Curriculum Vitae

Date Prepared: June 13, 2019

Name: Shibani Ghosh, Ph.D.

Title: Research Associate Professor, Associate Director

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Boston, MA 02111

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**Education** 

2004 Ph.D. University of Massachusetts- Amherst, Department of Nutrition

Dissertation: Poverty, household food availability and nutritional well-

being of children in North West Syria

1997 M.S. University of Massachusetts- Amherst, Nutritional Sciences

Thesis: The lysine content of Indian diets and the potential for lysine

fortification

1994 PG Diploma Nirmala Niketan, College of Home Science, Bombay, India, Applied

Nutrition and Dietetics

1993 B.S. Sophia College for Women, Bombay, India

Microbiology and Biochemistry

### **Research Interests and Experience:**

Research interests include examining malnutrition in all its forms, formulating and implementing evidence based interventions targeting nutritionally disadvantaged populations and translation of innovative basic and clinical sciences research into applied community based research with a focus on fortification, supplementation, complementary food supplements and interventions around protein quality and amino acids. Experience in undertaking ecological and secondary epidemiological analyses of factors that relate to linear growth in infants and young children, dietary (e.g. protein quality) and non-dietary (aflatoxin, environmental enteric dysfunction). Studying the effectiveness of programmatic interventions targeting maternal and child nutrition through integrated programming (agriculture, nutrition and health). Developing and implementing community randomized clinical trials to test the efficacy of improved protein quality or amino acid fortification or supplementation in the prevention of stunting, reducing anxiety and stress and improving immune parameters in adults and children. Developing and implementing observational birth cohort studies in Ethiopia, Uganda and Nepal to determine areas for intervention within the maternal- infant life cycle for policy recommendation.

#### **Research Focus Countries**

Bangladesh, Cambodia, Ethiopia, Egypt, East Timor, Ghana, Malawi, Mozambique, Nepal, Syria, Uganda

**Professional Experience** 

6/19-Current Research Associate Professor, Friedman School of Nutrition Science and

Policy, Tufts University

11/10- current Associate Director, USAID Feed the Future Innovation Lab on Nutrition

Friedman School of Nutrition Science and Policy, Tufts University,

Boston, MA

05/07- 05/18	Adjunct Assistant Professor, Friedman School of Nutrition Science and Policy, Tufts University, Boston, MA
11/10- current	Senior Scientist, Nevin Scrimshaw International Nutrition Foundation,
Boston	
10/09-12/10	Executive Director, Nevin Scrimshaw International Nutrition Foundation,
	Boston, MA
05/08-9/09	Senior Program Officer, International Nutrition Foundation, Boston, MA
09/04-05/08	Program Officer, International Nutrition Foundation, Boston, MA
10/98-07/04	Research Fellow
	Socio-Economics Group, Natural Resource Management Program,
	ICARDA (International Center for Agricultural Research in Dry Areas),
	Aleppo, Syria

# **Grants and funding**

Statio and failures				
GAIN	Principal Investigator	03/2019-12/2019		
USAID BFS	Principal Investigator	10/2018-09/2022		
IFPRI/A4NH	Principal Investigator	03/2018-12/2018		
USAID Mozambique Associate Awa	ard Principal Investigator	5/2017-12/2018		
USAID Ethiopia	Co-Investigator	10/2016-10/2018		
USAID Egypt Associate Award	Co-Investigator	10/2014- 10/2016		
USAID Bangladesh &				
USAID Washington DC	Co Principal Investigator	10/2014-10/18		
USAID Nepal Associate Award	Co-Principal Investigator	10/2015-10/2017		
USAID Nepal Associate Award	Co-Principal Investigator	10/2015-10/2017		
USAID Associate Award	Co-Principal Investigator	10/2014-10/2017		
USAID Associate Award	Co-investigator	10/2012-10/218		
USAID	Associate Director &	10/2010-9/2020		
	Co Principal Investigator			
USAID	Co- Principal Investigator	10/2011-9/2016		
USAID	Co-investigator	11/2009-11/2013		
Harvest Plus and Grand Challenges 9Principal Investigator 9/2009-9/2011				

Ajinomoto research grant with University of Ghana, and NSINF

Principal Investigator 3/2007-3/2016 ICARDA: Principal investigator 5/2006-8/2006 Ajinomoto research grant with University of Massachusetts, INF and ICARDA, Syria

Principal investigator 9/2001-12/2007

USAID-CGIAR linkage grant in collaboration with the University of Massachusetts and the International Center for Agricultural Research in Dry Areas, Aleppo, Syria

> Principal investigator 10/99-12/2005

#### **Peer Reviewed Publications**

Ghosh S., Strutt NR., Otoo GE., Suri DJ., Ankrah J., Johnson T., Nsiah P, Furuta C., Murakami H., Perera G., Chui K., Bomfeh K., Amoono-Kuofi H., Tano-Debrah K and Uauv R. Effect of the provision of a complementary food supplement (KokoPlus<sup>TM</sup>) on nutritional

