

Office of the Dean

Publications, Presentations, Editorships, and Talks

Edited Volumes

- **Ackleh, A.S.**, Colombo, R.M., Goatin, P., Hille, S.C., and Muntean, A. (eds). (2020). *Special Issue Mathematical Biosciences and Engineering*, **17**(1-2).
- **Ackleh, A.S.**, Colombo, R.M., Hille, S.C., & Muntean, A. (eds). (2015). *Modeling with Measures*, [Special Issue] *Mathematical Biosciences and Engineering*, **12**(2).

Editorships

- **Ackleh, A.S.** Associate Editor, *Journal of Mathematical Biosciences and Engineering*, 2009-Present.
- **Kumar, A.** Editor-in-Chief. *International Journal of Embedded Systems and Applications (IJESA)*, 2012-Present.
- **Kumar, A.** Associate Editor, *International Journal of Software Engineering & Applications*, 2012-Present.

Journal Papers (Published)

1. **Ackleh, A.S.**, Hossain, I., Veprauskas, A. & Zhang, A. (2020). Long-term dynamics of discrete-time predator prey models: stability of equilibria, cycles, and chaos, *Journal of Difference Equations and Applications*, **26**, 693-726, doi:10.1080/10236198.2020.1786818.
2. **Ackleh, A.S.**, Lyons, R. & Saintier, N. (2020). Finite Difference Schemes for a Structured Population Model in the Space of Measures, *Mathematical Biosciences and Engineering*, **17**, 747-775.
3. **Ackleh, A.S.**, N. Saintier, N. & J. Skrzeczkowski, J. (2020). Sensitivity Equations for Measure-Valued Solutions to Transport Equations, *Mathematical Biosciences and Engineering*, **17**, 514-537.
4. **Ackleh, A.S.** & Saintier, N. (2020). Well-posedness for a System of Transport and Diffusion Equations in Measure Spaces, *Journal of Mathematical Analysis and Applications*, **492**, 124397.
5. Sarkar, S., Totaro, M. W., **Kumar, A.**, and Elgazzar, K. (2020). Real-Time Object Processing and Routing for Intelligent Drones: A Novel Approach. *Computer*, **53**(12), 80-89, doi: 10.1109/mc.2020.2981908.
6. Khalil, K., Eldash, O., **Kumar, A.**, and Bayoumi, M. (2020). "Machine Learning-Based Approach for Hardware Faults Prediction," in *IEEE Transactions on Circuits and Systems I: Regular Papers*, vol. **67**, no. 11, pp. 3880-3892, doi: 10.1109/TCSI.2020.3010743.
7. Khalil, K., Eldash, O., **Kumar, A.**, and Bayoumi, M. (2020). "Intelligent Fault-Prediction Assisted Self-Healing for Embryonic Hardware," in *IEEE Transactions on Biomedical Circuits and Systems*, vol. **14**, no. 4, pp. 852-866, doi: 10.1109/TBCAS.2020.2995784.
8. Lee, E., Wolfgring, E., Tejada, M., Harry, D., Wainman, C., SooChun, S., Schnetger, B., Brumsack, H., Maritati, A., Martinez, M., **Richter, C.**, Lij, Y., Riquier, L., MacLeod, K., Waller, T., Borissova, I., Petrizoo, M., Huber, B., Kim, Y., IODP Expedition 369 Science Party. (2020). Early Cretaceous subsidence of the Naturaliste

