# CURRICULUM VITAE

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## Professional Preparation

- University of Ghana, Legon, Mathematics and Computer Science, B.S. (Honors) 1982.
- University of Toledo, Toledo, Mathematics, M. S. 1985.
- North Carolina State University, Raleigh, Ph. D. 1990.
- Center for Creative Leadership, Certificate in "Maximizing your Leadership Potential", 2014.

## Appointments

- Chairman, Mathematics Department, Howard University, 2004-2014.
- Professor, Mathematics, Howard University, 1999-present.
- Associate Professor, Mathematics, Howard University, 1995-1999.
- Assistant Professor, Mathematics, Howard University, 1990-1995.

## Visiting Positions

- Adjunct Faculty, Arizona State University, July 20, 2015-July 30, 2017.
- Visiting Professor, Botswana International University of Science and Technology, Palapye-Botswana, June-August, 2015.
- Visiting Professor, Mathematical Bioscience Institute of The Ohio State University, January-July 2011.
- Visiting Professor (DHS Fellowship), DIMACS/DyDan of Rutgers University, May-August 2007.
- NIH/MHIRT Scientist, Malaria Research Laboratory, University of Mali 2006.
- Visiting Professor, National Marine Fisheries Services (NOAA), Woods Hole 5/2004-8/2004. 5/2005-8/2005, 5/2006-8/2006.
- Visiting Professor, Center for Nonlinear Analysis, Los Alamos National Lab., 5/2003-8/2003.
- Visiting Professor, Biometrics, Cornell University, 2001-2002.
- Adjunct Professor, Biological Statistics and Computational Biology, Cornell University, 2001-2006.
- Visiting Scientist, Applied Mathematics, Cornell University, 2000-2001.
- Long-term Visitor, IMA, University of Minnesota, 4/1999-7/1999.

## Grants and Contracts

- Science and Education Grant to the USDA-Forest Service (1989).
- Howard University Faculty Research Grant, DC, (1990).
- Howard University Faculty Research Grant, DC, (1991).
- NSF-CBMS Regional Conference Grant (Co-PI), (1997).
- Howard University Funds for Academic Excellence, DC, (1999).
- Center for Applied Mathematics, Cornell University, (2000).
- Mordecai Wyatt Johnson Grant (Co-PI), (2000-2003).
- National Marine Fisheries Service, (May-August 2004).
- National Marine Fisheries Service, (2004-2005).
- National Marine Fisheries Service, (May-August 2005).
- National Marine Fisheries Service, (2005-2008).
- National Marine Fisheries Service, (2008-2009).
- National Science Foundation –Cornell University, (2008-2012).
- David Blackwell Memorial Lecture, National Science Foundation, (2012-2013).
- Dr. David Blackwell Memorial Conference, Army Research Office, (2012-2013).
- National Science Foundation (National Alliance for Building Faculty Diversity Post-Doc Fellowship) via North Carolina State University (2013-2016).
- Department of Homeland Security via CCICADA of Rutgers University (2009-2017).
- National Science Foundation (CompSustNet: Expanding the Horizons of Computational Sustainability) via Cornell University, (2015-2020).
- National Science Foundation CBMS (Mathematical Biology: Modeling and Analysis), (2018-2019).

## Honors and Awards

- Mathematically Gifted and Black: Black History Month 2020 Honoree

  https://mathematicallygiftedandblack.com/honorees/abdul-aziz-yakubu/

- Invited Address on Population Cycles in Discrete-Time Infectious Disease Models at the 1144$^{th}$ Meeting of the American Mathematical Society at San Francisco State University in California on October 27, 2018.

- Joaquin Bustoz Jr. Lecture Award, 2016 Blackwell-Tapia Conference, National Institute for Mathematical and Biological Synthesis, University of Tennessee-Knoxville, October 28-29, 2016.

- Howard University Office of the Provost and Chief Academic Officer Pilot Program for the Faculty Incentive Program Award, August 12, 2016.

- Howard University Office of Research Development Proposal Incentive Program Award, May 13, 2016.

- 2016-2017 National Institute for Mathematical and Biological Synthesis Postdoctoral Fellows Invited Distinguished Visitor.

- Speaker of the 32nd Willie B. Rajanna Memorial Lecture & Awards Ceremony – Morgan State University, April 21st 2016.

