

# EMILY Ho, Ph.D.

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## CURRICULUM VITAE

Name: Emily Ho, PhD.  
Date of Birth: August 23, 1972  
Birthplace: Scarborough, Ontario, Canada

### **Current Position:**

Endowed Director, Moore Family Center for Whole Grain Foods, Nutrition & Preventive Health  
Associate Professor, School of Biological & Population Health Sciences; College of Public Health & Human Sciences  
Principal Investigator, Linus Pauling Institute

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### **A. EDUCATION & TRAINING**

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#### ***Doctorate of Philosophy in Human Nutrition***

The Ohio State University; Columbus, Ohio 06/2000  
*Major field:* Human Nutrition with Specialized Areas in Biochemistry and Molecular Biology

#### ***Bachelor of Science in Nutrition Sciences***

University of Guelph, Guelph, ON, Canada 06/1995

### **PROFESSIONAL EXPERIENCE**

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<b><i>Endowed Director</i></b>	07/2012-
Moore Family Center for Whole Grain Foods, Nutrition and Preventive Health	
<b><i>Associate Professor</i></b>	
School of Biological & Population Health Sciences; Oregon State University	09/2008 –
<b><i>Principal Investigator</i></b>	
Linus Pauling Institute, Oregon State University	06/2005 -
<b><i>Clinical Assistant Professor</i></b>	
Dept Medicine; Endocrinology & Clinical Nutrition; Oregon Health & Sciences	06/2004 –
<b><i>Assistant Professor</i></b>	
Nutrition and Exercise Sciences; Oregon State University	02/2003 – 08/2008
<b><i>Affiliate Scientist</i></b>	
Linus Pauling Institute, Oregon State University	02/2003 – 05/2005
<b><i>Postdoctoral Research Fellow</i></b>	
Children's Hospital Oakland Research Institute & UC Berkeley	07/2000 – 01/2003
<b><i>Graduate Research &amp; Teaching Associate</i></b>	
Department of Human Nutrition; The Ohio State University	03/1996 – 06/2000

### **PROFESSIONAL AFFILIATIONS**

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American Society for Nutrition  
American Association for Cancer Research  
Society for Free Radical Biology and Medicine

## B. TEACHING AND ADVISING

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### 1. Instructional Summary:

My current teaching load per academic year is approximately 7 credits per year. This includes one upper-level undergraduate/graduate class, a graduate only class and in some years, organization of graduate level seminar. I also regular team teach as guest lecturer in many classes in the Nutrition, Molecular Cellular Biology and Pharmacy programs. I also have at least 2-3 graduate students (NUTR601) and 1-2 undergraduate students (NUTR401) throughout the year enrolled in research credits each term. In addition, in both the 04/05 and 05/06 academic year I have participating in international teaching having taught a 2-week intensive graduate level class (30hrs of lecture) in the Dept. of Nutrition at Fu-Jen University in Taiwan. The summer months are funded by extramural grants which allow me to continue work with undergraduate and graduate students in research.

#### a. Credit courses

Term	Course Number	Course Title	Credit Hours	Number of Students
Spring 04	NFM617	Metabolic Interrelationships	3	10
	NFM507/607	Seminar	1	9
Fall 04	MCB511	Research Perspectives	3	6
Winter 05	NFM418	Advanced Human Nutrition	4	34
	NFM518	Advanced Human Nutrition	4	8
	NFM/EXSS 507/607	Seminar	1	12
Fall 05	NFM617	Metabolic Interrelationships	3	7
	MCB511	Research Perspectives	3	6
Winter 06	NFM418	Advanced Human Nutrition	4	62
	NFM518	Advanced Human Nutrition	4	8
Fall 06	NFM418	Advanced Human Nutrition	4	69
	NFM518	Advanced Human Nutrition	4	4
	MCB511	Research Perspectives	3	6
Fall 07	NFM617	Metabolic Interrelationships	3	6
Winter 08	NUTR418	Human Nutrition Science	4	66
	NUTR518	Human Nutrition Science	4	2
Winter09	NUTR418	Human Nutrition Science	4	65
	NUTR518	Human Nutrition Science	4	6
	NUTR618	Metabolic Interrelationships	3	3
Winter 10	NUTR418	Human Nutrition Science	4	49
	NUTR518	Human Nutrition Science	4	1
Spring 10	NUTR699	Special Topics- Nutrition & Cancer	3	7
Winter 11	NUTR418	Human Nutrition Science	4	39
	NUTR518	Human Nutrition Science	4	3
	NUTR618	Metabolic Interrelationships	3	4
Winter 12	NUTR418	Human Nutrition Science	4	46
	NUTR518	Human Nutrition Science	4	4
Spring 12	NUTR618	Metabolic Interrelationships	3	6

#### b. Non-credit classes – N/A

#### c. Curriculum development:

NES- Fitness & Nutrition major development  
NES- MPH program in Physical Activity & Nutrition  
NES- Nutrition & Health Science option revisions

**d. Graduate, Undergraduate and postdoctoral trainees:**

Student's Name	Major	Instructional Role	Degree/Completion Date
<b>Doctoral students</b>			
Melinda C. Myzak	MCB	<b>Co-major professor</b>	PhD/ 2005
Michelle Yan	NFM	<b>Major professor</b>	PhD/ 2008
Yang Song	NFM	<b>Major professor</b>	PhD/ 2010
Anna Hsu	NFM	<b>Major professor</b>	PhD/ 2010
John Clarke	MCB	<b>Major professor</b>	PhD/2011
Lauren Atwell	NUTR	<b>Major professor</b>	PhD/2014 (anticipated)
Gregory Watson	MCB	<b>Major professor</b>	PhD/2014 (anticipated)
Lanae Joubert	NFM	Committee member	PhD/ 2007
I-Hsiu Huang	Microbiology	Committee member	PhD/ 2007
Tyler Barker	EXSS	Committee member	PhD/ 2009
Hui Hu	EXSS	Minor professor	PhD/ 2009
Christine Larsen	MCB	Committee member	PhD/ 2009
David Castro	EMT	Graduate Rep	PhD/ 2009
Hui Nian	Biochemistry	Committee member	PhD/2010
Kate Cleveland	EMT	Committee member	PhD/2010
Timothy Park	MCB	Graduate Rep	PhD/ 2008 (withdraw)
Keith Nylin	BB	Graduate Rep	PhD/2009 (withdraw)
Sumitra Sengupta	EMT	Graduate Rep	PhD/2010
Christine Larsen	EMT	Committee member	PhD/2010
Hao Wei	Genetics	Committee member	PhD/2010
Lynn Ciadella	NES	Committee member	PhD/2011
Michael Raboin	MCB	Committee member	PhD/2012
Lyndsey Shorey	EMT	Committee member	PhD/2012
Sasmita Tripathy	NUTR	Committee member	PhD/2012
Kari Abott-Piolla	NFM	Committee member	PhD/2012 (anticipated)
Eric Smith	Biochemistry	Committee member	PhD/2012 (anticipated)
Chris Depner	NUTR	Committee member	PhD/2013 (anticipated)
Sherry Farley	NUTR	Committee member	PhD/2013 (anticipated)
Daniel Coleman	MCB	Committee member	PhD/2014 (anticipated)
Erin Madeen	EMT	Committee member	PhD/2014 (anticipated)
Chris Sullivan	MCB	Committee member	PhD/2015 (anticipated)
<b>Master's Students</b>			
Rhianna Derenick	NFM	<b>Major Professor</b>	MS/ 2007
Christopher Cheng	MCB	<b>Major Professor</b>	MS/2010
Xiaobo Fei	MCB	Committee member	MS/ 2007
Sang-Eun Lee	NFM	Committee member	MS/ 2007

