

CURRICULUM VITAE

William S. Kisaalita

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EDUCATION in Mechanical, Bio-Resource, and Chemical Engineering

- Ph.D. 1987 Dissertation: *Anaerobic Fermentation of Whey: Acidogenesis*;
Chemical Engineering
University of British Columbia, Vancouver, BC, Canada
Mentor – Prof. Kenneth L. Pinder
- M.S. 1982 Thesis: *Study of Heat Transfer from Steam-Air Mixtures to a Retort Pouch Substrate*; Bio-Resource Engineering
University of British Columbia, Vancouver, BC, Canada
Mentor – Prof. Kwang Victor Lo
- B.S. 1978 Inquiry-/Design-Based Capstone Project: *Design, construction and performance characterization of a hand-operated jaggery mill*; Mechanical Engineering
Makerere University, Kampala, Uganda
Mentor – Mr. Paul Makaire

ROPOSITIONS HELD

- Founder & CTO/CEO
08/09 to present Thermogenn Ltd, headquartered in Uganda
Thermogenn and Smallholder Fortunes (below) are sister entities that create a “hybrid entity,” but with separate Advisory Boards. [part time]
- Founder & CTO
07/10 to present Smallholder Fortunes (not-for-profit or NGO), headquartered in Uganda. [part time]
- Professor
07/03 to present Biological (environmental, bioprocessing & biomedical) Engineering College of Engineering (since 07/12), University of Georgia. The College of Engineering was reorganized (since fall 2016) into three schools and one of these schools is “School of Chemical, Materials and Biomedical Engineering,” which houses the biological engineering academic program. The biological engineering program content currently comprises only “biomedical engineering,” since the other emphases (environmental and bioprocessing) were moved to other degree programs. [full time]
- Chair (Coordinator) Biological (environmental, bioprocessing & biomedical) Engineering

07/12 to 6/2016	College of Engineering (since 07/12, formerly Biological and Agricultural Engineering Department) University of Georgia
Associate Director 07/11 to 06/12	Center for Undergraduate Research Opportunities Honors Program, University of Georgia
Graduate Coordinator 01/05 to 01/09	Biological and Agricultural Engineering Department University of Georgia
Visiting Professor (Adjunct) 07/01 to present	School of Food Technology, Nutrition and Bioengineering Makerere University, Uganda (renewed every three years)
Associate Professor 07/97 to 06/03	Biological and Agricultural Engineering (became a college on 07/12) University of Georgia
Assistant Professor 07/91 to 06/97	Biological and Agricultural Engineering (became a college on 07/12) University of Georgia, Athens, Georgia, USA
Research Associate 09/89 to 06/91	Electrical and Computer Engineering and Department of Chemistry University of Illinois, Urbana Champaign, Illinois, USA
Postdoctoral Fellow 04/88 to 08/89	Departments of Chemical Engineering and Department of Veterinary & Comparative Anatomy, Pharmacology & Physiology Washington State University, Pullman, USA
Postdoctoral Fellow 12/86 to 03/88	Department of Chemical Engineering University of Waterloo, Ontario, Canada
Lecturer 01/81 to 08/81	Agricultural Engineering Department Makerere University, Uganda
Special Teaching Assistant 05/78 to 08/79	Agricultural Engineering Department Makerere University, Uganda

PREFESIONAL ORGANIZATIONS

Fellow, African Scientific Institute
 Fellow, Uganda National Academy of Sciences
 Fellow, American Association for Advancement of Science
 Member, American Society for Agricultural and Biological Engineers

HONORS, AWARDS, AND SPECIAL RECOGNITIONS

2020 Named *University (Distinguished) Professor*, a title that exemplifies outstanding contributions to the University above and beyond exemplary record as a faculty member.
 2020 *Fulbright Award* to Uganda, 2020/21.

- 2019 Elected *Fellow*, American Association for Advancement of Science. Cited for "For distinguished contributions to the field of development engineering, particularly using human-centered design in the creation of technology-based interventions for low-resource settings."
- 2019 "EvaKuula," a wind-/biogas-powered cooling system for rural settings made top-ten in Renewable Transformation Challenge 2019 by Elsevier and International Solar Energy Society.
- 2019 Mentor of five Mandela Washington Fellows in the University of Georgia Civic Engagement Institute seven-week program. The five fellows came from Uganda, Rwanda, Benin, Zimbabwe, and Gabon.
- 2019 "EvaKuula," technology from development engineering program is the Winner of the 2019 AE50 Award, by the American Society of Agricultural and Biological Engineers, recognizing EvaKuula as one of the Outstanding Innovations in the Product or System Technology category
- 2018 Lalit and Aruna Verma Award for Excellent in Global Engagement (from the American Society for Agricultural and Biological Engineers – for recognition of outstanding contributions made toward global advancement and recognition of the profession of agricultural and biological engineering and excellence in global engagement and international education, outreach, and/or research)
- 2017 Named *Georgia Athletic Association Distinguished Professor in Engineering* (Titled professorship, in recognition of scholarship in engineering)
- 2016 Elected *Fellow*, *Uganda National Academy of Sciences* (UNAS is structured like the US National Academies, with a vision of, "An eminent body of scientists offering independent merit-based advice for prosperity of Uganda". Currently UNAS is made up of only 65 Fellows from a wide range of engineering and science disciplines)
- 2016 *President's fulfilling the Dream Award* (for dedication to building bridges of unity and understanding within the community)
- 2015 *Annual Lioba Moshi Award* (for service to African Studies Institute at UGA)
- 2015 *Distinguished Faculty Scholar Award* (Titled professorship, in recognition of scholarship in engineering)
- 2015 *Richard Reiff Award* (University's highest award for internationalization)
- 2014 *The IDEA Award for Service* (in recognition of international service by the IDEA Society and Atlantic Institute)
- 2014 *The UGA Career Center Recognition* (Received six times in 2015, 2014, 2011, 2010, 2004, and 2002. As part of the UGA Career Annual Graduate Survey, students are asked to identify UGA faculty and staff who have had a significant, positive impact on their careers decision-making process. Every faculty recognized as such receives a certificate of recognition)
- 2014 *The UGA College of Engineering Instructional Awards* (Received four times in 2014, 2008, 2006 and 2004. It is an annual College of Engineering award that honors outstanding faculty in the college who have shown a sustained commitment to high-quality instruction and creativity related to the engineering instructional program)
- 2014 *The UGA First-Year Odyssey Seminar Program Teaching Award (inaugural)* (Received in recognition of excellence in teaching a First-Year Odyssey Seminar (FYOS). Specifically, for innovativeness of instruction, how the seminar content relates to the research of the faculty member, and how the faculty member incorporates the goals of the FYOS program in

- teaching the seminar. My seminar, “The things you can (or should not) do to end global poverty” has been offered five times)
- 2012 *One of three UGA inventors recognized for helping create a “better world* (received from The Better World Report)
- 2012 *Superior Teaching Honor* (received from UGA Student Government Association at their 2012 Annual Professor Recognition Banquet)
- 2012 *University’s Josiah Meigs Distinguished Teaching Professor* (College Nominee)
- 2011 *Member of Global Social Benefit Incubator Class (Attendance Scholarship Recipient)* (Santa Clara University Center for Science, Technology, and Society)
- 2010 *Elected Fellow* (African Scientific Institute)
- 2010 *Working Hero* (recognized by Miller-McCune magazine for global innovations)
- 2008 *Scholarship of Engagement Award (inaugural)* (Office of the Vice President for Public Service and Outreach)
- 2008 *Finalist, Campus Compact’s Ehrlich Faculty Award for Service-Learning,* (Campus Compact)
- 2006 *LEAD21* (College leadership training program)
- 2005 *Senior Teaching Fellow* (Center for Teaching and Learning)
- 2005 *Inducted in the UGA Teaching Academy* (The Academy recognizes dedicated teachers and promotes faculty leadership in teaching and learning, advocate for effective educational environments and fosters a community of scholars)
- 2004 *University Mentor of the Year for Undergraduate Research* (Awarded by the UGA Honors Program, Center for Undergraduate Research Opportunities, CURO)
- 2002 *Lowry H. Gillespie, Jr. Award* (for Engineering Curriculum Enhancement for integrating international dimensions in senior capstone engineering design projects)
- 2001 *Uganda (National-wide) Rotary Award for University Teachers* (Awarded to teach at Makerere University)
- 2001 *Instruction Technology Leadership Program Award (University-wide)* (Awarded to develop a project and serve as a catalyst for use of instructional technology in the classroom)
- 1999 *UGA (University-wide) International Fellow Program Award* (Awarded to develop a project and to serve as a catalyst for adding international dimensions to regular courses)
- 1993 *Outstanding Teacher* (Georgia Student Engineering Club)
- 1991 *UGA Office of Instructional Technology Teaching Improvement Program* (with Dr. David Radcliff as my mentor)
- 1979 *Makerere University Development Fellowship*

INTERVIEWS PUBLISHED IN NATIONAL/INTERNATIONAL MEDIA OUTLETS

Michael Terrazas (2019). License to innovate: Helping UGA research benefit the broader world. Posted on the UGA new research news site, @UGAResearch).

Beeson, Leigh (2018). Dairy Advice: Researcher develops tool to keep milk fresh and raise income for sub-Saharan Africa (<https://greatcommitments.uga.edu/story/dairy-device/>).

Lominda Afedraru (2018) Milk cooler cuts losses. Daily Monitor, April 1, 2018 (<http://www.monitor.co.ug/Magazines/Farming/Milk-cooler-cuts-losses/689860-4365044-5ekuve/index.htmlz>).

Lominda Afedrarau (2018). Innovation: Ghee processing unit a joy to dairy farmers. Daily Monitor April 28, 2018. <http://www.monitor.co.ug/Magazines/Farming/Innovation-Ghee-processing-unit-joy-dairy-farmers/689860-4533240-12v0e81z/index.html>

Mubanda, Fred (2017) Wonder Charcoal cooler rescues dairy farmers. New Vision, April 2017. (<https://archives.visiongroup.co.ug/collections/47-harvest-money/38744-wonder-charcoal-cooler-rescues-dairy-farmers>)

Musoke Herbert and Kato Joshua (2017) Low milk prices forced Jjemba. New Vision January 24, 2017. (<https://archives.visiongroup.co.ug/collections/47-harvest-money/34945-low-milk-prices-forced-jjemba>)

Mubanda, Fred (2016) Charcoal cooler to save dairy farmers. Sunday Vision, July 24, 2016. (<https://archives.visiongroup.co.ug/collections/76-sunday-xtra/26978-charcoal-cooler-to-save-dairy-farmers>)

Boroughs, D. (2016) Disruptive development. Prism Magazine. (<http://www.asee-prism.org/disruptive-development/>).

Whitehead, N (2015) Why you shouldn't take your milk's 3-week shelf life for granted (<http://www.npr.org/sections/thesalt/2015/08/05/429347700/why-you-shouldnt-take-your-milks-three-week-shelf-life-for-granted>)

Kisaalita, W.S. (2014) A professor's broad perspective. Resources Magazine, Vol. 21, No. 4, Page 4 July/August 2014, Interview previously published by UGA Public Affairs (2012) Focus on Faculty (<http://www.uga.edu/faculty/profile/william-s.-kisaalita/>)

Interview, You Tube (2013) on winning a 2013 Powering Agriculture Awards. (https://www.google.com/?gws_rd=ssl#q=Kisaalita+and+USAID&tbm=vid)

Toledo, C. and Malik, S. (2012) Three UGA inventors recognized for helping to create a 'Better World.' The Better World Report (www.betterworldproject.org/documents/AUTM11BWR_FNL.pdf). See accompanying YouTube video - (http://www.youtube.com/watch?v=RJUPRM8oKLM&list=UUmNT8A6kDI_-Xxjlhcm9VRg&index=1&feature=plcp).

Simmons, K. (2011) The Odyssey: Intimate one-hour courses help first-year students become more engaged with the campus community. *University of Georgia Magazine* 91(1):31-35. (<http://uga.edu/gm/ee/index.php?/single/2011/12/1310/>)

You Tube (2011) GBS presentation on the cooler. (https://www.youtube.com/watch?v=OBvHSf_O-gE) and (<https://www.youtube.com/watch?v=HO6KNn1414I>).

Lambert, K. (2011) A labor of love: Designing devices for Africa's rural poor. *The Better World Report*, 2011 Edition, pp 23. (http://www.etsmtl.ca/getattachment/d3d3d95b-893a-4b76-9494-3f4caf19b625/AUTM11BWR_FNL.pdf)

Schudellari, M. (2010) The milkman. *Miller-McCune*, November-December, 32-37.
(<http://www.miller-mccune.com/science/kisaalita-engineers-solutions-for-africas-rural-poor-24895/>)

Taylor, D. (2009) Milk cooler powered by renewable energy could help Ugandan dairy farmers. *Voice of America* January 13. (<http://www.voanews.com/english/news/a-13-Innovative-African-Agricultural-Projects-Inspire-Hope-68809572.html>)

You Tube (2008) Development market place interview on first generation milk cooler design.
(<https://www.youtube.com/watch?v=0G3SNSlj98o>).

McCarthy, R. (2007) Bringing it all back home. University of Georgia Research Magazine Winter, pp 15-19. (<http://researchmagazine.uga.edu/winter2007/bringingit2.htm>)

ARCHIVAL JOURNAL AND REFEREED CONFERENCE PUBLICATIONS

[112] Sempira, E.J.; Galiwango, J.; Kisaalita, W.S. Computation Fluid Dynamics Modelling of Evaporative Cooling. *Renewable Energy* [In Review].

[111] Mugisa, J.D; Galiwango J.; Sempira, E.J.; Kisaalita W.S. Greenhouse gas emissions and mitigation potential of piled cattle manure as practiced by smallholder farmers in Uganda. *Journal of Cleaner Production* [In Review].

[110] Sempira, E.J.; Mugisa, D.J.; Galiwango, J.; Katimbo, A.; Kisaalita, W.S. Off-grid milk preservation solutions for smallholder farmers in sub-Saharan Africa. *Renewable and Sustainable Energy Reviews* [In Review].

[109] Kisaalita, W.S.; Mativo, J.M. What reflective essays tell us about student learning outcomes from inquiry- and/or design-based international engagement projects. *Journal of Community Engagement and Scholarship* [In Review].

[108] Kisaalita, W.S.; Muyanja, C.K.; Mativo, J.M. Undergraduate Students' Short-Term Inquiry- or Design-Based Overseas Experiences Enhance their Global Engagement Acumen. *European Journal of Engineering Education* [In Review].

[107] Ndyabawe, K.; Freeman, E.; Kisaalita, W.S. Caveolae and Intracellular Calcium Signaling in Nerve Cells. *PLOS Computational Biology* [In Review].

[106] Sempira, E.J.; Ononye, C.; Robison, J; Aralu, A.; Mugisa, D.J., Katimbo, A.; Galiwango, J.; Gomillion, C.; Kisaalita, W.S. Assessment of energy sources for powering EvaKuula. *African Journal of Food, Agriculture, Nutrition and Development* [In Review].

[105] Asthana, A.; White, M.C.; Ndyabawe K.; Kisaalita, W.S. Enhanced transient gene expression (TGE) with scalable 3D polymeric scaffolds. *In Vitro Cellular & Development Biology – Animal* [In Review].

