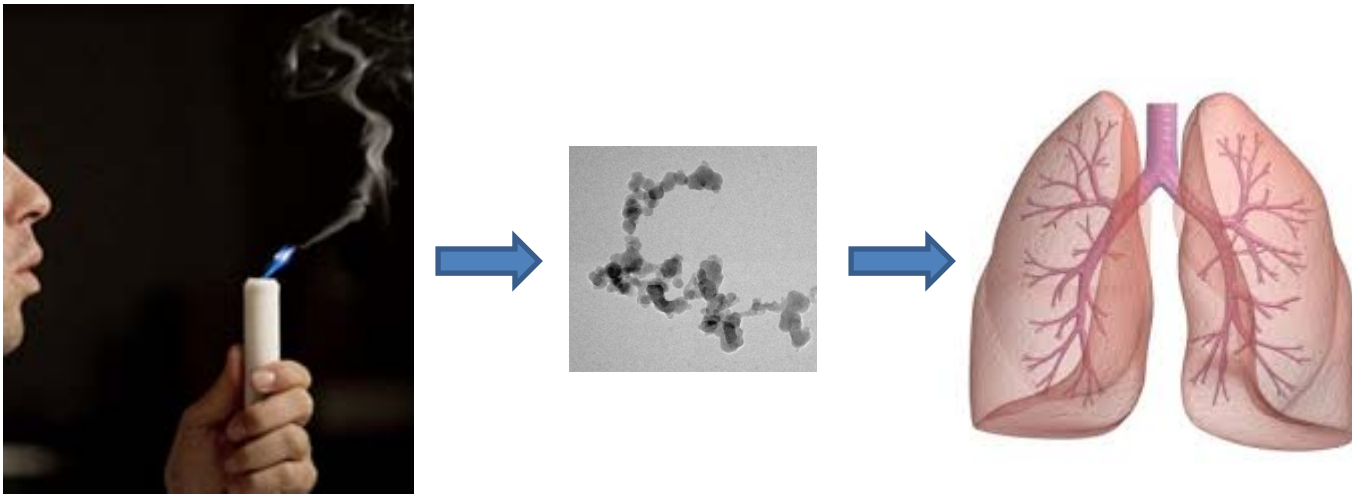


# Ultrafine particles exposure in Danish homes



***Gabriel Bekö***

# Sources of ultrafine particles



Outdoor sources