- Pacific Institute for the Mathematical Sciences - University of Victoria Distinguished Lecturer, March 16th 2016.
- Member of Advisory Board of SIAM Activity Group on Mathematics of Planet Earth (2015-present).
- Member of 15th Bellman Prize Award Committee, 2015.
- College of Arts and Sciences Dean's Award of Appreciation, 2014.
- National Association of Mathematicians Claytor-Woodard Award of Appreciation January 16, 2010.
- Chair of World Outreach Committee of Society for Mathematical Biology (2007-present).
- Member of Advisory Board of Mathematical Biosciences Institute, Ohio State University (2007- present).
- Member of the Advisory Board of American Institute of Mathematics (2009-present).
- Member of the Advisory of Board of NIMBIOS, University of Tennessee at Knoxville (2011-2014).
- Member of the Executive Board of CCICADA of Rutgers University, 2009-preaent).
- Consultant at Center for Discrete Mathematics & Theoretical Computer Science (DIMACS), Rutgers-The State University of New Jersey, 2003-present.
- Senior Researcher NSF Rise Award on Computational Biology, 2004-2007.
- Mathematical and Theoretical Biology of Cornell University Award for Scientific Leadership and Mentoring, 2002.
- Department of Homeland Security Fellowship, summer of 2007.
- Mathematical and Theoretical Biology of Cornell University Award for Scientific Leadership and Mentoring, 2002.
- Winston Graduate Award, 1989.
- Top African-American Graduate Student Scholarship Award for 1988-1989 Academic Years.
- Maltbie Award for excellence in teaching, 1988.
- North Carolina State Outstanding Teaching Assistant for 1988-1989.

## Professional Societies

- American Mathematical Society (AMS).
- Mathematical Association of America (MAA).
- National Association of Mathematics (NAM).

- Society for Mathematical Biology (SMB).
- Society of Industrial and Applied Mathematics (SIAM).

## Fields of Interest

- Dynamical Systems and Mathematical Biology with applications to Theoretical and Computational Epidemiology, Ecology and Evolutionary Biology, and Demography.

## Talks and Invited Papers

- Exclusion principles in discrete models, Marc Seminar, Howard University (1990).
- Mutual exclusion versus coexistence in discrete competitive systems, 10-th Annual Southeastern-Atlantic Regional Conference on Differential Equations (1990).
- Exclusion principles in discrete competition models, Bryn Mawr College (1990).
- Global attractors in discrete systems, University of Maryland, College Park (1991).
- The effect of planting endangered species in discrete competitive systems, 13-th Annual Southeastern-Atlantic Regional Conference on Differential Equations (1993).
- The effect of planting endangered species in discrete competitive systems, University of Maryland, College Park (1994).
- Species extinction using geometry of level surfaces, The Catholic University of America (1994).
- Dominance conditions in age-structured discrete competitive systems (with Franke), The First International Conference on Difference Equations (1994).
- Dynamic complexity in simple discrete population models, Visual Thinking in Chaotic Dynamics Workshop at Prince George's Community College (1995).
- Extinction and persistence of species in discrete competitive systems with diffusion (with Franke), North Carolina State University (1995).
- Bifurcations and exclusion principles in discrete age-structured models, The Second World Conference of Nonlinear Analysts, Greece-Athens (1996).
- Predation in discrete multi-species predator- prey systems with a prey refuge, NSF-CBMS Conference: Dynamical Systems in Structured Population Dynamics, North Carolina State University (1997).
- Switching predator and prey dominance in discrete predator-prey systems with dispersion, 928th Western Section Meeting of the American Mathematical Society, Albuquerque, New Mexico (1997).
- Discrete age-structured competitive systems with predation and patches, American Mathematical Society Special Session On Difference Equations And Applications, Baltimore, Maryland (January 7-10, 1998).
- Dispersion in discrete age-structured competitive systems, The Catholic University of America, Washington, DC (February 25, 1998).
- Population Dynamics and Discrete Dynamical Systems (10 Lectures), Mathematical and Theoretical Biology Institute, Cornell University (June-July, 1998).
- American Mathematical Society Special Session On Difference Equations And Applications, San Antonio, Texas (January 13-16, 1999).

