

## Ann Blake, Ph.D.

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### KEY QUALIFICATIONS

Leading expert in health and environmental impacts of chemical use, national standards-setting and implementation, regional and national chemicals policy reform. Twenty-three years of program management and research experience in environmental and public health protection.

- Extensive knowledge of federal and California state environmental regulation, international chemicals regulation, global and sector sustainability efforts
  - Create alternatives assessment decision-making tools for environmental and public-health policy-makers, consumers, institutional purchasers, local and state government, downstream chemical users
  - Craft policies and legislation at the local, state, national and international levels to reform chemicals management
  - Create strong local and national health and safety criteria for environmentally preferable purchasing by institutional purchasers and consumers in multiple industry sectors
  - Research health and environmental impacts of chemicals currently in use in a variety of sectors and their less toxic alternatives
  - Engage and facilitate discussions with a broad range of stakeholders, including NGO coalitions and campaigns, local and state governments, academia, manufacturing and service sector workers, manufacturers and downstream chemical users
  - Technical expertise in a wide range of chemicals, industry sectors
    - Chemicals:* Institutional and industrial cleaners, household cleaners, disinfectants, personal care products, garment cleaners, halogenated flame retardants, endocrine disrupting chemicals (BPA, phthalates, etc.)
    - Sectors:* Consumer electronics, commercial and residential furniture, commercial textiles, commercial janitorial and household cleaning, cosmetics and personal care products, plastics, toys
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- Ph.D., Molecular Genetics of Neural Development, University of Oregon
  - B.A., Biology, Mount Holyoke College, South Hadley, Massachusetts

### SUMMARY OF PROFESSIONAL EXPERIENCE

#### **Founder and Principal, Environmental & Public Health Consulting September 2002-Current**

Creating practical, sustainable solutions for governments, communities and industries that want to produce and provide goods and services with the smallest possible impact to human health and the environment.

## Current & Recent Projects

### **Cancer-Free Economy Network**     [Garfield Foundation, Lafayette, CA](#) **March 2015 – current**

Member of leadership team in foundation-led effort to scale current green chemistry economy and social and environmental justice efforts with the goal of lifting the burden of cancer and other diseases resulting from industrial chemical exposure within a generation. Specific focus on shifting global supply chains to safer feedstocks, materials, chemicals and processes coupled with efforts to reduce exposure in highly impacted populations.

### **Natural Resources Defense Council Report: *Making Alternatives Assessment Protective for Vulnerable Populations***     **December 2015 – January 2017**

With Sally Edwards, ScD. of UMass Lowell's Center for Sustainable Production, worked with the Natural Resources Defense Council (NRDC) and Californians for a Healthy and Green Environment (CHANGE) on developing principles and implementation guidelines to ensure that the most vulnerable among us are protected in the selection of safer alternative chemicals, products and processes.

### **University of Washington, Department of Occupational and Environmental Health Sciences, Professional and Continuing Education**     **January 2015 – June 2016** ***Certificate in Green Chemistry and Chemical Stewardship: Assessment Tools for Safer Chemical Decisions***

Course developer and instructor; created curriculum for online course on alternatives assessment for safer chemicals, materials and products. Part of a three-course [certificate program](#) in Green Chemistry.

### **Alternatives Assessment Community of Practice: *Developing a Research Agenda***     **March 2015 to December 2015**

With Molly Jacobs (Lowell Center for Sustainable Production), led discussions on research needs for integrating exposure considerations into Alternatives Assessment practice.

### **Green Chemistry Metrics**     **January – April 2015**

For the Green Chemistry and Commerce Council, generated a white paper describing the current landscape of green chemistry metrics at the chemical, material, product, firm, sector and societal level.

### **BizNGO Sustainable Materials Workgroup**     **July 2014 – December 2015**

Continued research on hazards of additives in plastics, and outline safer alternatives for both polymer and additive choice. This research follows the publication of the Plastics Scorecard in July 2014.

### **Green Toys**     ([www.greentoys.com](http://www.greentoys.com))     **October 2014 – January 2015**

With Sally Edwards at the Lowell Institute for Sustainable Production, provided technical review and input for sustainable toy company researching safer material for a line of baby products.