- status of Ghanaian infants at 18 months of age. Journal of Nutritional Sciences vol 8, e0 pages 1-14.
- Workicho A., Belachew T., Argaw A., Ghosh S., Kershaw M., Lachat C., and Kolsteren P. Adolescent pregnancy and linear growth of infants: a birth cohort study in rural Ethiopia. Nutrition Journal 2019 18:22 https://doi.org/10.1186/s12937-019-0448-0 Received: 1 October 2018 Accepted: 22 March 2019
- Ghosh S., Spielman K., Kershaw M., Ayele K., Kidane Y., Zillmer K., Wentworth L., Pokharel A., Griffiths J.K., Belachew T. and Kennedy E. Nutrition specific versus sensitive factors and their association with mid upper arm circumference as a measure of nutritional status in pregnant Ethiopian women: Implications for programming in the first 1000 days. PLoS One. 2019 Mar 26;14(3):e0214358. doi: 10.1371/journal.pone.0214358. eCollection 2019.
- Workicho A., Belachew T., **Ghosh S.,** Kershaw M., Lachat C., and Kolsteren P. Burden and determinants of undernutrition among young and pregnant women in Ethiopia: a multivariable hierarchical regression analysis. Maternal and Child Nutrition First published: 13 November 2018 <a href="https://doi.org/10.1111/mcn.12751">https://doi.org/10.1111/mcn.12751</a>
- Lauer J., Duggan C., Ausman L., Griffiths J.K., Webb P., Wang J.S., Xue K.S., Agaba E., Nshakira N. and **Ghosh S**. Association between maternal aflatoxin exposure during pregnancy and adverse birth outcomes in Uganda. Maternal and Child Nutrition. 2019 Apr;15(2):e12701. doi: 10.1111/mcn.12701. Epub 2018 Oct 23.
- Lauer J., Duggan C., Ausman L., Griffiths J.K., Webb P., Agaba E., Nshakira N., Tran H.Q., Gewirtz A.T., Ghosh S. Systemic inflammation markers of maternal environmental enteric dysfunction are associated with shorter gestation and reduced length in newborn infants in Uganda. The American Journal of Clinical Nutrition, Volume 108, Issue 4, October 2018, Pages 889–896, https://doi.org/10.1093/ajcn/nqy176
- Lauer J., Duggan C., Ausman L., Griffiths J.K., Webb P., Bashaasha B., Turyashemererwa F.M., Ghosh S. Unsafe drinking water is associated with environmental enteric dysfunction and poor growth outcomes in young children in rural southwestern Uganda. Source: The American Journal of Tropical Medicine and Hygiene, Volume 99, Issue 6, 5 Dec 2018, p. 1606 1612 DOI: https://doi.org/10.4269/ajtmh.18-0143
- Kabunga N., <u>Ghosh S</u>. and Webb. P. Does ownership of improved dairy cow breeds improve child nutrition: a pathway analysis for Uganda. PLoS ONE (2017) 12(11): e0187816. https://doi.org/10.1371/journal.pone.0187816
- Mulmi P., Masters W.A., **Ghosh S.,** Namirembe G., Rajbhandary R., Manohar S., Shrestha B., West K.P. Jr and Webb P. 2017. Household food production is positively associated with dietary diversity and intake of nutrient dense foods for older pre-school children in poorer families: Results from a nationally representative survey in Nepal. PLoS ONE https://doi.org/10.1371/journal.pone.0186765
- Agaba E., Ghosh S., Griffiths J.K. 2017. Understanding pathways to better nutrition at district level: Lessons from Uganda. African Journal of Food, Agriculture, Nutrition, and Development 17(4): 12837-12853 DOI: 10.18697/ajfand.80.16435
- Miller L.C., Joshi N., Lohani M., Rogers B., Mahato S., **Ghosh S.**, and Webb P. Women's education level amplifies the effects of a livelihoods based intervention on household wealth, child diet and child growth in rural Nepal. International Journal for Equity in Health (2017) 16:183

- Zillmer K., Pokharel A., Spielman K., Kershaw M., Ayele K., Kidane Y., Belachew T., Griffiths J.K. and **Ghosh S.** Determinants of anemia in pregnant women reside in rural areas of the Oromiya region of Ethiopia. BMC Nutrition 2017 July **3**:65 https://doi.org/10.1186/s40795-017-0166-y
- Killilea DW., Rohner F., **Ghosh S.,** Otoo GE., Smith L., Siekmann JH and King JC. Identification of a hemolysis threshold that increases plasma and serum zinc concentration. J. Nutr 2017 June: 147(6):1218-1225 doi: 10.3945/jn.116.247171. Epub 2017 May 10
- Widen EM., Collins SM., Khan H., Biribawa C., Acidri D., Achoko W., Achola H., **Ghosh S.,** Griffiths JK., and Young SL. Food insecurity, but not HIV infection status is associated with adverse changes in body composition during lactation in Ugandan women of mixed HIV status. AJCN 2017 Jan 105 (2) 361-368
- Webb, P., **Ghosh, S.,** Shrestha, R., Namirembe, G., Gurung, S., Sapkota, D., Bell WF., Davis D., Kennedy E., Neupane S., Manohar S., and Baral KP. Measuring Nutrition Governance: An Analysis of Commitment, Capability, and Collaboration in Nepal. Food and nutrition bulletin, 2016, 37 (4\_suppl), S170-S182.
- Kennedy, E., Fekadu, H., **Ghosh, S.,** Baral, K., Davis, D., Sapkota, D., and Webb P. Implementing Multisector Nutrition Programs in Ethiopia and Nepal: Challenges and Opportunities From a Stakeholder Perspective. Food and Nutrition Bulletin, 2016, 37(4 suppl), S115-S123.
- Agaba, E., Pomeroy-Stevens, A., <u>Ghosh, S.,</u> and Griffiths, J. K. Assessing Progress in Implementing Uganda's Nutrition Action Plan: District-Level Insights. Food and nutrition bulletin, 2016, 37(4\_suppl), S142-S150.
- Aaron GJ., Strutt N., Boateng NA., Guevarra E., Siling K., Norris A., **Ghosh S.,** Nyamikeh M., Attiogbe A., Burns R., Foriwa E., Toride Y., Kitamura S., Tano-Debrah K., Sarpong D and Myatt M. 2016 Assessing Program Coverage of Two Approaches to Distributing a Complementary Feeding Supplement to Infants and Young Children in Ghana. *PLoS One* 11(10):e0162462.
- Miller L.C., Joshi N., Lohani M., Rogers B., Kershaw M., Houser R., **Ghosh S.,** Griffiths J.K., Mahato S., and Webb P. Duration of programme exposure is associated with improved outcomes in nutrition and health: the case for longer project cycles from intervention experience in rural Nepal. Journal of Development Effectiveness. Published Sept 2016 http://dx.doi.org/10.1080/19439342.2016.1231706.
- Ackatia-Armah NM., Addy NA, **Ghosh S.**, Dube L. Fostering reflective trust between mothers and community health nurses to improve the effectiveness of health and nutrition efforts: An ethnographic study in Ghana, West Africa. Social Science & Medicine, volume 158, June 2016, Pages 96-104.
- Miller LC., Joshi N., Lohana M., Singh R., Bhatta N., Rogers B., Griffiths JK., **Ghosh S.,** Mahato S., Singh P., and Webb P. 2016. Head growth of undernourished children in rural Nepal: Association with demographics, health and diet. Paediatrics and International Child Health (http://dx.doi.org/10.1080/20469047.2015.1133517)
- Mohammed H., Vuvor F., Mensah-Armah S., **Ghosh S.**, and Steiner-Aseidu M. Dietary intake and the dynamics of stress, hypertension and obesity in a peri-urban community in Accra. Ghana Medical Journal. 2016 Mar; 50(1):16-21
- **Ghosh S.**, Kurpad A., Tano-Debrah K., Otoo G.E., Aaron G.A., Toride Y., and Uauy R. 2015. Role of Protein and Amino Acids in Infant and Young Child Nutrition: Considerations