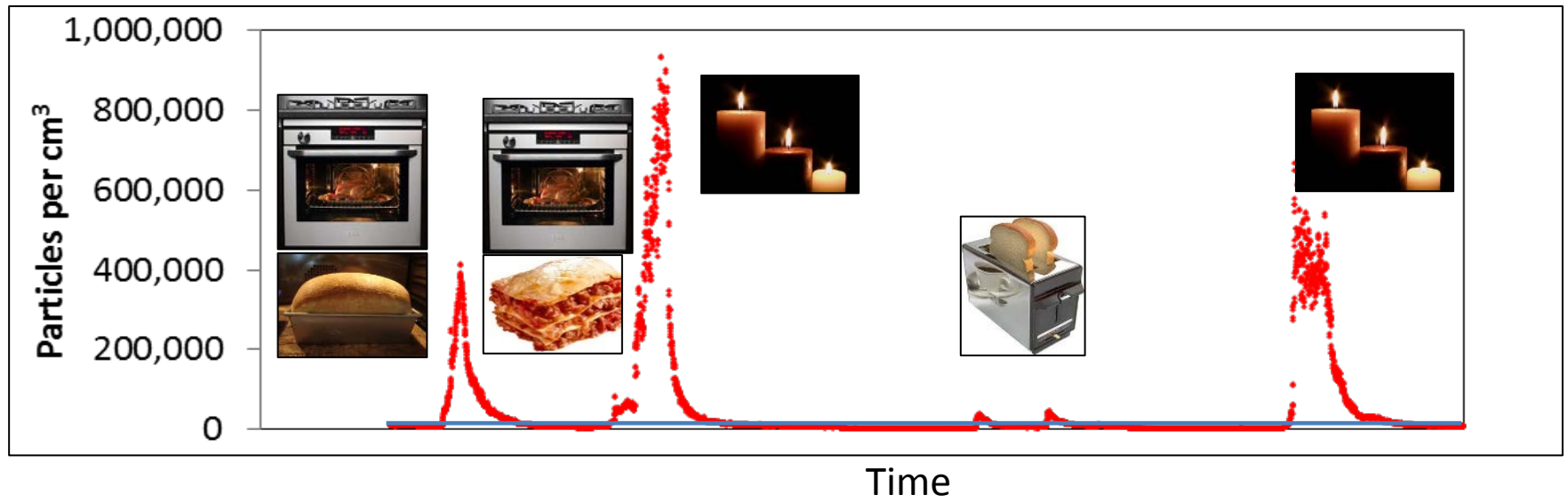


Indoor sources



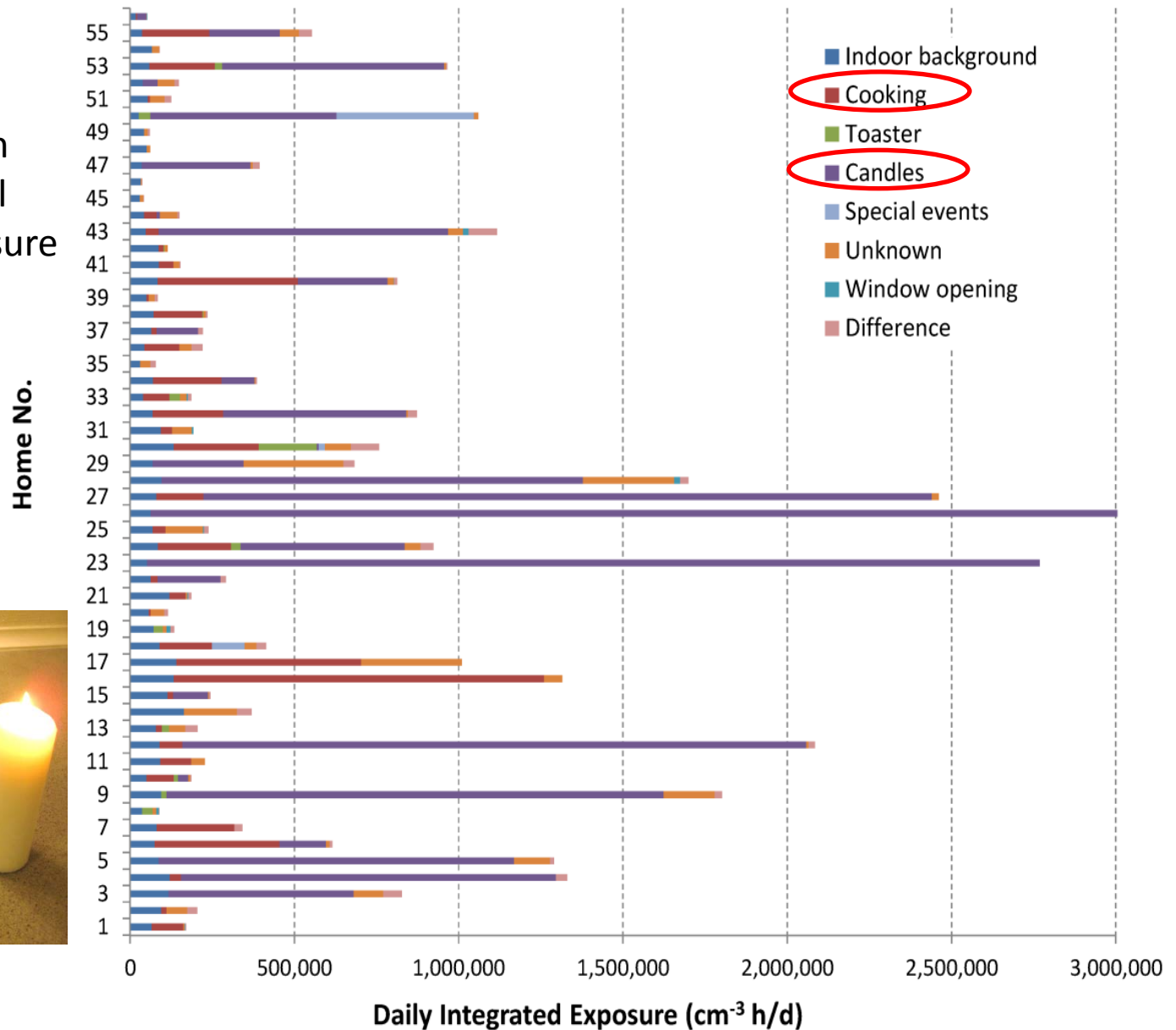
**Which one do we inhale more of?