



Introductory Comments

**KITCHEN VENTILATION SOLUTIONS TO
INDOOR AIR POLLUTION HAZARDS
FROM COOKING**

Qunfang Zhang, Ph.D

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Problems from Cooking & Gas Stoves

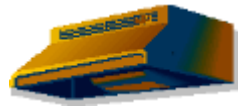
- Air pollutants
 - Gaseous pollutants (CO, NO₂, formaldehyde, etc.)
 - Ultrafine particles and PM2.5
 - Metals
- Moisture, odor



Air pollutant emissions can exceed health benchmarks!

- Increased asthma symptoms
- Increased upper respiratory diseases in children

Solutions for Removal of Air Contaminants from Kitchens



Range hoods



Open windows



Wall or ceiling exhaust fans

- **How effective are they?**
- **How to improve their performance?**
- **Test methods needed?**

Today's Speaker



Brett C. Singer, Ph.D.

Staff Scientist and Principal Investigator
Environmental Energy Technologies Division
Lawrence Berkeley National Laboratory

Today's seminar will cover:

- The hazards associated with gas stoves and cooking emissions
- Laboratory and in-home measurements of range hood performance
- Characteristics of effective range hoods, and challenges
- The potential effectiveness of general kitchen ventilation