- [104] Ndyabawe, K.; Cipriano, M.; Haidekker, M.; Yao, M.; Mao, L.; Kisaalita, W.S. Brain-on-a-chip model for schizophrenia-like disorders. *ACS Biomaterials Science and Engineering* [2020, Accepted, <https://doi.org/10.1021/acsbiomaterials.0c00895>].
- [103] Kisaalita, W.S.; Sempira, E.J. Development of pictograms to communicate technological solutions/innovation instructions among low-literacy users. *Ergonomics in Design* [2020, Accepted, <https://doi.org/10.1177/1064804620959145>].
- [102] Sempira, E.J.; Mugisa, D.J.; Galiwango, J.; Kisaalita, W.S. Combining thermization and evaporative cooling toward milk freshness preservation at the smallholder farm level. *Journal of Food Process Engineering* [2020, Accepted, DOI: <http://dx.doi.org/10.1111/jfpe.13529>]
- [101] Ndyabawe, K.; Haidekker, M.; Kisaalita, W.S. Spheroid trapping and calcium spike estimation techniques toward automation of neurospheroid culture. *SLAS Technology* (2020) [Accepted; DOI: 10.1177/0123456789123456].
- [100] Asthana, A.; Ndyabawe K.; Mendez, D.; Douglass, M.; Haidekker, M.A.; Kisaalita, W.S. Calcium oscillations frequency in 2D and 3D human neuroblastoma cultures. *ACS Biomaterials Science and Engineering* (2020) [Accepted; <https://doi.org/10.1021/acsbiomaterials.9b01988>].
- [99] White, C. M.; Haidekker, M.A.; Kisaalita, W.S. Ratiometric naoviscometers: Applications for measuring cellular physical properties in 3D cultures. *SLAS Technology* 25(3): 234-246 (2020) [<https://doi.org/10.1177/2472630319901262>].
- [98] Asthana, A.; White, M.C.; Douglass, M.; Ndyabawe K.; Kisaalita, W.S. Secretome-based prediction of 3D microtissue physiological relevance. *ACS Biomaterials Science and Engineering* (2020) [<https://doi.org/10.1021/acsbiomaterials.9b01446>].
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- [95] Kisaalita, W.S.; Katimbo, A.; Sempira, E.; Mugisa, D. EvaKuula saves Ugandan smallholder farmers' evening milk. *Sustainable Energy Technologies and Assessment* 29: 155-163 (2018).
- [94] White, M.C.; Asthana, A.; Douglass, M.; Kisaalita, W.S. Evaluation of cellular adhesion and organization in different microporous polymeric scaffolds. *Biotechnology Progress* 34(2): 505-514 (2018).
- [93] Kisaalita, W.S. Inquiry-based freshman seminar on, "What you Can (or should not) Do to end Global Poverty." *Advances in Engineering Education* 6(3): 1-16 (2018).

- [92] Sempira, J.E.; Katimbo, A.; Mugisa, D.; Kisaalita, W.S. Ghee-making in the cattle corridor of Uganda. *African Journal of Food, Agriculture, Nutrition and Development* 17(1): 11771-11786 (2017).
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- [90] Kisaalita W.S. Perspectives on context, design teams and diffusion of technological innovations in low-resource settings: A practical approach based on sub-Saharan African projects. *Technology in Society* 46:58-62 (2016).
- [89] Asthana, A.; Kisaalita, W.S. Molecular basis for cytokine biomarkers of complex 3D microtissue physiology in vitro. *Drug Discovery Today* 21(6): 950-961 (2016)
- [88] Asthana, A.; Kisaalita, W.S. Extending 3D culture to the fourth dimension. *Drug Discovery Today* 21(3):395-399 (2016).
- [87] Kisaalita W.S.; Katimbo, A; Sempira, J.E; Mugisa, D.J. Cultural influences in women-friendly labor-saving hand-tools' designs: The milk churner case. *Human Factors* 58(1):27-42, 2016.
- [86] Mugisa, D.J; Katimbo, A; Sempira, J.E; Kisaalita W.S. Anthropometric characteristics among female smallholder farmers of Uganda – toward design of labor-saving tools. *Applied Ergonomics* 54:177-185 (2016).
- [85] Wu, Z.-Z.; Kisaalita, W.S. Micro and nanofabrication: Is a practical three-dimensional cell culture platform for drug discovery achievable? *International Journal of Medical Nano Research* 2:1-2 (2015).
- [84] Katimbo, A; Sempira, J.E; Mugisa, D.J; Kisaalita W.S. Ghee consumption in Uganda. *Livestock Research for Rural Development* 27(7) (2015).
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- SY5Y human neuroblastoma cells on quasi-three-dimensional micropatterns formed with poly(l-lactic acid). *International Journal of Nanomedicine* 8:93-107 (2013).
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- [69] Wang, L.; Kisaalita, W.S. Administration of BDNF/ginsenosides combination enhanced synaptic development in human neural stem cells. *Journal of Neuroscience Methods* 194:274-282 (2011).
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[B1] Kisaalita, W.S. *3D Cell-Based Biosensors in Drug Discovery Programs: Microtissue Engineering for High Throughput Screening* (386 pages). Boca Raton, Florida: CRC Press, Taylor and Francis Group, 2010 [sold 1,169 copies; under contract with the same publisher for a second edition].

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[T12] Kisaalita, W.S. It is not all about money. Submitted to *Resource (engineering and technology for a sustainable world)*. Will appear in *November/December* Issue of 2019.

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[T3] Kisaalita, W.S. “I had an interesting lecture today – the professor told a story that got me thinking, really thinking...” *Teaching Tips*, 2010.

[T2] Cheng, K.; Lai, Y.; Kisaalita, W. Physiological relevance of ENStem-A human neural progenitors cultured in 3D polystyrene scaffolds. *Cellutions* 3:2-3, 2008.

[T1] Kisaalita, W.S. And, the world goes around. *Equal Opportunity* 34(3):53-54, 2001.

VIDEOS

EvaKuula an off-grid biogas/wind powered milk preservation technology
(https://www.youtube.com/watch?v=C_84fQhuT4g) (14.07 min).

EvaKuula an off-grid biogas/wind powered milk preservation technology
(<https://www.youtube.com/watch?v=ozdTnKS7ujE>) (3.51 min version).

Wandamix a low-cot insect-based protein concentrate for smallholder poultry farmers
(<https://www.youtube.com/watch?v=pj3pGgtw7sw>) (7.0 min)

MANUALS FOR TRAINERS OF LOW-LITERACY USERS

Title: Electric-powered CoolChurn regenerator use and maintenance

Authors: Nyabawe, K. and Kisaalita, W.S.

Year and number of pages: 2009, pp 15

Title: Biogas-powered milk cooling with CoolChurn and EvaKuula

Authors: Kisaalita, W.S., Ssonko, R.E. and Katimbo, A.

Year and number of pages: 2014, pp 35

Title: Domestic biogas plant operation and maintenance

Authors: Kisaalita, W.S. and Ssonko, R.E.

Year and number of pages: 2014, pp 32

Title: Guide to dairy cow nutrition and low-cost hay-making

Authors: Kisaalita, W.S.; Galiwango, J.

Year and number of pages: 2016, pp 56

Title: EvaKuula gazebo construction guide

Authors: Galiwango, J. Katimbo, A. and Kisaalita, W.S

Year and number of pages: 2016, pp 15

Title: Hygienic hand-milking and handling on a smallholder farm

Authors: Kisaalita, W.S.

Year and number of pages: 2017, pp 23

Title: Guide to getting the best out of your internship

Author; Kisaalita, W.S.

Year and number of pages: 2017, pp 15

Title: Smallholder farm record-keeping templates

Author: Kisaalita, W.S. and Katimbo, A.

Year and number of pages: 2016, pp 49

Title: Seven ethical and unethical illustrative cases in the context of a smallholder farm operation

Author: Kisaalita, W.S.

Year and number of pages: 2018, pp 58

ENTREPRENEURIAL ACTIVITIES

Founder of three entities with graduate students: 1) Smallholder Fortunes (Uganda); Thermogenn (Uganda); and SpatiumGen LLC (USA) – to commercialize technology from Dr. Kisaalita’s laboratories. Smallholder Fortunes and Thermogenn conduct translational work and manufacturing/distribution of products/devices, respectively, initiated in Dr. Kisaalita’s *3p*-Innovations laboratory/design studio.

Thermogenn has successfully branded the combination of thermization and evaporative cooling for preservation of the freshness of milk at the smallholder farmer level as “evakuuling” achieved with the

EvaKuula. The project was transitioned to a business and EvaKuulas are being marketed in Uganda and surrounding countries. Thermogenn has reengineered EvaKuula to make it suitable for cooling eggs for applications in the Sahel, particularly for guinea fowl egg hatching by surrogate chicken hens. Guinea fowl in captivity do not sit on their eggs. This version of the EvaKuula has been branded as “YaiKuula” and is in field testing in Burkina Faso, where guinea fowl meat is highly prized. If field studies are successful, the YaiKuula project will also be transitioned to a business. Two other brands commercialized by Thermogenn are EziChurn and WandaMix. EziChurn is hand-operated milk churner for ghee making that increased production or reduces labor eight-fold. WandaMix is housefly larvae-based protein concentrate for poultry feed formulation. WandaMix production enabling technology is in the kit distributed to smallholder poultry farmers.

Smallholder Fortunes has developed an eight module hands on vocational school to train at-risk school dropout youths to gain skills to be hired on farms to support activities like domestic biogas maintenance, biogas-powered milk cooling, farm records, etc. The availability of these skilled youths, if hired by the technology adoptees, improves the success of EvaKuula and other brands’ up-take.

Alumni of the Global Social Benefit Incubator Program offered by Santa Clara University Center for Science, Technology, and Society. The program involved two months study followed by three weeks in residence. It is a social entrepreneurship “boot camp” for entrepreneurs with little to no business background.

Founding Member: African Studies Institute University of Georgia Biomedical and Health Sciences Institute, University of Georgia Institute for Regenerative Biosciences, and University of Georgia Nanoscience and Engineering Center as detailed below.

LEADERSHIP IN CURRICULAR AND CENTERS AND INSTITUTES

African Studies Institute (ASI). Established in 2001, currently housed in Franklin College of Arts and Sciences under previous and current leadership of Drs. Akinloye Ojo and Lioba Moshi, respectively. Since 1993, Dr. Kisaalita has provided leadership in efforts to recognize the value of cross disciplinary African Studies in globalizing the education of students. As a member of the steering committee of the African Studies Program (AFSP), he helped develop the African Studies Certificate and for many years he has team taught with other UGA Africanist Faculty the certificate introductory course (Introduction to Africa). His lectures focused on technology and development and renewable energy utilization in sub-Saharan Africa. He was the AFSP Acting Director in the summer of 1998 and from 1996 to 1999, he served as the AFSP secretary, served on the policy and governance committee and chaired the strategic planning and development committee. As chair of the strategic planning committee, he was instrumental in writing the proposal for the creation ASI.

Soft Tissue Center. Established in 1997. Drs. Kisaalita and Foutz from (engineering) and Drs. Halper and the late Dr. Rowland from (College of Veterinary Medicine - Veterinary Pathology), were the cofounders of the center. The center grew to over eight faculty participants. The purpose of the center was to foster a crossdisciplinary approach to finding solutions to soft tissue diseases. The center received funding from the University Of Georgia Research Foundation (UGARF) of over \$700,000 in 1998. Dr. Kisaalita’s expertise and cellular bioengineering laboratory constitute one of four focal components of the Center. After seven years, the Center was disbanded due to lack of substantial external funding.

Biomedical and Health Sciences Institute (BHSI). Established at UGA through approval by the University System of Georgia Board of Regents on June 13, 2001. The initial three divisions of the institute included Public Health, Infectious Disease and Immunity and Molecular Medicine. In 1998 Dr. Kisaalita volunteered to represent the role of engineering on the BHSI working group. In the planning stages, he was a tireless advocate of the strengths and potential which engineering programs could offer this initiative.

College of Engineering. Forming a new college cannot of course be accomplished by a single individual. It takes a teams of faculty, administrators and staff. Dr. Kisaalita was one of four key faculty that participated in the conceptualization, actively participated on teams the developed processes and procedures that eventually facilitated the creation of a full-fledged college of engineering at UGA. Prior to this momentous event Dr. Kisaalita was one of three faculty that established teaching and research programs in the newly approved area of biological engineering. He led in defining curricula at both undergraduate and graduate levels. He was a member of a committee that developed a successful proposal to establish a university-wide competitive grants program, “Interdisciplinary Engineering Grants (IENGR),” that was funded by the UGA Research Foundation. Dr. Kisaalita was one of a few faculty members who conceptualized the formation of the Nanoscale Science and Engineering Center (NanoSEC). Dr. Kisaalita co-chaired a committee that developed the new PhD in engineering. The College of Engineering was created in 2012, and seven years later, it is the fastest growing college of engineering in the nation in terms of student population. It has been necessary to cap enrollment.

3p-Innovations Laboratory/Design Studio – Development Engineering Program. Launched in 2003. Graduate and undergraduate students interested in Development Engineering are mentored in this space. Mentoring vehicles include traditional course-work, inquiry- and/or design-based projects, and service projects. The *ps* stand for *p*overty-alleviating, *p*rosperity-/wellness-building, and *p*lanet-sustaining. Development Engineering prepares students to develops, pilot, and evaluate technological solutions, designed to improve human and economic development within complex low-resource settings, such as Sub-Saharan Africa.

CONTRACTS AND GRANTS - Pending

Louis Stokes Renewal STEM Pathways and Research Alliance: Peach State LSAMP: “Reinforcing the STEM Pipeline in the Peach State” (FP00022343) NATIONAL SCIENCE FOUNDATION, September 1, 2021–August 31, 2026 Proposed amount: \$ 2,500,000 (US), Role: Co-investigator of, Credit: 10% Application date: November 20, 2020, Funding type: Research, Status: Pending sponsor review

Biomedical Technology Research Resources Development – Saliva-Based Early Point-of-Care (POC) Diagnosis of Diseases in Low-Resource Settings (William Kisaalita, PI; Mark Haidekker, Co-I; Chris Whalen, Co-I; Bruce Kirenga, Co-I; Fred Okuku, Co-I, Moses Joloba, Co-I; Robert Ssekitoleko, Co-PI; Philippa Makobore, Co-I), National Institutes of Health, Pre-application for a Biomedical Technology Research Resource (X02).

CONTRACTS AND GRANTS – Current or Expired

Teaching (Foundations of Engineering Research & Development Engineering) and Research (Usability Studies of Insect Protein Production at Smallholder Farmer Level) in Uganda (Kisaalita, PI), Fulbright grant award application for academic year 2020/2021.

Biomedical Technology Research Resources Development – Saliva in Early Point-of-Care (POC) Diagnosis of Diseases in Low-Resource Settings (Kisaalita, PI), Internal Global Research Collaboration Grant Program, January 2019 – December 2019, \$8,000.

Intervention in low guinea fowl productivity and related products consumption in Burkina Faso and Niger (W.S. Kisaalita, PI; Alex Anderson, Co-PI; Salibo Some, Co-PI), August 2018 – July 2019, \$150,000.

Peach State LSAMP bridges to the doctorate program (J. Morehead, PI; M. Garfield-Cook, Lead Co-PI; C. S. Barbour, Co-PI; K. DeMeester, Co-PI; W. Kisaalita, Co-PI), National Science Foundation, April 2017 – March 2021, \$1,074,995.

3D Islet culture program – Exploratory preliminary data acquisition (W.S. Kisaalita, PI), Vicapsys, November, 2016 – October, 2017, \$32,000.