- for the Development and Delivery of High Quality Complementary Food Supplements. Journal of Nutritional Science and Vitaminology 11/2015; 61(Supplement):S195-S196. DOI:10.3177/jnsv.61.S195.
- Uauy R., Kurpad A., Tano-Debrah K., Otoo G.E., Aaron G.A., Toride Y., and **Ghosh S.** 2015. Role of Protein and Amino Acids in Infant and Young Child Nutrition: Protein and Amino Acid Needs and Relationship with Child Growth. Journal of Nutritional Science and Vitaminology 11/2015; 61(Supplement):S192-S194. DOI:10.3177/jnsv.61.S192.
- Ghosh S., Kwaku Tano-Debrah, Grant J Aaron, Gloria Otoo, Nicholas Strutt, Kennedy Bomfeh, Satoshi Kitamura, Devika J Suri, Hitoshi Murakami, Chie Furuta, Daniel Sarpong, F Saalia, Youzou Nakao, Harold Amonoo-Kuofi, Ricardo Uauy, Yasuhiko Toride. 2014. Improving complementary feeding in Ghana: Reaching the vulnerable through innovative business-the case of KOKO Plus. Annals of the New York Academy of Sciences 12/2014; 1331(1):76-89. DOI:10.1111/nyas.12596.
- Manohar S., Shrestha R., Rajbhandary R., Klemm R., Gauchan D., Adhikari R., Ghosh S., Webb P., West K. Jr. 2015. Risk Factors for Anemia in Non-pregnant Women across the Agroecological Zones of Nepal. European Journal of Nutrition and Food Safety 5(5):1098-1099.
- Natamba BK., Achan J., Arbach A., Oyok TO., **Ghosh S.**, Mehta S., Stoltzfus RJ., Griffiths JK., Young SL 2014. Reliability and validity of the center for epidemiologic studies-depression scale in screening for depression among HIV-infected and -uninfected pregnant women attending antenatal services in northern Uganda: A cross-sectional study. BMC Psychiatry 11/2014; 14(1):303. DOI:10.1186/s12888-014-0303-y.
- Suri D.J., Tano-Debrah K., **Ghosh S.:** Optimization of the Nutrient Content and Protein Quality of Cereal—Legume Blends for Use as Complementary Foods in Ghana. Food and Nutrition Bulletin 09/2014; 35(3). DOI:10.1177/156482651403500309.
- Kabunga N, <u>Ghosh S. and Griffiths JK:</u> Can Smallholder Fruit and Vegetable Production Systems Improve Household Food Security and Nutritional Status of Women? Evidence from Rural Uganda. SSRN Electronic Journal 01/2014; DOI:10.2139/ssrn.2483967.
- **Ghosh S.** Assessment of Protein Adequacy in Developing Countries: Quality Matters. Food and Nutrition Bulletin 08/2013; 34(2). DOI:10.1177/156482651303400217.
- Suri D., Marcus S., Ghosh S., Kurpad A., Rosenberg I. Importance of Protein Quality in Prevention and Treatment of Child Malnutrition. Food and Nutrition Bulletin 06/2013; 34(2):223.
- **Ghosh S.,** Suri D and Uauy R. Assessment of protein inadequacy in developing countries: quality matters. 2012. British Journal of Nutrition Aug;108 Suppl 2:S77-87. doi: 10.1017/S0007114512002577.
- **Ghosh S.,** Smriga M., Vuvor F., Mohammed H., Armah-Mensah S., and Scrimshaw N.S. Effect of lysine supplementation on health and morbidity parameters in subjects belonging to poor peri-urban households in Accra, Ghana. The American Journal of Clinical Nutrition, Published August 18, 2010; doi:10.3945/ajcn.2009.28834.
- Ghosh S., Pellett P.L., Aw-Hassan A., Mouneime Y, Smriga M., and Scrimshaw N. Impact of lysine fortified wheat flour on morbidity and immune parameters in individuals belonging to rural families in North West Syria. Food and Nutrition Bulletin, 2008, 29 (3): 163-171.
- Smriga M, Ghosh S., Mouneime Y, Toride Y., Pellett P.L., & Scrimshaw N.S. Lysine Fortification reduces anxiety and lessens stress in family members in economically weak

- communities of North West Syria. Proceedings of the National Academy of Science, 2004 101: 22: 8285-8288.
- Ghosh S., Aw-Hassan A., & Pellett P.L. Growth status of children in Northwest Syria: A comparison of three rural livelihood groups. Ecology of Food and Nutrition, 2004 43:107-148.