- Discrete competitive systems with patches, Workshop: Mathematical Approaches for Emerging and Re-emerging Diseases, University of Minnesota, Minneapolis (May 17-May 21, 1999).
- Persistence in age-structured discrete predator-prey systems with dispersion, Third International Conference on Dynamic Systems and Applications, Morehouse College, Atlanta, Georgia (May 26-May 29, 1999).
- Intraspecific competition in discrete-time patchy environments, AMS Special Session on Difference Equations and Their Applications in Social and Natural Sciences, Joint Mathematics Meetings, Washington DC (January 19-22, 2000).
- Discrete-time S-I-S epidemic models, World Congress of Nonlinear Analysis, Catania, Italy (July 19-26, 2000).
- Dispersal, Disease and Discrete--time models, AMS Special Session on Difference Equations and Applications, New Orleans (January, 2001).
- Epidemics on attractors, Annual SIAM Southeastern Atlantic Section Meeting, Conway, South Carolina (March 16-17, 2001).
- Intraspecific competition in discrete-time patchy environments Society Of Mathematical Biology Annual Meeting, Hilo, Hawaii (July, 2001).
- Intraspecific competition in discrete-time patchy environments International Workshop on Dynamical Systems and their Application in Biology held in Cape Breton (August 2-6, 2001).
- Interplay between local and metapopulation dynamics, AMS Special Session on Difference Equations and Applications, San Diego (January, 2002).
- Migration and metapopulation dynamics, BUDS Seminar, Cornell University (May, 2002).
- Epidemics on attractors, DIMACS Summer School Tutorial on Dynamic Models of Epidemiological Problems (June 24-27, 2002).
- Discrete-time metapopulation dynamics and unidirectional dispersal }The Satellite Conference of ICM 2002 on Bifurcation and Chaos, Kunming in China (August 13-17, 2002).
- Migration and age-structured metapopulation dynamics, ICM 2002 Satellite Conference on Mathematical Biology, Guilin in China (August 15-18, 2002).
- Periodically forced metapopulation dynamics, AMS Special Session on Difference Equations and Applications, Baltimore, MD (January 15-18, 2003).
- Industry and Graduate Program Needs} Meeting the challenges: Education Across the Biological, Mathematical, and Computer Science, Bethesda MD (February 27-March 1, 2003).
- Unidirectional versus bi-directional dispersals in discrete-time metapopulation dynamics, Morgan State University, Baltimore, MD (March 6, 2003).
- Unidirectional versus bi-directional dispersals in discrete-time metapopulation dynamics, North Carolina State University, Raleigh, NC (March 26, 2003).
- Unidirectional versus bi-directional dispersals in discrete-time metapopulation dynamics, NAM Regional Meeting, Berkeley, CA (April 8, 2003).
- Asynchronous versus synchronous dispersals in discrete-time metapopulation models, Princeton University, Princeton, NJ (April 15, 2003).
- Monarch Butterfly Population Dynamics, SIAM Conference on Dynamical Systems and Applications, Snowbird, Utah (May 27-31, 2003).

- Diversity Day Co-organizer, 2003 SIAM Annual Meeting, Montreal, Canada (June 16-20, 2003).
- Discrete-time epidemic models, Conference on Computational and Mathematical Approaches to Homeland Security, Public Health Policy and Control, Los Alamos, New Mexico (June 30-July 3, 2003).
- Ecology, Epidemiology, Evolutionary Biology and Nonlinear Dynamics, Woods Hole (NOAA-NMFS), MA (October, 2003).
- Multiple attractors in juvenile-adult single species models, AMS Special Session on Difference Equations and Applications, Phoenix, AZ (January, 2004).
- Hierarchical Competition In Discrete-Time Models, SIAM Annual Conference, Ann Arbor, Michigan (July, 2004).
- Inshore-Offshore Metapopulation Model with Larvae Transport, Annual Conference of Difference Equations and Applications, Los Angeles, CA (August, 2004).
- Discrete-time Epidemic Models in Periodic Environments, AMS Regional Conference, Lubbock, TX (March, 2005).
- Discrete-time SIS Epidemic Model In A Seasonal Environment, AMS Special Session on Recent Advances in Epidemiology and Mathematical Biology, San Antonio, TX (January, 2006).
- Simple and Complex discrete-time models in ecology and epidemiology, DIMACS Reconnect Workshop at Morgan State University (July 2006).
- Epidemics in strongly fluctuating populations, DIMACS Conference on Infectious diseases in Africa, Johannesburg-South Africa (September 2006).
- First International Conference of Africa Society of Biomathematics, Stellenbosch-South Africa (November, 2009).
- Mathematical Methods in Systems Biology, Tel Aviv-Israel (January, 2010).
- Claytor-Woodard Lecture at the Joint Mathematics Meeting, San Francisco-CA (January, 2010).
- Disease dynamics and Allee effect in discrete-time epidemic models, Annual AMS Joint Meeting in New Orleans (January 6-9, 2011).
- Juvenile-Adult Discrete-time Model of exploited Fishery Systems, Annual AMS Meeting Joint Meeting in New Orleans (January 6 -9, 2011).
- Discrete-time SIS Epidemic Model In A Seasonal Environment, AMS Special Session on Recent Advances in Epidemiology and Mathematical Biology, San Antonio, TX (January, 2006).
- Simple and Complex discrete-time models in ecology and epidemiology, DIMACS Reconnect Workshop at Morgan State University (July 2006).
- Epidemics in strongly fluctuating populations, DIMACS Conference on Infectious diseases in Africa, Johannesburg-South Africa (September 2006).
- US-Africa Initiative: ASI and Workshop in Cape Town South Africa (2007).
- US-Africa Initiative; ASI and Workshop in Uganda (2008).
- US-Africa Initiative; ASI and Workshop in Johannesburg (2009).
- NAM Claytor-Woodard Lecture (January 16, 2010).
- MBI Postdoc Lecture (July 2011).
- US-Africa Initiative; ASI and Workshop in Ghana (2011).
- Masamu Conference and Workshop in Zambia (2011).