**Wellness Within Your Walls**

**May 2014-current**

Provide technical content and review on safer materials in building interiors and maintenance for company with focus on training for residential building construction and interior design.

**NewGen Surgical ([www.newgensurgical.com](http://www.newgensurgical.com))**

**September 2013 - current**

Provide research and documentation for company's claims of reduced environmental and public health exposure from replacement of plastic single use medical devices used in the operating room to devices manufactured from sustainable agricultural waste materials.

**BizNGO Plastics Scorecard**

**August 2013-July 2014**

<http://bizngo.org/resources/entry/plastics-scorecard-resource>

Co-authored the *Plastics Scorecard V 1.0: Evaluating the Chemical Footprint of Plastics* with Mark Rossi and the Business-NGO Working Group for Safer Chemicals and Sustainable Materials.

**Disney Consumer Products**

**January to June 2014**

With Sally Edwards at the Lowell Institute for Sustainable Production, provided summary research on current science and regulatory issues for representative product and chemical combinations of potential concern.

**BlueGreen Alliance**

**November 2011-current**

[www.bluegreenalliance.org](http://www.bluegreenalliance.org)

*ChemHAT & Worker Training on Green Chemistry & Safer Alternatives*

Designed worker chemical hazard and alternatives tool (ChemHAT); worked with web design team to access data sources, create data for prototype and expanded tool. Reviewed and prioritized 3200 products used by members of the Communication Workers of America-IUE for hazard and potential exposure. Developed materials on safer alternatives for CWA-IUE training.

*Occupational Breast Cancer*

In 2016, will be facilitating efforts on a "Putting Breast Cancer Out of Work" campaign, a collaboration between unions, health & environmental advocacy groups, manufacturers and downstream chemical users to reduce chemical exposure in manufacturing sectors with high rates of occupational breast cancer, including food processing and automotive plastics.

*Information for Safer Choices*

Working with colleagues from Healthy Building Network to build the Data Commons, an open source platform for information on the hazards of chemicals in industrial use and safer alternatives.

**West Marine****July 2013- December 2013**[www.westmarine.com](http://www.westmarine.com)

Strengthening the criteria for the West Marine's Pure Oceans brand of maintenance products. Served as a judge for West Marine's Green Product of the Year competition in 2012-2013.

**Environmental Defense Fund****June 2012 – December 2013**[www.edf.org/health/chemicals/getting-toxics-out-what-we-buy](http://www.edf.org/health/chemicals/getting-toxics-out-what-we-buy)

With EDF Environmental Health staff, provided input to Wal Mart on prioritizing chemicals for removal from consumer products.

**B Lab****May 2011-April 2012**[www.bcorporation.net](http://www.bcorporation.net)

Convened Health and Safety Working Group of 12 subject matter experts; generated additions to B Impact Assessment for Benefit Corporations in the areas of worker health and safety and product life-cycle toxicity; interviewed technical experts and B Corporations to alpha test additions, which will be incorporated into the B Impact Assessment Version 4.0 in 2012

**UCLA Law, Sustainable Technology and Policy Project****2010-current**<http://stpp.ucla.edu/>**Research Team Member**

Develop regulatory alternatives analysis methodologies to promote the use of safer alternatives to hazardous chemicals in consumer products and industrial and agricultural production.

**University of California at Berkeley Extension Program****2009-2013**<http://extension.berkeley.edu/cert/greenchem.html>**Instructor**

The Essentials of Green Chemistry Professional Certificate Program

Created original curriculum for and taught online core classes, "Green Chemistry and Chemicals Policy" in 2009-2010; "Tools for Alternatives Assessment: Chemicals, Materials, Products, and Processes", 2012-2013

**Member, Green Ribbon Science Panel, California Green Chemistry Initiative.**<http://www.dtsc.ca.gov/PollutionPrevention/GreenChemistryInitiative>**Appointed March 2009; Re-appointed December 2013**

The Green Ribbon Science Panel is tasked with ensuring that the implementation of AB 1879, part of California EPA's Green Chemistry Initiative is based on a solid scientific foundation.