Kerry Hart	NES	Committee member	MS/ 2009
Anne Marie Bodeau	BB/MAIS	Graduate Rep	MS/ 2003
Juan Vanegas	BB	Graduate Rep	MS/ 2007

### **Graduate Students (primary advisor)**

1. Mindy Myzak, PhD (MCB) (Sept 2003-June 2005) co-advisor (with Rod Dashwood)
  - a. \*SEBM student travel award, 2006
2. Michelle Yan, PhD (Nutrition) (Sept 2003- June 2008)- advisor
3. Yang Song, PhD (Nutrition) (Sept 2004-June 2009) advisor
  - a. \*ASN Vitamins&Minerals poster competition winner, 2008 &2009)
4. Sang Eun Lee, MS (Nutrition) (Sept 2004-June 2007) co-advisor (with Maret Traber)
5. Anna Hsu, PhD (Nutrition) (Jan 2005- July 2009) advisor
  - a. \*LPI Diet & Optimal Health Young Investigator award, 2007
  - b. \*ASN Diet & Cancer poster competition winner, 2008
6. Rhianna Derenick, MS (Nutrition) (Sept 2004- Jan 07)
7. Christopher Cheng, MS (MCB) (Sept 2010-June 2011)
8. John Clarke, PhD (MCB) (Spring 2007-2011)
  - a. \*DOD predoctoral fellowship award 2009-2011
  - b. \*AICR travel award 2009
  - c. \*ASN Bioactives poster competition winner, 2010 & 2011
  - d. \*ASN Diet & Cancer poster competition winner, 2010 & 2011
9. Lauren Atwell, PhD (Nutrition) (Fall 2010- present)
  - a. \*Natural Products fellowship awardee, 2011
10. Gregory Watson, PhD (MCB) (Fall 2011-present)
  - a. \*Center for Genome Research & Biocomputing Fall Conference poster award, 2012

### Term rotation students:

Xiaobo Fei, PhD (MCB PhD program)- Spring 2005 rotation  
 John Clarke, PhD (MCB PhD program)- Winter 2007 rotation  
 Galen Miller, PhD (MCB PhD program)- Winter 2008 rotation  
 Prasaad Kopparku (EMT PhD program) – Fall 2008 rotation  
 Lindsay Stewart, PhD (MCB PhD program)- Fall 2009 rotation  
 Andrea Knecht (MCB PhD program) Spring 2010 rotation  
 Greg Watson (MCB PhD program) Spring 2011 rotation

### ***Undergraduate mentoring:***

(mentor for undergraduate research projects- 2-3 credit per term for each student)

Undergraduate students:

Marcie Aker NFM (enrolled fall, winter and spring (2003-2004)  
 Katie Paul NFM (enrolled fall 2003)  
 Rachelle Sohler NFM (enrolled fall, winter and spring (2003-2004)  
 Thuan Nyguen –Biology/Honors College (Fall 2004-June 2005)  
 Mary McGregor- Biology/Honors College (Spring 2005- Summer 06)  
 Elyssa Ackerman- NFM (Winter 2006-present)  
 Katy Marvel-Biochemistry/Honors College (Winter2006-spring06)

Mariah Doty- NFM (Spring 2006- June 2007)  
Michelle Higgins – NFM (Winter 2007- June 2007)  
\* Goldwater scholarship recipient  
Victoria Martin – NFM (Winter 2007- June 2007)  
Steven Phan- Biology (Summer 2007-spring 2009)  
Emily Chirnside –NUTR (Fall 2008- Spring 2011)  
Brad Hobson- UC Davis (Summer 2009)  
Linda Nguyen – Biology (Spring 2010- summer 2011)  
Lesleann Hayward – Biochemistry (Spring 2010- summer 2011)  
Marilyn “Jeannie” Allen- NUTR (Spring 2010-June 2012)  
Chelsea Black- NUTR (Winter 2012- present)  
Alison Riscoe- NUTR (Winter 2012- present)  
Elizabeth Sokolowski – Biology (Winter2011-present)  
Alex Buchanan – Computer Science (Spring 2012-present)

*Mentor-* Martha Prieto- Summer Research program (2004) T-35 NIEHS Training Grant for Minority Undergraduate Research

*Mentor-* Mary McGregor- HHMI/URISC summer research program (2005)

*Mentor-* Ryan Haran, NES URAP, 2008-2009

\*OSU foundation student scholarship profile

*Mentor-* Luke Snelling, NES URAP, 2009-2010

\*Poster winner, 2010 OSU undergraduate celebration of excellence

*Mentor-* Tracy Beckmann, NES URAP, 2009-2010

*Mentor-* Lesleann Hayward, BB, Summer 2010 LIFE Scholar

*Mentor-* Linda Nguyen- NES URAP, 2010-2011 URISC, summer 2011

\*OSU foundation student scholarship profile

*Mentor-*Marilyn Allen- Honors thesis mentor; HHMI Summer scholar, summer 2011, URAP 2011-2012

*Mentor –* Nicole Rinaldi- Bioresource Research thesis mentor (Spring2012-present)

*Mentor -* Alison Riscoe and Chelsea Black – BPHS URAP 2012-2013

***Postdoctoral trainees:***

Dr. Orianna Carter (Sept 2004-Aug 2006)

Dr. Melinda Myzak (June 2005-Aug 2006)

Dr. Zhen Yu (Jan 2007-Jan 2009)

Dr. Stephanie Dukovic (Jan 2010 – Dec 2010)

Dr. Carmen Wong (March 2006—present)

Dr. Anna Hsu (Sept 2009 – present)

Dr. Laura Beaver (Jan 2011- present)

Dr. Yasmeeen Nkrumah-Elie (Sept 2012- present); NIEHS training grant awardee

***e. Team or collaborative efforts in teaching:***

Molecular & Cellular Biology-MCB511-Research perspectives- course coordinator (3credits) Fall 2004, 2005, 2007

Guest lectures (1-2 lectures) in:

MCB511 Research Perspectives (Fall06,08,09,10,11), 2 hr lecture + student essay grading

MCB525 Techniques in molecular biology (Fall 05,06,07) 2 hr lecture, genomics

NUTR550 Nutrition Assessment (Sp05, 07, 09,11); Trace elements -4 hrs lecture time + student paper discussions

NUTR340 Principles of Nutrition Metabolism (Sp08), Nutrient-gene interactions, 1.5h lecture

NUTR104 Orientation: Nutrition (F09,F10) 1 hr lecture, intro to nutrition sciences

NUTR514 Health Benefits of Functional Foods (Sp04,06,08), 2 lectures, intro to cancer prevention and zinc

PHAR563 Cancer chemoprevention (Sp10,11,12), 2 hr lectures Diet and prostate cancer + grading student essays.

PH599 Cancer Epidemiology (W12) 1.5 hr lectures- Diet & cancer; 1.5 hr lecture –Epigenetics

**f. International programs:**

Fu-Jen University, Taiwan, invited seminar presentation “The genetic revolution in nutrition” (Oct 2004)

Fu-Jen University, Taiwan- exchange program- taught 2-week intensive graduate class “Nutrition and Cancer” 30 hours lecture- 10 students (March 2005)

Fu-Jen University, Taiwan- exchange program- 1- week intensive graduate class “Advances in trace elements” 15 hours lecture –20 students (June 2006).

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## C. SCHOLARSHIP AND CREATIVE ACTIVITY

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Articles as last author denote authorship as senior corresponding author. Authors with italics denote graduate students and underline denote undergraduate student authorship.