- Impact of Host Demographic Allee Effect, Fatal Disease and Migration on Biodiversity, Dynamical Systems, Differential Equations and Applications, July 1-5, 2012, Orlando, FL.
- Discrete-time epidemic models, December 10-20, 2012, City University of Hong Kong.
- Immigration, infectious diseases and Allee effects, 2013 Joint Mathematics Meetings, January 9-12, 2013, San Diego, CA.
- Water contaminant, Infectious Disease and Mathematical Models, Reconnect 2013 at Morgan State University, Baltimore-MD (2013).
- A bovine babesiosis model with tick and cattle movements, Department of Mathematics, University of Texas at Arlington (April 2014).
- Tick borne diseases and migration, Department of Mathematics, Botswana International University of Science and Technology, Palapye-Botswana (August 2015).
- Malaria Incidence in Villages of Mali versus Imported Malaria in USA, 34th SAMSA Annual Meeting at University of Namibia, Windhoek-Namibia (November 27, 2015).
- Infectious Diseases and Demographic Allee Effects, University of Pretoria Workshop on Mathematical Biology (March 2, 2016).
- Modeling Infectious Diseases of Africa, Minisymposium at Cheikh Anta Diop University in Senegal-Dakar (March 5, 2016).
- Modeling of Infectious Diseases with a Focus on Ebola, Next Einstein Forum Satellite Workshop on Infectious Diseases with a Focus on Ebola, Senegal Dakar (March 6-8, 2016).
- Models of Malaria with Applications to Malaria in Mali and USA, Pacific Institute for the Mathematical Sciences - University of Victoria Distinguished Lecture, March 16th 2016.
- Calculating Metabolic Rate Using Kleiber's Law, SIAM Conference on the Life Sciences, The Westin Boston Waterfront, Boston, Massachusetts, July 11-14, 2016.
- Modeling Infectious Diseases of Africa, Mathematical Biosciences Institute of The Ohio State University WEB Summer Colloquium, July 20, 2016.
- Infectious Diseases, Duke University, May 22, 2017.
- Mathematical Models Of Infectious Diseases, DHS Annual Retreat, Howard University, May 19, 2017.
- Controlling Malaria Infections in Pregnant Women of Nigeria, New Horizons of Optimal Control 2017, Porto – Portugal, July 3 – 5, 2017.
- Discrete-time Epidemic Models, 2017 Auburn Workshop in Mathematical Biology, Auburn University, Auburn – Alabama, August 24, 2017.
- Discrete-time Epidemic Models, Sixth International Conference on Mathematical Modeling and Analysis of Populations in Biological Systems, University of Arizona-Tucson, October 20-22, 2017.
- A Discrete-time Anthrax Epizootic Model, AMS Joint Meeting, San Diego-California, January 10-13, 2018.
- Discrete-time Epidemic Models, Workshop on Rules of Life in the Context of Future Mathematical Sciences. The workshop is hosted by George Mason University and will be held at the Westin Alexandria Hotel, Alexandria VA, November 8-10, 2018.
- A discrete-time Infectious Salmon Anemia Virus Model, AMS Joint Meeting, Baltimore-Maryland, January 10-13, 2019.