- Plateau defined by a new record of volcanoclastic-rich sequence at IODP Site U1513. *Gondwana Research*, **82**, 1-11.
9. Harry, D., Tejada, M., Lee, E., Wolfgring, E., Wainman, C., Brumsack, H.-J., Schnetger, B., Kimura, J., Riquier, L., Borissova, I., Hobbs, R., Jiang, T., Li, X., Maritati, A., Martinez, M., **Richter, C.**, Tagliaro, G., and White, L., (2020). Evolution of the Southwest Australian Rifted Continental Margin During Breakup of East Gondwana: Results From International Ocean Discovery Program Expedition 369. *Geochemistry Geophysics Geosystems*, **21**, 12, p. 1-26, doi:10.1029/2020GC009144
 10. MacLeod, K., L.T. White, C.C. Wainman, M. Martinez, M.M. Jones, S.J. Batenburg, L. Riquier, S.J. Haynes, D.K. Watkins, K.A. Bogus, H.-J. Brumsack, R. do Monte Guerra, K.M. Edgar, T. Edvardsen, M.L. Garcia Tejada, D.L. Harry, T. Hasegawa, R.W. Hobbs, B.T. Huber, T. Jiang, J. Kuroda, E.Y. Lee, Y.-X. Li, A. Maritati, L.K. O'Connor, M.R. Petrizzo, T.M. Quan, **C. Richter**, G. Tagliaro, E. Wolfgring, and Z. Xu., (2020). Late Cretaceous stratigraphy and paleoceanographic evolution in the Great Australian Bight Basin based on results from IODP Site U1512. *Gondwana Research*, **83**, 80-95.
 11. Quan, T.M., Wu, T., and the Expedition 369 Scientists (incl., **Richter, C.**) (2020). Data report: isotopic records for carbonate and organic fractions from IODP Expedition 369, Hole U1515A. In Hobbs, R.W., Huber, B.T., Bogus, K.A., and the Expedition 369 Scientists, Australia Cretaceous Climate and Tectonics. *Proceedings of the International Ocean Discovery Program*, **369**: College Station, TX (International Ocean Discovery Program). doi:10.14379/iodp.proc.369.201.2020
 12. Nichols, M., Xuan, C., Crowhurst, S., Hodel, D., **Richter, C.**, Acton, G., Wilson, P. (2020). Climate-induced variability in Mediterranean Outflow to the North Atlantic Ocean during the late Pleistocene. *Paleoceanography and Paleoclimatology*, **35** (9), e2020PA003947.
 13. **Ackleh, A.S.**, Hossain, Md. I., Veprauskas, A. & Zhang, A. (2019). Persistence and stability analysis of discrete-time predator-prey models: A study of population and evolutionary dynamics, *Journal of Difference Equations and Applications*, **25**, 1568-1603.
 14. **Ackleh, A.S.** & Miller, R. (2019). A Model for Structured Population Dynamics with Indefinite Growth Rates Coupled with the Environment, *Numerical Methods for Partial Differential Equations*, **35**, 2348-2374.
 15. **Ackleh, A.S.**, Banks, J., Veprauskas, A., Vargas R. & Stark, J. (2019). Environmental Indicators: The Trouble with Surrogates, *Ecotoxicology*, **28**, 62-68.
 16. **Ackleh, A.S.**, H. Caswell, H., Chiquet, R.A., Tang T. & Veprauskas, A. (2019). Sensitivity Analysis of the Recovery Time for a Population under the Impact of an Environmental Disturbance, *Natural Resource Modeling*, **32**, 1-22.
 17. Khalil, K., Eldash, O., **Kumar, A.**, and Bayoumi, M. (2019). Economic LSTM Approach for Recurrent Neural Networks. *IEEE Transactions on Circuits and Systems II: Express Briefs*, **66**(11)1885-1889. doi:10.1109/TCSII.2019.2924663
 18. Khalil, K., Eldash, O., **Kumar, A.**, and Bayoumi, M. (2019). "Self-healing hardware systems: A review. *Microelectronics Journal*, **93**, 104620. doi:10.1016/j.mejo.2019.104620
 19. Wainman, C.C., Borissova, I., Harry, D.L., Hobbs, R.W., Mantle, D.J., Maritati, A., Lee, E.Y., and the Expedition 369 Scientists (incl., **Richter, C.**) (2019). Evidence for

