CURRICULUM VITAE

Date: September 2016

NAME: Guy A. Crosby

ADDRESS: 18 Sunset Road, Weston, MA 02493

DATE & PLACE OF BIRTH: June 10, 1942; Beverly, MA 01915

CURRENT POSITIONS:

Science Editor for America's Test Kitchen and Cook's Illustrated Magazine

Adjunct Associate Professor with Harvard School of Public Health

EDUCATION:

DateDisciplineDegreeInstitution1964ChemistryB.S.University of New Hampshire1969Organic ChemistryPh.D.Brown University

POSTDOCTORAL TRAINING:

Research Fellowships

<u>Dates</u> <u>Field of Research</u> <u>Place</u> <u>Title</u>

Jan.-Dec, 1969 Organic chemistry Stanford University Chemistry Dept Fellowship

Jan.-Dec. 1970 Polymer chemistry Stanford University Alza Corporation Fellowship

ACADEMIC APPOINTMENTS:

<u>Dates</u>
<u>Title</u>
<u>Department</u>

July 2006-present Adjunct Associate Professor

Nutrition

Harvard University

T. H. Chan School of

Public Health

Sept. 2005-2011 Associate Professor Chemistry and Food Science Framingham State University

OTHER ACADEMIC POSITIONS and VISITING APPOINTMENTS:

<u>Dates</u>	<u>Title</u>	<u>Department</u>	<u>Institution</u>
July 2010-present External 2008-2010 Fo	ernal Advisor EcoG ood science consulta	•	Univ. New Hampshire The Terra School Project
Fall 2003-Spring 2005	Visiting Lecturer	Chem. and Food Sci.	Framingham State College
Fall 2003 and 2005	Visiting Lecturer	Nutrition	Harvard university
Fall 1972-Spring 1980	Part-time instructor	Chemistry	Stanford University

HONORS AND DISTINCTIONS:

2014	Appointed Food Science Communicator by the Institute of Food Technologists
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2014	Appointed member of Food Task Force for Museum of Science, Boston
2013	Awarded Certified Food Scientist by Institute of Food Technologists
2012	Apperance in Nova scienceNow program on cooking science produced by WGBH
2012	Co-author of <i>The Science of Good Cooking</i> published by America's Test Kitchen
2011	Appointed External Advisor for the EcoGastronomy Program University of NH
2010	Faculty and Creativity Award from Framingham State University
2008	Awarded tenure by Framingham State College Board of Trustees
2006	Appointed adjunct associate professor Harvard School of Public Health
2004	Elected as a Professional Member by the Institute of Food Technologists

PROFESSIONAL SOCIETIES:

American Chemical Society (46 years) Institute of Food Technologists (23 years) American Society for Nutrition (13 years)

BUSINESS EXPERIENCE:

March 2005-present: Science Editor; America's Test Kitchen, Brookline, MA
January 2004-July 2005: Member of the Board of Directors, International Fiber Corp.
January 2002-March 2005: Private consultant for major food ingredients corporations
July 1996-December 2001: Vice President of R&D and QC; Opta Food Ingredients, Inc.
1989-July 1996: Director of R&D; Food Ingredients Division; FMC Corporation
1985-1989: Director of Discovery; Agricultural Products Division; FMC Corporation
1980-1985: Director of Synthesis; Agricultural Products Division; FMC Corporation
1973-1980: Director of Synthesis; Dynapol Corporation; Palo Alto, CA
1971-1973: Research Scientist; Alza Pharmaceutical Corporation; Palo Alto, CA

MAJOR RESEARCH INTERESTS:

Food chemistry
Culinary chemistry
The chemical structure an

The chemical structure and function of resistant starch in food.