**International POPs Elimination Network****2010-current**[www.ipen.org](http://www.ipen.org)**Scientific Advisor**

Participate in activities around the Strategic Approach to International Chemicals Management (SAICM) adopted by the International Conference on Chemicals Management (ICCM) and housed in the United Nations Environment Program (UNEP). Represent broad international NGO coalition in the Chemicals in Products (CiP) project.

**Cradle-to-Cradle Products Innovation Institute** **2010-2012**  
[www.c2ccertified.org](http://www.c2ccertified.org) **Strategic Consultant**

Provide input on data tools to support the Cradle-to-Cradle certification; strategies for promoting the use of the Cradle-to-Cradle assessment tool. Provided third-party assessment of certification packages during transition of certification process from McDonough Braungart Design Chemistry (MBDC) to the Institute.

### **Boards and Leadership**

**Board Member, Women's Voices for the Earth** **2012-current**  
**Board Co-Chair beginning January 2016**

[www.womensvoices.org](http://www.womensvoices.org)

Women's Voices for the Earth is a national organization that works to eliminate toxic chemicals that harm women's health by changing consumer behaviors, corporate practices and government policies.

**International Advisory Council, Asian Women's Leadership University Project** **2013-current**  
[www.awluproject.org](http://www.awluproject.org)

The Asian Women's Leadership University Project (AWLUP) is in the process of building a world-class educational institution in Asia dedicated to empowering women and helping them become successful entrepreneurs and engaged leaders. The top-level liberal arts women's university is projected to open in September 2015.

**Member, Board of Trustees, Mount Holyoke College** **2013-2017**  
[www.mtholyoke.edu](http://www.mtholyoke.edu)

**Board of Directors, Women's Action to Gain Economic Security, (WAGES) 2004-2011;** [www.wagescooperatives.org](http://www.wagescooperatives.org) ; chair, 2005-2007; co-chair, 2007-2010. WAGES' mission is to build worker-owned green businesses that create healthy, dignified jobs for low-income women.

### **Publications**

Malloy, Timothy; Zaunbrecher, Virginia; Beryt, Elizabeth; Judson, Richard; Tice, Raymond; Allard, Patrick; Blake, Ann; Cote, Ila; Godwin, Hillary; Heine, Lauren; Kerzic, Patrick; Kostal, Jakob; Marchant, Gary; McPartland, Jennifer; Moran, Kelly; Nel, Andre; Ogunseitan, Oladele; Rossi, Mark; Thayer, Kristina; Tickner, Joel; Whittaker, Margaret; Zarker, Ken. *Advancing Alternatives Analysis: The Role of Predictive Toxicology in Selecting Safer Chemical Products and Processes*; submitted to Integrated Environmental Assessment and Management, December 2016

Malloy, T (UCLA School of Law), Blake, A (Environmental & Public Health Consulting), Linkov, I (US Army Corps of Engineers), Sinsheimer, P, (UCLA School of Public Health) *Decisions, Science and Values: Crafting Regulatory Alternatives Analysis*, Risk Analysis, August 2015 DOI: 10.1111/risa.12466

Joel Tickner (U Mass Lowell), Jessica Schifano (OSHA), Ann Blake (Environmental & Public Health Consulting), Martin Mulvihill (UC Berkeley Center for Green Chemistry), Cathy Rudisill (SRC, Inc.); *Advancing Safer Alternatives Through Functional Substitution; Environmental Science and Technology*, January 2015 DOI: 10.1021/es503328m

Wiek, A., J Harlow, R Melnick, S van der Leeuw, K Fukushi, K, Takeuchi, F Farioli, F Yamba, A Blake, C Geiger, R Kutter; *Sustainability science in action ---A review of the state of the field through case studies on disaster recovery, bioenergy and precautionary purchasing. Sustainability Science*, August 2014

*Use Of Multi-Criteria Decision Analysis in Regulatory Alternatives Analysis: A Case Study of Lead Free Solder*; Malloy, Timothy; Sinsheimer, Peter; Blake, Ann; Linkov, Igor; *Integrated Environmental Assessment and Management*, Volume 9, Issue 4, Pages 652-664, 11 September 2013

<http://onlinelibrary.wiley.com/doi/10.1002/ieam.1449/abstract>

### **Past Projects**

***Promoting Environmentally Preferable Janitorial Products Project*      *2004-2006*  
***Funded by the Upstream Fund of the Jenifer Altman Foundation*****

Provided toxics use audits and recommendations for less toxic practices to seven hotels in San Francisco, representing 2,000 hotel rooms and approximately 350 housekeeping staff.