- non-marine Jurassic to earliest Cretaceous sediments in the pre-breakup section of the doi:10.1080/08120099.2019.1627581
20. Wainman, C., McCabe, P., Holford, S., and the IODP Expedition 369 Scientific Party (incl., **Richter, C.**) (2019). New insights on Upper Cretaceous stratigraphy and sedimentology of the Bight Basin, Australia from IODP Site U1512. *The APPEA Journal*, **59**(2):968–970. doi:10.1071/AJ18136
 21. **Ackleh, A.S.** & Miller, R.L. (2018). A model for the interaction of phytoplankton aggregates and the environment: approximation and parameter estimation. *Inverse Problems in Science and Engineering*, **26**(2), 152-182. doi:10.1080/17415977.2017.1310856
 22. Veprauskas, A., **Ackleh, A.S.**, & Tang, T. (2018). Examining the effect of reoccurring disturbances on population persistence with application to marine mammals. *Journal of Theoretical Biology*, **455**, 109-117. doi:10.1016/j.jtbi.2018.07.011
 23. **Ackleh, A.S.**, Sutton, K.L., Tang, T., & Zhao, L. (2018). A second order finite difference scheme for a variable infection-structured model of *mycobacterium marinum* dynamics in aquatic animals. *Journal of Nonlinear and Variational Analysis*, **2**, 177-202. doi:10.23952/jnva.2.2018.2.06
 24. **Ackleh, A.S.**, Caswell, H., Chiquet, R.A., Tang, T., & Veprauskas, A. (2018). Sensitivity analysis of the recovery time for a population under the impact of an environmental disturbance. *Natural Resource Modeling*, **32**, 1, e12166. doi:10.1111/nrm.12166
 25. Veprauskas, A., **Ackleh, A.S.**, Banks, J.E., Stark, J.D. (2018). The evolution of toxicant resistance in daphniids and its role on surrogate species. *Theoretical Population Biology*, **119**, 15-25. doi:10.1016/j.tpb.2017.11.002
 26. Huber, B., Hobbs, R., Bogus, K., & the Expedition 369 Scientists (including **Richter, C.**), (2018). Australia Cretaceous Climate and Tectonics. *IODP Preliminary Reports*, 369. doi:10.2204/iodp.pr.321.2009
 27. Grunert, P., Balestra, B., **Richter, C.**, Flores, J.A., Auer, G., Gallardo, A, and Piller, W., (2018). Revised and refined age model for the upper Pliocene of IODP Site U1389 (IODP Expedition 339, Gulf of Cádiz). *Newsletters on Stratigraphy*, **51**(3), 261-283. doi:10.1127/nos/2017/0396
 28. **Ackleh, A.S.** & Sutton, K.L. (2017). Disparate disease outcomes in chronic infection: The role of intra-host variability. *International Journal of Pure and Applied Mathematics*, **116**, 343-352.
 29. Banks, J.E., Vargas, R.I., **Ackleh, A.S.**, & Stark, J.D. (2017). Sublethal Effects in Pest Management: A Surrogate Species Perspective on Fruit Fly Control. *Insects*, **8**(3), 78. doi:10.3390/insects8030078
 30. **Ackleh, A.S.**, Ma, B., & Tang, T. (2017). A high-resolution finite difference method for a model of structured susceptible-infected populations coupled with the environment. *Numerical Methods for Partial Differential Equations*, **33**, 1420-1458. doi:10.1002/num.22139
 31. **Ackleh, A.S.**, Chiquet, R.A., Ma, B., Tang, T., Caswell, H., Veprauskas, A., & Sidorovskaia, N. (2017). Analysis of lethal and sublethal impacts of environmental disasters on sperm whales using stochastic modeling. *Ecotoxicology*, **26**, 820-830. doi:10.1007/s10646-017-1813-4

32. Lyons, R., Vatsala, A., and **Chiquet, R.** (2017). Picard's Iterative Method for Caputo Fractional Differential Equations with Numerical Results, *Mathematics* 5, 65; doi:10.3390/math5040065.
33. **Ackleh, A.S.**, Chiquet, R., Tang, T., Veprauskas, A. Caswell, H., & Ma, B. (2017). Modeling as a complementary tool to acoustic data for understanding the impact of environmental disasters on marine mammals, *The Journal of the Acoustical Society of America*, 142, 2533.
34. **Ackleh, A.S.**, Ma, B., & Miller, R.L. (2016). A general nonlinear model for the interaction of a size-structured population and its environment: Well-posedness and approximation. *Quarterly of Applied Mathematics*, 74, 671-704. doi:10.1090/qam/1439
35. **Ackleh, A.S.**, Cleveland, J., & Thieme, H.R. (2016). Population dynamics under selection and mutation: Long-time behavior for differential equations in measure spaces. *Journal of Differential Equations*, 261, 1472-1505. doi:10.1016/j.jde.2016.04.008
36. **Ackleh, A.S.**, Carter, J., Chellamuthu, V.K., & Ma, B. (2016). A model for the interaction of frog population dynamics with *Batrachochytrium dendrobatidis*, *Janthinobacterium lividum* and temperature and its implication for chytridiomycosis management. *Ecological Modelling*, 320, 158-169. doi:10.1016/j.ecolmodel.2015.09.015
37. **Ackleh, A.S.**, Deng, K., & Wu, Y. (2016). Competitive exclusion and coexistence in a two-strain pathogen model with diffusion. *Mathematical Biosciences and Engineering*, 13, 1-18. doi:10.3934/mbe.2016.13.1
38. Tang, P.C., Smith, K.M., & **Watson, G.M.** (2016). Repair of traumatized mammalian hair cells via sea anemone repair proteins. *Journal of Experimental Biology*, 219, 2265-2270. doi:10.1242/jeb.135459
39. **Ackleh, A.S.** & Salceanu, P. (2015). Competitive exclusion and coexistence in an n -species Ricker model. *Journal of Biological Dynamics*, 9(Sup1), 321-331. doi:10.1080/17513758.2015.1020576
40. **Ackleh, A.S.**, Delcambre, M.L., & Sutton, K.L. (2015). A Second Order High Resolution Finite Difference Scheme for a Size-structured Model for the Spread of *Mycobacterium marinum*. *Journal of Biological Dynamics*, 9(Sup1), 156-187. doi:10.1080/17513758.2014.962998
41. **Ackleh, A.S.**, Farkas, J.Z., Li, X., & Ma, B. (2015). Finite difference approximations for a size-structured population model with distributed states in the recruitment. *Journal of Biological Dynamics*, 9(Sup1), 2-31. doi:10.1080/17513758.2014.923117
42. Tang, P.C. & **Watson, G.M.** (2015). Proteomic identification of hair cell repair proteins in the model sea anemone *Nematostella vectensis*. *Hearing Research*, 327, 245-256. doi:10.1016/j.heares.2015.07.005
43. **Chiquet, R.**, Jara, P., and Zito, K. (2015). Approximate Solutions of Abel's Equation using Rational Inversion of the Laplace Transform. *Neural, Parallel, and Scientific Computations*, 23, 169-178.
44. **Chiquet, R.A.**, Montgomery, T. , Ma, B., and Ackleh, A. S. (2015) Matrix Population Model of Beaked Whales, *Neural, Parallel and Scientific Computations*, 23, 179-192.