Peach State LSAMP – Extending the STEM pipeline in the Peach State: Mentorship, research and graduate school (J. Morehead, PI; M. Garfield-Cook, Lead Co-PI; C. S. Barbour, Co-PI; K. DeMeester, Co-PI; W. Kisaalita, Co-PI), National Science Foundation, September, 2016 – August 2022, \$4,000,000.

Designing for female ergonomic and cultural appropriateness (Kisaalita, PI), Bill & Melinda Gates Foundation Grand Challenge, Phase I, November 2013 – December 2015, \$100,000.

Renewable-energy-powered evaporative cooler for smallholder farmers (Kisaalita, PI), USAID Powering Agriculture Grand Challenge, December 2013 – March 2018, \$1,000,000.

Strengthening the STEM Pipeline in the Peach State: Recruitment, Retention and Research. (J. Morehead, PI; M. Garfield-Cook, Lead Co-PI; C. Dozier Co-PI, M. Grasso, Co-PI; W. Kisaalita, Co-PI), National Science Foundation, September 2011-August 2016, \$4,900,000.

Renewable energy-powered bulk milk cooling for smallholder dairy farmers – Phase II (W.S. Kisaalita, PI). P3 Awards – A National Student Design Competition for Sustainability Focusing on People, Prosperity and the Planet, EPA, August 2011-July 2013, \$75,000.

Renewable energy-powered bulk milk cooling for smallholder dairy farmers – Phase I (W.S. Kisaalita, PI). P3 Awards – A National Student Design Competition for Sustainability Focusing on People, Prosperity and the Planet, EPA, August 2010-July 2011, \$10,000.

Renewable energy-powered milk cooler for smallholder dairy farmers (W.S. Kisaalita, PI). The World Bank – 2008 Global Development Marketplace, Sustainable Agriculture for Development, March 29, 2009-March28, 2011, \$200,000.

Developing Global Scientists: User-inspired undergraduate research in bioresource engineering in support of product and process development (W.S. Kisaalita, PI). NSF, March 2005-February 2008, \$104,224.

The Global University: Partnerships for internationalizing students, faculty and stakeholders to be global citizens (E.T. Kanemasu, PI; G.C. Ames and W.S. Kisaalita, Co-PIs). USDA, Jan 2005-Dec 2007, \$99,998.

NIRT: Enhancing the sensitivity and stability of biosensors by novel nanostructures (W.S. Kisaalita, Y. Zhao and G. Zhang, PIs). NSF, July 2003-June 2007, \$1,100,000.

A nanorod-based sensor for bio-signal amplification and rapid detection of pathogens (Y.-W. Haung, Y. Zhao and W.S. Kisaalita, PIs). The University of Georgia Research Foundation, Engineering Competitive Grants, August 2004-July 2006, \$100,000.

Developing microstructures for three-dimensional cell growth (W.S. Kisaalita and Y. Yiping, PIs). The University of Georgia Research Foundation, Engineering Competitive Grants, August 2003-July 2005, \$90,000

Bridges to engineering education (R.C. Wicklein, PI; S.A. Thompson, Co-PI; B.R. Findell, T.M.L. Foutz, R.B. Hill, W.S. Kisaalita, T.R. Koballa and R.W. McClendon, Participants). NSF, January-December, 2003, \$100,000

Resources for internationalizing capstone design experiences (W.S. Kisaalita, PI; S. A. Thompson, Co-PI). USDA Challenge Grants, August 2002-July 2004, \$80,984.

Integrating information and communication technology in undergraduate engineering education across national and cultural borders (W.S. Kisaalita, PI). Engineering Information Foundation, May 2002-April 2004, \$76,225.

Spurring economic development in Georgia's agricultural, veterinary and medical sectors through the development of smart sensing systems (C.K. Kvien, PD; S.P. DeWeerth, Co-PD; T. Hamrita, B. Hunt, S. Crow, W.S. Kisaalita, S. Oie and G. Vellidis, Collaborators). Georgia Research Alliance, April 200-March 2002, \$1,100,000.

Recruitment and retaining of biological and agricultural engineering undergraduate students. UGA Parents and Families Association (T.C. Baynham, PI; T.L. Foutz and W.S. Kisaalita, Co-PIs), July 2002 – June 2003, \$3,600.

Southeastern Consortium for Minorities in Engineering mouse trap car competition (W.S. Kisaalita, PI). The University of Georgia President's Fund, February 2002 – January 2003, \$2,000.

Renewable energy utilization in sub-Saharan Africa - Maymester course development (W.S. Kisaalita, PI). UGA African Studies Institute, July 2002 – June 2003, \$3,000.

Rotary grants for university teachers - to teach and conduct research at Makerere University (Uganda) for six months (W.S. Kisaalita, PI). The Rotary Foundation, July 2001-June 2002, \$12,000.

Expanding the biological and agricultural engineering undergraduate students' international perspectives (W.S. Kisaalita, PI). The University of Georgia Instructional Technology Leadership Program, May 2001 – April 2002, \$3,000.

Phytoremediation of perchlorate contaminated soil and water (V.A. Nzungu, PI; W.S. Kisaalita Co-PI). Department of Defense, May 2000-April 2002, \$250,162.

Strengthening ties between UGA and Makerere University (W.S. Kisaalita, PI). The University of Georgia International Academic Development Fund, January – December, 2001, \$3,000.

Why should a UGA science/engineering student consider international exposure a key component of his/her undergraduate experience? (W.S. Kisaalita, PI) The University of Georgia International Fellows Program, June 1999 – May 2000, \$3,000

Establishment of the Soft Tissue Center (J. Halper, PI; G.N. Rowland, T.L. Foutz, W.S. Kisaalita, S. C. Budsberg, K. S. Frazier, D. Mohnen and R.D. Ivarie, Co-PI). The University of Georgia Research Foundation, January 1999-December 2002, \$702,836.

Global partnerships for the 21st Century (L. Moshi, PI; A. Adebayo and W.S. Kisaalita, Co-PIs). University System of Georgia Office of International Education, January-December 1999, \$26,000.

International collaboration in the area of energy and the environment (W.S. Kisaalita, PI). CAES International Programs, January – December, 1998, \$2,500.

Patch clamping studies of primate retinal Müller cell GABAA receptors (W.S. Kisaalita, PI). CAES International Programs, July 1995 – June 1996, \$2,000.

Development of resting membrane potential in murine neural crest cells evaluated by flow cytometry (W.S. Kisaalita, PI). The University of Georgia Research Foundation – New Faculty Grant, January – December 1996, \$6,440.

Toxicology and environmental health (W.S. Kisaalita, PI). Georgia Research Alliance, July 1995-June 1996, \$30,330.

Neurotoxicity expression due to chronic low-level complex mixtures of neurotoxic compounds by electrically excitable differentiating neuroblastoma cells (W.S. Kisaalita, PI). The University of Georgia Research Foundation - New Faculty Grants, \$13,282.

CONFERENCES, LECTURES, AND OTHER PRESENTATIONS [$\sqrt{\quad}$ indicates invited presentation or organized session]

2020:

$\sqrt{\quad}$ Kisaalita, W.S. Development Engineering: Empowering the Poor through Sustainable Technology-based Solutions. Invited by Prof. Bill Tollner to present in the UGA College of Engineering Graduate Seminar. November 13, 2020

√Kisaalita, W.S. Development Engineering: Empowering the Poor through Sustainable Technology-based Solutions. Invited by Margaret M. Ashcroft on behalf of Athens Science Cafe, a community organization that brings science communications to the public in the form of a monthly talk. October 29, 2020.

√Kisaalita, W.S. Development Engineering: Empowering the Poor through Sustainable Technology-based Solutions. Invited by Prof. Rakesh Singh to present in the UGA Food Science and Technology Department Graduate Seminar. October 22, 2020.

√Kisaalita, W.S. Insects as food and feed: Past, present, and future. Invited Lecture in Dr. José I. Reyes De Corcuera's FDST 2050, "The Impact of Food in World History and Culture," October 13, 2020. Food Science Lecture Hall

D. Banhero, S. Pousga, A.J. Nianogo, S. Some, A.K. Anderson, W.S. Kisaalita (2020) YaiKuula saves guinea fowl eggs for hatching. Poster presentation at the Virtual General Annual of Meeting of the Feed the Future Innovations Lab for Livestock Systems, September 28-30

B.A. Kere, S. Pousga, A.J. Nianogo, S. Some, A.K. Anderson, W.S. Kisaalita (2020) Fly larvae production in Burkina Faso: Effect of substrate, attractant and season on larval biomass. Poster presentation at the Virtual General Annual of Meeting of the Feed the Future Innovations Lab for Livestock Systems, September 28-30.

A.K. Anderson, A.J. Nianogo, S. Some, S. Pousga, W.S. Kisaalita (2020) Guinea fowl production: the potential for nutrition and income allocation in rural households in Burkina Faso. Poster presentation at the Virtual General Annual of Meeting of the Feed the Future Innovations Lab for Livestock Systems, September 28-30.

√Kisaalita, W.S. 3p-Innovations: Using a senior engineering project class to develop practical solutions for low-resource settings. Invited to present in "The Role of IFT and its Education Community in Supporting Food Security" Session at the Institute of Food Technologists Annual Meeting and Food Expo (Virtual), July 13-15, 2020.

√Kisaalita, W.S. Perspective on soft and hard skill needs in a development engineering-based curriculum. Keynote Address at the Gulu University Bio-systems Engineering Stakeholders Curriculum Development Workshop, Friday 14 February 2020, Gulu, Uganda

2019:

√Kisaalita, W.S. Development engineering and sustainability: Empowering communities in low-resource-settings through technology-based solutions. Invited talk in the Sustainability Certificate Seminar Class, FCID 4200/6200, November 26, 2019 (second section talk at 3:30 pm).

√Kisaalita, W.S. Development engineering and sustainability: Empowering communities in low-resource-settings through technology-based solutions. Invited talk in the Sustainability Certificate Seminar Class, FCID 4200/6200, November 26, 2019 (first section talk at 2:00 pm).

√Kisaalita, W.S. Secretome-based prediction of 3D hepatic microtissue physiological relevance. Invited talk in Frontiers in Regenerative Medicine Seminar Series, North Carolina State University, November 4, 2019 [Cerebration of former doctoral student, Ke Cheng, receiving the Randall B. Terry, Jr. Distinguished Professorship in Regenerative Medicine endowment].

√Kisaalita, W.S. Preclinical drug discovery: Microtissue engineering toward high throughput screening. Invited talk in the School of Chemical, Materials, and Biomedical Engineering Graduate Seminar Series, November 11, 2019.

√Kisaalita, W.S. Empowering Communities in Low Resource Settings Through Technology-Based Solutions: The Renewable Energy-Powered Milk Cooler Project. Department of Food Science and Technology, College of Agricultural and Environmental Science, University of Georgia, October 31, 2019, Athens, Georgia.

√Kisaalita, W.S. Powering Agriculture Xcelerator. Invited panelists on an interactive session hosted by USAID Powering Agriculture Energy Grand Challenge for Development Program at the Social Capital Markets (SOCAP) Conference, San Francisco, CA, October 21-22, 2019.

√Kisaalita W.S. Insects as food and feed: Past, present, and future. Invited Lecture in Dr. José I. Reyes De Corcuera's FDST 2050, "The Impact of Food in World History and Culture," September 24, 2019.

√Kisaalita, W.S. Foundations of Engineering Research – Five lectures delivered to students at Beijing University of Chemical Technology, Beijing, China, July 6-12, 2019.

√Kisaalita, W.S. Star Trek Tech for Social Good: pipe Dream or Inevitable Reality. One of four invited panelists on this interactive session hosted by BMW Foundation Herbert Quandt to explore how to harness exponential technologies such as AI, robotics, internet of things, and 3D printing for building equitable and inclusive societies. Sankalp Africa Summit, February 21-22, 2019, Kenya School of Monetary Studies, Nairobi Kenya

2018:

Kisaalita, W.S.; Some, S.; Anderson, A.K.; Pousga, S. Intervention in low guinea fowl productivity and related products consumption in Burkina Faso. University of Florida Feed the Future Innovation Lab Project and Innovations Platform Meeting, December 7-8, 2018, Laico Hotel, Ouagadougou, Burkina Faso.

√Kisaalita, W.S. "Development Engineering: Empowering Communities in Low Resource Settings through Technology-Based Solutions." Invited Presentation, Oberlin College Physics Colloquium, April 5, 2018 (Host: Dan Stinebring, Francis D. Federighi Professor).

Sempiira E.J.; Mugisa, D.J.; Galiwango, J.; Kisaalita, W.S. Comparison of "evakuuled" and fresh milk toward acceptability for entry into the cold chain. A poster presented at the Project-to-Business Transition Conference on March 9, 2018, at Hotel Africana, Kampala, Uganda.

Mugisa, D.J.; Sempiira, E.J.; Galiwango, J.; Kisaalita, W.S. Environmental impacts associated with EvaKuula use. A poster presentation at the Project-to-Business Transition Conference on March 9, 2018, at Hotel Africana, Kampala, Uganda.

Mugisa, D.J.; Sempiira, E.J.; Galiwango, J.; Kisaalita, W.S. Health impacts associated with EvaKuula use. A poster presentation at the Project-to-Business Transition Conference on March 9, 2018, at Hotel Africana, Kampala, Uganda.

Kisaalita, W.S.; Jjemba, L. "What EvaKuula users say." Panel discussion at the Project-to-Business Transition Conference on March 9, 2018, at Hotel Africana, Kampala, Uganda.

2017:

Kisaalita, W.S.; Some, S.; Anderson, A.K.; Pousga, S. Intervention in low guinea fowl productivity and related products consumption in Burkina Faso. Feed the Future Innovation Lab Project and Innovations Platform meeting, December 7-8, 2017, Laico Hotel, Ouagadougou, Burkina Faso.

√Kisaalita, W.S. Things you can (or should not) do while in graduate school if you are interested in a carrier in academia. College of Engineering Graduate Seminar, September 29, 2017, Coverdell Center.

√Kisaalita, W.S. (with Covert, S.F. and Spangler, D.A) "Preparing for Success on Tenure Track", University of Georgia New Faculty Orientation, August 2, 2017, the Georgia Center for Continuing Education.

Kisaalita, W.S. Human Factors and Ergonomics in Biomedical Device Design – a five two-hour sessions compressed course delivered to biomedical engineering seniors and faculty at Makerere University's Biomedical Engineering Program, January 9-13, 2017, Mulago Campus, Kampala.

√Kisaalita, W.S.; Wakulira, A.; Mirembe, T. (Panelists) Do EU and USA Medical Devices Standards hold for Uganda and Other Developing Countries? First Uganda National Biomedical Engineering Conference, January 16-17, 2017, Hotel Africana, Kampala, Uganda

2016:

√Kisaalita, W.S. Surviving to Thriving - A nine-sessions public workshop coordinated by a Foundation Fellows undergraduate student, Gabrielle Antoinette Pierre. The sessions were delivered in Miller Learning Center (UGA Campus) during fall 2016. The one-hour sessions were: 1) Introduction to the series, 2 &3) Be empathetic (not sympathetic, 4) Connect the dots, 5) Design knock-out pictograms to educate users, 6&7) Identify innovators, 8) Measure success in terms of outcomes (not outputs), and 9) Closure and recognition of students that attended all the sessions. Each session had a hands-on activity.

√Kisaalita, W.S. Killing two birds with one scone: Inquiring and innovating to improve human well-being. Invited talk in Chemical, Materials and Biomedical Engineering School Seminar Series, November 28, 2016.

√Kisaalita, W.S. Surviving to thriving: How to empower the poor through simple sustainable agriculture technology Solutions. Invited Presentation, UGA Certificate in Sustainability, November 16, 2016.