#### Peer Reviewed Publications Submitted/in revision

- Workicho A., Belachew T., Argaw A., Roba A., **Ghosh S.,** Lachat C., and Kolsteren P. Young and Pregnant: a hierarchical analysis of its effect on newborn birth outcomes.
- Kabunga N., Duggan CP., Bashaasha B., Agaba E., Webb P., **Ghosh S.,** and Griffiths J.K. Cattle ownership and increased risk of childhood malaria and anemia in Uganda.

### Peer Reviewed Publications In Preparation

- Ghosh S., Spielman K., Kershaw M., Wentworth L., Zillmer K., Ayele K., Kidane Y., Pokharel A., Belachew T and Griffiths J.K. Factors associated with low birth weight, length and length for age in Ethiopian infants from rural areas of Oromiya region of Ethiopia.
- **Ghosh S.,** Spielman K., Kershaw M., Wentworth L, Zillmer K, Ayele K., Kidane Y., Belachew T and Griffiths J.K. Linear growth pattern from birth to 12 months and factors that affect achieving optimal growth in the first 12 months of life in Ethiopian infants from rural areas of Oromiya region of Ethiopia.

### Reports, Reviews, Book Chapters

- FAO. 2018. Protein quality assessment in follow-up formula for young children and ready to use therapeutic foods. Rome. 50 pp. Licence: CC BY-NC-SA 3.0 IGO. (**Ghosh S**: Expert Panel Member)
- Ghosh S. 2016. Protein Quality in the First Thousand days of life. Food and Nutrition Bulletin. Mar;37 Suppl 1:S14-21. doi: 10.1177/0379572116629259.
- Ghosh S. and Uauy R. 2016. Protein Quality and Amino Acids in Maternal and Child Nutrition and Health, In Encyclopedia of Food and Health, edited by Benjamin Caballero, Paul M. Finglas and Fidel Toldrá, Academic Press, Oxford, 2016, Pages 516-523, ISBN 9780123849533, http://dx.doi.org/10.1016/B978-0-12-384947-2.00574-2. (http://www.sciencedirect.com/science/article/pii/B9780123849472005742)
- **Ghosh S.,** Pokharel A., Webb P., Moaz M., Andrews-Chavez J., Namirembe G., Marino-Costello E., and Griffiths J.K. Understanding the complexity of under and over nutrition in Egypt. A literature review.
- Ghosh S., Namirembe G., Moaz M., Pokharel A., Marino-Costello E., Griffiths J.K., and Webb P. Relationship of Stunting and Overweight in Egyptian children under five years of age: Trends and associated risk factors. Report to USAID Egypt.
- Webb P., Ghosh S., Musilmatun S., Wang J.S., Gurung S., and Griffiths J.K. Nutrition implications of aflatoxin exposure: an analysis of mothers and children in Timor-Leste's Food and Nutrition Survey. A report to UNICEF and Australian Aid, July 31, 2014. 36 pages.
- **Ghosh S.,** Suri D., Hiko D., Fentahun N., and Griffiths J.K. Factors associated with stunting in Ethiopian children under five years of age, Report to USAID Ethiopia/USAID ENGINE-Save the Children. April 2014

- Webb P., Ghosh S., Kennedy E., West K., Klemm R., Sapkota D., Manohar S., and Griffiths J. 2013, Research in Asia: Approach, Methods and Protocols. Feed the Future Innovation Lab for Collaborative Research on Nutrition. Tufts University, Boston 41 pages
- Masters W., Ghosh S., Daniels J.A. and Sarpong D. 2013. Comprehensive Assessment of the Peanut Value Chain for Nutrition Improvement in Ghana. Report Tufts University and Global Alliance for Improved Nutrition (GAIN), 50 pages.
- Sadler K., Bontrager E., Rogers B., Coates J., Ghosh S., Kidane Y., Suri D., and Passarelli S. 2012. Food by Prescription: Measuring the Impact and Cost-Effectiveness of Prescribed Food on Recovery from Malnutrition and HIV Disease Progression Among HIV+ Adult Clients in Ethiopia.
- Ghosh S., Griffiths J.K., Masters W.A., Ackatia-Armah R., and MacDonald C. Mapping the Nutrition Landscape in Mali: Defining Opportunities for Action: Landscape Review and Action Plan. 2011. Prepared for USAID Mali by the Nutrition Collaborative Research Support Program for Africa, LWA Cooperative Agreement No. AID-OAA-L-I 0-00006 79 pages
- Doss C., **Ghosh S.,** and Aw-Hassan A. Income, Livelihoods and Nutrition: Evidence from Rural Syria. Paper presented at the 4<sup>th</sup> International Economic Development Conference, May 4-5 2007, University of Minnesota, St Paul, Minnesota.
- Pellett P.L. and **Ghosh S.** Lysine fortification: the past, present and future. Food and Nutrition Bulletin, 2004, 25 (2): 107-113.
- <u>Ghosh S.</u> Poverty, Household food availability and nutritional well-being of Children in North West Syria. PhD dissertation, University of Massachusetts, 2004, 307 pages.
- **Ghosh S.,** and Aw-Hassan A. Child growth status and socio-economic status of households with different production systems in Aleppo province, Northwest Syria. In *ICARDA Corporate Report 2001*. ICARDA (International Center for Agricultural Research in Dry Areas ).
- **Ghosh S.,** and Pellett P.L. *Affluence, Food Excess and Nutritional Disorders*. In Encyclopedia of Food Science and Technology. 1998 pp 6-12.
- Pellett P.L., and <u>Ghosh S.</u> Hunger, Food Deprivation and Nutritional Disorders. In Encyclopedia of Food Science and Technology. 1998 pp 1295-1302.
- Pellett P.L., and <u>Ghosh S.</u> Health Aspects of Middle Eastern diets. In the Proceedings of the Third Saudi Symposium on Food and Nutrition. College of Agriculture, King Saud University, October 26-29 1998, pp 157-180.
- Pellett P.L., and <u>Ghosh S.</u> Global nutritional problems with special attention to the role of animal foods in human nutrition. In Global Agenda for Livestock Research, Proceedings of a Consultation on Setting Livestock Research Priorities in West Asia and North Africa (WANA) region. ICARDA, Aleppo, Syria, November 12-16 1997, pp 25-45.