**

# 48-h measurements in 56 Copenhagen homes



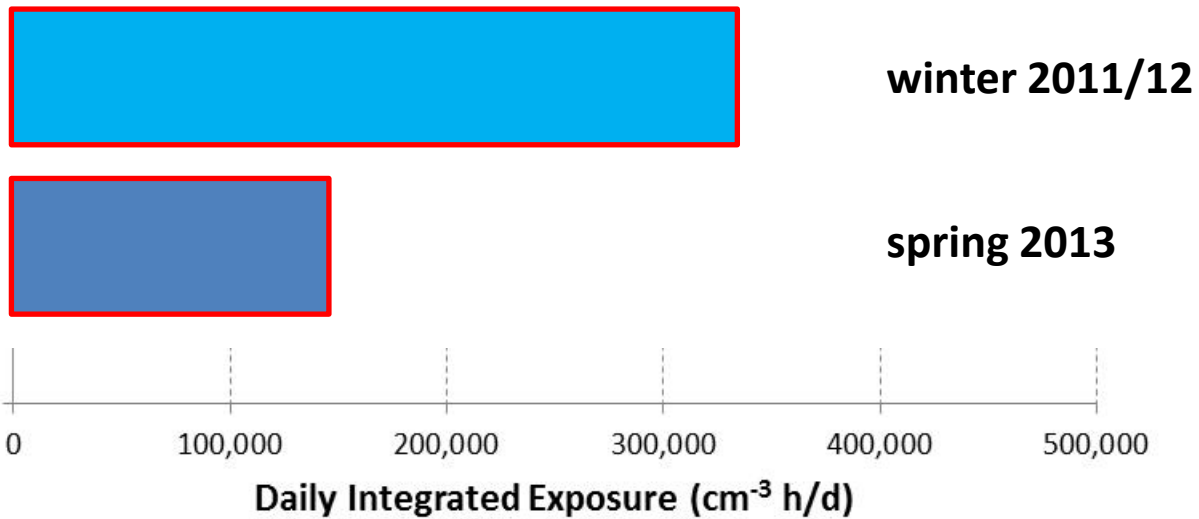
# Contribution of background and indoor events