√Kisaalita, W.S. Surviving to thriving: How to empower the poor through simple technology-based solutions. Invited Lecture in Dr. David Lee's FYOS, "Discover UGA Research with the Vice President for Research," October 3, 2016.

Kisaalita, W.S. Surviving to Thriving: Empowering the poor through technology-based solutions. Engineering and technology Innovation for Global Food Security. An ASABE Global Initiative Conference 24-27 October 2016, Stellenbosch, South Africa.

√Kisaalita, W.S. Engineering design process is a problem-solving process – milk churner case study. Presentation to 90 first graders at Colham Ferry Elementary School, Watkinsville, GA, March 4, 2016.

√Kisaalita, W.S. Surviving to thriving: How to empower the poor through simple sustainable technology-based solutions. Invited Lecture in EHSC 7410 (Environmental Issues of the Developing World), February 10, 2016.

2015:

√Kisaalita, W.S. Surviving to thriving: How to empower the poor through technology-based solutions. Keynote address at the 4th International Conference on Africa and Its Diaspora, University of Georgia Center for Continuing Education, November 12-13, 2015.

√Kisaalita, W.S. Cultural influences in women-friendly labor-saving hand-tools 'design: the milk churner case. Invited Lecture in EHSC 7410 (Environmental Issues of the Developing World), September 27, 2015.

√Kisaalita, W.S. Surviving to thriving: How to empower the poor through simple technology-based solutions. Invited Lecture in Dr. David Lee's FYOS, "Discover UGA Research with the Vice President for Research," October 19, 2015.

Douglass, M.; White, C. (Mac); Kisaalita, W.S. 3D Cultures in porous polystyrene scaffolds – A platform for drug discovery. UGA College of Engineering Undergraduate Research Showcase, Paul D. Coverdell Center Rotunda, April 22, 2015.

Simpson, L.R.; Ndyabawe, K.; Haidekker, M.; Kisaalita, W.S. Calcium spike detection automation in 3D nerve microtissues. UGA College of Engineering Undergraduate Research Showcase, Paul D. Coverdell Center Rotunda, April 22, 2015.

Ssonko, R.E.; Sempira, J.E.; Mugisa, D.J.; Kisaalita, W.S. Biogas-powered evaporative cooling for Uganda's dairy industry. A presentation to the Swedish Development Agency official at Smallholder Fortunes Facility, Nsangi, Uganda, April 21, 2015.

√Kisaalita, W.S. Surviving to thriving: How to empower the poor through simple sustainable agriculture technology solutions. Invited Lecture by Sustainable Food Systems Initiative, College of Agricultural and Environmental Sciences, University of Georgia, March 30, 2015.

W.S. Kisaalita. Poverty-alleviation, prosperity-building, and planet-sustaining (3p) innovations program, VentureWell Open Conference, Washington, DC, March 20-21, 2015.

√Kisaalita, W.S. Biogas powered evaporative cooling for Uganda's dairy industry. Invited presentation at the Global Forum for Innovations in Agriculture Exhibition and Conference, Abu Dhabi, United Arab Emirates, March 9-11, 2015.

2014:

√Innovation: How to come up with an innovative solution to a social problem (with Tyler Wallace), Georgia Youth to Business Forum, UGA Tate Grand Hall, October 26, 2014.

√Kisaalita, W.S. Refrigeration without electricity. Invited presentation by Covenant Presbyterian Church Women, Athens, Georgia, October 10, 2014.

√Kisaalita, W.S. Surviving to thriving: How to empower the poor through simple technology-based solutions. Invited Lecture in Dr. David Lee's FYOS, "Discover UGA Research with the Vice President for Research," September 15, 2014.

√Cool Solutions: New approach to solving refrigeration problems (with Ryan Brush), TELUS Museum in Cartersville, GA, May 16, 2014.

√Kisaalita, W.S. Empathy: How to do more good than harm in low-resource settings. Invited lecture in ENVE 1020/2010 (Synthesis and Design Studio), April 7, 2014.

Cheng, C.; Kisaalita, W.S. Potential physiologically relevance of three-dimensionality markers for neural cells (Poster presentation). Inaugural Conference on Physiologically-Relevant Cellular Models for Drug Discovery, February 19 - 20, 2014, La Jolla, CA.

Asthana, A.; Kisaalita, W.S. (2014). In search of biomarkers for complex 3D microtissue physiology in vitro – the case for cytokines (Poster presentation). Inaugural Conference on Physiologically-Relevant Cellular Models for Drug Discovery, February 19 - 20, 2014, La Jolla, CA.

Mendez, D.; Asthana, A.; Kisaalita, W.S. Characterization of a human neuroblastoma spheroid model for drug discovery. Emerging Researchers National (ERN) Conference in STEM, February 20-22, 2014, Renaissance Hotel, Washington, DC.

2013:

√Kisaalita, W.S. Strengthening the clean energy cold chain. Invited speaker at the USAID Powering Agriculture: An Energy Grand Challenge for Development (PAEGC) Development Exchange and Partners Meeting, Washington, DC, Dec 10-13, 2013.

√Kisaalita, W.S.; Wallace, T. Workshop on social entrepreneurship and innovation. Invited speakers, Georgia Youth to Business Forum on Social Entrepreneurship, Athens. GA, October 26, 2013.

√Kisaalita, W.S. Surviving to thriving: How to empower the poor through simple technology-based solutions. Invited Lecture in Dr. David Lee's FYOS, "Discover UGA Research with the Vice President for Research," October 7, 2013.

√Kisaalita, W.S. Development and dissemination (diffusion) of technological solutions in low-resource settings: Lessons learned. Invited Lecture in EHSC 4400/6400 (Environmental Issues in the Developing World), September 12, 2013.

√Kisaalita, W.S. Things you can (or should not) do while in graduate school if you are interested in a career in academia. Invited College of Engineering Graduate Student Seminars Series, Athens, GA, August 22, 2013.

Kisaalita, W.S. Pursuing undergraduate research at UGA LSAMP Summer Bridge Program, Athens, GA, July 10, 2013.

Austin, W.; Kisaalita, W.S. Ground water in sub-Saharan Africa. UGA CURO Symposium, Athens, GA, April, 1, 2013.

Myrick R.; Kisaalita, W.S. Three dimensional cell-based assay standard for pharmaceutical testing. UGA CURO Symposium, Athens, GA, April, 1, 2013.

Jones, J.; Kisaalita, W.S. Renewable energy-powered cooling at the bottom of the economic pyramid. National Society of Black Engineers 39th Annual National Convention, Indiana Convention Center, Indianapolis, Indiana, March 28, 2013.

Jones, J.; Kisaalita, W.S. Renewable energy-powered cooling at the bottom of the economic pyramid. AAAS Emerging Researchers National Conference in STEM, Washington Renaissance Hotel, Washington, D.C., March 2, 2013. [1st Place Oral Presentation]

√Kisaalita, W.S. Development and dissemination (diffusion) of technological solutions in low-resource settings: Lessons learned. Invited Lecture in EHSC 4400/6400 (Environmental Issues in the Developing World), February 19, 2013.

2012:

Jones, J.; Kisaalita, W.S. Renewable energy-powered cooling at the bottom of the economic pyramid. National Society of Black Engineers Region III Fall Regional Conference Technical Research Exhibition, Renaissance Montgomery Hotel & Spa, Montgomery, Alabama, November 3, 2012. [1st Place Oral Presentation]

√Kisaalita, W.S. In search of biomarkers for physiologically relevant 3D microtissue formation in vitro – who needs them? Invited presentation by UGA College of Veterinary Medicine, October 25, 2012.

√Kisaalita, W.S. Surviving to thriving: How to empower the poor through simple technology-based solutions. Invited Lecture in Dr. David Lee's FYOS, "Discover UGA Research with the Vice President for Research," September 17, 2012.

√Kisaalita, W.S. Development and dissemination (diffusion) of technological solutions in low-resource settings: Lessons learned. Invited Lecture in ESCI 6200 Science and Technology in Society (Second Summer course), July 30, 2012.

√Kisaalita, W.S.; Norman, N.; Watson, R. Models for integration. Invited panel discussion, Moderated by Jolly, L. Academic Affairs Faculty Symposium: The Teaching/Research Nexus: Building Effective Bridges, March 23-24, 2012.

2011:

√Kisaalita, W.S. In search of biomarkers for physiologically relevant 3D microtissue formation in vitro – who needs them? Invited presentation at the Cambridge Health Institute's Predictive Functional Human Tissue Models Conference, Omni Parker House, Boston, MA, November 16-19, 2011.

√Kisaalita, W.S. everything you always wanted to know about careers in academia: But were afraid to ask. Invited presentation in fall 2011 UGA Engineering Graduate Seminar Series, October 13, 2011.

√Kisaalita, W.S. Guiding axioms for deploying sustainable technology-driven solutions at the bottom of the economic pyramid. Invited Lecture in ESCI 6200 Science and Technology in Society (Second Summer course), July 15, 2011.

Jones, J. and Kisaalita, W.S. Renewable energy-powered bulk milk cooling for smallholder dairy farmers. UGA CURO Symposium, April, 4, 2011.

√Kisaalita, W.S. Development and deployment of innovative engineering solutions at the bottom of the economic pyramid: Lessons learned. Invited Keynote talk at the University of Florida (Gainesville) Engineers without Borders Chapter Annual Banquet. April 6, 2011.

Jones, J.; Brahmabatt, K.; Kisaalita, W.S. Renewable energy- powered cooler presentation and product demonstration at the P3: People, Prosperity and the Planet Student Design Competition for Sustainability. Washington, DC, April 14-18, 2011. [the team received phase II funding of \$75,000]

√Kisaalita, W.S. Development and dissemination (diffusion) of technological solutions in low-resource settings: Lessons learned. Invited Lecture in SOWK 7397 (International Social Work), March 21, 2011.

√Kisaalita, W.S. Development and deployment of innovative solutions at the bottom of the economic pyramid: Lessons learned. Invited Lecture in EHSC 4400/6400 (Environmental Issues in the Developing World), March 3, 2011.

√Kisaalita, W.S. Development and dissemination (diffusion) of innovative among small-scale (smallholder) farmers in third world countries: Lessons learned. Invited Presentation in Georgia National Guard Training by Faculty from the College Agricultural and Environmental Sciences Cooperative Extension, February 14, 2011.

2010:

Kisaalita, W.S. Renewable-energy powered cooling at the bottom of the economic pyramid: Lessons learned. LSAMP Annual Conference – Sustaining Success by Strengthening the STEM Pipeline – University of Georgia Center for Continuing Education, September 24, 2010.

√Kisaalita, W.S. Guiding axioms for deploying sustainable technology-driven solutions at the bottom of the economic pyramid. Invited Lecture in ESCI 6200 Science and Technology in Society (Second Summer course), July 24, 2010.

Kisaalita, W.S. Renewable energy-powered milk cooler delivers smallholders' evening milk into the cold chain. 6th African Dairy Conference & Exhibition, Serena Hotel, Kigali, Rwanda, May 19-21, 2010.

√Kisaalita, W.S. Guiding axioms for deploying sustainable technological solutions at the bottom of the economic pyramid. Invited Lecture in SOWK 7397 (International Social Work), April 19, 2010.

√Kisaalita, W.S. Guiding axioms for deploying sustainable technological solutions at the bottom of the economic pyramid. Invited presentation for Global Education Forum on Culture, Research, and Teaching, University of Georgia Center for Continuing Education, April 1-2, 2010.

√Kisaalita, W.S. Guiding axioms for deploying sustainable technology-driven solutions at the bottom of the economic ladder. Invited APERO Lecture, University of Georgia African Studies Institute, March 17, 2010.

√Kisaalita, W.S. Guiding axioms for deploying sustainable technological solutions at the bottom of the economic pyramid. Invited Lecture in EHSC 4400/6400 (Environmental Issues in the Developing World), February 16, 2010.

Kisaalita, W.S. Lessons from deploying renewable-energy powered milk coolers for smallholder dairy farmers. Symposium, "Bottom-of-the-Economic-Pyramid Technological Solutions: Lessons from Success Stories," Organized by W.S. Kisaalita at the 2010 Annual Meeting of the American Association for Advancement of Science, San Diego, February 18-22, 2010.

2009:

Kisaalita, W.S. Deploying innovative solutions at the bottom of the economic pyramid. 10th Annual National Outreach Scholarship Conference, Georgia Center for Continuing Education, Athens, GA September 29, 2009.

Graf, G.; Kisaalita, W.S. CoolChurn®: the first self-chilling churn for smallholder dairy farmers. Poster Presentation, International Dairy Federation World Dairy Summit, Berlin 20-24 September, 2009.

√Kisaalita, W.S. Effects of micro- and nano-structured surfaces on neural stem cell fates. Invited seminar, University of Georgia Nanoscoence and Engineering Center. September 11, 2009.

Kisaalita, W.S. Discussion leader, "Creating a World without Poverty" by Muhammad Yunus, in Honors Program Lunch Book Discussion Series, April, 1, 2009.

Zachman, A.; Kisaalita, W.S. Effect of microstructure substrate on the morphology of H945RB.3 human neural progenitor cells. Center for Undergraduate Research Opportunities Symposium, Classic Center, Athens, Georgia, April 6, 2009.

Bennett, R.; Kisaalita, W.S. Modeling HLHS: Living with half a heart. Center for Undergraduate Research Opportunities Symposium, Classic Center, Athens, Georgia, April 6, 2009.

√Kisaalita, W.S. Readout fundamental in HTS. Invited Seminar Presentation, College of Bioengineering, Chongqing University, Chongqing, P.R. China, March 25, 2009.

Kisaalita, W.S. Cell-based HTS in drug discovery: The search for 3D biomarkers. Invited Seminar Presentation, College of Bioengineering, Chongqing University, Chongqing, P.R. China, March 24, 2009.

√Kisaalita, W.S. Guiding axioms for deploying sustainable technological solutions at the bottom of the economic pyramid. Invited Lecture in Agricultural Engineering Department of Makerere University (Uganda), February 20, 2009.

√Kisaalita, W.S. Development and deployment of innovative solutions at the bottom of the economic pyramid: Guiding axioms for students and others. Invited talk by Kiwanis Club of Athens, Georgia, January 13, 2009.

√Kisaalita, W.S. Guiding axioms for deploying sustainable technological solutions at the bottom of the economic pyramid. Invited Lecture in EHSC 4400/6400 (Environmental Issues in the Developing World), January 20, 2009.

2008:

√Kisaalita, W.S. Development and deployment of innovative solutions at the bottom of the economic pyramid: Guiding principles for students and others. Invited Lecture in SOWK 6107 (International Social Work), November 4, 2008.

√Kisaalita, W.S. Interdisciplinary approaches to engineering, science and society. Invited Speaker in Innovations at the Interface Seminar Series, University of Georgia, November 18, 2008.

√Kisaalita, W.S. Development and deployment of innovative solutions at the bottom of the economic pyramid: Guiding principles for students and others. Invited Honors Lunch Box Lecture, October 29, 2008.

√Kisaalita, W.S. Bridging the gap between development and deployment of technology for smallholder farmers of sub-Saharan Africa. Invited Presentation, Commission on International Programs and NASULGC, Building Research Capacity in sub-Saharan Africa Program Session, Sheraton Harborside Portsmouth Hotel and Conference Center, July 14-16, 2008, Portsmouth, NH.

Wang, L.; Wu, Z.-Z.; Kisaalita, W.S. High-aspect-ratio microstructure for quasi-three-dimensional neural network ex vivo with applications in cell-based biosensing. Poster presentation, The Tenth World Congress on Biosensors, Shanghai International Conventional Center, May 14-16, Shanghai, China.