- Metabolic Rates and Kleiber's Law, Mathematical Sciences in Obesity Research short course hosted in Baltimore, Maryland, at the Sheraton Inner Harbor Hotel, 300 S Charles St, Baltimore, MD 21201, June 3-7, 2019.
- Population Cycles in Discrete-Time Infectious Disease Models, The Alamo Symposium, The 43rd Summer Symposium in Real Analysis and Applications, at Trinity University in San Antonio, Texas, June 24-28, 2019.

## Journals Refereed

- Canadian Applied Mathematics Quarterly.
- Computers & Mathematics with Applications.
- Journal of Difference Equations and Applications.
- Journal of Mathematical Analysis and Applications.
- Journal of Theoretical Biology.
- Journal of Mathematical Biology.
- Mathematical Biosciences.
- Nonlinear Analysis Theory, Methods & Applications.
- SIAM Journal on Applied Mathematics.
- The College Mathematics Journal.
- IMA Series.
- African Diaspora Journal of Mathematics.
- Computers and mathematics with applications.
- Bulletin of Mathematical Biology.

## Editorial Board

- SIAM Undergraduate Research Online.
- International Journal of Evolution Equations.
- International Journal of Pure and Applied Mathematical Sciences (IJPAMS).
- Journal of Biological Dynamics.
- Journal of Difference Equations and Applications, Guest Editor.
- Advances in Dynamical Systems and Applications.
- Difference Equations: Theory and Applications.
- Afrika Matematika.

## Books

- Mathematical Approaches For Emerging and Reemerging InfectiousDiseases: Models, Methods and Theory, Springer-Verlag, Volume 125,Edited by Carlos Castillo-Chavez with Sally Blower, Pauline van den Driessche, Denise Kirschner and Abdul-Aziz Yakubu (2002).

- Mathematical Approaches For Emerging and Reemerging Infectious Diseases: Models, Methods and Theory, Springer-Verlag, Volume 126, Edited by Carlos Castillo-Chavez with Sally Blower, Pauline van den Driessche, Denise Kirschner and Abdul-Aziz Yakubu (2002).

**Articles for Refereed Journals**

1. J. Franke and A.-A. Yakubu, Global attractors in competitive systems, Nonlinear Anal.: Theory, Methods and Appl., Vol. 16, 111-129, 2 (1991).
2. J. Franke and A.-A. Yakubu, Mutual exclusion versus coexistence in discrete competitive systems, J. Math. Biol. Vol. 30, 161-168 (1991).
3. J. Franke and A.-A. Yakubu, Geometry of exclusion principles in discrete competitive systems, J. Math. Anal. Appl., Vol. 168, 385-400, 2 (1992).
4. J. Franke and A.-A. Yakubu, Species extinction using geometry of level surfaces, Nonlinear Anal.: Theory, Methods and Appl., Vol. 21, 369-378, 5 (1993).
5. J. Franke and A.-A. Yakubu, Exclusion principles for density dependent discrete pioneer-climax models, J. Math. Anal. Appl., Vol. 187, 1019-1046, 3 (1994).
6. J. Franke and A.-A. Yakubu, Pioneer exclusion in a one-hump discrete pioneer-climax competitive system, J. Math. Biol. 32: 771-787 (1994).
7. J. Franke and A.-A. Yakubu, Extinction in systems of bobwhite quail populations, Canadian Appl. Math. Quarterly, Vol. 3, 173-201, 3 (1995).
8. A.-A. Yakubu , The effects of planting and harvesting endangered species in discrete competitive systems, Math. Biosc. 126:1-20 (1995).
9. J. Franke and A.-A. Yakubu, Dominance conditions in age-structured discrete competitive systems, Proceedings of the First International Conference on Difference Equations and Applications, eds. S. N. Elaydi, J. R. Graef, G. Ladas and A. C. Peterson, Gordon and Breach Science Publications, 197-211 (1995).
10. J. Franke and A.-A. Yakubu, Extinction and persistence of species in discrete competitive systems with a safe refuge, J. Math. Anal. Appl. 203: 746-761 (1996).
11. J. Franke and A.-A. Yakubu, Extinction of species in age-structured, discrete noncooperative systems, J. Math. Biol. 34: 442-454 (1996).