INVENTIONS/PATENTS:

- 1. U.S. Patent 6,733,769 May 11, 2004 Methods for Lowering Viscosity of Glucomannan Compositions, Uses and Compositions. Valerie Ryan, Chienkuo Yuan, and Guy A. Crosby.
- 2. U.S. Patent 6,048,564 April 11, 2000 Bakery Shortening Substitute, Bakery Products Containing the Same, and Preparation Method. Timothy J. Young and Guy A. Crosby.
- 3. U.S. Patent 5,718,969 February 17, 1998 Nonaggregating Hydrocolloid Mocroparticles, Intermediates Therefor, and processes for Their Preparation. Christopher Sewall, Donald Renn, Peter J. Riley, William R. Thomas, Lisa E. Dumont, and Guy a. Crosby.
- 4. U.S. patent 4,290,957 September 22, 1981 Flavanone Precursors for Alpha Amino Acid Dihydrochalcones. Grant E. duBois, Rebecca Stephenson, and Guy A. Crosby.
- 5. U.S. Patent 4,267,165 May 12, 1981 Commestibles Sweetened with Alpha Amino Acid Dihydrochalcones. Grant E. DuBois, Rebecca Stephenson, and Guy A. Crosby.
- 6. U.S. patent 4,064,167 December 20, 1977 Dihydrochalcone Oligomers. Grant E. DuBois and Guy A. Crosby.
- 7. U.S. Patent 4,055,678 October 25, 1977 Sweetener Derivatives. Guy A. Crosby and Grant E. DuBois.
- 8. U.S. Patent 4,029,706 June 14, 1977 Reduction with Polymeric Reagent. Guy A. Crosby.
- 9. U.S. Patent 4,025,535 May 24, 1977 Sulfoalkylated Flavanone Sweeteners. Guy A. Crosby, Grant E. DuBois, and Ned M. Weinshenker.
- 10. U.S. Patent 3,995,094 November 30, 1976 Halomethylation of Polystyrene. Guy A. Crosby and Masao Kato.
- 11. U.S. Patent 3,976,790 August 24, 1976 Ionic Dihydrochalcone Sweeteners and Food Product Containing Same. Guy A. Crosby and Grant E. DuBois.
- 12. U.S. Patent 3,976,687 August 14, 1976 Sweetener Derivatives. Guy A. Crosby and Grant E. DuBois.
- 13. U.S. Patent 3,974,299 August 10, 1976 Ionic Sweetener. Guy A. Crosby, Grant E. DuBois, and Ned M. Weinshenker.
- 14. U.S. Patent 3,952,058 April 20, 1976 Sweetener. Guy A. Crosby and Patrick Saffron.
- 15. U.S. Patent 3,928,293 December 23, 1976 Polymeric Reagent. Guy A. Crosby.
- 16. U.S. patent 3,876,814 April 8, 1976 Edible Sunstances with 3-Amino-4n-Propxybenzyl Alcohol as a Sweetener. Guy A. Crosby and Patrick Saffron.
- 17. U.S. Patent 3,845,225 October 29, 1975 Halogenated Aromatic Compound having Sweetening Properties. Guy A. Crosby and Gerald C. Peters.

TEACHING EXPERIENCE

<u>Date</u>	Course Title	<u>Institution</u>	Experience
Fall 2015	Food Science and Technology	Harvard University	Co-Instructor
Fall 2013	Food Science and Technology	Harvard University	Co-Instructor
Fall 2013	From Farm to Fork (ENVR)	Harvard University	Invited Lecturer
Fall 2011	Food Science and Technology	Harvard University	Co-Instructor
Fall 2011	From Farm to Fork (ENVR)	Harvard University	Invited Lecturer
Spring 2011	Food Analysis	Framingham State	Instructor
Spring 2011	Organic Chemistry I Lecture	Framingham State	Instructor
Fall 2010	Food Processing & Eng.	Framingham State	Instructor
Fall 2010	Principles of Food Science	Framingham State	Instructor