***Environmental Finance Center Region 9*      *September 2003-June 2007***

◦Facilitated stakeholder discussion at the California Chemicals Policy Symposium, Oakland, California, March, 2006  
◦Convened multi-stakeholder roundtables (industry, government, environmental and health advocates) on use of brominated flame retardants in electronics and furniture resulting in California's pioneering legislation to phase out PBDEs (2002-2003)

### **Program and Project Management**

***City and County of San Francisco Department of Environment*  
*Toxics Reduction Program***

***July 2004-Current***

Technical team lead on 5-year, \$150,000 annual technical assistance contract since 2008; subconsultant since 2004. Work with SFE's Toxics Reduction Program in the development and implementation of programs to protect the environment and the health and safety of the City and the private sector workers as well as the general public.

***California Environmental Protection Agency*  
*Department of Toxic Substances Control***

***March 1993-May 2002***

***Northern California Pollution Prevention Coordinator*      *1999-2002***

•Created new program to assist local governments in integrating source reduction/pollution prevention into their day-to-day activities with long-term goal of reducing the use of toxic industrial chemicals.

***Local Agency Training Coordinator*      *1996-1999***

•Coordinated training for staff from 69 local agencies statewide, covering implementation

of six delegated hazardous waste and hazardous materials inspection and enforcement programs

- Coordinated development of training curriculum; managed \$280,000 of training funds annually.

**Hazardous Waste Inspector 1993-1996**

- Regulatory program implementation: co-managed staff of 15 inspectors; organized information-gathering and tracking, industry outreach; broad jurisdiction with region spanning urban and rural, industrial and agricultural sectors; RCRA and non-RCRA inspection and enforcement

**Standards/ Criteria Setting**

*GoodGuide* [www.goodguide.com](http://www.goodguide.com) *November 2007- July 2011*

Constructed criteria and screening methodology, assembled data sources to evaluate the health impact of consumer products. Provide ongoing technical and strategic input on GoodGuide's presentation of product health information.

*The Campaign for Safe Cosmetics* *June 2006 – October 2007*

Worked with the Campaign and the over 800 signatories of the Compact for Global Production of Safe Health & Beauty Products to implement the Compact for Safe Cosmetics, including substitution plans to eliminate product ingredients known or suspected of causing cancer, mutation or birth defects.

*Member, Joint Committee for Sustainable Textiles Standard*, Safety of Materials Subcommittee (2004 – current); standard hosted by NSF International, GreenBlue, McDonough Braungart Design Chemistry, Association for Contract Textiles

*Kaiser Permanente National Facilities Services* *July 2006- February 2007*

- Reviewed Kaiser Permanente's purchases in building materials, furniture and patient care equipment to evaluate likely exposures from halogenated flame retardants and bisphenol-A.
- Developed recommendations for Kaiser Permanente's National Facilities Services on purchasing criteria to limit current and future exposure of patients, employees and the environment.

**Technical Research/ Writing**

*Women's Voices for the Earth* [www.womensvoices.org](http://www.womensvoices.org) *2006-2011*

- Provided background research for *Disinfectants* update feature, August 2009
- Provided research and content for *Household Hazards* report (July 2007) highlighting health risks from ingredients in home cleaning chemicals, with an emphasis on asthma and reproductive harm.

*CleanWell, Inc.* *February 2007-October 2008*

Researched and reviewed scientific data on ingredients, disinfectant chemistry for manufacturer of natural oil-based hand sanitizers, soaps and household and institutional cleaners.

***Clean Production Action/ International POPS Elimination Network      June 2006 – June 2008***

Generate fact sheets for state, local, international policy makers on key materials targeted for phase-out from electronics including PVC, BFRs, and metals; provide research support for addition of chemicals to the Stockholm POPS Convention list.

***Environmental Finance Center Region 9      [www.efc9.org](http://www.efc9.org)      April- June 2007***

Researched potential for health impacts in African-American hair products for first multi-stakeholder African-American Hair Salon Roundtable in April 2007