## **Published Abstracts (Oral and Poster)**

- Ghosh S., Andrews-Trevino J.Y., Wang J.S., Davis D., Shrestha R., Bhattarai A., KC A., Gurung S., Paudel K., Shively G., Baral K., and Webb P. Factors associated with serum aflatoxin levels in pregnant women in Banke district, Nepal. 2017 Oral presentation at the 4<sup>th</sup> Symposium of the Feed The Future Nutrition Innovation Lab 2017.
- **Ghosh S.,** Andrews-Chavez J.Y., Davis D., Shrestha R., Bhattarai A., K.C. A, Gurung S., Paudel K., Baral K., and Webb P. Factors linked to low mid arm circumference in pregnant

- women in Banke, Nepal. 2017. Poster presentation at the 4<sup>th</sup> Symposium of the Feed The Future Nutrition Innovation Lab 2017.
- **Ghosh S.,** Andrews-Chavez J.Y., Davis D., Shrestha R., Bhattarai A., K.C. A, Gurung S., Paudel K., Baral K., and Webb P. Anemia status in pregnant women in Banke, Nepal. 2017. Poster presentation at the 4<sup>th</sup> Symposium of the Feed The Future Nutrition Innovation Lab 2017.
- Ghosh S., Strutt N., Otoo GE., Suri D.J., Addison J.C., Chui K., Tano-Debrah K., and Uauy R. Effect of a macro and micronutrient fortified complementary food supplement (KokoPlus) on linear growth of children 18 months of age in Ghana. 2017. The FASEB Journal 31 (1 Supplement), 43.1-43.1, 2017.
- Trevino J.Y.A., **Ghosh S.,** Rogers B., Shively G., Davis D., Baral K.P., Webb P. 2017. Exploring Aflatoxin Prevention and Control Practices in Banke, Nepal. The FASEB Journal 31 (1 Supplement), 639.42-639.42, 2017.
- Ghosh S., Trevino J.Y.A., Davis D., Shrestha R., Bhattarai A., Anusree KC, ... Webb P. 2017. Factors associated with mid upper arm circumference in pregnant women in Banke, Nepal. The FASEB Journal 31 (1 Supplement), 960.10-960.10.
- Ghosh S., Trevino J.Y.A., Davis D., Shrestha R., Bhattarai A., Anusree K.C., ... Webb P. 2017. Factors associated with anemia in pregnant women in Banke, Nepal. The FASEB Journal 31 (1 Supplement), 788.32-788.32.
- Ghosh S., Namirembe G., Moaz M., Pokharel A., Marino-Costello E., ... Webb P. 2017.

  Relationship of Stunting and Overweight in Egyptian children under five years of age:

  Trends and associated risk factors. The FASEB Journal 31 (1 Supplement), 649.13-649.13.
- Andrews-Chavez J.Y., **Ghosh S.,** Rogers B.L., Shively G., Baral K., and Webb P. Molds Attack Rice But We Don't Know What To Do. A Qualitative Study of Farming Families' Perceptions of Food Safety in Banke, Nepal. 2017. The FASEB Journal 2016 30:1 supplement, 891.10-891.10
- Natamba B., Mehta S., Vermeylen F., Widen E.M., **Ghosh S.,** Griffiths J.K., et al. 2016. Cross-sectional but not Longitudinal Measures of Food Insecurity are Associated with the Rate of Weight Gain during Pregnancy in Northern Uganda. FASEB Journal 30:899.10.
- Natamba B., Wang J.S., Young S.L., **Ghosh S.,** Griffiths J.K. 2016. HIV-Infected Pregnant and Lactating Women have Higher Serum Aflatoxin levels than HIV–Uninfected Women and Aflatoxin Levels are higher during Early Postpartum than during Pregnancy among HIV-Infected Women. FASEB Journal 30:668.5.
- Natamba B., Wang J.S., Young S.L., **Ghosh S.**, Griffiths J.K. 2016. Perinatal Exposure to Aflatoxins is Associated with a Lower Rate of Weight Gain Among HIV-Infected Pregnant Women and Reduced Linear Growth of HIV-Exposed Infants. FASEB Journal 30:432.6.
- Natamba B., Mehta S., Mou S., **Ghosh S.,** Stoltzfuz R., Griffiths J.K., Young S. 2016. Social Support Modifies Bidirectional Linkages Between Food Insecurity and Prenatal Depressive Symptoms while Domestic Violence Alters the Unidirectional Impact of Food Insecurity on Prenatal Depressive Symptoms. FASEB Journal 29: 261.8.
- Natamba B., Young S., Achan J., **Ghosh S.,** Brannon P., Griffiths J., and Mehta S. Maternal HIV Infection, but not Food Insecurity, Predicts the Pattern of Weight Gain in Pregnant Women Attending Antenatal Services in Northern Uganda. Poster presentation at Experimental Biology 2015.