Fall 2010 Organic Chemistry I lab Framingham State Instructor				
Spring 2010 Introduction to Food Science Framingham State Instructor And Technology				
Spring 2010 Chemistry of Life Framingham State Instructor				
Fall 2009 Food Science and Technology Harvard University Co-instructor				
Fall 2009 Principles of Food Science Framingham State Instructor				
Fall 2009 Organic Chemistry I Lab Framingham State Instructor				
Spring 2009 Introduction to Food Science Framingham State Instructor And Technology				
Spring 2009 Chemistry of Life Framingham State Instructor				
Fall 2008 Principles of Food Science Framingham State Instructor				
Fall 2008 Organic Chemistry Laboratory Framingham State Instructor				
Spring 2008 Organic Chemistry 1 Lecture Framingham State Instructor				
Spring 2008 Intoduction to Food Science Framingham State Instructor And Technology				
Fall 2007 The Food Supply and Public Harvard University Co-instructor Health (Nutrition 209)				
Fall 2007 Organic Chemistry laboratory Framingham State Instructor				
Fall 2007 Principles of Food Science Framingham State Instructor				
Spring 2007 Introduction to Food Science Framinham State Instructor And Technology				
Spring 2007 The Chemistry of Life Framingham State Instructor				
Fall 2006 Principles of Food Science Framingham State Instructor				
Fall 2006 Organic Chemistry Laboratory Framingham State Instructor				
Spring 2006 Introduction to Food Science Framingham State Developed new lecture				
and Technology and laboratory course				
Spring 2006 The Chemistry of Life Framingham State Course instructor				
Fall 2005 The Food Supply and Public Harvard University. Co-instructor;				
Health (Nutrition 209)				
Fall 2005 Principles of Food Science Framingham State Course instructor				
Fall 2005 The Chemistry of Life Framingham State Instructor				
Fall 2005 Organic Chemistry Laboratory I Framingham State Laboratory instructor				
Spring 2005 Principles of Food Science Framingham State Course instructor				
Spring 2005 Organic Chemistry Laboratory II Framingham Laboratory instructor				
Fall 2004 Organic Chemistry Laboratory I Framingham State Laboratory instructor				
Spring 2004 Principles of Food Science Framingham State Developed and taught new undergraduate course				
Fall 2003 Introduction to Food Science Harvard Univsity Co-instructor; and Technology (Nutrition 209)				
Fall 2003 Organic Chemistry laboratory I Framingham State Laboratory instructor				
Fall 1972-Spring 1980 Synthetic Organic Chemistry Stanford Univ Co-Instructor				
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BIBLIOGRAPHY

Peer-reviewed publications.

1. Nace HR, Crosby, GA. Nor Steroids, VII. Ring Contraction of 2α -Bromo- 5α -Cholestan- 3β -ol. J Org Chem 1968; 33: 834.