12. J. Franke and A.-A. Yakubu, Diffusion between patches in multi-species discrete competitive systems, Advances in Difference Equations, Proceedings of the Second International Conference on Difference Equations and Applications, Edited by S. Elaydi, G. Ladas, and I. Gyori, Gordon and Breach Science Publications, 205-212 (1997).
13. A.-A. Yakubu, Prey dominance in discrete predator-prey systems with prey refuge, Math. Biosc. 144: 155-178 (1997).
14. J. Franke and A.-A. Yakubu, Principles of competitive exclusion for discrete populations with reproducing juveniles and adults, Nonlinear Analysis Theory, Methods and Application, 30: 1197--1205 (1997).
15. J. Franke and A.-A. Yakubu, Global asymptotic behavior and dispersion in age-structured, discrete competitive systems, Canadian Applied Mathematics Quarterly, Volume 5, 4: 375-395 (1997).
16. A.-A. Yakubu, A discrete competitive system with planting, Journal of Difference Equations and Applications, Vol. 4, 213-214 (1998).
17. J. Franke and A.-A. Yakubu, Exclusionary population dynamics in size-structured, discrete competitive systems, Journal of Difference Equations and Applications, Vol. 3, 235-249 (1999).
18. J. Franke and A.-A. Yakubu, Extinction and persistence in a size-structured, discrete competitive system with dispersion, Fields Institute Communications Volume 21: 1999.
19. A.-A. Yakubu, Searching predator and prey dominance in discrete predator-prey systems with dispersion, SIAM J. Applied Math., Vol. 61, No. 3, 870-880 (2000).
20. A.-A. Yakubu, Competing species of prey versus switching predator, Journal of Difference Equations and Applications, Vol. 5, 305-309 (1999).
21. A.-A. Yakubu, Persistence in age-structured, discrete predator-prey systems with dispersion, Proceedings of Dynamical Systems & Applications, Volume 3, Edited by G. S. Ladde, N. G. Medhin and M. Sambandham, 3, 619-628, Dynamic Publishers, Inc, USA (2001).
22. C. Castillo-Chavez and A.-A. Yakubu, Intraspecific competition, dispersal and disease dynamics in discrete-time patchy environments, Mathematical Approaches For Emerging and Reemerging Infectious Diseases: Models, Methods and Theory, Springer-Verlag, Volume 125, Edited by Carlos Castillo-Chavez with Sally Blower, Pauline van den Driessche, Denise Kirschner and Abdul-Aziz Yakubu (2001).
23. C. Castillo-Chavez and A.-A. Yakubu, Epidemics on attractors, Contemporary Mathematics, 284, 23-42, AMS Publication (2001).
24. C. Castillo-Chavez and A.-A. Yakubu, Discrete-time S-I-S models with complex dynamics, Nonlinear Anal.: Theory, Methods and Appl., 47(7), 4753-4762 (2001).
25. C. Castillo-Chavez, A.-A. Yakubu, H. Thieme and M. Martcheva, Nonlinear mating models for populations with discrete generations, Mathematical Approaches For Emerging and Reemerging Infectious Diseases: Models, Methods and Theory, Springer-Verlag, Volume 125, Edited by Carlos Castillo-Chavez with Sally Blower, Pauline van den Driessche, Denise Kirschner and Abdul-Aziz Yakubu (2001).
26. C. Castillo-Chavez and A.-A. Yakubu, Discrete-time S-I-S models with simple and complex dynamics, Mathematical Approaches For Emerging and Reemerging Infectious Diseases: Models, Methods and Theory, Springer-Verlag, Volume 125, Edited by Carlos Castillo-Chavez with Sally Blower, Pauline van den Driessche, Denise Kirschner and Abdul-Aziz Yakubu, (2001).