Indoor sources explain about 65% of the total daily residential exposure



# 48-h personal monitoring of 59 persons

## Average exposure within the home



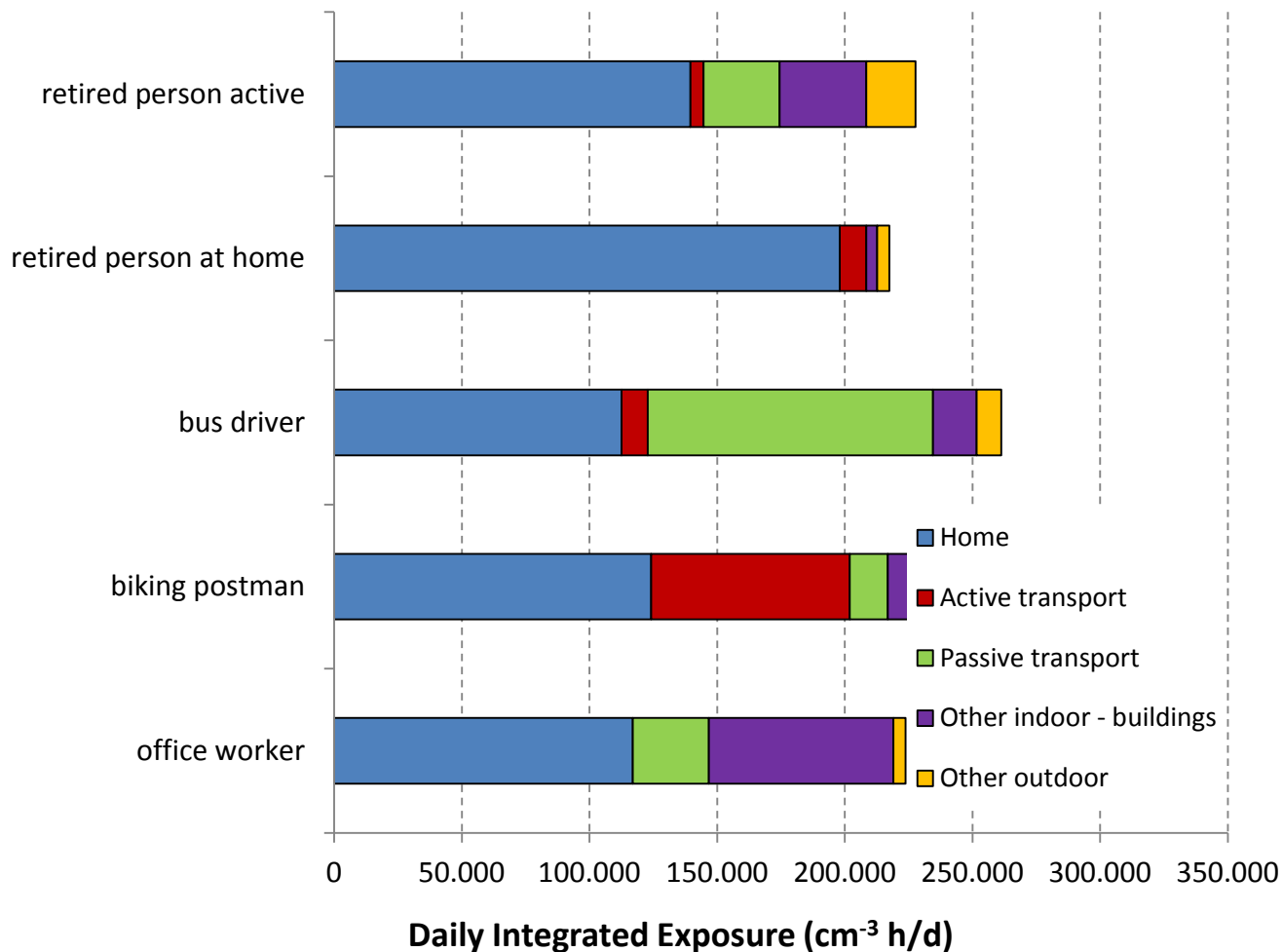
# Where do we get most of it during the day?

**~50% of total exposure occurs in the home:  
hand in hand with time budgets**

Location	<i>Median contrib. to total (%)</i>
<b>In the home</b>	<b>50</b>
Away from home	50
Active transport	1.8
Passive transport	5.4
Other indoor - buildings	41.5
Other outdoor	3.3
All indoors – buildings	90.6
All indoors incl. passive trans.	95.4
All outdoors	4.6



# Where do YOU get most of it during the day?



# Health effects

2012 – winter:

- Residential exposure, especially the candle related fraction, but not cooking, associated with lung function, markers of inflammation

2013 – spring:

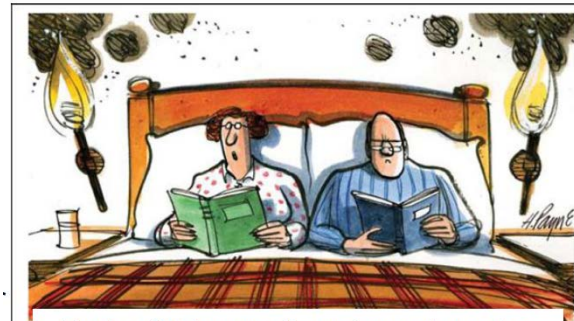
- Exposure outside the home (but not in the home) associated with microvascular function and markers of inflammation
- Traffic-generated UFP may be more potent regarding health effects than UFP from indoor sources





# Recommendations for a healthier life

- Never leave your home!
- Stop that cooking frenzy – grab fast food!
- Remember that not all winter days are Christmas days!
- Remember to ventilate, esp. when indoor sources are present!



Torches?? Because incandescents use too much energy and CFLs contain mercury.