- 2. Floyd DM, Crosby GA, Weinshenker NM. Nucleophilic Inversiuon of C11 of Prostaglandin Intermediates. Tet Lett 1972; 3265.
- 3. Floyd DM, Crosby GA, Weinshenker NM. The Synthesis of (+)-11-epi-PGF2 α and (-)-11-epi-PGE2. Tet Lett 1972; 3269.
- 4. Corey EJ, Terashima S, Ramwell PW, Jessup R, Weinshenker NM, Floyd DM, Crosby GA. 11,15-epiProstaglandin E2 and its Enatiomer. Biological Activity and Synthesis. J Org Chem 1972; 37:3043.
- 5. Crosby GA, Weinshenker NM, Uh HS. Polymeric Reagents, III. Synthesis of an Insoluble Polymeric Thioanisole and its Utilization for the Oxidation of Alcohols. J Am Chem Soc 1975; 97:2232.
- 6. Weinshenker NM, Crosby GA, Wong J. Plymeric Reagents, IV. Synthesis and Utilization of an Insoluble Polymeric Organotin Dihydride Reagent. J Org Chem 1975;40:1966.
- 7. Crosby GA, Stephenson RA. Solvent Mediated Reactions of Diethylhex-1-ynylaluminum with 3,4-Epoxycyclopentene. 1975 Chem Comm; 053:287.
- 8. Crosby GA. New Sweeteners. CRC Crit Rev Food Sci Nutr 1976; 7:297.
- 9. Crosby GA, Kato M. The Utilization of a Polymeric Phenylthiomethyllithium Reagent for the Homologation of Alkyl Iodides and its Application for the Study of Intraresin Reactions of Polymer-Bound Functional Groups. J Am Chem Soc 1977; 99:278.
- 10. DuBois GE, Crosby GA, Saffron P. Non-Nutritive Sweeteners: Taste-Structure Relationships for Some New Simple Dihydrochalcones. Science 1977; 195:397.
- 11. DuBois GE, Crosby GA, Saffron P. Regioselective Flavanone Alylation: A Facile Method for the Preprartion of some Simple Sweet Dihydrochalcones. Syn Comm 1977; 7:44.
- 12. DuBois GE, Crosby GA, Stephenson RA, Wingard RE. Dihydrochalcone Sweeteners. Synthesis and Sensory Evaluation of Sulfonate Derivatives. J Agri Food Chem 1977; 25: 763.
- 13. Brown JP, Crosby GA, DuBois GE, Enderlin FE, Hale RL, Wingard RE. Flavanoid Sweeteners. Synthesis and Intestinal Absorption of Selected Sulfoalkylated Hesperetin-3-14C Derivatives in the Rat. J Agric Food Chem 1978; 26:1418.
- 14. Nace HR, Crosby GA. Nor Steroids, XI. The Reaction of Various Steroid Bromohydrins with Silver Oxide. J Org Chem 1979; 44:3105.
- 15. Crosby GA, DuBois GE. Sweeteners and Receptor Sites. Trends Pharma Sci 1980;372-5.
- 16. DuBois GE, Crosby GA, Stephenson RA. Dihydrochalcone Sweeteners. A Study of Atypical Temporal Phenomena. J Med Chem 1981; 24: 408.
- 17. BuBois GE, Crosby GA, Lee JF, Stephenson RA, Wang PC. Dihydrochalcone Sweeteners. Synthesis and Sensory Evaluation of a Homoserine-Dihydrochalcone Conjugate with Low Aftertaste, Sucrose-like Organoleptic Properties. J Agric Food Chem 1981; 29:1269-76.
- 18. DuBois GE, Crosby GA, McGarraugh GV, Ng SYW, Stephenson RA, Wang PC, Wingard RE. Observations on the Chemistry of α -Azido Esters. Efficient Synthesis of Potently Sweet Homoserine-Dihydrochalcone Conjugate. J Org Chem 1982; 47:1319-23.
- 19. Ang JF, Crosby GA. A New Look at Sugar Beet Fiber. Cereal Foods World 2003 48:34-6.
- 20. Ang JF and Crosby GA, Formulating Reduced_Calorie Foods with Powdered Cellulose. Food Tech 2005; 59:35-38.
- 21 Crosby GA. Lignans in Food and Nutrition. Food Tech 2005; 59:32-35.
- 22 Guilherme Meira, Guy Crosby, and Sarah Pilkenton, Copper's Influence on the Formation of Egg White Foams, Abstracts of the 243rd National Meeting of the American Chemical Society, March 26, 2012, San Diego, CA
- 23 Adriana D. T. Fabbri and Guy A. Crosby, "A Review of the Impact of Preparation and Cooking on the Nutritional Quality of Vegetables and Legumes", International Journal of Gastronomy and Food Science 2016; 3:2-11.

- 24 Adriana D. T. Fabbri, Raymond W. Schacht and Guy A. Crosby, "Evaluation of Resistant Starch Content of Cooked Black Beans, Pinto Beans and Chickpeas", NFS Journal 2016; 3:8-12.
- 25 Crosby, G. (2016, May 31). "Super-Tasters and Non-Tasters: Is it Better to Be Average?" *The Nutrition Source; Harvard T.H. Chan School of Public Health*. Retrieved from https://www.hsph.harvard.edu/nutritionsource/2016/05/31/super-tasters-non-tasters-is-it-better-to-be-average.
- 26 Crosby, G. (2015, November 16). "Ask the Expert: Legumes and Resistant Starch." *The Nutrition Source; Harvard T.H. Chan School of Public Health.* Retrieved from https://www.hsph.harvard.edu/nutritionsource/2015/11/16/ask-the-expert-legumes-and-resistant-starch.
- 27 Crosby, G. (2015, April 13). "Ask the Expert: Concerns about Canola Oil." *The Nutrition Source; Harvard T.H. Chan School of Public Health*. Retrieved from https://www.hsph.harvard.edu/nutritionsource/2015/04/13/ask-the-expert-concerns-about-canola-oil.