Wu, Z.-Z.; Kisaalita, W.S.; Wang, L. Substrate engineering with microbeads for cell-based biosensing. Poster presentation, The Tenth World Congress on Biosensors, Shanghai International Conventional Center, May 14-16, Shanghai, China.

Lai, Y.; Cheng, K.; Kisaalita, W.S. Genomic analysis of neural progenitor (NP) cells cultured in three-dimensional (3D) polystyrene scaffolds. Poster presentation, The Tenth World Congress on Biosensors, Shanghai International Conventional Center, May 14-16, Shanghai, China.

Cheng, K.; Lay, K.; Kisaalita, W.S. Synthetic polymer scaffolds for 3D cell-based HTS in early drug discovery. Poster presentation, The Tenth World Congress on Biosensors, Shanghai International Conventional Center, May 14-16, Shanghai, China.

Kisaalita, W.S.; Cheng, K.; Lai, Y. Engineering 3D cell-based systems for High Throughput Screening (HTS) in drug discovery. Podium presentation, The Tenth World Congress on Biosensors, Shanghai International Conventional Center, May 14-16, Shanghai, China.

√Kisaalita, W.S. Cell-based HTS in drug discovery: Advancing tissue science and engineering Chinese and US perspectives, Invited Presentation [as a result of my participation in Project 111], College of Bioengineering, Chongqing University, Chongqing, P.R. China, May 12, 2008 – was not able to finish the seminar, half way through, we learned of the earthquake and had to evacuate the building.

Lai, Y.; Cheng, K.; Kisaalita, W.S. Genomic analysis of neural progenitor (NP) cells cultured in three dimensional (3D) polystyrene scaffolds. Podium presentation, Institute of Biological Engineering 2008 Annual meeting, March 6-9, 2008, Chapel Hill, NC.

Wang, L.; Wu, Z.-Z.; Kisaalita, W.S. High-aspect-ratio SU-8 microstructures for quasi-three-dimensional neural network ex vivo with applications in cell-based biosensing. Podium presentation, Institute of Biological Engineering 2008 Annual meeting, March 6-9, 2008, Chapel Hill, NC.

Cheng, K.; Lai, Y.; Kisaalita, W.S. Novel scaffold plates for 3D cell-based biosensing. Podium presentation, Institute of Biological Engineering 2008 Annual meeting, March 6-9, 2008, Chapel Hill, NC.

Guan, Y., Kisaalita, W.S.; Li, S.; Zhao, Y. Flow-injection system for amperometric glucose detection based on glucose oxidase SAM - Immobilized on gold nanoparticles. Podium presentation, Institute of Biological Engineering 2008 Annual meeting, March 6-9, 2008, Chapel Hill, NC.

2007:

√Kisaalita, W.S. Engineering 3D cell-based systems for high throughput screening (HTS) in drug discovery. Invited seminal presentation at North Carolina Agricultural and Technical State University, Chemical Engineering Program, November 13, 2007, Greensboro, NC.

Dozier, C.D.; Kisaalita, W.S.; Ketter, C.T.; Newcomer, Q. (Panelists), Exploring study abroad opportunities in STEM. Peach State LSAMP Second Annual Fall Research Conference, September 21, 2007, Tate Student Center, University of Georgia, Athens, GA.

Kisaalita, W.S. 3D cell-based assays for HTS: Neural progenitor cells in vitro emulate neuronal cells in vivo. Selected Podium Presentation, CHI Cellutions Summit: The Future of Stem Cell Sciences, August 20-23, 2007, World Trade Center, Boston, MA.

Cheng, K.; Kisaalita, W.S.; Lai, Y. Genomic analysis of neural progenitor cells in three dimensional (3D) polystyrene scaffolds. Poster presentation, CHI Cellutions Summit: The Future of Stem Cell Sciences, August 20-23, 2007, World Trade Center, Boston, MA.

Cheng, K.; Kisaalita, W.S. Tree dimensional (3-D) scaffolds for cell-based assays in drug discovery applications, Podium presentation, 5th CHI World Pharmaceutical Congress, June 12-13, 2007, Philadelphia, PA

Cheng, K.; Wu, Z.-Z.; Wang, L.; Kisaalita, W.S.; Three dimensional scaffolds for cell-based assays in drug discovery. Poster presentation, 5th CHI World Pharmaceutical Congress, June 12-13, 2007, Philadelphia, PA

Cheng, K.; Kisaalita, W.S. Polymer scaffold: Substrate for three dimensional cell-based assays. Poster presentation, Society for Biomaterials Annual Meeting, April 18-21, 2007, Sheraton Chicago Hotel & Towers, Chicago, Illinois.

Wang, L.; Wu, Z.-Z.; Zhao, Y.-P.; Kisaalita, W.S. SU-8 microstructure for three-dimensional cell-based biosensing. Poster presentation, Society for Biomaterials Annual Meeting, April 18-21, 2007, Sheraton Chicago Hotel & Towers, Chicago, Illinois.

Wu, Z.-Z.; Zhao, Y.; Kisaalita, W.S. Effects of microstructured topography on the differentiation of H945RB.3 human neural progenitor cells. Poster presentation, Society for Biomaterials Annual Meeting, April 18-21, 2007, Sheraton Chicago Hotel & Towers, Chicago, Illinois.

2006:

√Kisaalita, W.S. From nutcrackers to nanoparticles. Invited podium presentation to The Louis Stokes Alliance for Minority Participation students at the University of Georgia, Oct 30, 2006, Student Learning Center, Athens, GA.

Kisaalita, W.S. Graduate and professional school preparation 101. Panelist at First Annual Fall Forum & Research Conference, October 19-21, 2006, Southern Polytechnic and State University, Marietta, GA.

√Kisaalita, W.S. Education enterprise: exploring partnerships and opportunities. Invited podium presentation at 5th East African-American Trade and Investment Summit, May 15-17, 2006, The renaissance Hotel, Atlanta, GA.

Cheng, K.; Kisaalita, W.S. Three dimensional neuronal cell culture in vitro more accurately model voltage-gated calcium channel functionality in vivo. Poster presentation at The UGA Biomedical and Health Science Institute Annual Retreat, September 22, 2006, Paul D. Coverdell Center for Biomedical and Health Sciences, UGA, Athens, GA.

Wang, L.; Kisaalita, W.S. Effects of SU-8 microstructure on SH-SY5Y human neuroblastoma cell differentiation. Poster presentation at The UGA Biomedical and Health Science Institute Annual Retreat, September 22, 2006, Paul D. Coverdell Center for Biomedical and Health Sciences, UGA, Athens, GA.

Wu, Z.-Z.; Zhao, Y.-P.; Kisaalita, W.S. Differentiation of H945RB.3 human neural progenitor cells on microstructured substrates in terms of VGCC function. Poster presentation at The UGA Biomedical and Health Science Institute Annual Retreat, September 22, 2006, Paul D. Coverdell Center for Biomedical and Health Sciences, UGA, Athens, GA.

Cheng, K.; Kisaalita, W.S. Polymer scaffold as potential substrate for three-dimensional cellular biosensor. Poster presentation at The Ninth World Congress on Biosensors, May 10-12, 2006, Sheraton Center, Toronto, Canada.

Kisaalita, W.S. What in the world are they learning? Capstone engineering design experiences across national and cultural borders. Poster presentation at the National Conference on Service Learning in Engineering, May 24-25, 2006, Washington, D.C.

Wu, Z.-Z.; Zhao, Y.-P.; Kisaalita, W.S. Developing microstructures for three-dimensional cell-based biosensing. Poster presentation at The Ninth World Congress on Biosensors, May 10-12, 2006, Sheraton Center, Toronto, Canada.

2005:

Cheng, K.; Kisaalita, W.S. Cell-matrix interactions in cell-based biosensor. Poster presentation at The Second Annual University of Georgia Engineering Conference, October 24, 2005 [tied for best student poster presentation].

Chu, H.-Y.; Huang, Y.-W.; Zhao, Y.; Kisaalita, W.S. Detection of E. coli 0157:H7 using quartz crystal microbalance method. Poster presentation at The Second Annual University of Georgia Engineering Conference, October 24, 2005.

Huang, Y.-W.; Zhao, Y.; Kisaalita, W.S. Development of rapid detection technique for pathogens using nanorod-based sensor. The Second Annual University of Georgia Engineering Conference, October 24, 2005.

Wu, Z.-Z.; Xhao, Y.P.; Kisaalita, W.S. Developing three-dimensional whole cell based biosensor format with SU-8 microstructures. Poster presentation at the Second Annual University of Georgia Engineering Conference, October 24, 2005.

Zhou, D.; H.-Y.; Huang, Y.-W.; Zhao, Y.; Kisaalita, W.S. A nanoparticle-based technique for detection of E. coli 0157:h7. Poster presentation at the Second Annual University of Georgia Engineering Conference, October 24, 2005.

Li, S.-H.; Zhao, Y.-P.; Kisaalita, W.S. Functionalization of silicon nanorods for in vivo glucose sensing. Podium presentation at the ASABE Annual International Meeting, Tampa Conventional Center, Tampa, Florida, July 17-20, 2005.

Kisaalita, W.S. Short term international exposure programs – Do they work? Podium presentation at the ASABE Annual International Meeting, Tampa Conventional Center, Tampa, Florida, July 17-20, 2005.

Desai, A.; Kisaalita, W.S.; Wu, Z.-Z. Human neuroblastoma (SH-SY5Y) cell culture and differentiation in 3-D collagen hydrogels for cell based biosensing. Podium presentation at the ASABE Annual International Meeting, Tampa Conventional Center, Tampa, Florida, July 17-20, 2005.

Wu, Z.Z.; Zhao, Y.-P.; Kisaalita, W.S. Integrating SH-SY5Y neuroblastoma cells with SU-8 microstructures. Poster presentation at the NanoSEC Annual Workshop and Meeting, Riverbend Research Laboratory South, University of Georgia, May 26, 2005.

Kisaalita, W.S. What in the world are they learning? Capstone engineering design experiences across national and cultural borders. CSREES/SERD Project Directors' Conference, New Orleans, Louisiana, March 30- April 1, 2005.

Kisaalita, W.S. What in the world are they learning? Podium presentation at the American Society for Engineering Education Southeastern Section Annual Conference and Meeting, April 3-5, 2005.

Kisaalita, W.S. Panelist – What constitutes research in your discipline and how does your research integrate with your teaching inside and outside of the classroom? Sponsored by the center for Undergraduate Research opportunities, the UGA Teaching Academy, the Office of Instructional Support and Development and the Institute of Higher Education, March 24, 2005.

Huang, Y.-W.; Zhao, Y.; Kisaalita, W.S. Rapid detection of pathogens using a nanorod-based sensor. Podium presentation at the Tenth Annual Meeting of the Institute of Biological Engineering, The University of Georgia Continuing Education Center, Athens, GA, March 4-6, 2005.

Wu, Z.-Z.; Xhao, Y.P.; Kisaalita, W.S. Developing microstructures for three-dimensional cell growth. Podium presentation at the Tenth Annual Meeting of the Institute of Biological Engineering, The university of Georgia Continuing Education Center, Athens, GA, March 4-6, 2005.

2004:

Wu, Z.-Z.; Xhao, Y.P.; Kisaalita, W.S.; Law, R. Resting membrane potential development in SH-SY5Y neuroblastoma cells cultured on 3-D packed microbead array. Poster presentation at The Third Annual Biomedical and Health Sciences Institute Retreat, November 5, 2004.

Li, S.-H.; Zhao, Y.P., Kisaalita, W.S. Biofunctionalization of nanorods for in vivo glucose sensing. Poster presentation at The Third Annual Biomedical and Health Sciences Institute Retreat, November 5, 2004.

DiRamio, J.; Kisaalita, W.S., Majetich, G.; Shimkus, J. Study of polyethylene glycol methacrylate/dimethacrylate hydrogels for controlled release of hydrophobic drugs. Poster presentation at The Third Annual Biomedical and Health Sciences Institute Retreat, November 5, 2004.

Desai, A.; Kisaalita, W.S.; Keith, C.; Wu, Z.Z. Human neuroblastoma (SH-SY5Y) cell culture and differentiation in 3-D collagen hydrogels for cell-based biosensing. Poster presentation at The Third Annual Biomedical and Health Sciences Institute Retreat, November 5, 2004.

Desai, A.; Kisaalita, W.S.; Keith, C.; Wu, Z.Z. Human neuroblastoma (SH-SY5Y) cell culture and differentiation in 3-D collagen hydrogels for cell-based biosensing. Poster presentation at The Inaugural University of Georgia Engineering Conference, October 28, 2004.

DiRamio, J.; Kisaalita, W.S., Majetich, G.; Shimkus, J. Study of polyethylene glycol methacrylate/dimethacrylate hydrogels for controlled release of hydrophobic drugs. Poster presentation at The Inaugural University of Georgia Engineering Conference, October 28, 2004.

Li, S.-H.; Zhao, Y.-P.; Kisaalita, W.S. Functionalization of silicon nanorods for in vivo glucose sensing. Poster presentation at the Fourth Annual Diabetes Technology Meeting, Philadelphia, Pennsylvania, October 28-30, 2004.

Li, S.-H.; Zhao, Y.P., Kisaalita, W.S. Biofunctionalization of nanorods for in vivo glucose sensing. Poster presentation at The Inaugural University of Georgia Engineering Conference, October 28, 2004.

Wu, Z.-Z.; Xhao, Y.P.; Kisaalita, W.S.; Law, R. Resting membrane potential development in SH-SY5Y neuroblastoma cells cultured on 3-D packed microbead array. Poster presentation at The Inaugural University of Georgia Engineering Conference, October 28, 2004.

Kisaalita, W.S.; Desai, A.; Zhao, Y. The case for three-dimensional cell-based biosensors. Poster presentation at the ASAE International Meeting Ottawa, Canada, August 1-5, 2004.

Kisaalita, W.S. A new course in engineering physiology (ENGR 3720) emphasizing the integrative nature of biological systems. Poster presentation at ASAE International Meeting Ottawa, Canada, August 1-5, 2004.

Kisaalita, W.S. What in the world are they learning? Capstone engineering design experiences across national and cultural borders. Podium presentation, Session 801, at the ASAE International Meeting Ottawa, Canada, August 1-5, 2004.

What in the world are they learning? Capstone engineering design experiences across national and cultural borders. Podium presentation at the Southern Regional Teaching Symposium, Athens , GA, May 20-22, 2004.

Li, S.-H.; Zhao, Y.-P.; Kisaalita, W.S. Biofunctionalization of nanorods for in vivo glucose sensing. Poster presentation at the University of Georgia Annual NanoSec Meeting, May 13, 2004.

Desai, A.; Kisaalita, W.S.; Zhao, Y.-P. Depolarization-induced calcium changes in SH-SY5Y cells immobilized in collagen nanofibers (50-300 nm). Poster presentation at the University of Georgia Annual NanoSec Meeting, May 13, 2004.

Wu, Z.-Z.; Zhao, Y.-P.; Kisaalita, W.S. Resting membrane potential development in SH-SY5Y neuroblastoma cells cultured on 3-D packed microbead array. Poster presentation at the University of Georgia Annual NanoSec Meeting, May 13, 2004.

2003:

√Kisaalita, W.S. Cell-based biosensing in 3-D microenvironments for accelerated drug discovery. Invited Seminal Presentation, Biochemical Engineering Institute, Zhejiang University, Hangzhou, P.R. China. November 10, 2003.