27. C. Castillo-Chavez and A.-A. Yakubu, Dispersal, disease and life history evolution, Math. Biosc. 173, 35-53 (2001).
28. S. Elaydi and A.-A. Yakubu, Global stability of cycles: Lotka-Volterra competition model with stocking, J. Difference Equations and Appl., 8(6), 537-549 (2002).
29. S. Elaydi and A.-A. Yakubu, Basins of attraction of stable cycles, J. Difference Equations and Appl., 8(8), 755-760 (2002).
30. A.-A. Yakubu and C. Castillo-Chavez, Interplay between local dynamics and dispersal in discrete-time metapopulation models Journal of Theoretical Biology, 218, 273-288 (2002).
31. J. Best, C. Castillo-Chavez and A.-A. Yakubu, Hierarchical competition in discrete time models with dispersal Fields Institute Communications, 36, 59-86 (2003).
32. A.-A. Yakubu, Discrete-time metapopulation dynamics and unidirectional dispersal, Journal of Difference Equations and Appl., 9(7), 633-653 (2003).
33. A.-A. Yakubu, Multiple attractors in juvenile-adult single species models, Journal of Difference Equations and Appl., 9(12), 1083-1098 (2003).
34. A.-A. Yakubu, R. Saenz, J. Stein and L. E. Jones, Monarch Butterfly Spatially Discrete Advection Model, Math. Biosc., 190, 183-202 (2004).
35. M. Kulenovic and A.-A. Yakubu, Compensatory versus overcompensatory dynamics in density-dependent Leslie models Journal of Difference Equations and Appl., 10(13-15), 1251-1265 (2004).
36. C. Castillo-Chavez, C. Castillo-Garsow and A.-A. Yakubu, Mathematical models in Isolation and Quarantine, Journal of American Medical Association, 290(21), 2876-2877 (December 3, 2003). http://jamanetwork.com/journals/jama/fullarticle/197755
37. J. Franke and A.-A. Yakubu, Multiple attractors via cusp bifurcation in periodically varying environments, Journal of Difference Equations and Appl., 11(4-5), 365-377 (2005).
38. J. Franke and A.-A. Yakubu, Periodic dynamical systems in unidirectional metapopulation models, Journal of Difference Equations and Appl., 11(7), 687-700 (2005).
39. J. Franke and A.-A. Yakubu, Population models with periodic recruitment functions and survival rates, Journal of Difference Equations and Appl., 11(14), 1169-1184 (2005).
40. J. Franke and A.-A. Yakubu, Attenuant cycles in periodically forced discrete-time age-structured population models, Journal of Math. Anal. Applications, 316, 69-86 (2006).
41. A.-A. Yakubu, Periodically forced nonlinear difference equations with delay, Difference Equations and Discrete Dynamical Systems, Proceedings of the 9th International Conference, University of Southern California (California, USA), and Editors: L. Allen, B. Aulbach, S. Elaydi and R. Sacker (2005).
42. J. Franke and A.-A. Yakubu, Discrete-Time SIS Epidemic Model In a Seasonal Environment, SIAM Journal on Applied Mathematic, Vol. 66, No. 5, 1563-1587 (2006).
43. K.R. Rios-Soto, C. Castillo-Chavez, M. G. Neubert, E. S. Titi and A.-A. Yakubu, Epidemic spread in populations at demographic equilibrium, Contemporary Mathematics, AMS volume 410, Mathematical Studies on Human Disease Dynamic: Emerging Paradigms and Challenges, 297-309 (2006).
44. A.-A. Yakubu and M. Fogarty, Spatially discrete metapopulation models with directional dispersal), Mathematical Bioscience, 204, 68-101 (2006).
45. J. Franke and A.-A. Yakubu, Globally attracting attenuant versus resonant cycles in compensatory Leslie models, Mathematical Biosciences, 204, 1-20 (2006).

46. J. Franke and A.-A. Yakubu, Signature function for predicting resonant and attenuant population cycles, Bulletin of Math. Bio. 68, 2069-2104 (2006).
47. T. Diagana S. Elaydi and A.-A. Yakubu Population models in almost periodic environments, Journal of Difference Equations and Appl., 13 (4), 239-260 (2007)
48. J. Franke and A.-A. Yakubu, Using a signature function to determine resonant and attenuant 2-cycles in the Smith-Slatkin population model, Journal of Difference Equations and Appl., 13(4), 289-308 (2007)
49. A.-A. Yakubu, Allee effects in a discrete-time SIS epidemic model with infected newborns, Journal of Difference Equations and Appl., 13 (4), 341-356 (2007)
50. A.-A. Yakubu, Two-patch dispersal-linked compensatory-overcompensatory spatially discrete population models, Journal of Biological Dynamics, 1(2), 157-182 (2007)
51. A.-A. Yakubu, Asynchronous versus synchronous dispersals in spatially discrete population models, SIAM J. Applied Dynamical Systems, Vol. 7, No. 2, 284-310, 2008.
52. J. Franke and A.-A. Yakubu, Disease-induced mortality in density-dependent discrete-time S-I-S epidemic models, Journal of Mathematical Biology, 57, 755-790 (2008).
53. A.-A. Yakubu and M. Fogarty, Periodic versus constant harvesting of discretely reproducing fish populations, Journal of Biological Dynamics, 3(3), 342-356 (2009).
54. B. Dembele A. Friedman and A.-A. Yakubu, Malaria model with periodic mosquito birth rate and death rates, Journal of Biological Dynamics, 3 (4), 430-445 (2009).
55. K. Blayneh, A.-A. Yakubu and J. Mohammed-Awel, Discrete Hierarchical competition model with reward and cost of dispersion, Journal of Difference Equations and Appl., 15 (4), 399-414 (2009)
56. B. Dembele, A. Friedman and A.-A. Yakubu, Mathematical model for optimal use of sulfadoxine pyrimethane as a temporary malaria vaccine, Bulletin of Math. Bio. 72(4), 914-930 (2010). https://link.springer.com/article/10.1007%2Fs11538-009-9476-9?LI=true