### PEER-REVIEWED PUBLICATIONS

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1. **Ho, E.**, Chen, G., and Bray, T.M. (1999) Supplementation of N-acetylcysteine inhibits NF $\kappa$ B activation and protects against alloxan-induced diabetes in CD-1 mice. *FASEB J.* 13:1845-1854.
2. **Ho, E.**, Chen, G., and Bray, T.M. (1999) alpha-phenyl-t-butyl-nitron (PBN) inhibits NF $\kappa$ B activation offering protection against chemically-induced diabetes. *Free Rad Biol Med.* 28:604-14.
3. **Ho, E.**, Quan, N., Tsai, Y.H., Lai, W and Bray, T.M. (2001) Dietary zinc supplementation inhibits NF $\kappa$ B activation and protects against chemically induced diabetes in CD1 mice. *Exp Biol Med.* 226:103-11.
4. Quan, N., **Ho, E.**, Lai, W., Tsai, Y.H. and Bray, T.M. (2001) Administration of NF-kappaB decoy inhibits pancreatic activation of NF-kappaB and prevents diabetogenesis by alloxan in mice. *FASEB J.* 15:1616-8.
5. **Ho, E.** and Ames, BN. (2002) Low intracellular zinc induces oxidative DNA damage, disrupts p53, NF $\kappa$ B, and AP1 DNA binding, and affects DNA repair in a rat glioma cell line. *Proc Natl Acad Sci U S A.* 99(26):16770-5.
6. **Ho, E.**, Courtemanche, C. and Ames, BN. (2003) Zinc deficiency induces oxidative DNA damage and increases p53 expression in human lung fibroblasts. *J Nutr.* 133: 2543-2548
7. Ohtsu, H., **Ho, E.\***, Huang, YS., Chaung, LT and Bray, TM. (2005) Conjugated Linoleic Acid Modulates Proliferation and Activation of NF $\kappa$ B and AP1 in Prostate Cancer Cells. *Nutrition Research* 25: 655-662. (\* corresponding author).
8. Ermilova, IP, Ermilov VB, Fischer, KA, Levy, MA, **Ho, E**, Periera, C and Beckman, JS. (2005) Protection by dietary zinc in the ALS mutant G93A SOD Transgenic Mice. *Neuroscience Letters*, 379:42-6.
9. Offer, T\*. **Ho, E\***. Bruno, RS, Traber, MG, Kuypers, F. and Ames, BN. (2005) A Simple Assay for Frequency of Chromosome Breaks and Loss (Micronuclei) by Flow Cytometry of Human Reticulocytes. *FASEB J*, 19(3):485-7 (\* equal contribution)
10. Myzak, MC, Orner, GA, **Ho, E** and Dashwood, RH. (2006) Sulforaphane suppresses tumorigenesis in *Apc<sup>min</sup>* mice via inhibition of histone deacetylase. *FASEB J.* 20:406-409.

11. Myzak, MC, Hardin, K, Dashwood, RH and **Ho, E.** (2006) Sulforaphane Inhibits Histone Deacetylase Activity in BPH-1, LnCaP, and PC-3 Prostate Epithelial Cells. *Carcinogenesis*, 27:811-9
12. Colgate, EC, Miranda, CL, Stevens, JF, Bray, TM and **Ho, E.** (2007) Xanthohumol, a prenylflavonoid derived from hops induces apoptosis and inhibits NF-kappaB activation in prostate epithelial cells. *Cancer Lett.* 246:201-9
13. *Myzak, MC, Tong, P, Dashwood, WM, Dashwood, RH and Ho, E.* (2007) Sulforaphane retards the growth of human PC-3 prostate cancer xenografts and inhibits HDAC activity in human subjects. *Exp Biol Med.* 232:227-34.
14. Bruno, RS, *Song, Y, Leonard, SW, Mustacich, DJ, Taylor, AW, Traber, MG and Ho, E.* (2007) Dietary zinc restriction in rats alters antioxidant status and increases plasma F(2) isoprostanes. *J Nutr Biochem.* 18:509-18.
15. Trevisiol, CH, Turner, RT, Pfaff, JE, Hunter, JC, Menagh, PJ, Hardin, K, **Ho, E.**, and Iwaniec, UT. (2007) Impaired Osteoinduction in a Rat Model for Chronic Alcohol Abuse. *Bone.* 41:175-80.
16. Nasaretnam, K, Koon, TH, Selvaduray, KR, Bruno, RS and **Ho, E.** (2008) Modulation of Cell Growth and Apoptosis Response in Human Prostate Cancer Cells Supplemented with Tocotrienols, *Eur J Lipid Sci.* 110: 23-31
17. *Yan, M, Song Y, Wong, CP, Hardin, K, and Ho, E.* (2008) Zinc deficiency alters DNA damage response genes in normal human prostate epithelial cells. *J Nutr.* 138(4):667-73
18. **Ho, E.** and *Song Y.* (2008) Influence of zinc on oxidative stress, DNA integrity and cancer risk. *Cell Biol Toxicol.* 24: 123-131.
19. Wong, CP, Bray, TM and **Ho E** (2008) Induction of proinflammatory response in prostate cancer epithelial cells by activated macrophages. *Can Letters*, 276(1):38-46.
20. *Nian, H., Delage, B., Ho, E.* and Dashwood, RH. (2009) Modulation of histone deacetylase activity by dietary isothiocyanates and allyl sulfides: studies with sulforaphane and garlic organosulfur compounds. *Environ Mol Mutagen.* 50:213-21.
21. Mustacich, D, Gohil, K., Bruno, RS, *Yan, M., Leonard, SW, Ho, E., Cross, CE, Traber, MG.* (2009) Alpha-tocopherol modulates genes involved in hepatic xenobiotic pathways in mice. *J Nutr Biochem.* 20: 469-476.
22. Wong, CP, Elias, V., Magnusson, K and **Ho, E.** (2009) Zinc supplementation increases zinc status and thymopoiesis in aged mice. *J Nutr.* 139:1393-7.
23. *Song, Y. Chung, CS, Bruno, RS, Traber, MG, Brown, KH, King, JC and Ho, E.* (2009) Dietary zinc restriction and repletion affects DNA integrity in healthy adult male volunteers. *Am J Clin Nutr.* 90:321-328.
24. *Song, Y, Leonard, SW, Traber, MG and Ho, E.* (2009) Zinc deficiency affects DNA damage, oxidative stress and antioxidant defenses in peripheral blood of rats. *J. Nutr.* 139:1626-31
25. Iwaniec UT, Turner RT, Koo SI, Kaur R, **Ho E**, Wong CP, Bruno RS. (2009) Consumption of green tea extract results in osteopenia in growing male mice. *J Nutr.* 139:1914-9.
26. *Yan, M, Hardin, K. and Ho, E.* (2010) Differential response to zinc-induced apoptosis in benign prostate hyperplasia cells (BPH-1) and prostate cancer cells (PC-3). *J Nutr Biochem.* 21:687-94
27. Scrimgeour AG, Marchitelli LJ, Whicker JS, *Song Y, Ho E, Young AJ.* (2010) Phytase supplementation increases bone mineral density, lean body mass and voluntary physical activity in rats fed a low-zinc diet. *J Nutr Biochem.* 21:653-8.
28. *Song Y, Elias V, Wong CP, Scrimgeour AG and Ho E.* (2010) Zinc transporter expression profiles in the rat prostate following alterations in dietary zinc. *Biometals.* 23:51-58.