45. Hodell, D., Lourens, L., Crowhurst, S., and others (including **Richter, C.**), 2015. A reference time scale for Site U1385 (Shackleton Site) on the SW Iberian Margin. *Global and Planetary Change*, 133, 49-64.
46. **Richter, C.**, and Ali, J. (2015). Philippine Sea Plate Motion history: Eocene-Recent record from ODP Site 1201, central West Philippine Basin. *Earth and Planetary Science Letters*, 410: 165-173.

Books and Book Chapters

- Hobbs, R.W., Huber, B.T., Bogus, K.A., and the Expedition 369 Scientists (incl., **Richter, C.**), 2019. *Australia Cretaceous Climate and Tectonics*. Proceedings of the International Ocean Discovery Program, 369: College Station, TX (International Ocean Discovery Program). doi:10.14379/iodp.proc.369.2019
- Huber, B., Hobbs, R., Bogus, K., and the Expedition 369 Scientists (including **Richter, C.**), (2018). *Australia Cretaceous Climate and Tectonics*. IODP Preliminary Reports, 369. doi:10.2204/iodp.pr.321.2009
- **Ackleh, A.S.**, Ma, B., Li, X. (2017). Parameter Estimation in a Size-Structured Population Model with Distributed States-at-Birth. In: Bociu, L., Désidéri, J.A., Habbal, A. (eds). *System Modeling and Optimization: CSMO 2015, IFIP Advances in Information and Communication Technology*, **494**, 43-57. Cham, Switzerland: Springer. doi:10.1007/978-3-319-55795-3_3

Conference Papers (Published)

- Veprauskas, A., **Ackleh, A.S.**, Hossain, I. & Zhang, A. (2020) Persistence of a Discrete-Time Predator-Prey Model with Stage-Structure in the Predator, In: Baigent S., Bohner M., Elaydi S. (eds) *Progress on Difference Equations and Discrete Dynamical Systems*. ICDEA 2019, **341**. Springer, Cham. doi:10.1007/978-3-030-60107-2_6.
- Sarkar, S., Totaro, M., & **Kumar, A.** (2020). An Intelligent Framework for Prediction of a UAV's Flight Time. *2020 16th International Conference on Distributed Computing in Sensor Systems (DCOSS)*. IEEE, 2020. doi:10.1109/dcoos49796.2020.00058
- Khalil, K., Dey, B., Sherazi, Y., **Kumar, A.**, & Bayoumi, M. (2020). A Novel Design Reversible Logic Based Configurable Fault-Tolerant Embryonic Hardware. In: *2020 IEEE International Symposium on Circuits and Systems (ISCAS)*, 1-5. IEEE. doi: 10.1109/iscas45731.2020.9181273
- Khalil, K., Eldash, O., Dey, B., **Kumar, A.**, & Bayoumi, M. (2020). Architecture of A Novel Low-Cost Hardware Neural Network. In: *2020 IEEE 63rd International Midwest Symposium on Circuits and Systems (MWSCAS)*, 1060-1063. IEEE. doi:10.1109/mwscas48704.2020.9184585.
- Dey, B., Khalil, K., **Kumar, A.**, and Bayoumi, M. (2020). A Reversible-Logic based Architecture for Artificial Neural Network. In: *2020 IEEE 63rd International Midwest Symposium on Circuits and Systems (MWSCAS)*, 505-508. IEEE. doi: 10.1109/mwscas48704.2020.9184662.
- Eldash, O., Frost, A., Khalil, K., **Kumar, A.**, & Bayoumi, M. (2020). Dynamically Reconfigurable Deep Learning for Efficient Video Processing in Smart IoT Systems.