Attended an International Conference on Mathematical Modeling in Nutrition and Health Sciences – Organized by Dr. James Hargrove in honor 50 years of metabolic modeling, Georgia Center, The University of Georgia, September 27-30, 2003

Kisaalita, W.S. Cell-based biosensing in 3-D microenvironments for accelerated drug discovery. Invited Seminar Presentation, National Research Center for Biotechnology, College of Life Science and Pharmacy, Nanjing University of Technology, Nanjing, P.R. China, November 8, 2003.

√Kisaalita, W.S. Cell-based biosensing in 3-D microenvironments for accelerated drug discovery. Invited Seminar Presentation, National Research Center for Biotechnology, College of Life Science and Pharmacy, Nanjing University of Technology, November 8, 2003, Nanjing, P.R. China.

Attended the 6th Annual Colloquium on International Engineering Education - Organized by the University of Rhode Island, Crowne Plaza Hotel, October 23-26, 2003.

√Invited Panel Discussant: Sustainable Development and the Role of UGA at the Symposium on International Sustainable Development and the University of Georgia, Georgia Center for Continuing Education, April 28, 2003.

Mao, C.; Kisaalita, W.S. Characterization of 3-D collagen hydrogels for functional cell-based biosensing. Poster Presentation at the 225th American Chemical Society Meeting, New Orleans, LA, March 23-27. 2003.

2002:

Kisaalita, W.S. Capstone design experiences across national and cultural borders: course development. Poster presentation at the American Society for Engineering Education (ASEE)/European Society for Engineering Education (SEFI)/ Technical University of Berlin (TUB), Berlin, Germany, October 1-4, 2002.

Kisaalita, W.S. Capstone design experiences across national and cultural borders: course development. American Society for Engineering Education Annual Conference and Exposition, Montreal, Quebec, Canada, June 16-19, 2002.

2001:

√Rubin, D.; Marks, J.; Kisaalita, W.S. What in the world are they learning? Assessing student-learning outcomes in global education across the curriculum. Invited workshop presenter at the University System of Georgia Teaching and Learning Conference, October 22, 2001.

Kisaalita, W.S. Elements of instructional and/or research proposals for funding by international agencies. Invited workshop presentation. Department of Agricultural Engineering, Makerere University, Uganda. September 14, 2001.

Yoder, M.F.; Kisaalita, W.S. Specificity of iron biosensor based on pyoverdinin immobilized in sol-gel glass. Presentation at the ASAE Annual International Meeting, Sacramento, California, July 30-August 1, 2001.

Zhang, W.; Kisaalita, W.S. Transdifferentiation of N1E-115 neuroblastoma cells into pigment cells under simulated microgravity. Poster presentation (#878.8) at the Experimental Biology 2001 Meeting, March 31-April 4, 2001, Orlando, Florida.

Rao, R.R.; Halper, J.; Kisaalita, W.S. Effects of extremely low frequency magnetic fields on APP695 mRNA expression in IMR-32 human neuroblastoma cells. Poster presentation (#652.3) at the Experimental Biology 2001 Meeting, March 31-April 4, 2001, Orlando, Florida.

Singer, A.S.; Kisaalita, W.S. Visualization of GFP fused precursor protein 295 (APP695) in differentiating IMR-32 neuroblastoma cells. Poster presentation (#726.5) at the Experimental Biology 2001 Meeting, March 31-April 4, 2001, Orlando, Florida.

Cordle, A.L.; Kisaalita, W.S. Biotechnology in African Agriculture: Will the small-scale farmer benefit from GM crop technology. CURO Symposium, February 26-27, 2001.

2000:

Kisaalita, W.S. A needs assessment for boda-boda (motorcycle/bicycle taxi service) operators of Kampala. Poster Session #III-BAOBAB, African Studies Association 43rd Annual Meeting, Nashville, Tennessee, November 16-19, 2000.

Rao, R.R.; Kisaalita, W.S. Electrophysiological and biochemical characterization of differentiating human neuroblastoma (IMR-32) cells. Poster #116.7, 30th Society for Neuroscience Annual Meeting, New Orleans, Louisiana, November 4-9, 2000.

1999:

Rao, R.R.; Halper, J.; Kisaalita, W.S. Effect of extremely low frequency (ELF) electromagnetic field exposure on IMR-32, a model cell line for Alzheimer's disease. Bioelectromagnetics Society (BEMS) Abstract #p-1, 21st Annual Meeting, Long Beach, CA, June 20-24, 1999.

Kisaalita, W.S.; Sridhar, J. A mathematical model for melatonin production, distribution and metabolism in rats. Experimental Biology '99. Poster # 794.13, Washington Conventional Center, Washington, D.C., April 17-21, 1999.

1998:

Rao, R.R.; Halper, J.; Kisaalita, W.S. Effects of extremely low frequency (ELF) electromagnetic field exposure on APP mRNA production in IMR-32 cells. 28th Society for Neuroscience Annual Meeting, Los Angeles, California, November 7-12, 1998.

Rowland, G.N.; Halper, J.; Hu, J.; Foutz, T.; Kisaalita, W.S.; Griffith, A. Expression of collagens and TGF beta in avian tendon. AVMA 1998 Meeting.

Griffin, A.; Malleau, A.; Hu, J.; Kisaalita, W.S.; Halper, J.; Rowland, G.; Foutz, T. Effect of treadmill pacing on tendon composition and mechanical properties. BMES Fall 1998 Meeting, Cleveland, OH.

Foutz, T.; Verma, B.; Kisaalita, W.S.; Eiteman, M. The biological engineering training program for graduate students at UGA. American Society of Engineering Education Annual Meeting, 1998, Seattle, WA.

Kisaalita, W.S.; Kenny, J.S. Quantitative study of intracellular calcium dynamics in neuroblastoma (NG108-15) cells exposed to extremely-low-frequency electromagnetic fields (EMF). 20th Bioelectromagnetics Society Annual Meeting, Trade Winds Resort, St. Pete Beach, Florida, June 7-11, 1998.

1997:

Kisaalita, W.S. Effect of culture age on the susceptibility of differentiating neuroblastoma cells to developmental toxicants' cytotoxicities. In *In Vitro Cellular & Developmental Biology-Animal* 33(3), Part II, pp 41A. 1997.

Xiao, R.; Kisaalita, W.S. Fluorescent pseudomonad pyoverdins bind and oxidize the ferrous ion. International Biometrics Symposium, Calgary, Alberta, Canada, August 10-14, 1997.

1996:

Kisaalita, W.S. Effect of culture age on the susceptibility of differentiating neuroblastoma cells to developmental toxicants' cytotoxicities. The 3rd Annual National Health and Environmental Effects Research Laboratory Symposium of susceptibility and Risk, Durham, NC September 24-27, 1996.

Kisaalita, W.S. Towards the development of an in vitro teratogenesis model: Electrophysiological similarities between in vitro differentiating neuroblastoma and in vivo embryonic neural crest cells. American Chemical Society 211th Meeting Abstracts, Louisiana, New Orleans, March 24-28, 1996.

1995:

Kisaalita, W.S. Pyoverdin-based metal ion biosensors: Mechanistic considerations. Presented at the American Society of Agricultural Engineers International Summer Meeting, Chicago, Illinois, June 18-23, 1995.

Xiao, R. and Kisaalita, W.S. Characterization of *Pseudomonas fluorescens* 2-79 pyoverdins, American Society for Microbiology 95th General Meeting, Washington, D.C., May 21-25, 1995.

Xiao, R. and Kisaalita, W.S. Fluorescent pseudomonad pyoverdins have a high affinity for iron (II), American Society for Microbiology 95th General Meeting, Washington, D.C., May 21-25, 1995.

1994:

Kenny, J.S.; Kisaalita, W.S. Effects of extremely low frequency electromagnetic fields on the human osteosarcoma cell line TE-85. Paper # 947519, presented at the ASAE International Winter Meeting, Atlanta, GA, December 13-16, 1994.

Thai, C.N.; Kisaalita, W.S.; Farmer, M.A. Image processing of neuroblastoma cell focal contact areas. Paper # 947520, presented at the ASAE International Winter Meeting, Atlanta, GA, December 13-16, 1994.

Kisaalita, W.S.; Patel, V.; Hill, E.P. Mathematical modeling of the glucose-insulin system: A biological example for teaching feedback controller tuning and selection. Paper # 943516, presented at the ASAE International Winter Meeting, Atlanta, GA, December 13-16, 1994.

Kisaalita, W.S. Differentiating neuroblastoma cells model for nervous system developmental toxicity studies, American Institute of Chemical Engineers Annual Meeting Extended Abstracts, San Francisco, California, November 13-18, 1994.

1993:

Kisaalita, W.S.; Bowen, J.M. Development of resting membrane potentials of N1E-115 neuroblastoma cells evaluated by flow cytometry, American Institute of Chemical Engineers Annual Meeting Extended Abstracts, St. Louis, Missouri, November 7-12, 1993.

Kisaalita, W.S. Determination of the effect of low-level neurotoxic compound mixtures on electrically excitable neuroblastoma cells. Poster presented at Gordon Research Conference on Bioanalytical Sensors, Ventura, CA, March 22-26, 1993.

1992:

Kisaalita, W.S.; Slininger, P.J.; Bothast, R.J. Defined media for optimal pyoverdinin production by *Pseudomonas fluorescens* (NRRL B-15132), Ninth International Biotechnology Symposium and Exposition - Harnessing Biotechnology for the 21st Century, Crystal City, Virginia, August 16-21, 1992.

1991:

Kisaalita, W.S.; Skeen, R.S.; Van Wie, B.J.; Barnes, C.D.; Fung, S.J. Evaluation of neuron-based chemical sensing with a rabbit serum component. ASAE Symposium, Automated Agriculture for the 21st Century, Chicago, IL, December 17-20, 1991.

Kisaalita, W.S. Biosensor standards: A preliminary needs assessment. Presented at ASTM Biotechnology Committee (E-48) Meeting, Rockville, MD, October 27-30, 1991.

1990:

Kisaalita, W.S.; Slininger, P.J.; Bothast, R.J.; Magin, P.L.; McCarthy, J.F. Application of dual emission fluorophores to on-line fermentation process monitoring. Presented at the 200th American Chemical Society National Meeting, Washington, D.C., August 26-31, 1990.

1989:

Skeen, R.S., Kisaalita, W.S., Van Wie, B.J., Davis, W.C., Fung, S.J., Barnes, C.D. Development of neuron-based biosensors, American Institute of Chemical Engineers Annual Meeting Extended Abstracts, San Francisco, California, November 5-10, 1989.

Skeen, R.S.; Van Wie, B.J.; Barnes, C.D; Fung, S.J.; Kisaalita, W.S. Biosensors in medical applications. Poster presentation at the North Carolina Section of the American Chemical Society, Chapel Hill, N.C., September 7-9, 1989.

Kisaalita, W.S., Skeen, R.S.; Van Wie, B.J.; Barnes, C.D.; Fung, S.J.; Davis, W.C. Neuron based sensors for biochemical quantitation, Proceedings of the Annual International Conference of IEEE Engineering in Medicine and Biology Society, 11:1123-1125, 1989.

1988:

Kisaalita, W.S., Van Wie, B.J., Skeen, R.S., Barnes, C.D. Fung, S.J. Chun, K. Crossdisciplinary approach to development of neuron-based biosensor, American Institute of Chemical Engineers Annual Meeting Extended Abstracts, Washington, DC, November 27- December 2, 1988.

Skeen, R.S., Van Wie, B.J. Fung, S.J., Kisaalita, W.S., Barnes, C.D. Neuron based chemical sensors for biotechnology and biomedical applications, American Institute of Chemical Engineers Annual Meeting Extended Abstracts, Washington, DC, November 27 - December 2, 1988.

Robinson, C.W.; Sauer, T.; Kisaalita, W.S.; Glick, B.R. High pressure disruption of recombinant E. Coli and debris removal by cross-flow filtration. Poster presentation at the 8th International Biotechnology Symposium, Paris, July 17-22, 1988.

TEACHING EXPERIENCES

Current courses:

BIOE 4710/6710 Development Engineering and Sustainability	(1 semester)
BIOE 4720/6720 Human Factors in Biomedical Device Design	(8 semester)
ENGR 6910 Foundations of Engineering Research	(12 semesters)
BIOE 8230 Microtissue Engineering for Drug Discovery	(7 semesters)

Previously taught courses at UGA:

FYOS 1001 Things you can (or should not) do to end world poverty	(5 semester)
ENGR 1920 Introduction to Engineering	(5 semester)
FRSH 1010 Freshman Seminar – Nanotechnology	(1 semester)
ANTH/CMLT/HIST/COCI 2100 Introduction to Africa	(3 semesters)
ENGR 2130 Engineering Dynamics	(16 semesters)
ENGR 2500 Introduction to Biological Engineering	(3 semesters)
BCHE 3520 Mass Transport and Rate Phenomenon	(2 semesters)
ENGR 3720 Engineering Physiology	(10 semesters)
ENGR 4520/6520 Engineering and Design of Biological processes II	(1 semester)
ENGR 4530/6530 Biological Process Monitoring and Control	(3 semesters)
ENGR 4920 Capstone Engineering Design Project	(13 semesters)
ENGR 4980 Directed Readings and/or Projects	(4 semesters)
HONS/ENGR/AESC 4980 Honors Undergraduate Research	(4 semesters)
ENGR 8950 Graduate Seminar	(5 semesters)
ENGR 8980 Advanced Topics in Biological Engineering	(8 semesters)

Previously taught courses at Makerere University (Uganda):

AE 202 Rural Farm Mechanization
 AE 380 Industrial Training II

(2 terms)
 (1 term)

Undergraduate student education - Guest lectures. Regular guest lecturer in SOWK 4107 International Social Work and EHSC 4400 Environmental Issues in the Developing World.

On-campus undergraduate laboratory (microtissue engineering) research projects. 24 undergraduate students (*=non-engineering majors): Sundus Kaimari, *Kyle Patel, Molly Nelson, Megan Douglass, Lily Simpson, Dayrin Mendez, Angela Zachman, Mia Catharine Morgan, *Crystal Rapiet, Meghan Frydrych, Jose Hernandez-Diaz, *Zebra Jerfferson, Matt Rudy, Steven Jay, Erik Jarrett, Amit Govil, *Asa Cordle, *Katie Stepp, *Julia Richards, Ben Turnage, *Julia Keith, Daniel Geller, Elizabeth Hill, Dexter Bautista, *Mark Sutherland, and *Heidi Hummelman.

On-campus (without an overseas trip) undergraduate inquiry- or engineering design-based (development engineering) projects. 26 undergraduate students (*=non-engineering majors): William Rittmeyer, Linrun Mao, Tyler Shilet, Breanna Leonard, Ryan Brush, Jonathan Jones, Khushboo Brahmhatt, Daniel Bennett, Cody Crockett, Josh Lewis, Max Neu, Jeremy Leiter, Joshua Pendergrass, David Girmy, Steven Jay, Dave Sylvester, William Eubank, Daniel Johnson, Molly Smith, Matt Williams, Dana Goodman, Britt lacey, Katharine Fletcher, John Huber, Kristine Maize, and Phillip Berryman.