29. Song Y, Elias V, Loban A, Scrimgeour AG, **Ho E.** (2010) Marginal zinc deficiency increases oxidative DNA damage in the prostate after chronic exercise. *Free Radic Biol Med.* 48:82-88.
30. Wong, CP, Magnusson, KR and **Ho, E.** (2010) Aging is associated with altered dendritic cell subset distribution and impaired proinflammatory cytokine response. *Exp Gerontol.* 45:163-169.
31. Hsu, A., Bray, TM, Helferich, WG, Doerge, D. and **Ho, E.** (2010) Differential effects of whole soy extract and soy isoflavones on apoptosis in prostate cancer cells *Exp Biol Med.* 235: 90—97.
32. Bowman GL, Shannon J, **Ho E**, Traber MG, Frei B, Oken BS, Kaye JA, Quinn JF (2011). Reliability and Validity of Food Frequency Questionnaire and Nutrient Biomarkers in Elders With and Without Mild Cognitive Impairment. *Alzheimer Dis Assoc Disord.* 25:49-57
33. Hsu, A., Bruno, R.S., Lohr, C.V., Dashwood, R.H., Bray, T.M., and **Ho, E.** (2011) Dietary soy and tea mitigate chronic inflammation and prostate cancer via NFkappaB pathway in the Noble rat model, in vivo. *J Nutr Biochem.* 22:502-10
34. Clarke, JD, Hsu, A., Yu, Z, Dashwood, RH and **Ho, E.** (2011) Differential effects of sulforaphane on histone deacetylases, cell cycle arrest and apoptosis in normal prostate cells versus hyperplastic and cancerous prostate cells. *Mol Nutr Food Res.* 55:999-1009.
35. Rajendran, P, Delage, B, Dashwood WM, Yu T, Wuth, B, Williams, DE, **Ho, E** and Dashwood, RH. (2011) Histone deacetylase turnover and recovery in sulforaphane-treated colon cancer cells: competing actions of 14-3-3 and Pin1 in HDAC3/SMRT corepressor complex dissociation/reassembly. *Mol Cancer.*10:68.
36. Clarke, J.D., Riedl, K., Bella, D., Schwartz, S., Hardin, K., and **Ho, E.** (2011) Bioavailability and inter-conversion of sulforaphane and erucin in human subjects consuming broccoli sprouts or broccoli supplement in a cross-over study design. *Pharmacol Res.* 64(5):456-63.
37. Wong, CP, Nguyen, LP, Noh, S, Bray, TM, Bruno, RS and **Ho, E.** (2011). Induction of T-regulatory cells by green tea polyphenol EGCG. *Immunol Letters.* 30;139(1-2):7-13.
38. Clarke, J.D., Hsu, A., Williams, D.E., Dashwood, R.H., and **Ho, E.** (2011) Metabolism and tissue distribution of sulforaphane in Nrf2 knockout and wild-type mice. *Pharm Res.* 28(12):3171-9
39. Clarke, J.D., Riedl, K., Bella, D., Schwartz, S., Stevens, JF, and **Ho, E.** (2011) Comparison of Isothiocyanate Metabolite Levels and Histone Deacetylase Activity in Human Subjects Consuming Broccoli Sprouts or Broccoli Supplement. *J Agric Food Chem.* 59(20):10955-63.
40. Rajendran, P, **Ho, E**, Williams, DE and Dashwood, RH. (2011) Dietary phytochemicals, HDAC inhibition, and DNA damage/repair defects in cancer cells *Clin Epigenetics.* 3(1):4. Epub 2011 Oct 26
41. Hsu, A, Zhen, Yu, Wong, CP, Williams, DE, Dashwood, RH and **Ho, E.** Promoter De-methylation of *Cyclin D2* by Sulforaphane in Prostate Cancer Cells. *Clin Epigenetics.* 2011;3(1):3. Epub 2011 Oct 26
42. **Ho E**, Dukovic S, Hobson B, Wong CP, Miller G, Hardin K, Traber MG, Tanguay RL (2012) Zinc transporter expression in zebrafish during development, *Comp Biochem Physiol C Toxicol Pharmacol.* 155(1):26-32.
43. Parasramka, M., Dashwood, WM, Wang, R., Amir, A, **Ho, E**, Williams, DE and Dashwood, RH (2012) MicroRNA profiling of carcinogen-induced rat colon tumors and the influence of dietary spinach. *Mol Nutr Food Res.* 56:1259-69.
44. Shorey LE, **Ho E**, Dashwood RH, Williams DE, Benninghoff AD (2012) 3,3'-Diindolylmethane induces G<sub>1</sub> arrest and apoptosis in human acute T-cell lymphoblastic leukemia cells. *PloS One* 7(4):e34975. Epub 21012 Apr 13.



45. Beaver, LM, Yu, T., Sokolowoski, E., Williams, DE, Dashwood, RH and **Ho, E.** (2012) Chemopreventative phytochemical 3,3'-diindolylmethane inhibits histone deacetylases in prostate cancer cells. *Tox Appl Pharm*, 263:345-51.
46. Parasramka, M, Wang, R., Saeed, H., Williams, DE, **Ho, E.**, and Dashwood. (2012) RH A role for low-abundance miRNAs in colon cancer: the miR-206/Krüppel-like factor 4 (KLF4) axis. *Clin Epigenetics*. 4(1):16.
47. Wong, CP, Magnusson, KR and Ho, E (2013). Increased inflammatory response with age is associated with age-related zinc deficiency and zinc transporter dysregulation. *J.Nutr Biochem*, 24:353-9.

#### **Publications- in press**

48. Wang, R, Lohr, C., Fischer, KA, Dashwood, WM, Greenwood, J, Ashktorab, H, **Ho, E.**, Williams, DE, Dashwood, MR and Dashwood, RH. (201x). Epigenetic inactivation of endothelin-2 (ET-2) and ET-3 in colon cancer. *Int J Cancer*, accepted. June 2012
49. Luizzi, JP, Wong, CP, Ho, E and Tracy, A. (201x) Regulation of hepatic suppressor of cytokine signaling 3 (SOCS3) by zinc. *J. Nutr Biochem*, accepted. July 2012
50. Grider, A, Wickwire, K., Chung, CS, Ho, E., and King, JC. Dietary zinc depletion and repletion affects plasma proteins: An analysis of the plasma proteome. *Biometals*, accepted. Nov 2012.

#### **INVITED REVIEWS AND BOOK CHAPTERS**

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51. Bray, T.M., **Ho, E.**, and Levy, M.A. (1998). Glutathione, sulphur amino acids and chemical detoxification. In: *Nutrition and Chemical Toxicity*, ed. C. Ioannides, John Wiley & Sons, Ltd. pg 183-201.
52. **Ho, E.** and Bray, T.M. (1999) Antioxidant defense, NF $\kappa$ B and diabetogenesis. *Proc. Soc. Exp. Biol. Med.* 222:205-213.
53. Bray, T.M., and **Ho, E.** (2000). Putative role of NF $\kappa$ B in type 1 diabetes and the preventative strategies with antioxidants. In: *Free Radicals in Chemistry, Biology and Medicine*, pp. 483 - 494. Eds Yoshikawa, T., Toyokuni, S., Yamamoto, Y., and Naito, Y. OICA International Ltd. London.
54. *Higdon, JV and Ho, E. (2004) The Role of zinc as a metallotherapeutic agent. In: Metallotherapeutic Drugs and Metal-Based Diagnostic Agents. pp.237-257. Eds Gielen & Tiekink. John Wiley & Sons.*
55. **Ho, E.** (2004) Zinc deficiency, DNA damage and cancer risk. *J Nutr Biochem.* 15:572-8.
56. **Ho, E.**, Boileau, TMW and Bray, TM. (2004) Dietary influences on endocrine-inflammatory interactions in prostate cancer. *Arch Biochem Biophys.* 428: 109-117.
57. Dashwood, RH, *Myzak, MC* and **Ho, E.** (2006). Dietary HDAC inhibitors: time to rethink weak ligands in cancer chemoprevention? *Carcinogenesis*.27:344-9.
58. *Myzak, MC, Ho, E,* Dashwood, RH. (2006) Dietary agents as histone deacetylase inhibitors. *Mol Carcinog.* 45:433-6.
59. Dashwood, RH and **Ho, E.** (2007) Dietary Histone Deacetylase Inhibitors: From Cells to Mice to Man. *Seminars in Cancer Biology*, 17(5):363-9
60. Dashwood RH, **Ho E** (2008) Dietary agents as histone deacetylase inhibitors: sulforaphane and structurally-related isothiocyanates. *Nutr Rev.* 66 Suppl 1:S36-8
61. *Clarke, JD,* Dashwood, RH and **Ho, E.** (2008) Multi-targeted prevention of cancer by sulforaphane. *Cancer Letters*, 269:291-304.