In: *2020 IEEE 6th World Forum on Internet of Things (WF-IoT)*, 1-6. IEEE.
doi:10.1109/wf-iot48130.2020.9221101

- Khalil, K., Eldash, O., **Kumar, A.**, & Bayoumi, M. (2019). N 2 OC: Neural-network-on-chip architecture. In: *2019 32nd IEEE International System-on-Chip Conference (SOCC)*, 272-277. IEEE. doi:10.1109/socc46988.2019.1570548351
- Khalil, K., Eldash, O., **Kumar, A.**, & Bayoumi, M. (2019). A speed and energy focused framework for dynamic hardware reconfiguration. In: *2019 32nd IEEE International System-on-Chip Conference (SOCC)*, 388-393. IEEE. doi:10.1109/socc46988.2019.1570556376.
- Khalil, K., Eldash, O., Dey, B., **Kumar, A.**, & Bayoumi, M. (2019). A novel reconfigurable hardware architecture of neural network. In: *2019 IEEE 62nd International Midwest Symposium on Circuits and Systems (MWSCAS)*, 618-621. IEEE. doi:10.1109/mwscas.2019.8884809
- Khalil, K., Eldash, O., **Kumar, A.**, & Bayoumi, M. (2019). Self-Healing Approach for Hardware Neural Network Architecture. In: *2019 IEEE 62nd International Midwest Symposium on Circuits and Systems (MWSCAS)*, 622-625. IEEE. doi:10.1109/mwscas.2019.8885235.
- Dey, B., Khalil, K., **Kumar, A.**, & Bayoumi, M. (2019). A novel design gate based low-cost configurable ro puf using reversible logic. In: *2019 IEEE 62nd International Midwest Symposium on Circuits and Systems (MWSCAS)*, 211-214. IEEE. doi:10.1109/mwscas.2019.8885015
- Rizk, R., Rizk D., **Kumar A.**, & Bayoumi, M. (2019). Demystifying Emerging Nonvolatile Memory Technologies: Understanding Advantages, Challenges, trends, and Novel Applications. In: *2019 IEEE International Symposium on Circuits and Systems (ISCAS)*. doi:10.1109/iscas.2019.8702390
- Khalil, K., Eldash, O., **Kumar, A.**, & Bayoumi, M. (2018). Flexible self-healing router for reliable and high-performance Network-on-Chips architecture. In: *2018 31st IEEE International System-on-Chip Conference (SOCC)*, 152-157. IEEE, doi:10.1109/socc.2018.8618525.
- Khalil, K., Eldash, O., **Kumar, A.**, & Bayoumi, M. (2018). An efficient approach for neural network architecture. In: *2018 25th IEEE International Conference on Electronics, Circuits and Systems (ICECS)*, 745-748. IEEE. doi:10.1109/icecs.2018.8617887
- Sammoud, A., **Kumar, A.**, Bayoumi, M., Elarabi, T. (2017). Real-Time Streaming Challenges in Internet of Video Things (IoVT). In: *2017 IEEE International Symposium on Circuits and Systems (ISCAS)*, 1-4. doi:10.1109/ISCAS.2017.8050815
- Fowler, M., Bolding, T., Hebert, K., Ducrest, F., & **Kumar, A.** (2016). Design of a Cost-Effective Autonomous Underwater Vehicle. In: *2016 Annual IEEE Systems Conference (SysCon)*, 1-6. doi:10.1109/syscon.2016.7490543
- Sidorovskaia, N.A., **Ackleh, A.S.**, Tiemann, C. O., Ma, B., Ioup, J.W., Ioup, G.E. (2016). Passive Acoustic Monitoring of the Environmental Impact of Oil Exploration on Marine Mammals in the Gulf of Mexico. In: Popper, A., Hawkins, A. (eds). *The Effects of Noise on Aquatic Life II, Advances in Experimental Medicine and Biology*, **875**, 1007-1014. New York, NY: Springer. doi:10.1007/978-1-4939-2981-8_125

Plenary and Keynote Presentations

- **Ackleh, A.S.** *Can Evolution Responses to a Disturbance Alter Population Dynamics*, UAE Math Day, Sharjah, United Arab Emirates, March 16, 2019. (Keynote)
- **Ackleh, A.S.** *Population Models with Discrete or Continuous Trait Spaces: Competitive Exclusion or Coexistence?* Keynote. 7th Annual Conference of the Lebanese Society for the Mathematical Sciences (LSMS). Balamand, Lebanon, April 20-21, 2017.