57. A.-A. Yakubu, Introduction to discrete-time epidemic models, DIMACS Series in Discrete Mathematics and Theoretical Computer Science 75, 83-109 (2010).
58. A.-A. Yakubu, N. Li, J. M. Conrad and M. L. Zeeman, Constant Proportion Harvest Policies: Dynamic Implications in the Pacific Halibut and Atlantic Cod Fisheries, Mathematical Biosciences, 232, 66-77(2011).
59. J. Franke and A.-A. Yakubu, Periodically forced discrete-time SIS epidemic model with disease-induced mortality, Mathematical Biosciences and Engineering 8(2), 385-408 (2011).
60. Z. Feng, R. Liu, Z. Qiu and J. Rivera and A.-A. Yakubu, Coexistence of competitors in deterministic and stochastic patchy environments, J. Biological Dynamics , 1-20, (2011).
61. J. E. Franke and A.-A. Yakubu, Discrete-Time SIS Epidemic Model In a Seasonal Environment, SIAM Journal on Applied Mathematics, Vol. 66, No. 5, 1563-1587 (2006).
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**Book Review**

- Nonlinear Difference Equations: Theory with Applications to Social Models by Hassan Sedaghat, Kluwer Publishers, Journal of Difference Equations and Appl., 10(10), 933-934, 2004.

**Bachelor's Degree (honors) Students**

- Otu K. Hughes: The dynamics of a 1-dimensional ecological model (1993).
- Nandi Leslie: Plant-herbivore Dynamics (1999).
- Ashley Crump (2008).
- Derrick Simmons (2010).

**Master's Degree Student**

- Shari Wiley: M. S. 2004.

**Doctoral Students**

- Shurron Farmer: (PhD, May 2001).
- Bassidy Dembele (PhD, May 2008).
- Shari Wiley (PhD, May 2010).
- Nianpeng Li (PhD, May 2012).
- Nourridine Siewe (PhD, May 2016).
- Moussa Doumbia (PhD, May 2017).
- Fnu Che Eric Ngang (PhD, May 2020).

**Administrative Experience**

- Member of Mathematical Bioscience Institute (MBI) National Web-based Colloquium Committee, 2016 – Present.
- Howard University President Task Force for STEM Innovation (2015).
- Chairman of Mathematics Department (2004-2014).
- Chairman of Mathematics Department Graduate Faculty Committee (2003 -2004).
- Chairman of Mathematics Department Tenured Faculty Committee (1997-1998, 1999-2000).
- Implementation Panel for Howard University New School of Engineering, Architecture and Computer Science (1996-1997).
- Chairman of Colloquium Committee (1991-1993, 1996-1997, 1998-2000).
- Chairman of Computational Mathematics Committee (1996-2000).
- Graduate Program Committee (1990 -2000).
- Seniors Comprehensive Examination Committee (1992, 1996-1997).
- Undergraduate Course and Curriculum Committee (1991-1992).

- Dynamical Systems Week Conference Committee (1993).
- Mathematics Department Executive Committee (1995-1996).
- Chair of World Outreach Committee of SMB (2007-2017).

**Advisory Board**

- American Institute of Mathematics (2006-present).
- Howard University College of Arts and Sciences Advisory Board (2004-2014).
- SIAM Diversity Committee (2007-2010).
- Mathematical Bioscience Institute Diversity Committee (2009-present).
- NIMBIOS University of Tennessee (2011-2014).
- Rutgers University DHS Center of Excellence Executive Committee (2008 – present).
- SIAM Activity Group on Mathematics of Planet Earth (2015-present).