62. **Ho, E** and Song Y. Zinc and prostatic cancer (2009) *Curr Opin Clin Nutr Metab Care*. 12(6):640-5.
63. **Ho, E.**, Clarke, JD and Dashwood, RH. (2009) Sulforaphane as an HDAC inhibitor for cancer prevention. *J. Nutr* 139(12):2393-6.
64. Dashwood RH, **Ho E** (2009) The emerging epigenetic model of colon cancer, and the role of dietary histone deacetylase (HDAC) inhibitors. In: "*Current Challenges In The Understanding and Management of Colon Cancer*" Proceedings of the 38<sup>th</sup> International Symposium of the Princess Takamatsu Cancer Research Fund, (eds. W. Dove et al.). Princeton Scientific Publishing Co., New Jersey
65. Hsu, A., Bray, TM and **Ho, E.** (2010) Anti-inflammatory effects of soy and tea in prostate cancer prevention. *Exp. Biol. Med*; 235:659-67.
66. Ho, E and Dashwood, RH. (2010) Dietary manipulation of histone structure and function. *World Rev Nutr Diet*. 101:95-102.
67. Rajendran, P, Williams, DE, **Ho, E** and Dashwood, RH. (2011) Role of metabolism in generating HDAC inhibitors. *Crit Rev Biochem Mol Bio*, 46(3):181-99.
68. **Ho, E.**, Beaver, LM, Williams, DE and Dashwood, RH. (2011) Dietary factors and epigenetic regulation for prostate cancer prevention. *Adv in Nutr* 2: 497-510.
69. Parasramka, M., **Ho, E**, Williams, DE and Dashwood, RH (2012) MicroRNAs, diet, and cancer chemoprevention: new mechanistic insights on the epigenetic actions of phytochemicals. *Mol Carcinog*. 51:213-30.
70. Wong, CP and **Ho, E** (2012) Zinc and its role in age-related inflammation and immune dysfunction. (review) *Mol Nutr Food Res*. Jan;56(1):77-87.
71. Beaver, LM and **Ho, E** (2012) The role of cruciferous vegetables in prostate cancer: role of epigenetics. In: "Diet, Nutrition and Cancer" Eds. Shankar, S & Srivastava, R. Springer Press.

#### **PUBLICATIONS: ABSTRACTS**

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1. **Ho, E.**, Chen, G. and Bray, TM. (1997) The efficacy of alpha-phenyl-t-butyl nitron (PBN) in the protection against alloxan-induced diabetes. *FASEB J*. 11:2521.
2. **Ho, E.**, Medeiros, DM and Bray, TM (1998) Glutathione (GSH) inhibits activation of NF-kappa B, an oxidative stress response element in the pancreas and protects against alloxan-induced diabetes. *FASEB J*. 12:4726S.
3. **Ho, E.**, Pathak, M and Bray, TM (1998) The role of NF-KB activation in the development of insulin-dependent diabetes mellitus (IDDM). *Free Rad. Biol. Med*. 25:125S.
4. **Ho, E** and Bray, TM (1999) The effect of zinc supplementation on NFkB activation and the development of IDDM. *Free Rad Biol Med*. 27:77S.
5. **Ho, E.** and Bray, TM (2000) Dietary zinc (Zn) supplementation inhibits NF kappa B activation and the development of IDDM. *FASEB J*. 14:A484.
6. **Ho, E.** and Ames, BN. (2001) Zinc deficiency increases Ref-1/APE expression and induces DNA damage in C6 glioma cells. *Free Rad Biol Med* 31:27S.
7. **Ho, E.**, Hardin, K., Courtemanche, C. and Ames, BN. (2003) Microarray analysis of zinc deficient human lymphocytes following lowdose ionizing radiation exposure. *Free Rad Biol Med* 35:84S.
8. **Ho, E.**, Hardin, K., Courtemanche, C. and Ames, BN. (2004) Differential gene expression and apoptotic response to DNA damage agents with zinc deficiency. *FASEB J*. 18:A502.

9. *Myzak, MC, Hardin, K, Dashwood, RH and Ho, E.* (2004) Sulforaphane Inhibits Histone Deacetylase Activity in BPH-1, LnCaP, and PC-3 Prostate Epithelial Cells. *Cancer Epidemiology biomarkers and prevention*, 13:1847S.
10. *Yan, M, Hardin, K and Ho, E.* (2005) The effects of zinc status on gene expression and apoptosis in normal, hyperplasia and cancerous prostate epithelial cells. *American Association for Cancer Research*, 46: 1221.
11. *Colgate, EC, Miranda, CL, Stevens, JF and Ho, E.* (2005) Xanthohumol, a prenylflavanoid derived from hops, inhibits NF $\kappa$ B activation and induces apoptosis in BPH-1 and PC3 prostate epithelial cells. *American Association for Cancer Research*, 46: 1014.
12. *Hsu A, Ho E, Bray T.* (2006) Differential effects of whole soy extract and soy isoflavones on apoptosis in prostate cancer cells *FASEB J* 20 (5): A993
13. *Song Y, Chung C, King JC, Brown, KH, and Ho, E.* (2006) Alterations in zinc status affects DNA integrity and transcription factor binding in vivo *FASEB J* 20 (5): A996
14. *Bruno, RS, Song, Y, Leonard, SW, Taylor, A, Traber, MG and Ho, E.* (2006) Role of dietary zinc restriction on antioxidant status and oxidative stress. *FASEB J* 20(5): A625
15. *Myzak, MC, Yan, M, Hardin, K, Tong, P, Dashwood, RH and Ho, E.* (2006) Sulforaphane inhibits HDAC activity in prostate cancer cells, retards growth of PC3 xenografts, and inhibits HDAC activity *in vivo*. *FASEB J* 20 (5):A150
16. *Yan, M, Hardin, K and Ho, E.* (2006) The effect of zinc status on DNA damage response in prostate epithelial cells. *FASEB J* 20 (5): A625-A625
17. *Wong, CP, Elias, V, Ho, E and Bray, TM.* (2008) Protective effects of green tea in suppressing autoimmune response in type 1 diabetes *FASEB J*:A198
18. *Hsu, A, Wong, CP, Bray, TM and Ho, E.* (2008) Effects of soy and tea on hormone-induced prostate cancer in Noble rat model *FASEB J*:A311
19. *Song, Y and Ho, E* (2008) Effects of zinc deficiency on DNA damage, oxidative stress and oxidant defense in peripheral blood of rats. *FASEB J*: 22:A697.
20. *Song, Y, Chung, CS, Bruno, RS, Traber, MG, Brown KH, King, JC and Ho, E* (2009) Zinc status affects DNA damage and oxidative stress in healthy adult men *FASEB J*. 2009 23:216.1
21. *Clarke, JD, Yu, Z, and Ho, E* (2010). Differential effects of sulforaphane on histone deacetylases, cell cycle arrest and apoptosis in normal and prostate cancer cells *FASEB J*. 2010 24:107.5
22. *Ho, E, Hardin, K., Wong, CP, Hobson, B, Traber, MG and Tanguay, RL* (2010) Using zebrafish as a model organism to understand the impact of maternal zinc status on embryonic zinc homeostasis during development *FASEB J*. 2010 24:718.10
23. *Clarke, J.D., Riedl, K., Hsu, A, Bella, D., Schwartz, S., Hardin, K., Stevens, J.F. and Ho, E.* (2011) Comparison of the response to broccoli sprouts or broccoli supplement consumption in human subjects *FASEB J*. 2011 24:124.8
24. *Atwell L, Clarke, JD, Hsu, A, Allen, MJ, Riedl, K, Bella, D, Schwartz, S, Steven, JF, and Ho, E.* (2012) Metabolism of Sulforaphane in Humans: Supplements vs. Whole Foods *FASEB J* 2012 26: 646.10
25. *Beaver, LM, Yu, T., Sokolowoski, E., Williams, DE, Dashwood, RH and Ho, E.* (2012) Chemopreventative phytochemical 3,3'-diindolylmethane inhibits histone deacetylases in prostate cancer cells. *FASEB J* 2012