Colloquia and Seminar Talks

- **Ackleh, A.S.** Southwest Research Institute, San Antonio, TX, November 4, 2019.
- **Richter, C.** University of Louisiana at Lafayette (Physics seminar: March 20, 2019)
- **Ackleh, A.S.** Department of Mathematics, Trinity University. San Antonio, TX, October 3, 2018.
- **Richter, C.** Southwest Louisiana Geophysical Society, Lafayette, LA, October 9, 2018.
- **Ackleh, A.S.** Department of Physics, University of New Orleans. New Orleans, LA, April 2017.
- **Ackleh, A.S.** Dr. Karen A. Ames Series on Applied Mathematics. Department of Mathematical Sciences, University of Alabama in Huntsville. Huntsville, AL, March 2017.
- **Richter, C.** Baton Rouge Geological Society (September 8, 2017).
- **Richter, C.** University of New Orleans (Physics Seminar: February 8, 2017)
- **Ackleh, A.S.** Department of Mathematics and Statistics, Sam Houston State University. Huntsville, TX, April 2016.
- **Richter, C.,** Louisiana State University (Geology Seminar: November 18, 2016)
- **Watson, G.M.** The Whitney Marine Laboratory. St. Augustine, FL, June 2015.

Invited and Other Selected Conference and Workshop Talks

1. **Ackleh, A.S.** *The Effect of Prey Evolution to Develop Toxicant Resistance on Predator-Prey Dynamics*, International Conference on Difference Equations and Application (ICDEA) London, June 24-28, 2019.
2. **Ackleh, A.S.** *Changes in Population Outcomes Resulting from Evolutionary Responses to a Disturbance*, Invited. Joint Mathematical Meeting. San Diego, CA, January 9-14, 2018.
3. **Ackleh, A.S.** *Examining the Effect of Evolution in Response to a Disturbance on Population Dynamics*, Invited. Nashville, TN, April 14-15, 2018.
4. **Ackleh, A.S.** *Changes in Population Dynamics Resulting from Evolutionary Response to an Environmental Disturbance*, Invited. Frontiers of Mathematical Biology: Modeling, Computation and Analysis. Orlando, FL, May 2-4, 2018.
5. **Ackleh, A.S.** *A Second Order Finite Difference Scheme for a Variable Infection-Structured Model of Mycobacterium Marinum Dynamics in Aquatic Animals*, Invited, Main Speaker. Sixth Palestinian Conference on Modern Trends in Mathematics and Physics (PCMTMP-VI), Palestine Technical University - Kadoorie. Tulkarm, August 5-8, 2018.

6. **Ackleh, A.S.** *The Effect of Toxicant Resistance Evolution in the Prey Population on the Dynamics of a Predator-Prey System*, Invited. AMS Meeting #1144, San Francisco, CA, October 27-28, 2018.
7. **Ackleh, A.S.** *A Model for Structured Population Dynamics with Indefinite Growth Rates Coupled with the Environment*, *Mathematical Methods and Modeling in Engineering and Life Sciences*, Invited. Buenos Aires, Argentina, November 7-9, 2018.
8. **Ackleh, A.S.** *A Model for the Interaction of Phytoplankton Aggregates and the Environment: Approximation and Parameter Estimation*. Joint Mathematics Meeting. Atlanta, GA, January 4-7, 2017.
9. **Ackleh, A.S.** *Analysis of Lethal and Sublethal Impacts of Environmental Disasters on Sperm Whales Using Stochastic Modeling*. Gulf of Mexico Oil Spill and Ecosystem Science Conference. New Orleans, LA, February 6-9, 2017.
10. **Ackleh, A.S.** *Combining Acoustic Data and Statistical Modeling to Understand Marine Mammal Population Dynamics and Abundance* (Invited). The 42nd IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP). New Orleans, LA, March 5-9, 2017.
11. Krayesky-Self, S., **Watson, G.M.** *Sea Anemones Employ Hair Bundle Mechanoreceptors to Target Spirocyst Discharge to Swimming Appendages of Prey*. Society for Integrative & Comparative Biology Annual Meeting. New Orleans, LA, January 4-8, 2017.
12. Menard, S.S., **Watson, G.M.** *Sea Anemone Hair Bundles are Resilient to Multiple Types of Trauma*. Society for Integrative & Comparative Biology Annual Meeting. New Orleans, LA, January 4-8, 2017.
13. Gundlach, K.A., **Watson, G.M.** *Interspecific Anemone Mucus Enhances Cnida Discharge in the Anemone *Haliplanella luciae**. Society for Integrative & Comparative Biology Annual Meeting. New Orleans, LA, January 4-8, 2017.
14. Rogers, D.J., Hendrick, M., **Watson, G.M.**, Smith, K.M. *Calcium Signaling in in GABAergic-Cortical Astrocyte Co-Culture is Influenced by Fibroblast Growth Factor Receptor 1 (FGFR1)*. Society for Integrative & Comparative Biology Annual Meeting. New Orleans, LA, January 4-8, 2017.
15. **Ackleh, A.S.** *Competitive Exclusion and Coexistence in Discrete-Time Population Models* (Invited). IV International Conference on Applied Mathematics, Design and Control. Universidad Nacional de San Martín. Buenos Aires, Argentina, November 4-6, 2015.
16. **Ackleh, A.S.** *Understanding the Dynamics of Amphibians and Associated Diseases Using a Structured Modeling Approach* (Invited). 27th IFIP TC7 Conference. SophiaTech Campus. Sophia Antipolis, France, June 29-July 3, 2015.
17. **Ackleh, A.S.** *Competitive Exclusion and Coexistence in Population Models* (N.A. Court Lecture, Invited). MAA 77th Annual Meeting of the Oklahoma-Arkansas Section. Tulsa, OK, April 10-11, 2015.
18. **Ackleh, A.S.** *A General Structured Population Model with Application to Amphibians and Associated Diseases*, Invited. Joint Mathematics Meeting. San Antonio, TX, January 10-13, 2015.

