Science, 116th Meeting, Austin Peay State University, Clarksville, TN, November 17, 2006
- Numerical Solutions of Higher-Order Differential Equations, Daniel Purcell, Arthur Vinson, and Patrick Wilkerson, talk presented at the Tennessee Academy of Science, 116th Meeting, Austin Peay State University, Clarksville, TN, November 17, 2006.

- Euler Methods and Error Analysis, Adrian Parker and Jason Kinnard, talk presented at the Tennessee Academy of Science, 116th Meeting, Austin Peay State University, Clarksville, TN, November 17, 2006
- Approximating Solutions of Second –Order Boundary-Value Problems using Finite Difference and the Shooting Methods, Cameron Druyor, Betsy Hall, and Casey Leffel, talk presented at the Tennessee Academy of Science, 116th Meeting, Austin Peay State University, Clarksville, TN, November, 2006
- A Collocation Method for a Special Class of Higher Order Differential Equations, talk presented with Christopher McMahan at the 23rd Annual Mathematics Symposium, Western Kentucky University, November 21-22, 2003
- Numerov’s Method for a special Class of Higher Order Differential Equations, talk presented with Christopher McMahan at the contributed student paper session at the 81st Annual Meeting of the Southeastern Section of MAA and Southeast Regional AMS, Atlanta, GA, March 8-10, 2002
- Trapezoidal -Type Methods with Rational Coefficients for the Numerical Solution of Initial Value Problems”, talk presented at the Tennessee Academy of Science with Tim Agee, 111th Meeting, Middle Tennessee State University, Murfreesboro, Tennessee, November, 2001

GRANTS AND AWARDS

- Received with members of the Physics Department - the National Science Foundation (NSF) federal grant (\$176,177) to fund a high-performance computer cluster to support multidisciplinary research at Austin Peay State University, 2007
- Department of Biology-NSF Grant (proposal submitted, unfunded), October 2003
- Received the 2000 Verizon FOCUS Grant (\$30,000) with Dr. Burton of the Biology Department – funded in summer 2001 and summer 2002
- A Pioneer Award presented in recognition of my dedication in the development and instruction of web-based courses to lead APSU into a new educational frontier

PROFESSIONAL SERVICE ACTIVITIES

Reviewer

- *International Journal of Computer Mathematics*
- *Computational & Applied Mathematics*
- *Journal of Computational and applied Mathematics*
- *Journal of Applied Mathematics and Computing*
- *Computers & Mathematics with Applications*
- *Journal of Tennessee Academy of Science*

CURRENT MEMBERSHIPS

- Mathematical Association of America
- Tennessee Academy of Science
- Pi Mu Epsilon (Honorary Mathematics Society)
- American Association of University Professors

- National Association of Mathematicians
- Geo-Environmental Modeling System Group

UNIVERSITY SERVICE

- Served on the Student Engagement Committee, 2007-2008
- Served on the Geography (GIS specialist) Search Committee, 2007-2008
- Served on the Physics Recruitment Committee, 2007-2008
- Served on the Biochemistry Search Committee, 2007-2008
- Serve as a new faculty mentor, 2007-2008
- Participated in the “Plant the APSU Campus Red” event, April 2007
- Served on the Departmental Recruitment Committee, 2006-2007
- Served on the Physics Recruitment Committee, 2005-2006
- Served on the Chemistry Recruitment Committee, 2005-2006
- Served on the Distance Education Recruitment Committee, 2004-2005
- Served on the Biology Recruitment Committee, 2004-2005
- Served on the Faculty senate from 2003-2006
- Served on the Development and Collection Committee, 2003-2004
- Served on the Faculty and Staff Grievance Committee, 2003-04
- Served on the Liberal Arts Integration Committee, 2003-04
- Served as Senator for College of Science and Mathematics, 2003-04
- Served on Departmental Recruitment Committee, 2003-04
- Served on Instructional Technologist Search Committee, 2003-04
- Served on International Students Scholarship Awards Committee, 2002-03
- Served on Departmental Recruitment Committee, 2002-03
- Served on the Strategic Planning Committee, 2002-03
- Served on the Presidential Research Scholars Steering Committee, 2002-03
- Served on the Strategic Planning Committee, 2001-02
- Served on Departmental Recruitment Committee, 2001-02
- Served on the Strategic Planning Committee, 2000-01
- Served on the Athletic Committee, 2000-01
- Served on Departmental Recruitment Committee, 2000-01
- Participated in the “Adopt-a-Highway” clean-up exercise, June 2000
- Participated in the “Adopt-a-Highway” clean-up exercise, September 2000
- Participated in the “Plant the Town Red” exercise, spring 2000
- Served on Departmental Recruitment Committee, 1999-00
- Served on the Affirmative Action Committee, 1999-00
- Participated in the “Adopt-a-Highway” clean-up exercise, fall 1999
- Participated in the “Operation Restoration” program, spring 1999
- Participated in the telephone drive to raise money for scholarships in the Department, fall 1999