Overseas undergraduate inquiry- or design-based (development engineering) projects. 38 undergraduate students (*=non-engineering majors; #=non-US participant): *Kyle Patel, Chinelo Ononye, Justin Robinson, #Angela Aralu, #Abia Katimbo, #Edison Sempira, #Dana Mugisa, #Joseph Wasswa, #Richard Ssonko, #Kenneth Ndyabawe, #Ambrose Ashabahebwa, Rachel Childers, Steven Etheridge, Daniel Bennett, Jessica Buday, Mia Catharine Morgan, Aaron Watwood, #Tony Kasinja, #Godfrey Wangi, Max Neu, Jeremy Leiter, Joshua Brandon Dunn, #Charity Tushemereirwe, #Bariho Davis Bagamuhunda, Phillip Jones, Meghan Shealy, Jonathan Dunn, Brian Bibens, *Vans Randell Kinsey, Edward Lane, Patrick Young, Melissa Bystedt, George Cavendar, Kevin Flack, *Alex White, Brad Boyer, William Faircloth, Justin Franklin, and *Allyson Tippie.

Summary of development engineering projects

Title	Purpose	Location	Resulting publications [#]	Comment
1. Biotechnology in African Agriculture.	To assess potential benefits of biotechnology among smallholder farmers.	Kenya	Cordle & Kisaalita (2001). ³⁷	Inquiry-based summer project by study-abroad mentee.
2. Comparative feasibility analysis of alternative renewable energy sources for small milk cooling plants of Western Uganda.	To convert rural diesel-powered milk cooling plants (3000- to 5000-liter capacities) to solar power toward reducing cooling costs.	Uganda	Kisaalita et al. (2006). ⁵²	Engineering design-based capstone project.

3. Delivery of urban transport in developing countries: The case for motorcycle taxi service (boda-boda) operators of Kampala.	To determine factors underlying the riding public safety concerns and come up with possible solutions	Uganda	Kisaalita and Ssentongo-Kibalama (2007). ⁵⁵	Inquiry-based project by Dr. Kisaalita – the first project conducted with the goal of establishing research activity on the continent. The field work was conducted between 2000 and 2001.
4. Avian Hatchery Solar energy incubator for smallholder poultry farmers from the Sudano-Sahelian belt.	To increase the number of chicks/keets (chicken and guinea fowl) produced nationally toward increasing poultry meat production.	Burkina Faso	Kisaalita et al. (2010). ⁶⁴	Engineering design-based capstone project.
5. Diffusion of an evaporative cooler innovation (<i>CoolChurn</i>)* among smallholder dairy farmers of Western Uganda.	To reduce milk postharvest losses (mainly the evening milk) among rural smallholder dairy farmers.	Uganda	Bariho et al. (2008) ⁵⁷ ; Kisaalita (2010) ^{T3} ; Ndyabawe and Kisaalita (2014) ⁸¹ ; Ndyabawe et al. (2019). ⁹⁶	Engineering design-based and inquiry-based projects involving both graduate and undergraduate students.
6. Argan nut cracker for Southwestern Moroccan women	To reduce labor through mechanization and increase Argan oil production.	Morocco	Shealy et al. (2010); ⁶⁵ Kisaalita (2011). ^{T6}	Engineering design-based capstone project.
7. Solar energy-powered milk cooling	To convert and field test the Sundanzer solar fridge toward reducing milk postharvest losses (mainly the evening milk) among rural smallholder dairy farmers.	Uganda	Sempiira et al. (2019). ¹¹⁰	Engineering design-based capstone project.
8. Validity of the Africa-wide Lang factor for estimating domestic biogas plant installations		Uganda & South Africa		
9. Diffusion of an evaporative cooler innovation (<i>EvaKuula</i>)* among smallholder dairy	To reduce milk postharvest losses (mainly the evening milk) among rural smallholder dairy farmers.	Uganda	Kisaalita (2018); ^{T10} Kisaalita et al. (2018); ⁹⁵ Kisaalita et al. (2019); ¹⁰⁸	Engineering design-based and inquiry-based projects involving both graduate and

farmers of Uganda.			Sempiira et al. (2019) ¹⁰¹ Sempiira et al. (2019). ¹¹¹	undergraduate students.
10. Design for female ergonomic and cultural appropriateness: A simple milk churner (<i>IzeChurn</i>)* for ghee-making.	To reduce labor and increase productivity through ergonomically- and female-friendly human-centered design	Uganda	Muyanja et al. (2009); ⁶¹ Katimbo et al. (2015); ⁸⁴ Kisaalita et al. (2016); ⁸⁷ Mugisa et al. (2016); ⁸⁶ Sempiira et al. (2017); ⁹² Wasswa et al. (2017); ⁹¹ Kisaalita (2017). ^{T8}	Engineering design-based and inquiry-based projects involving both graduate and undergraduate students.
11. Closing the water supply gap: An analysis from smallholder farms of Tanzania.	To increase productivity of smallholder farmers by harvesting water during the rainy season and using this water during the dry season to grow high value products in short supply.	Tanzania	Austin and Kisaalita (2019). ¹⁰²	Inquiry-based summer project by study-abroad mentee.
12. Enhancing the nutritious value of readily available high maize flour-based children foods in sub-Saharan Africa.	To source low-cost protein and micronutrients toward better children nutrition	Uganda	None so far	Engineering design-based capstone project.
13. Intervention in low guinea fowl production and related products consumption toward better children nutrition.	To integrate three well established practices of low-cost evaporative cooling for eggs' storage (<i>YaiKuula</i>)*, insect larvae production for bird feed supplement, and synchronized or programmed egg hatching for year round production of healthy guinea fowl keets nationally toward increasing poultry meat/egg production for better children and women nutrition.	Burkina Faso	None so far	Engineering design-based and inquiry-based projects involving both graduate and undergraduate students.
14. Enabling early prostate cancer	To engineer a Point-of-Care device or system to increase the number of	Uganda	None so far	Engineering design-based and inquiry-based

screening in low-resource settings.	men that receive early prostate cancer screening, especially in low-resources setting, toward reducing number of related deaths among men 40 or more years old.			projects involving both graduate and undergraduate students.
15. Mentoring, teaching and learning outcomes assessment.	To share best practices and better understand learning outcomes as a result of participating in overseas inquiry-and/or design-based projects.	Not Applicable	Kisaalita (2001); ^{T1} Kisaalita et al. (1997). ²⁴ Kisaalita 2006); ⁵¹ Kisaalita (2016); ⁹⁰ Kisaalita (2018); ⁹³ Kisaalita 2019); ¹⁰⁶ Kisaalita et al. (2019); ¹⁰⁷	Engineering education practice inquiry.

[#]Superscript numbers on each citation are the numbers of the publications listed under “ARCHIVAL JOURNAL AND REFERRED CONFERENCE PUBLICATIONS” or “TRADE JOURNAL PUBLICATIONS;” subscript numbers starting with “T” are trade articles.

*Italicized words in brackets are brand names of commercialized products.

High school student research mentoring.

1994 (fall) and 1993 (fall): Scott Threadgill, laboratory intern from Oconee High School.

Project – Effect of isotretinoin on N1E-115 neuroblastoma viability

1998 (fall): Samara Wise, laboratory intern from Oconee High School

Project – Establishing primary embryonic tendon cells in culture.

2000 (fall) and 1999 (spring): Ravi Amin, mentee through from Clarke Central High School through a program for laboratory experiences for gifted high school seniors.

Project – Assay for cyclic AMP in naïve and primed neuroblastoma cells.

2002 (summer): Anthony Walker, mentee from Clarke Central High School through a College of Agricultural and Environmental Sciences program for research experience for historically underrepresented high school students.

Project – Characterization of fluorescent pseudomonad pyoverdins.

2003 (summer): Andrew Carson, mentee from Clarke Central High School through a College of Agricultural and Environmental Sciences program for research experience for historically underrepresented high school students.

Project – Estrogen-like compounds in Clarke-County waste water.

2004 (summer): Jordan Harrison, mentee from Clarke Central High School through a College of Agricultural and Environmental Sciences program for research experience for historically underrepresented high school students.

Project – Polyethylene glycol methacrylate/dimethacrylate hydrogels for controlled release of hydrophobic drugs.

2005 (summer) and 2006 (summer): Rahul Singh, mentee from Athens Academy through a College of Agricultural and Environmental Sciences program for research experience for historically underrepresented high school students.

Project – Glass bottom polymer scaffolds for three-dimensional cell-based assays.

2007 (summer): Markus Martin, mentee from Clarke Central High school through a College of Agricultural and Environmental Sciences program for research experience for historically underrepresented high school students.

Project – Glass bottom polymer scaffolds for three-dimensional cell-based assays.

Lois Stokes Alliance Program (LSAMP) undergraduate student mentoring.

The UGA Louis Stokes Alliance for Minority Participation (UGA-LSAMP) is a National Science Foundation-funded program designed to actively recruit, retain, and graduate under-represented minority students in STEM (Science, Technology, Engineering, and Mathematics) disciplines. Through this program. Avenues are provided to academically and socially integrate under-represented minority students into the UGA campus environment, while creating a culture that embraces compassion, dedication, commitment, focus, and discipline. The table below shows the number of the students the programs has reached every year since inception. As the UGA faculty mentor I play various role including helping students secure lab spots, arranging faculty-student mixers, training students on how to present and make posters for conferences, as well as linking students linking students to other campus resources that are complimentary, such as National Society for Black Engineers local chapter, Engineers without Borders local chapter, Society of Women Engineers local chapter, and professional societies local chapters.

Year	Number of students in UGA program	Number of students conducting undergraduate research in UGA Program	Annual conference theme and host institution
2006	245	110	1 st Annual Fall Forum and Research Conference – Southern Polytechnic State University
2007			2 nd Annual Fall Research Conference – University of Georgia
2008			Discovering Global Opportunities in Science, Technology, Engineering, and Mathematics – Savannah State University
2009			Preparing the Next Generation for Careers and Opportunities in STEM – Fort Valley State University
2010			Sustaining Success by Strengthening the STEM Pipeline – University of Georgia
2011	69	22	Building Relationships and Empowering our Future Leaders for Success in STEM

			Education and Careers – Savannah State University
2012	72	38	STEMulate your Mind – University of Georgia
2013	117	40	The Power of STEM – Kennesaw State University
2014	78	45	Excellence in STEM: A Foundation for the Future – Georgia Tech
2015	98	33	A Decade of Excellence in STEM: Promoting a Culture of Research and Professionalism – University of Georgia
2016	113	32	STEM Innovators Conference – Savannah State University
2017	69	29	STEM Innovators Conference – Kennesaw State University
2018	92	21	No Conference
2019	85	36	STEM Innovators Conference – University of Georgia
2020			
	1,038	406	TOTAL

Undergraduate student club advisory.

- 2010 - 2017 Faculty Advisor, National Society for Black Engineers
- 2007 - Present Faculty Advisor, Peach State Louis Stokes Alliance for Minority Participation at UGA.
- 2005 - 2017 Co-founder and Mentor, Engineers without Borders – The University of Georgia Chapter.
- 2004 - 2016 Advisor, UGA Student Chapter of the Biomedical Engineering Society
Advisor, Approx. 20 students per year majoring in biological engineering. with a biomedical emphasis.
- 1994 - Present Advisor, Southeastern Consortium for Minorities in Engineering (SECME) middle and high school clubs and their teacher mentors.

Awards presented to undergraduate students.

- 2012 First place oral presentation, Jonathan Jones, The Emerging Research National Conference in Science, Technology, Engineering, Mathematics (STEM), Sponsored by the American Association for the advancement of Science and the national science Foundation Division of Human Resource Development, February 23-24, Atlanta, Georgia, the Westin Peachtree Plaza.
- 2011 Best podium presentation, Jonathan Jones, Technology & Engineering) at the 6th Annual Fall Symposium & Research Conference, Peach State Louis Stokes Alliance for Minority Participation, October 14-15, Savannah State University.
- 2004 First Place UGA Senior Design Project Award, Melissa Bystedt, Kevin Flack, George Cavender and Alex White. Presented by the Georgia Engineering Foundation of the Professional Engineering Societies.

- 2004 Second Place Senior Design Project Award, David Girmay, Steven Jay and Dave Sylvester. Presented by the Georgia Engineering Foundation of the Professional Engineering Societies..
- 2001 First Place UGA Senior Design Project Award, Brian Adams, Katherine France and Jason Stroup. Presented by the Georgia Engineering Foundation of the Professional Engineering Societies.
- 2001 Invited paper for publication, Asa L. Cordle, in *The Journal for Undergraduate Research Opportunities* after presenting on “GM technology and smallholder farmers” at the 2001 Center for Undergraduate Research Opportunities Symposium.

Bridge to the Doctorate (B2D) program graduate student mentoring.

B2D means “Bridge to Doctorate,” an NSF Fellowship Program created to help support underrepresented STEM students in their doctoral program. Dr. Kisaalita is a Co-PI on the UGA NSF-funded project and is the program mentor of the following Fellows.

- 2019 David Forest Richards, Department of Geology, Water Resources and Remote Sensing Laboratory.
- 2019 Mohammad Inam Jameel, Department of Genetics, Anderson Evolutionary Genetics Laboratory
- 2019 Yonesha Yashelle Donaldson, Department of Geology, Water Resources and Remote Sensing Laboratory
- 2019 Jacquelin Joye Pena, Department of Plant Biology, Bensasson Laboratory.
- 2019 Janeal Jackson, Department of Food Science and Technology, Food Biosensors and Metabolomics Laboratory.

Graduate education - Guest lectures: Regular guest lecturer in SOWK 6107 International Social Work and EHSC 6400 Environmental Issues in the Developing World. Details and number of lectures are captured under “CONFERENCES, LECTURES, AND OTHER PRESENTATIONS.”

Graduate education - Visiting scientist hosted for laboratory training.

Mr. Shihong Li, Director of Research and Development, Fluorescent Chemical Branch, Beijing Beihua Fine Chemicals Co., Ltd., Beijing, P.R. China, 09/01/03 –09/30/04.

Dr. Yonghong Hu, Associate Professor, Nanjing University of Chemical Technology, Nanjing, P.R. China, 09/01/04-02/28/05.

Dr. Ze-Zhi Wu, Associate Professor, College of Bioengineering, Chongqing Univ., P.R.China, Chongqing, PR. China, 02/11/04 – 02/10/05.

Dr. Winfried Reichelt, Research Associate, Paul-Flechsing-Institute for Brain Research, Department of Neurophysiology, University of Leipzig, Johnallee, Leipzig, Germany, 11/01-11/15, 1994 and 11/02-11/16, 1995.

Postdoctoral research associates.

Dr. Rong Xiao, 05/94-03/96 - Elucidation of iron transport mechanism in fluorescent pseudomonads with applications in iron biosensing, biological control and infection. Currently a Research Scientists, Center for Advanced Biotechnology and Medicine, the State University of New Jersey, Rutgers, NJ.

Dr. Amish Asthana, 05/14-08/17 – implantable microdevice development for treatment of diabetes and for nerve disease drug discovery. Currently a Research Associate, Department of Surgery, Wake Forest Institute for Regenerative Medicine, Winston-Salem, NC.