19. Rogers, D.J., Jackson, M., Torres, H., Foret, B., **Watson, G.M.**, Smith, K.M. *Calcium Imaging of Co-Cultured GABAergic Interneurons with FGFR1 Knockout Astrocytes*. Society for Neuroscience Meeting. Chicago, IL, October 19, 2015.
20. Tang, P.C., **Watson, G.M.** *Repair of Mammalian Hair Cells via Sea Anemone Repair Proteins*. Association Research Otolaryngology 38th Annual MidWinter Meeting. Baltimore, MD, February 21-25, 2015.

Journal Referees

Ackleh, A.S.

SIAM Journal of Applied Mathematics • Journal of Mathematical Biology • Journal of Analysis and Applications • Natural Resource Modeling • Mathematical Biosciences • Dynamics of Discrete, Continuous and Impulsive Systems • Nonlinear Analysis, Theory Methods and Applications • Dynamic Systems and Applications • Journal of Computational and Applied Mathematics • International Journal of Mathematics and Mathematical Sciences • Computers & Mathematics with Applications • Kybernetika • Applied Mathematics Letters • Applicable Analysis • Journal of Biological Systems • Discrete and Continuous Dynamical Systems, Series B • Journal of Difference Equations and Applications • Rocky Mountain Journal of Mathematics • Applied Numerical Mathematics • Journal of Biological Dynamics • Journal of Scientific Computing • International Journal of Numerical Analysis and Modeling • Journal of Theoretical Biology • Applied Mathematics and Computation • Computers and Mathematics with Applications • Inverse Problems in Science and Engineering • Mathematical Biosciences and Engineering.

Chiquet, R.

Journal of Mathematical Biology • Methods in Ecology and Evolution • Endangered Species Research • Bulletin of Mathematical Biology • Mathematical Biosciences and Engineering.

Richter, C.

Marine Geology • Annals of Geophysics • Geological Society of London • Paleocyanography • Earth and Planetary Science Letters • Paleo-3 • Physics of the Earth and Planetary Interiors • Earth, Planets and Space

Organized Special Sessions or Conferences

- **Chiquet, R.A.** Conference organizer for the 2018 LA/MS MAA Section Meeting which was held at UL Lafayette in February 2018.
- **Ackleh, A.S.** Co-organizer of the Special Session on Fusion of Bio-physical Data and Predictive Modeling to Understand Gulf of Mexico Marine Species Resilience to Environmental Stresses and Disasters. Gulf of Mexico Oil Spill and Ecosystem Conference, Tampa, FL, February 1-4, 2016.