Other, non-peer reviewed publications.

- 1. Crosby GA. Polymeric Reagents. Aldrichimica Acta 1976; 9: 15.
- 2. Weinshenker NM, Crosby GA. Polymeric Reagents in Organic Synthesis. Ann Rep Med Chem 1976; 11:281.
- 3. Crosby GA, Weinshenker NM, Kato M, Uh HS. The Synthesis ans Utilization of Some Insoluble Polymeric Sulfur-Containing Reagents. Plym Prep Am Chem Soc, Div Polym Chem 1976; 17:223.
- 4. Crosby GA. Molecular Aspects of Sweetness. Chemistry 1977; 50:27.
- 5. Crosby GA, DuBois, GE, Wingard RE. Molecular Aspects of Sweet Taste. In: LeMagnen J, MacLeod P, eds. Proceedings of the Sixth International Symposium on Olfaction and Taste. London: Information Retrieval, 1977: 57.
- 6. Crosby GA, DuBois GE, Wingard RE. Molecular Aspects of Sweet Taste. In: Apt C, ed. Flavor: Its Chemical, Behavioral and Commercial Aspects. Boulder, CO, Westview Press 1978:51-66.
- 7. Crosby GA, DuBois GE, Hale RL, Halladay SC, Stephenson RA, Wang PC, Wingard RE. New Dimensions in Synthetic Sweeteners. In: Shaw JH, Russos GG, eds. Sweeteners and Dental Caries. Arlington, VA: Information Retrieval, 1978:341-366.
- 8. Wingard RE, Crosby GA, DuBois. The Search for a Nonabsorbable Nonnutritive Sweetener. Chem Technol 1978; 8:616.
- 9. Crosby GA, DuBois GE, Wingard RE. The Design of Synthetic Sweeteners. In: Ariens EJ, ed. Drug Design, Volume VIII. New York: Academic Press, 1979:215-310.
- 10. Crosby GA, Wingard RE. A Survey of Less Common Sweeteners. In: Hough CAM, Parker KJ, Vlitos AJ, eds. London: Applied Science Publishers, 1979:135-164.
- 11. Crosby GA, Furia TE. New Sweeteners. In: Furia TE, ed. Handbook of Food Additives. Boca Raton, FL: CRC Press, 1980:187-227.
- 12. Crosby GA, DuBois GE. Sweeteners and Receptor Sites. In: Lamble JW. Ed. Towards Understanding Receptors. Amsterdam: Elsevier/North-Holland, 1981:223-229.
- 13. Crosby GA. Recent Developments in Pyrethroid Insecticides. Chem Times Trends 1982; October:25-29.
- 14. Engle JF, Plummer EF, Stewart RR, Van Saun WA, Montgomery RE, Cruickshank PA, Harnish WN, Nethery AA, Crosby GA. Synthesis and Bilogical Activity of a New Group of

- Broad-Spectrum Pyrethroid Insecticides. In: Miyamoto J, Kearney PC, eds. Proceedings of the Fifth International Congress of Pesticide Chemistry. Kyoto, Japan: Pergamon Press, 1983.
- 15. Engle JF, Staetz CA, Young ST, Crosby GA. Synthesis and Bilogical Activity of 2-Indanyl Pyrethroid Esters. In: Janes NF, ed. Recent Advances in the Chemistry of Insect Control. Cambridge: Royal Society of Chemistry, 1985.
- 16. Kirschner EM, Crosby GA. Food Additive Makers Open Facilities Worldwide to satisfy Diverse Palates. Chem Eng News 1996; February 5:18-19.
- 17. Haralampu SG, Ryan V, Crosby GA, Food Ingredients Used to Modulate Glucose Uptake. Controlled Release Society Proceedings 1999; June 20:248-9.
- 18. Crosby GA. Nutritional Flour Power. Ingredients, Health, and Nutrition 1999; 2:14-16.
- 19. Crsoby GA. Managing Healthy Levels of Blood Glucose and Cholesterol with Konjac Flour. In: Williams PA, Phillips GO, eds. Gums and Stabilisers for the Food Industry 11. Cambridge: Royal Society of Chemistry, 2002:338-341.
- 20. Crosby GA. Homocysteine-Cause or Effect of CVD? Functional Foods and Nutraceuticals 2003; April:36-39.
- 21. Crosby GA. Resistant Starch Makes Better Carbs. Functional Foods and Nutraceuticals. 2003; June:34-36.
- 22. The Editors of America's Test Kitchen and Guy Crosby, Ph. D. The Science of Good Cooking, America's Test Kitchen, Brookline, MA October 2012.