Graduate Student Committees (=major professor).*

<p>Completed (Doctorate): V. Patel, PhD in Biol Agric Engineering, 1996 B. Maiti, PhD in Biol Agric Engineering, 1996 P. Jiang, PhD in Exercised Science, 1996 R. Gokarn, PhD in Biol Agric Engineering, 1998 J. Sridhar, PhD in Biol Agric Engineering 1999 T. Adams, PhD in Biol Agric Engineering, 2000 T. Ciapponi, EdD in Exercise Science, 2000 R. Liu, PhD in Forestry Resources, 2000 *Raj Rao, PhD in Biol & Agric Engineering, 2001 A. Griffin, PhD in Biol Agric Engineering, 2001 H. Park, PhD in Pathology, 2002 H. Wang, EdD in Exercise Science, 2002 *Mike Yoder, PhD in Biol Agric Engineering, 2004 F. Haq, PhD in Biol Agric Engineering, 2005 G. Vemuri, PhD in Biol Agric Engineering, 2006 Y. Rao, PhD in Biol Agric Engineering, 2007 * Ke Cheng, PhD in Biol Agric Engineering, 2008 Y. Zhu, PhD in Biol Agric Engineering, 2008 H.-Y. Chu, PhD in Biol Agric Engineering, 2008 * Yanbin Guan, PhD in Biol Agric Eng, 2009 S. Lu, PhD in Biol Agric Engineering, 2009 *Lina Wang, PhD in Biol Agric Engineering, 2010 M. Nipper, PhD in Biol Agric Engineering, 2010 J. Zhou, PhD in Biol Agric Engineering, 2010 J. Mumaw, PhD in Animal and Dairy Science, 2010 *Yinzhi Lai, PhD in Biol Agric Engineering, 2011 Adnan Mustafic, PhD in Biol Agric Eng, 2012 Adrienne Madison, PhD in Biol Agric Eng, 2013 *Amish Asthana, PhD in Biol Agric Eng, 2014 Yen-Jun Chuang, PhD in Biol Agric Eng, 2014 Bin Wang, PhD in Biol Agric Eng, 2015 *Elexandra Scharf, PhD in Engineering, 2016 Rui Cheng, PhD in Engineering, 2016 Christopher Herring, PhD in Engineering, 2017 *Kenneth Ndyabawe, PhD in Engineering, 2018 Wujun Zhao, PhD in Engineering, 2018 Yaping Zhang, PhD in Engineering, 2018 Lu Zhu, PhD in Engineering, 2018 Jitendra Pant, PhD in Engineering, 2018 *Seth Andrews, PhD in Engineering, 2019 *Edison Sempiera, PhD in Biol Agric Eng, 2019 *Charles (Mac) White, PhD in Engineering, 2020 Maryam Pirmoradi, PhD in Engineering, 2020</p>	<p>Completed (Masters): * N. Agnihotri, MS in Biological Engineering, 1996 *M.A. Hernandez, MS in Biological Eng, 1995 * J.S. Kenny, MS in Biological Engineering, 1997 *C. Mao, MS in Biological Engineering, 2001 *W. Zhang, MS in Biological Engineering, 2001 *J. Deramio, MS in Biological Engineering, 2004 *A. Desai, MS in Biological Engineering, 2004 R. Hunt, MS Biological Engineering, 2011 Y. Wang, MS in Agric Biological Engineering, 1995 J. March, MS in Biological Engineering, 2000 G. Vemuri, MS in Biological Engineering, 2001 A. Dondero, MS in Geology, 2001 M. P. Contreras, MS in Food Sci and Technol, 2006 R. Cai, MS in Biological Engineering, 2007 A. Mustafi, MS in Biological Engineering, 2009 Scott, D. Guetter, MS in Biological Eng, 2010 Jessica Calkins, MS in Biochemical Eng, 2012 * Tina Talwar, MS in Biological Engineering, 2012 * Xin Cheng, MS in Biological Engineering, 2014 Xiaolong Zhang, MS in Biological Eng, 2014 Maryam Pirmoradi, MS in Biochem Eng, 2016 S'Dravirus DeVeaux, MS in Biol Eng, 2017 Christina Danielle Workman, MS in Biol Eng, 2018 Justin Ray, MS in Biol Eng 2017 Jenna Evelyynn Alsaleh, MS in Biol Eng 2019 *Dana Mugisa, MS in Agric Eng, 2020 Yan Zhang, MS Biochemical Engineering, 2020</p> <p>Current (Masters): *Basnewende Aggee Kere, MS in Rural Studies (Universite Polytechnique de Bobo-Dioulasso, Bobo-Dioulasso, Burkina Faso) *Daniel Banhoro, MS in Rural Studies (Universite Polytechnique de Bobo-Dioulasso, Bobo-Dioulasso, Burkina Faso) Lauren Wilson, MS Biochemical Engineering Daniel Shah, MS Biological Engineering</p> <p>Current (Doctorate): Jian Wang, PhD in Engineering Megan Douglass, PhD in Engineering Ruihua Zhang, PhD in Engineering Chenyi Li, PhD in Biol & Agric Engineering Or Zolti, PhD in Engineering Sarada Sripada, PhD in Engineering Damion T. Dixon, PhD in Engineering</p>
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	Baviththira Suganthan, PhD in Engineering Yanjun Yang, PhD in Engineering Yuxi Teng, PhD in Engineering Tian Jiang, PhD in Biol & Agric Engineering
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Mentored (major professor) doctoral students' details.

Raj R. Rao (PhD, 2001)

Dissertation Title: Power Frequency Electromagnetic Field Effects on APP695 Transcription Levels in Differentiating Human Neuroblastoma Cells.

Current (2019) Position: Professor and Department Head, Biomedical Engineering and George M. and Boyce W. Billingsley Endowed Chair in Engineering, University of Arkansas, Fayetteville, AR; Editor-in-Chief, Journal of Biological Engineering

Mike F. Yoder (PhD, 2004)

Dissertation Title: Iron Biosensor Based on Fluorescent Pyoverdinin: Immobilization in Sol-Gel Glass, Leaching Behavior, and Metal Iron Specificity.

Current (2019) Position: Senior Lecturer, School of Environmental, Civil, Agricultural, and Mechanical Engineering, College of Engineering, University of Georgia, Athens, GA.

Ke Cheng (PhD, 2008)

Dissertation Title: Three Dimensional Polymer Scaffolds for High Throughput Cell-Based Assay Systems

Current (2019) Position: Randall B. Terry, Jr. Distinguished Professor in Regenerative Medicine, Dept. of Molecular Biomedical Sciences, NC State University & Dept. of Biomedical Engineering, UNC-Chapel Hill & NC State University, Division of Molecular Pharmaceutics, UNC-Chapel Hill: Associate Director, Comparative Medicine Institute

Yanbin Guan (PhD, 2009)

Dissertation Title: Cell-Microstructured Surface Interactions: Promise for Antibiofouling Activity in Implantable Biosensors.

Current (2019) Position:

Lina (ne Wang) Dunne (PhD, 2010)

Dissertation Title: Three-Dimensional Cell-Based Platform (Microwell-Neural Stem Cell) for Screening Compounds against Connectivity-Related Targets

Current (2019) Position: After three years as a Postdoctoral Fellow, Department of Plastic Surgery, MD Anderson Cancer Center, Houston, TX, Dr. Dunne taught high school for several years and is currently a stay-home mother raising their son.

Yinzhi Lai (PhD, 2011)

Dissertation Title: Neural microtissue engineering for high throughput screening in pre-clinical drug discovery

Current (2019) Position: Senior Statistician – Computation, Eli Lilly and Company, Bridgewater, New Jersey, NJ.

Amish Asthana (PhD, 2014)

Dissertation Title: In search of biomarkers for complex 3D microtissue physiology in vitro – The case for cytokines

Current (2019) Position: Research Associate, Department of Surgery, Wake Forest Institute for Regenerative Medicine, Winston-Salem, NC.

Elexandra Michelle Scharf (PhD, 2016)

Dissertation title: MRI-based approach for longitudinal monitoring of intralesional therapy of MSCs in a large animal model of tendonitis

Current (2019) position: Also completed a veterinary medicine degree and is currently a Diagnostic Imaging Resident at The Ohio State University College of Veterinary Medicine, Columbus, Ohio.

Ndyabawe (PhD, 2018)

Dissertation title: Brain-on-a-chip towards neurological diseases' drug discovery

Current (2019) position: Research Scientists, NEUROPACE – A medical device company in the personalized seizure prevention, Mountain View, CA.

Seth H. Andrews (PhD, 2019)

Dissertation Title: Manipulation of mesenchymal stem cells for altered therapeutic effects

Current (2019) position: Process Engineer, Precision BioSciences – A genome editing Biotechnology Company in drug discovery space, Durham, North Carolina.

Edison Sempira (PhD, 2019)

Dissertation title: Evaporative cooling computational analysis – efficacy and efficiency

Current (2019) position: Research and Development Engineer at Thermogenn – a Uganda-based company with a focus on technological interventions for smallholder farmers toward increased incomes and resilience.

Charles (Mac) White (PhD, 2020)

Dissertation title: Molecular rotors: Applications for measuring cellular physical properties

Current (2020) position: Postdoctoral Research Associate with Aruna Biomedical - a drug development company focusing on multiple CNS disorder, especially the treatment of patients with stroke, traumatic brain and spinal cord injuries, Athens GA.

Awards presented to graduate students (major professor only).

2019 *Summer travel grant award, Edison Sempira.*

2015 *University-wide Outstanding Teaching Assistant Award, K Ndyabawe.*

2015 *College of Engineering Outstanding Teaching Assistant Award, K. Ndyabawe.*

2005 *2nd Place Poster Presentation Award, K. Cheng, 2nd Annual UGA Engineering Conf, Oct 24.*

2004 *1st Place Poster Presentation Award, Z.-Z. Wu, 1st Annual UGA Engr Conf, October 28.*

2000 *BAE Engineering Graduate Research Enhancement Award, Raj Rao.*

1999 *BAE Engineering Graduate Research Enhancement Award, Raj Rao.*

1998 *BAE Engineering Graduate Research Enhancement Award, Raj Rao.*

1998 *Sigma Xi UGA Chapter MS Thesis Award, Steve Kenny.*

1997 *UGA Best Master's Thesis and the Nominee for the Conference of Southern Grad Schools Comp, Naveen Agnihotri.*

- 1996 *BAE Engineering Graduate Research Enhancement Award, Naveen Agnihotri.*
 1995 *BAE Engineering Graduate Research Enhancement Award, Naveen Agnihotri.*
 1995 *Denise Weiner Memorial Fund Award by the American Association for Advancement of Science (AAAS) to one of ten nationally for attending the AAAS Annual meeting and Exposition, Naveen Agnihotri.*

SERVICE

Organizational Memberships:

- 1992 – Present Fellow, American Association for Advancement of Science
 2016 – Present Fellow, Uganda National Academy of Sciences – Serving on the International Relations Partnerships Committee.
 2010 – Present Fellow, African Scientific Institute
 1979 – 1982; 1991 -- 1994; 2001-- Present
 Member, American Society for Agricultural and Biological Engineers – Serving on four standing committees: 1) E2050/4 Global Partners Committee; 2) E-2050/5 Global Conference Committee; 3) Chairing M-130 Sukup Global Food Security Committee, and 4) M-132 ASABE Verma Award Committee.

Editorial Board Duties:

- Editorial Board Member, *Journal of Community Engagement and Scholarship*
 Editorial Board member, *International Journal of Agricultural & Biological Engineering*

Journal Articles Review Duties:

- International Journal for Service Learning in Engineering; Tissue Engineering; Biotechnology and Bioengineering; Biotechnology Progress; Biosensors and Bioelectronics; Yonsei Medical Journal (Korea); Laboratory Investigation; African Studies Review; Technology in Society; Applied Ergonomics.*

Proposal Review Panels for National Agencies:

- Invited to NIH study section under the National Institute of Biomedical Imaging and Bioengineering
 NSF Review Panel for SBIR Phase I
 NSF Review Panel for Integrative Graduate Education and Research Traineeship (IGERT)
 NSF Proposal Review Panel for Graduate Research Fellowships
 U.S. Department of Education Proposal Review Panel for Patricia Robert Harris Fellowships
 U.S. Dept. of Education Review Panel for Graduate Assistance in Areas of National Need Fellowships
 EPA Review Panel for STAR Graduate Environmental Education Fellowships
 Binational Agricultural Research and Development Fund (United States-Israel) Reviewer

University, College/Department Committee Activities:

- 2019-2022 Member, Innovation District Faculty Advisory Council.
 2019-2022 School of Chemical, Biomaterials and Biomedical Engineering representative on the College of Engineering Adjunct Faculty Review Committee,
 2019-2022 Member, Advisory Board of the Sustainability Certificate program at UGA. 218 current students; graduated 48 spring 2019.
 2019 Summer Served in the Mandela Washington Fellowship Mentor Program – mentor for 5 Fellows.

2019/2020 Cycle	Served on two P&T Committees – P&T Unit Head (Chair) for one of them (both Assistant to Associate).
2018	Chaired a selection committee for assistant professor hire in School of Chemical Materials and Biomedical Engineering.
2018/2019 Cycle	Served on four P&T Committees (Associate to Full) and a P&T Unit Head for one of the candidates.
2018-2021	Member, Named-Professor Nomination Committee.
2015-2018	University Council Representative to the Board of Directors of the University of Georgia Research Foundation,
2015	Chaired the College (CENGR) P&T Evaluation Committee.
2015	Served on University “Research House” Planning Committee.
2014	Member, Presidential Transition Advisory.
2014-2017	Member, Presidential Faculty Advisory Council.
2013-2016	Member, University Council Executive Committee.
2013-2016	Member, University Council.
2013-2015	Member, University Council.
2012-2015	Member, University International Education Advisory Council.
2012-2015	Member, University Graduate Council
2008-2012	Member, International Advisory Committee.
2007-2008	Chair, PhD in Engineering Committee.
2007	Chair, Committee of Chairs of the five Curricula Committees.
2007	Co-Facilitator, UGA Engineer Think Tank.
2006-2007	Member, Task Force, Future of Graduate Education at UGA.
2006-2009	Member, Graduate Council
2005-2008	Member, Faculty of Engineering Council.
2005-2008	Member, Faculty of Engineering Promotion and Tenure Committee.
2005-2007	CEAS Graduate Committee.
2004-2009	Chair, Faculty of Engineering Biomedical Engineering Program.
2004-2006	Member, International Advisory Committee.
2004	Member, Search Committee for CAES Dean and Director
2003-2006	Member, Advisory Group, UGA Nanoscale Science and Engineering Center.
2003/2004	Chair, Engineering Design Project Committee, Chair.
2001-2003	Member, CAES faculty Council.
2001-2003	Member, University Council.
2001-????	Chair, Biological Engineering Program Accreditation (ABET) Committee.
2000-2002	Chair, Student Scholarship and Awards Committee.
2000	Member, Engineering Design Project Committee.
1998 Summer	Acting Director, African Studies Program.
1997-2000	Chair, Faculty Awards Committee.
1997-1999	Secretary, African Studies Program.
1997/98	Member, Search Committee for Associate Dean (CAES) Academic Affairs.
1996-1999	Member of the University Council.
1996/97	Member, Committee to recommend single collage (CAES) faculty governance.
1996-1999	Member, University Council Library Committee,
1996-1999	Member, University Council Educational Affairs Committees.

1995-1997	Member, African Studies Program Steering Committee.
1994	Judge, 46 th Georgia Science and Engineering
1994-present	Faculty Consultant, Southeastern Consortium for Minorities in Engineering (SECME),
1993 –1998	Member, CAES Faculty Council.
1993-1994	Member, CAES Improvement of Teaching and Learning Committee.
1993	Member, CAES Search Committee for Associate Dean and Director of Academic Programs
1992-1995	Member, Faculty of Neuroscience Steering Committee.
1992-1995	Member, Faculty of Cellular and Developmental Biology Steering.
1992-1993	Member of BS in Biological Engineering Proposal and Curriculum Development Committee.
1992/1993	Member, College of Agricultural and Environmental Sciences (CAES) Junior Faculty Advisory Committee.
1992-1999	Chair, Department Scholarship and Awards Committee.