Graduate Student Production

2020:

Md. Istiaq Hossain (Ph.D.), Advisor: **Ackleh, A.S.**
Olawale Ariyibi (M.S.), Advisor: **Richter, C.**

2018:

Sean Jensen (M.S.), Advisor: **Richter, C.**
Morgan Canezaro (M.S.), Advisor: **Richter, C.**

2017:

Tingting Tang (Ph.D.), Advisor: **Ackleh, A.S.**
Gage Seaux (M.S.), Advisor: **Richter, C.**
Oludamilola Adesiyun (M.S.), Advisor: **Richter, C.**
Lindsey Horton (M.S.), Advisor: **Richter, C.**

2016:

Xinyu Li (Ph.D.), Advisor: **Ackleh, A.S.**
Delmetria Taylor (M.S.), Advisor: **Richter, C.**
Tina Hoang (M.S.), Advisor: **Richter, C.**
Jacob Juneau (M.S.), Advisor: **Richter, C.**

2015:

Robert Miller (Ph.D.), Advisor: **Ackleh, A.S.**
Vinodh Chellamuthu (Ph.D.), Advisor: **Ackleh, A.S.**
Othman Elhelou (M.S.), Advisor: **Richter, C.**
Pei-Ciao Tang (Ph.D.), Advisor: **Watson, G.M.**

Funding

External Funding

Ackleh, A.S.

- Co-Investigator, Old Dominion University Research Foundation, *Spatial Eco-epidemiology of Tick-borne Rickettsial Pathogens*, September 2017- August 2022, \$256,173.
- Co-Principal Investigator. Gulf of Mexico Research Initiative Fund. *Littoral Acoustic Demonstration Center-Gulf Ecological Monitoring and Modeling (LADC-GEMM)*, 2015-2019, \$5,918,725. (additional continuation funding in the amount of \$680,000 was approved for the year 2019).
- Principal Investigator. National Science Foundation. *Nonautonomous Structured Population Models with Application to Amphibians and Associated Diseases*. Grant number DMS-1312963. 2013-2016, \$235,000.

- Principal Investigator. U.S. Department of the Interior. *Computer Simulation Model Upgrade for Hurricane, Sea-Level, and Wetland Ecosystem Application*. Grant number G13AC00373. 2013-2016, \$176,794.
- Principal Investigator. U.S. Department of the Interior, US Geological Survey. *Graphic Visualization Tool and Animation Product of Mekong River Flow, Dam Effects and Impact on Food Security*. Grant Number G11AC 2013 9. 2011-2016, \$194,145.

Chiquet, R.A.

- \$22,100: CURM (Center for Undergraduate Research in Mathematics) mini-grant awarded for 2019-2020. This was funded by CURM through the NSF.

Richter, C.

- \$362,772 NSF-MRI: *Acquisition of a Closed-Loop PPMS Enhanced for Multidisciplinary Research and Education at the University of Louisiana at Lafayette* (Role: co-PI) – Dates: 09/01/2020 – 08/31/2022
- \$456,593 NSF-MRI: *Autonomous real-time monitoring of Gulf ecology with SeaGliders: advancing interdisciplinary research and education through modern technology* {Senior Personnel} Dates: August 1, 2018-July 31, 2020.
- \$14,895 U.S. Science Support Program: *Revised Magnetostratigraphy and Rock Magnetic Analysis of Cores from IODP Expedition 369*. Dates: March 1, 2018-February 29, 2020 Role: PI.
- \$58,473 Columbia University/National Science Foundation: *Research Subaward, Participation on IODP Expedition 369*. Dates: October 1, 2017-February 29, 2020 (Role: PI).
- \$29,973 BoRSF: *Upgrading Particle-Induced X-ray Emission Spectrometry at the Louisiana Accelerator Center (Co-PI)*, 2016.

Other

Awards/Honors

- **Ackleh, A.S.**, Rollie Lamberson Research Award Medal by the Research Modeling Association in 2019.
- **Chiquet, R.A.**, Outstanding Undergraduate Research Mentor Award 2018-2019.
- **Chiquet, R.A.**, Outstanding University Advisor Award March 2015, 2016, 2017, 2018, 2019-2020.
- **Chiquet, R.A.**, Rollie Lamberson Research Award 2019.
- **Ackleh, A.S.** was awarded the Outstanding Doctoral Student Mentor Award 2016-2017, University of Louisiana at Lafayette.
- **Chiquet, R.A.**, Dr. Ray P. Authement Excellence in Teaching Award for the university April 2015.
- **Richter, C.** Outstanding Professor recipient (R.P. Authement College of Sciences) 2015.

Offices Held and Professional Memberships

Ackleh, A.S.

American Mathematical Society (AMS) • Society of Mathematical Biology (SMB) • Society of Industrial and Applied Mathematics (SIAM) • International Society of Difference Equations (ISDE)

Richter, C.

American Geophysical Union • Geological Society of America • Lafayette Geological Society • Deutsche Geologische Gesellschaft • President, Southwest Louisiana Geophysical Society (2014 - Present)