- Natamba, B., Achan, J., Oyok, T., Mou, S., **Ghosh, S.,** Stoltzfus, R., Griffiths, J.K. & Young, S. (2014, April). Maternal food insecurity, anemia, and social support are independently associated with prenatal depression among HIV-positive and-negative women attending antenatal services in northern Uganda. The FASEB Journal, 28 (1 Supplement), 268-2.
- Widen E.M., Natamba B.K., Collins S., Kahn H., Biribawa C., Sirotin N., <u>Ghosh S.</u>, Griffiths J.K., and Young S.L. Maternal food insecurity is associated with loss of fat, but not lean mass during lactation among Ugandans of mixed-HIV status The FASEB Journal, 28 (1 Supplement).
- Manohar S., Shrestha R., Rajbhandary R., Klemm RDW., Gauchan D., Adhikari R., Webb P., **Ghosh S.,** and West KPW. Risk factors for anemia in non-pregnant women across the agro-ecological zones of Nepal. Poster at the Micronutrient Forum, Ethiopia June 2014.
- Masters W., Ghosh S., Sarpong D.: Towards a Micronutrient-Rich, Aflatoxin-Free Peanut Value Chain in Ghana: Results of a Comprehensive Assessment. Oral presentation at Micronutrient Forum, June 2014
- Webb P., Ghosh S., Manohar S., Sapkota D., Baral K., Klemm R., West K., and Kennedy E. Measuring the Quality of Governance for Nutrition: Could Cross-Sector Collaboration Affect the Fidelity and Impact of Food and Nutrition Policies? Oral presentation at the 4th Annual LCIRAH Research Conference Agri-food policy and governance for nutrition and health June 3rd and 4th 2014; Birkbeck College, London.
- Suri. D., Griffiths J., and <u>Ghosh S</u>. Factors associated with stunting in Ethiopian children under 5: a comparison of DHS 2000, 2005 and 2011. Experimental Biology 2014.
- **Ghosh S.,** Suri D., and Griffiths J.K. Dairy consumption is associated with a lower risk of stunting in Ethiopian children 6-24 months of age. Experimental Biology 2014.
- **Ghosh S.,** Suri D., and Griffiths J.K. Risk factors associated with stunting in Ethiopian children under 5 vary by wealth quintile. Experimental Biology 2014.
- **Ghosh S.,** Suri D., Bontrager E., Coates J., Rogers B., Kidane Y., and Sadler K. Factors associated with recovery among Ethiopian malnourished HIV patients (pre ART and ART) that received Food by Prescription. Poster presented at the 20<sup>th</sup> International Congress for Nutrition, Granada, Spain.
- Sadler K., Coates J., **Ghosh S.,** Suri D., Rogers B., Kidane Y. Measuring the effectiveness of Food by prescription on recovery from malnutrition and HIV disease progression among HIV+ adult clients in Ethiopia. Poster presented at the 20th International Congress for Nutrition, Granada, Spain.
- **Ghosh S.** POSHAN process studies: Concepts and preliminary findings. Oral presentation on the Nutrition Innovation Lab Nepal's process evaluation research findings at the 2<sup>nd</sup> Scientific symposium, Kathmandu, Nepal, August 2013.
- <u>Ghosh S.</u> Animal source foods and linear growth in Ugandan children aged 6-24 months. Oral presentation at the 2013 Nutrition Innovation Lab research symposium, Kampala Uganda, July 2013.
- Gunaratna N., and Ghosh S. Relationships between agriculture and child stunting in rural Uganda, Oral presentation at the Nutrition Innovation Lab Dissemination Workshop and Research Symposium, Makerere University, Kampala, Uganda, June 2013.
- Ghosh S., Suri D., Gunaratna N., Uauy R. Evaluation of World Utilizable Protein and Lysine Supply and Estimation of Prevalence of Protein Inadequacy. Oral Communication at the International Dietary Protein Symposium, Riddet Institute, Massey University, Auckland, New Zealand, March 27-30, 2011.

- Uauy R., Ghosh S., Suri D., Gunaratna N. Assessment of Protein Adequacy of Children in Developing Countries: Quality Matters. Oral communication at the International Dietary Protein Symposium, Riddet Institute, Massey University, Auckland, New Zealand, March 27-30, 2011.
- **Ghosh S.,** Suri D., Gunaratna N., and Uauy R. Inadequate national proten supply is associated with prevalence of stunting in children under five. Poster presentation at the International Dietary Protein Symposium, Riddet Institute, Massey University, Auckland, New Zealand, March 27-30, 2011.
- **Ghosh S.,** Suri D., Vuvor F., Armah Mensah S., Scrimshaw N and Uauy R. Dietary protein quality and risk of being stunted are associated in peri-urban children in Greater Accra. Poster at the 2<sup>nd</sup> World Congress on Public Health Nutrition, September 2010.
- Suri D., Mensah S.A., Tano-Debrah K., and <u>Ghosh S.</u> Development and Evaluation of Cereal-Legume based Complementary Foods using Culturally Appropriate Foods in Ghana. Submitted to 2<sup>nd</sup> World Congress on Public Health Nutrition, September 2010.
- Gunaratna N.S., Suri D., and **Ghosh S.** Risk of inadequate utilizable protein is prevalent in Sub-Saharan Africa and South Asia. Submitted to 2<sup>nd</sup> World Congress on Public Health Nutrition, September 2010.
- Mohammed H., Vuvor F., Mensah S.A., and <u>Ghosh S.</u> Prevalence of overweight/obesity and association with dietary diversity and quality in peri-urban communities in Accra, Ghana. Submitted to 2<sup>nd</sup> World Congress on Public Health Nutrition, September 2010.
- Gunaratna N.S., De Groote H., **Ghosh S.**, Mwabu D., Ergano K., Lyimo S., Ouma J.O., Kyazze F.B., Friesen D.K.. (2009) "Geographical and temporal patterns of household food insecurity in maize-growing areas of East Africa." Distinguished poster at the 19th International Congress of Nutrition, Bangkok, Thailand, October 4-9, 2009.
- Gunaratna N.S., De Groote H., Ghosh S., Mwabu D., Ergano K., Lyimo S., Ouma J.O., Kyazze F.B., Friesen D.K.. (2009) "Household assets and food security in maize-growing areas of East Africa." 19th International Congress of Nutrition, Bangkok, Thailand, October 4-9, 2009.
- Ghosh S., Vuvor F., Suri D., Mohammed H., Smriga M., Mensah-Armah S., and Scrimshaw N.S. Effect of L-lysine on acute diarrhea in peri-urban subjects in Accra, Ghana, poster presented at the 19<sup>th</sup> International Congress of Nutrition, 4-9 October 2009.
- Mohammed H., Ghosh S., Smriga M., Vuvor F., Mensah-Armah S., and Scrimshaw N.S. Effect of L-lysine on post-stress blood pressure in pre-hypertensive and hypertensive peri-urban adults in Accra, Ghana. Oral presentation at the 19<sup>th</sup> International Congress of Nutrition, 4-9 October 2009.
- **Ghosh S.,** Vuvor F., Suri D., Moahmmed H., Smriga M., Mensah-Armah S., and Scrimshaw N.S. Effect of L-lysine on acute upper respiratory infections in low income peri-urban subjects in Accra, Ghana. Poster presentation at the 19<sup>th</sup> International Congress of Nutrition, 4-9 October 2009.
- De Groote H., Gunaratna N., Andago A., Mwangi A., Mwabu D., Ouma J.O., Kebebe E., Lyimo S., Kyazze F.B., and **Ghosh S.** Improvement of protein quality of diets in East Africa. The case for Quality Protein Maize. the Third African Nutrition Epidemiology Conference, 13-16 October 2008, Cairo, Egypt.
- Gunaratna N., De Groote H., **Ghosh S.,** Mwabu D., Kebebe E., Lyimo S., Ouma J.O. and Kyazze F.B. Geographical and seasonal patterns of household food insecurity in maize