## **2. SCIENTIFIC MEETINGS, POSTER AND ORAL PRESENTATIONS**

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1. The Oxygen Society Annual Meeting, Miami, FL, 1996
2. Experimental Biology, New Orleans, LA 1997
3. Experimental Biology, San Francisco, CA 1998
4. The Oxygen Club of California, Santa Barbara, 1998
5. The Oxygen Society Annual Meeting, New Orleans, 1999
6. Experimental Biology, Washington, DC 1999
7. Experimental Biology, San Diego, CA 2000
8. The Oxygen Society Annual Meeting, Research Triangle, 2001
9. Trace Elements in Man and Animals (TEMA-11), Berkeley, CA, 2002
10. International Society for Trace Element Research in Humans, Quebec City, PQ, 2002 [**Zinc deficiency alters DNA integrity and impairs DNA repair pathways in C6 glioma cells**], Ho, invited speaker, minisymposia]
11. Diet and Optimal Health conference, Portland, OR, 2003 [poster presentation]
12. Society for Free Radical Biology and Medicine, Seattle, WA, 2003 [**Differential responses to ionizing radiation with zinc deficiency**] Ho, invited speaker, minisymposia]
13. Experimental Biology, Washington, DC 2004 [poster presentation]
14. FASEB summer conference- trace elements, Aspen, CO, 2004 [**Effects of zinc deficiency on DNA damage responses**], Ho, invited speaker, minisymposia]
15. Society for Free Radical Biology and Medicine, St. Thomas, VI, 2004
16. Society for Free Radical Research (ASEAN), Taipei, Taiwan, 2004 [**Zinc Status, DNA integrity and cancer risk**], Ho, invited plenary speaker]
17. American Association for Cancer Research, Anaheim, CA, 2005 [3 student posters (Myzak, MC/ Yan, M./ Colgate, E.) *Myzak- AACR Young investigator award*]
18. Oxidative Stress Symposium-U of K, Lexington, KY, 2005 [**Effects of zinc status on oxidative stress, DNA and cancer risk**], Ho, invited plenary speaker]
19. Diet and Optimal Health Conference, Portland, OR, 2005 [4 student posters (Hsu, A., Myzak, MC., Yan, M and Colgate, E.)]
20. American Urological Association, summer conference, Baltimore, OR, 2005
21. Experimental Biology, San Francisco, CA, 2006 [3 student posters, 2 student mini-symposium talks, *Myzak- SEBM Travel award winner*]
22. NIH/NIAAA Workshop-Zinc, Alcohol and Immunity, 2006 [**Zinc deficiency, oxidative stress and gene expression**] Ho, invited plenary speaker]
23. Society Free Radical Research (Asia) 2006, Kuching, Malaysia, [**Dietary phytochemicals for prostate cancer prevention**] Ho, invited symposium speaker]
24. Diet & Optimal Health Conference, 2007 [**Dietary HDAC inhibitors in prostate cancer prevention**], Ho, invited symposium speaker, 4 student posters, 3 young investigator finalists, Anna Hsu, PhD student- Young Investigator winner]
25. Experimental Biology, 2007, Washington, DC [ Ho, Vitamins & Minerals RIS Poster competition organizer]; Chair- Zinc Minisymposium, American Society for Nutrition.]

26. International Society for Trace Element Research in humans, 2007 Crete, Greece [**“Influence of zinc status on DNA integrity and cancer”**, Ho, invited symposium speaker; symposium organizer]
27. Experimental Biology, 2008, San Diego, CA [Chair- Vitamins & Human health Minisymposium, American Society for Nutrition, 3 student presentations Hsu and Song, RIS student award winners]]
28. NIEHS Epigenetics workshop, Research Triangle, NC, 2008 **“Dietary HDAC inhibitors for cancer prevention”** [ invited plenary speaker]
29. American Dietetics Association, Chicago, IL, 2008 [**“Phytochemicals and cancer prevention, invited plenary speaker**]
30. American Institute of Cancer Research Annual conference, 2008, [Clarke, student travel award and poster.]
31. NCI translates meeting, DC, 2008 [by invitation only presenter]
32. Diet & Optimal Health, Portland, OR, 2009; [session organizer/chair, 4 student posters]
33. Experimental Biology, New Orleans, 2009 [**“Dietary HDAC inhibitors for cancer prevention” invited symposium speaker**, session chair, 1 student presentation; Yang Song- ASN Vitamin & Minerals RIS poster competition winner]
34. 3<sup>rd</sup> Congress of the International Society for Nutrigenomics, 2009; [**“Dietary manipulation of histone structure” invited symposium speaker**]
35. Experimental Biology, Anaheim, CA, 2010 [Differential effect of SFN on normal and prostate cancer cells, invited minisymposium talk, 1 student presentation; John Clarke ASN Bioactives and ASN Diet and Cancer RIS poster competition winner, ASN Student Interest Group poster finalist]
36. Experimental Biology, Washington, DC 2011 [**Comparison of the response to broccoli sprouts or broccoli supplement consumption in human subjects invited minisymposium talk**, 1 student presentation; John Clarke ASN Bioactives and ASN Diet and Cancer RIS poster competition winner,]
37. Trace Elements in Man and Animals meeting, Enshi, China 2011 [**Zinc, DNA integrity and cancer risk : from cells to humans, invited plenary speaker**].
38. Oregon Public Health Association Annual conference, Corvallis, OR 2011 [**Diet, epigenetics and cancer risk, panel organizer and speaker**]
39. Novus International Science Day, St. Louis, MO 2011 [**Zinc and prostate cancer risk**], invited plenary speaker
40. Experimental Biology, San Diego, CA, 2012 [2 student posters, 1 minisymposium talk, Laura Beaver ASN Diet and Cancer RIS poster competition winner]
41. Society for Free Radical Research, Alba, Italy June 2012 [**“Dietary HDAC inhibitors for prostate cancer prevention, invited speaker**].
42. International Breast Cancer & Nutrition Symposium, Lafayette, IN, Oct 2012 [**Diet and epigenetics for cancer prevention, invited speaker**]

#### **OTHER INVITED PRESENTATIONS**

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1. April ,2003- EMT Departmental Seminar, host: Larry Curtis
2. Sept 2003- CGRB annual retreat, invited speaker
3. Aug 2003- Corgentech Corporation- NFkappaB in disease
4. Jan 2004- OHSU Dental School seminar, host Kristen Lampi

5. Feb 2004- Pharmacy seminar, host Mark Leid
6. Feb 2004- NFM507 seminar- Nutrigenomics
7. Oct 16, 2005- OHSU, Center for Environmental Toxicology (CROET) seminar
8. "Dietary HDAC inhibitors in prostate cancer prevention" Host: Jackie Shannon
9. Feb 2007- NFM/EXSS507 seminar - Dietary Strategies for Prostate Cancer Prevention
10. April 2007- OSU Horticulture seminar- Plant-based prevention strategies for prostate cancer prevention
11. April 2008 - Center for Free Radical Biology, University of Alabama, Birmingham; invited Seminar Series presenter
12. May 2008 - Ohio University, Department of Chemistry Seminar, invited Series presenter
13. May 2008 -The Ohio State University, Dept of Nutrition Seminar, invited Series presenter
14. Sept 2009 - University of Arizona, Dept of nutrition, invited seminar speaker
15. Sept 2009 - University of Arizona Cancer Center, invited seminar speaker
16. Nov 2009 – OSU EMT department seminar "Zinc, DNA integrity & cancer risk"
17. Dec 2011 – University of Nebraska, Lincoln; Nutrition & Health Sciences Departmental seminar "Diet, epigenetics and prostate cancer prevention".
18. June 2012 – Colorado State University, Fort Collins, CO; Departmental seminar "Foods, phytochemicals and prostate cancer risk"
19. Oct 2012- Purdue University, "Diet and prostate cancer prevention"; invited seminar