RECENT LECTURES 2013-2016:

2013

January 23, 2013 Lecture on "Understanding and Enhancing the Flavor of Food" presented at the Culinary Institute of America at Greystone, St. Helena, CA.

January 24, 2013 Lecture on "Understanding and Enhancing the Flavor of Food" presented at the Department of Food Science, University of California at Davis.

February 13, 2013 lecture on "Understanding and Enhancing the Flavor of Food" presented at the Boston University, Spring "Gastronomy at BU" lecture series.

February 28, 2013 American Chemical Society webinar on "Dinner and Dessert" presented as part of the ACS series on "A Date with Science".

March 29, 2013 lecture on "The Science of Cooking: Collaboration Between Scientist and Chef" presented at the "Food Boot Camp" hosted by the Massachusetts Institute of Technology, Cambridge, MA.

April 8, 2013 lecture on "Building a Small Business on Food, Chemistry, and Communication" presented at the American Chemical Society meeting, New Orleans, LA.

May 13, 2013 lecture on "Pairing Cooking Science With Nutrition" presented at the Department of Nutrition, Harvard School of Public Health, Boston, MA.

September 6-December 20, 2013 Nutrition 209 "Seminars in Food Science and Technology", Harvard School of Public Health, Boston, MA.

September 17, 2013 lecture on "Modern Food Processing Technology", Harvard University Extension School, Cambridge, MA.

September 30 and Ocober 1, 2013 lectures on "Is the Mediterranean Diet a Healthier Way of Eating?", and "The Science of Good Cooking Mediterranean Style", presented on the cruise "Island Life of Ancient Greece and Turkey" aboard the M.S. L'Austral.

October 23, 2013 lecture on "Cooking with Chemistry" presented at the Department of Food Science, Rutgers University, New Brunswick, NJ.

October 25, 2013 lecture on "Is the Mediterranean Diet a Healthier Way of Eating?" presented at the 76 Club of Boston, Boston, MA.

November 22, 2013 panel member on "A Guide to Holiday Cooking" co-sponsored by the Culinary Guild of New England and WGBH Studios, at WGBH Studios, Boston, MA.

2014

January 21, 2014 lecture on "Pairing Cooking Science with Nutrition" presented at Google Headquarters, Mountain View, CA.

January 23, 2014 lecture on "Can Fermented Foods be Used as an Effective Sodium Reduction Strategy?", presented at the Worlds of Healthy Flavors Leadership Retreat, the Culinary Institute of America at Greystone, Napa Valley, CA.

February 20, 2014 lecture on "The Chemistry of Cooking" presented at the American Chemical Society, Philadelphia section, Philadelphia, PA.

March 28, 2014 team lecture with Dan Souza, America's Test Kitchen, at the "Food Boot Camp" hosted by the Massachusetts Institute of Technology, Cambridge, MA. Title TBD.

April 5, 2014 lecture "Science in the Kitchen" presented at the Saturday Morning Science series, University of Toledo, Toledo, OH.

August 10, 2014 organizer of symposium "Trends in Cooking Science" at the American Chemical Society National Meeting, San Francisco, CA

2015

May 5, 2015 Lecture on "Pairing Cooking Science with Nutrition", Nutrition and Health Conference, Phoenix, AZ.

2016

March 1, 2016 Lecture on "When its Better to be Average: The Science of Taste, Smell, and Flavor", Sigma Xi Lecture, Natick, MA.

May 5, 2016 Lecture on "When its Better to be Average: The Science of Taste, Smell, and Flavor", The Science Factory, Eugene, OR.