- growing areas of East Africa. the Third African Nutrition Epidemiology Conference, 13-16 October 2008, Cairo, Egypt.
- **Ghosh S.,** Vuvor F., and Mohammed H. Health and morbidity status of women and children living in peri-urban areas of Greater Accra, Ghana. The Third African Nutrition Epidemiology Conference, 13-16 October 2008, Cairo, Egypt.
- Ghosh S., Ahmed T., Vuvor F., Qadri F., Larson C., Shariq A and Mohammed H. Lysine and diarrheal morbidity: comparing results from Syria, Bangladesh and Ghana. Presented at Novel Aspects of Amino Acid Effects on Human Nutrition and Health. The Third African Nutrition Epidemiology Conference, 13-16 October 2008, Cairo, Egypt.
- Ghosh S., Pellett P.L., Aw-Hassan A., & Solomons N.W. Quantitative estimation of household and individual energy intake through post-hoc calibrated, food frequency questionnaires: Experience in North West Syria. Experimental Biology 2007, the annual meeting of the Federation of the American Societies of Experimental Biology, April 28-May 2, 2007.
- Ghosh S., Solomons N.W., Aw-Hassan A., and Pellett P.L. Understanding body mass index classification of young children: the interaction with height in more and less stunted subpopulations in a common region: Experience from North West Syria. Experimental Biology 2007, the annual meeting of the Federation of the American Societies of Experimental Biology, April 28-May 2, 2007.
- **Ghosh S.,** Solomons N.W., Aw-Hassan A., and Pellett P.L. Comparative rates of juvenile overweight and obesity in urban and rural areas of North West Syria. Poster presentation at the 1<sup>st</sup> World Congress of Public Health Nutrition, September 27-30, 2006, Barcelona, Spain.
- **Ghosh S.,** Solomons N.W., and Pellett P.L. Correlates of excess body weight in rural juvenile populations of North West Syria. Poster presentation at the 1<sup>st</sup> World Congress of Public Health Nutrition, September 27-30, 2006, Barcelona, Spain.
- Ghosh S., Pellett P.L., and Aw-Hassan A. Seasonality in household food availability in different livelihood groups in North West Syria. Poster presentation at the 18<sup>th</sup> International Congress of Nutrition, September 19-23, 2005, Durban, South Africa.
- <u>Ghosh S.</u>, Aw-Hassan A., and Pellett P.L. Dietary quality in rural households dependent on agricultural wage labor in North West Syria. Oral presentation at the 18<sup>th</sup> International Congress of Nutrition, September 19-23 2005, Durban, South Africa.
- Ghosh S., Aw-Hassan A., and Pellett P.L. Poverty, food systems and nutritional well-being of children in North West Syria. An ICARDA National Stakeholder Policy Seminar, October 12, 2004, Damascus, Syria.
- Ghosh S., Pellett P.L. and Aw-Hassan A. Dietary pattern and socio-economic status of rural households in marginal areas of northwest Syria. Oral presentation at the Deutscher Tropentag, October 5-7, 2004, Berlin.
- **Ghosh S.,** Aw-Hassan A., and Pellett P.L. Poverty, food systems and nutritional well-being of children in northwest Syria. Oral presentation at the Deutscher Tropentag, October 5-7, 2004, Berlin.
- Ghosh S., Pellett P.L., Aw-Hassan A., Mouneime Y and Scrimshaw N.S. Impact of lysine fortified wheat flour on nutritional status of rural families in North West Syria. Experimental Biology 2004, 17-21 April.