#### **OUTREACH PRESENTATIONS**

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1. May 3, 2003- Dietician Update Conference, "Nutrition and the genetic revolution" invited speaker
2. June 2003- OSU Regents Tour (presentation)- The "future" of nutrition
3. Aug, 2004- OSU Board of Trustees (presentation), "Dietary influences on cancer"
4. July 2005- Western Forestry Association (presentation) "The genetic revolution in nutrition and health"
5. Summer 2004, 2005- Undergraduate student research mentor, HHMI
6. Oct 2005- Association for Office Professionals- "How did food get into my genes?"
7. Winter 2006- George Fox University- Honors student presentation "Dietary influences on prostate cancer"
8. Spring 2006- Academy for Life Long Learning (ALL) (in association with OSU alumni association) -curriculum instructor- 2 hour lecture "Influence of diet on DNA integrity and prostate cancer risk".
9. Fall 2006- LPI 10<sup>th</sup> Anniversary Celebration
10. Fall 2006- "Classes without Quizzes" Homecoming/Alumni Association; presentation" Diet and prostate cancer".
11. Spring 2008-Academy for Life Long Learning (ALL) (in association with OSU alumni association) -curriculum instructor- 2 hour lecture "Diet and prostate cancer risk".
12. Spring 2008-"Classes without Quizzes" OSU Golden Jubilee; presentation" Exercise & Diet: Links to better health". Spring 2008

13. Fall 2008- Corvallis Senior Center – “New Frontiers in Nutrition Research”
14. Fall 2008- OSU Foundation Wellness series – “Diet and Cancer Prevention”
15. Winter 2009- OSU Women’s Basketball “Pink Zone” event – “Nutrition & breast cancer”.
16. Spring 2009 – Corvallis “Pub” series (OSMI/OSU sponsored) - “Eat smart, get active and age well”.
17. Summer 2010 - STEPS- Highschool teacher outreach program – “Genetics and Epigenetics in cancer prevention”.
18. Fall 2010 – OSU “Pink Out” event for breast cancer – speaker “Diet and breast cancer prevention”
19. Spring 2011 – Nutrition now! (OSU dietetics student radio show) – guest “Nutrition and cancer prevention”
20. Spring 2011 – OSU Faculty Staff Fitness Nutrition series – speaker “Diet & Cancer prevention”.
21. Fall 2011- OSU Triad Faculty Club – speaker “Zinc, oxidative stress and prostate cancer”.

<b>3. Research Support: Current</b>			
<b>Sponsor</b>	<b>Project Title</b>	<b>Period</b>	<b>Total Award</b>
National Cancer Institute (NCI/NIH)	P01-CA90890 (Dashwood, Project Director; Ho, Project Leader 1, co-investigator Project 2 and 3)  (Ho, Project Leader 1) <b>“Comparative mechanisms of chemoprevention”:</b> Project 1: Chemoprevention of prostate cancer; HDAC inhibition and DNA methylation	04/01/10 - 03/31/15	\$8,160,297 (Total award; all projects & core)  \$1,727,838 Direct costs (part of above costs)
National Cancer Institute (NCI/NIH)	RO1 CA-122906 (Ho, PI) <b>“Dietary HDAC inhibitors in prostate cancer prevention”</b>	03/01/07 - 02/28/13	\$1,456,511 Direct costs
National Cancer Institute (NCI/NIH)	R21- CA132236 (Shannon, JS, PI; Ho, site PI) <b>“Sulforaphane: A Dietary HDAC Inhibitor and Prevention of DCIS Progression”</b>	01/15/09 - 12/31/12	\$72,334 subcontract cost
USANA Health Sciences	(Ho, PI) <b>Zinc biomarker discovery: a genomic and proteomic approach</b>	07/01/09 - 06/31/12	\$68,118
Bayer HealthCare	(Ho and Frei, co-PIs) <b>ZinCflammation: mechanisms linking zinc and vitamin C deficiency to inflammatory processes</b>	03/01/12 - 02/28/13	\$46,000
<b>4. Research Support: Completed</b>			

National Cancer Institute (NCI/NIH)	RO1 CA-122906-S1 (diversity-re-entry supplement) <b>"Dietary HDAC inhibitors in prostate cancer prevention"</b>	06/29/09-5/31/11	\$ 210,815 direct
National Cancer Institute (NCI/NIH)	RO1 CA-122906-S2 (ARRA admin supplement) <b>"Dietary HDAC inhibitors in prostate cancer prevention"</b>	9/10/09-12/31/11	\$201,666 direct
National Cancer Institute (NCI/NIH)	R01 CA107693 (Bray-PI, Ho-co-PI) "Diet, Endocrine-Immune Interactions & Prostate Cancer"	06/01/04-05/31/09	\$1,035,815 direct
National Center for Complementary & Alternative Medicine (NCCAM/NIH)	P01 AT002034 (Frei, PD; Project 3 leader: Beckman; Ho, Co-I project 3) NIH/NCCAM -CER on CAM Antioxidant Therapies (CERCAT)	9/26/03 - 5/31/08	\$851,178 direct
United States Department of Agriculture (USDA-NRI)	USDA-NRI #2004-01859 (Ho- PI) "Zinc, gene expression and DNA damage"	06/01/05-5/31/08	\$213,708
<b>5. Projects Submitted, Pending</b>			
<b>Sponsor</b>	<b>Project Title</b>	<b>Projected Period of Support</b>	<b>Total Request</b>
National Institute of Aging (NIA/NIH)	<b>Zinc and epigenetics in age-related inflammation</b>	09/01/13-06/30/15	\$275,000 direct costs
American Foundation for Aging Research	<b>Nutrient-epigenetic interactions in age-related inflammation</b>	09/01/13-06/30/15	\$550,000 direct costs

#### **OTHER COMPLETED FUNDED PROJECTS**

Division of Health Sciences interdisciplinary pilot research program 06/01/10- 05/31/11 (Patrick Chappell and Emily Ho, co-PI) "Clock genes and prostate cancer" \$25,000

AES Strategic Equipment funds (2010) -\$99,720  
 "Nutrient-Gene Interaction equipment request" – qPcR and Pixus imager

Medical Research Foundation (OHSU)- \$30 000 (Ho-PI) 5% effort (06/01/06-5/31/07)  
 "Dietary inhibitors of histone deacetylase in prostate cancer prevention"  
 The goal of this study is to evaluate effects of isothiocyanates on acetylation state and depression of genes involved in apoptosis and cell proliferation in prostate cancer prevention.

Linus Pauling Institute Pilot Grant - \$20 000 (Ho- PI) (5% effort)  
 "Zinc in age-related macular degeneration" (04/01/05-03/31/06)  
 The goal of this study is to evaluate the effects of zinc status on UV-induced macular degeneration model in chicks.



Northwest Health Foundation - \$ 3, 969 (Ho- PI) (5% effort)  
"Serum carotenoids in insitu and invasive cervical cancer" (06/06/05-05/31/06)  
The goal of this study is to evaluate serum carotenoids in existing case control study for cervical cancer.