- Ghosh S., A. Aw-Hassan A., and Pellett P.L. Growth Status of Children in North West Syria: A Comparison of Three Rural Livelihood Groups. Poster presented March 31, 2004 at Poster day, School of Public Health, University of Massachusetts, Amherst.
- Ghosh S. The relationship of production diversity and women's dietary diversity: Findings from POSHAN Community Studies in Nepal: September 2015, Oral presentation, USAID Seminar, Washington DC.
- Ghosh S. Stunting, maternal nutritional status and use, utilization and access to services: Findings of a longitudinal birth cohort study in Ethiopia. Oral presentation to USAID ENGINE, Save the Children and Tufts University, September 2015.
- Ghosh S. Linking gender, nutrition and agricultural development: studying effectiveness of integrated approaches. Invited presentation, Virginia Tech, April 2014.
- Ghosh S. Nutrition Innovation Lab Process Research understanding processes that support nutrition program impacts. Oral presentation at the International Congress on Nutrition, Granada, Spain, September 2013.
- Ghosh S. Studying Effectiveness: considerations in research design and implementation. Oral presentation and case study at the Science Forum of the CGIAR Science Council, Bonn, Germany, September 2013.
- Ghosh S. Nutrition Innovation Lab Africa: Baseline findings of the 1<sup>st</sup> panel survey. Oral presentation at the International Congress on Nutrition, Granada, Spain, September 2013.
- Ghosh S. Animal source protein and stunting. Oral presentation and webinar at USAID, Washington DC, August 2013.
- Ghosh S. Building Agriculture- Nutrition Linkages: Evidence base, Oral presentation at the 2013 2<sup>nd</sup> annual meeting of the USAID Feed the Future Innovation Council, Accra, Ghana, July 2013.
- Ghosh S. Nutrition Innovation Lab Research Framework and Core Metrics. Oral presentation at the USAID/Tufts Metrics Workshop, April 2013.
- Ghosh S. Linking Health, Nutrition and Agriculture. Oral presentation at the 2013 1<sup>st</sup> Annual meeting of the USAID Feed the Future Innovation Council, Morogoro, Tanzania. March 2013.
- Ghosh S. Global Nutrition Innovation Lab Asia and Africa. Oral presentation at the 2013 1<sup>st</sup> annual meeting of the USAID Feed the Future Innovation Council, Morogoro, Tanzania. March 2013.
- <u>Ghosh S., Scrimshaw N.S.</u>, and Uauy R. The International Nutrition Foundation Fellowship Program: A presentation at the Working Group on Capacity Development, 34<sup>th</sup> Session of the UN Standing Committee on Nutrition, February 27-March 1, 2007.

### **Teaching Activities**

Fall 2008	Instructor, Friedman Nutrition Seminars
Fall 2009	Co-instructor, Nutrition 203 (Fundamentals of Nutrition Science and
	Policy) (with Eileen Kennedy and Patrick Webb)
Spring 2009	Co-instructor, Micronutrients Directed Study (with Irwin Rosenberg)
Fall 2010	Co-instructor, Nutrition 203 (Fundamentals of Nutrition Science and
	Policy) (Eileen Kennedy and Patrick Webb)
Spring 2011	Co-instructor, Micronutrients Directed Study (Irwin Rosenberg)
	Co-instructor, RAK Nutrition 212 (Nutrition Policy) (Lynne Ausman)

Fall 2011 Co-instructor, Nutrition 203 (Fundamentals of Nutrition Science and

Policy (Patrick Webb and Jennifer Obadia)

Instructor, Nutrition C 203 (Certificate Online Course: Program Design

and Delivery)

Spring 2012 &2013 Co-instructor, Scientific basis for Interventions (focused on macro and

micronutrients) (Irwin Rosenberg)

Fall 2012 Instructor, Nutrition C 203 (Certificate Online Course: Program Design

and Delivery)

Spring 2013 Co-instructor Nutrition 325 (Evidence base on Child Malnutrition) (with

Irwin H. Rosenberg)

Fall 2013 Instructor, Nutrition C 203 (with Marion Min-Barron). Fall 2014, 2015, 2016, 2017, 2018 Nutrition 325 (with Irwin Rosenberg)

Regular guest lecturer for Nutr 203 (since 2012)

# **Committees and Student Advising**

2007 to 2014	MS Student Advisor
2016	PhD Qualifying Exam Committee- Akriti Singh
May 2018	PhD Committee Member- Merry Fitzpatrick
May 2018	PhD Committee Member- Johanna Andrews Trevino
May 2018	PhD Committee Chair- Jacqueline Lauer
December 2018	PhD Committee Member- Marion Min Barron
Current	PhD Committee Member- Akriti Singh
Current	PhD Committee Member- Gloria Guevara Alvarez
May 2019	PhD Qualifying Exam Committee- Ilana Cliffer

### Symposia, Workshops and other Training activities

Session co-chair: INF/EMF fellowship program, 2<sup>nd</sup> World Public Health Nutrition Congress, Porto, Portugal

Session co-chair: Novel Aspects of Amino Acid Effects on Human Nutrition and Health. To be held at the Third African Nutrition Epidemiology Conference, 13-16 October 2008, Cairo, Egypt.

Session co-chair: Micronutrient supplementation, 19<sup>th</sup> Congress on International Nutrition, Bangkok, Thailand

Training course co-chair: 1st Training of Trainers Workshop for Linking Nutrition and

HIV/AIDS (Programmatic) in Ethiopia. Hawassa University, September 2011

Session co-chair: USAID FAQR/INF Protein Quality Symposium, May 2012

Invited Faculty: 5<sup>th</sup> International Course in Nutrition Research Methods, Bangalore Boston

Nutrition Collaborative, Obama-Singh Knowledge Initiative, January 2014

Co-chair and invited speaker: Protein quality session – Asian Congress on Nutrition- Yokohama, Japan, May 2015

Co-chair: Special Ajinomoto Inc. lecture on protein quality - Asian Congress on Nutrition-Yokohama, Japan, May 2015

Scientific Committee Member: the 5<sup>th</sup> Nepal nutrition Symposium and the Second Global Agriculture, Nutrition and Health Academy

#### Languages

English, Hindi and Marathi (Fluent), Arabic (Basic spoken)