OSU General Research Fund \_\$10 000 (Draheim-PI, Ho- Co-PI)  
Markers of Inflammation and Vascular Function in Adults with Down syndrome  
(01/01/06-12/31/06)  
The goal of this study is to evaluate inflammatory markers in Down's syndrome patients.

Northwest Health Foundation- \$25 000/ year (01/04-12/31/05) (Ho-PI) (5% effort)  
"Function of zinc in prostate and prostate cancer development"  
The goal of this study is evaluate the role of zinc in prostate health in a cell culture model for prostate cancer.

Linus Pauling Institute Pilot Grant program (Ho-PI) –10% effort  
LPI- \$20 000 (04/03/-04/04)  
"The role of zinc status in DNA integrity and prostate cancer"  
The goal of this study is to evaluate the effects of zinc status on DNA damage and repair in prostate epithelial cells

(2004) OSU Research-General Research Fund- \$10 000  
(2004) College of Health & Human Sciences Pilot award- \$4 925  
(2003) OSU Research –RERF award- \$35 000

## **D. SERVICE**

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### **SERVICE, UNIVERSITY**

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Faculty Senate (2003-2006)  
Search committee- LARC directors/attending veterinarian (2007)  
Search committee- Molecular Cellular Biology program director search (2008)  
Scientific Advisory board- Center for Genome Research & Biocomputing (2008-2011)  
Molecular & Cellular Biology Interdisciplinary Graduate program – selection committee (2009-present).  
IACUC compliance officer search committee (2010)  
Center for Genome Research & Biocomputing Director Search committee(2011)  
IACUC committee (2009-present)  
Center for Genome Research & Biocomputing – Bioinformatics cluster hire search committee (2012)  
OSU/OHSU Genomics Resource oversight committee (2012)

### **SERVICE, COLLEGE**

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PHHS representative for Transgenic Facility task force (2003-2009)  
Lab Animal Research Center Advisory Committee (2005-present)  
Public health division structure team (2010).  
Search Chair- Endowed Director for Moore Center for Whole Grains, Nutrition & Preventive Health (2011/2012)  
PHHS CEPH accreditation subcommittee- instructional team (2011-2012)  
PHHS CEPH accreditation ad hoc committee- graduate survey & assessment (2011-2012)  
PHHS College Values ad hoc committee (2012)  
Health Sciences Division- Dual degree development (DVM/MPH and PharmD/MPH) (2011/2012)  
Dean's Research advisory group (2011/2012)  
PHHS Administrative Team (2012-present)

### **SERVICE, DEPARTMENTAL**

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Undergraduate professional advisor- Nutritional Sciences track students (2003-present)  
Dietetics Faculty Search committee (2006/2007)  
Nutrition & Aging Faculty search committee (2005/2006)  
Bionutrition Search committee (2005/2006)  
NES Curriculum committee – co-chair (2005/2006); member (2006-present)  
NES Curriculum task force I (Winter 2004)  
Bone Research Lab director Search committee (2004)  
Bone Research Lab histology search committee (2004)  
Departmental seminar coordinator (winter 04, 05, fall 06, fall08, winter09)  
Linus Pauling Institute seminar coordinator (2003-2004)  
MPH in physical activity & nutrition – ad hoc curriculum development team (2009)  
Nutrition science option – ad hoc revision team (2009/2010)  
Dietetics faculty search committee (2010/2011)  
Personnel committee (2008-present)

### **SERVICE, PROFESSIONAL**

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Editorial Board Member- Journal of Nutritional Biochemistry  
Editorial Board Member- Frontiers in Epigenetics  
Co-organizer- Symposia (Trace elements & disease)- International Trace Element Research in Humans Conference.  
Oregon Partnership for Cancer Control- Prevention committee member  
Western Association for Graduate Studies – Thesis Award Reviewer  
Society for Free Radical Biology & Medicine- meeting abstract reviewer

Linus Pauling Institute Pilot Grant program- Grant reviewer  
Chair-elect (2006/2007): Vitamins & Minerals Research Interest Section (VMRIS), American Society for Nutrition.  
Chair (2007/2008): Vitamins & Minerals Research Interest Section (VMRIS), American Society for Nutrition.  
Experimental Biology 2007- minisymposia organizer/chair : Zinc metabolism  
Experimental Biology 2008- minisymposia organizer/chair: Vitamins & Human Health  
ASN symposia advisory committee (2008)  
Experimental Biology 2009- symposia organizer/chair: Epigenetic control  
Experimental Biology 2010- zinc and mineral regulation minisymposia organizer/co-chair  
Experimental Biology 2011- zinc and mineral regulation minisymposia organizer/co-chair  
Diet & Optimal Health Conference – Session chair and organizer (2011, 2013)  
Trace Elements in Man & Animals conference- session chair and symposium organizer (2011)

MBG-2-Grant review panel- Department of Defense Prostate Cancer Research Program (2008)  
NCCAM-ZAT1 PK (11) study section review panel (ad hoc) (2010)  
Grant reviewer- Singapore Ministry of health (2011)  
Prevention, Epidemiology and treatment grant review panel- - Department of Defense Prostate Cancer Research Program (2011)  
NCI-Cancer, Diet & prevention (CDP) special emphasis panel- grant reviewer (ad hoc) (2011)  
External PhD dissertation reviewer, University of Adelaide, Nutrition (2012)  
Data Safety Monitoring Board, member & chair, OHSU/OSU “Xanthohumol and Metabolic Syndrome” Clinical Trial.(2011/2012)

*Ad hoc manuscript reviewer for:*

American Journal of Clinical Nutrition  
Journal of Nutrition  
Journal of Clinical Chemistry  
Journal of the Society for Experimental Biology and Medicine  
Journal of the Society for Free Radical Biology and Medicine  
Journal of Thoracic Oncology  
Environmental & Molecular Mutagenesis  
Toxicology & Applied Pharmacology  
Cancer Letters  
Diabetes  
Journal of Urology  
PLOS one  
Pharmaceutical Research  
Molecular Food Research and Nutrition  
Clinical Biochemistry  
Journal of Biological Chemistry  
Mutation Research  
Cancer Research  
BMC Medicine

## **FACULTY DEVELOPMENT**

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Workshop on interdisciplinary graduate programs (2008)  
Leadership Academy – OSU (2011/2012)  
PHHS Leadership Development Workshop (2011/2012)

**Other service:**

Faculty Staff Fitness Instructor- Cardio Kickboxing (2003- present)

## **AWARDS & HONORS**

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Young Investigator Award; The Oxygen Society (1996)  
Sigma Xi Student Research Award (1997)  
OARDC Graduate Research Award; Ohio Agriculture Research and Development Center (1997)  
Graduate Research Forum, winner (oral presentation); The Ohio State University (1998)  
Young Investigator Award; Oxygen Club of California (1998)  
Society of Experimental Biology and Medicine Travel Award (2000)  
Young Investigator Award- Outstanding Scientific Presentation; The Oxygen Society (2000)  
Postdoctoral Fellow-Training Grant NIH 5 T32 ES07075 'Studies of Environmental Mutagens and Carcinogens' (2002)  
Best Paper Award in EBM journal 2001- Society for Experimental Biology and Medicine (2002)  
Junior Investigator Award- FASEB Summer Trace Element Conference (2004)  
Junior Faculty Travel Award- American Urological Association (2005)  
Finalist-ILSI- Future Leader Award (2005)  
Sigma Xi Emerging Scholar Award (2007)  
Promising Scholar Faculty Excellence Award- Oregon State University (2010)  
Outstanding Researcher Award- Vitamins & Minerals Research Interest Section, ASN (2012)

## **PROFESSIONAL AFFILIATIONS**

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American Society for Nutrition  
American Association for Cancer Research  
Society for Free Radical Biology and Medicine  
Phi Kappa Phi Society