



The La Crosse-Winona Section of the
American Chemical Society (ACS)
&
the La Crosse Section of
the American Society of Heating, Refrigeration
and Air Conditioning Engineers (ASHRAE)
present:



Historical Changes in Halocarbon Refrigerants in Response to a Changing Environment

Thomas Leck, Ph.D.

April 23, 2009

7:00 p.m.

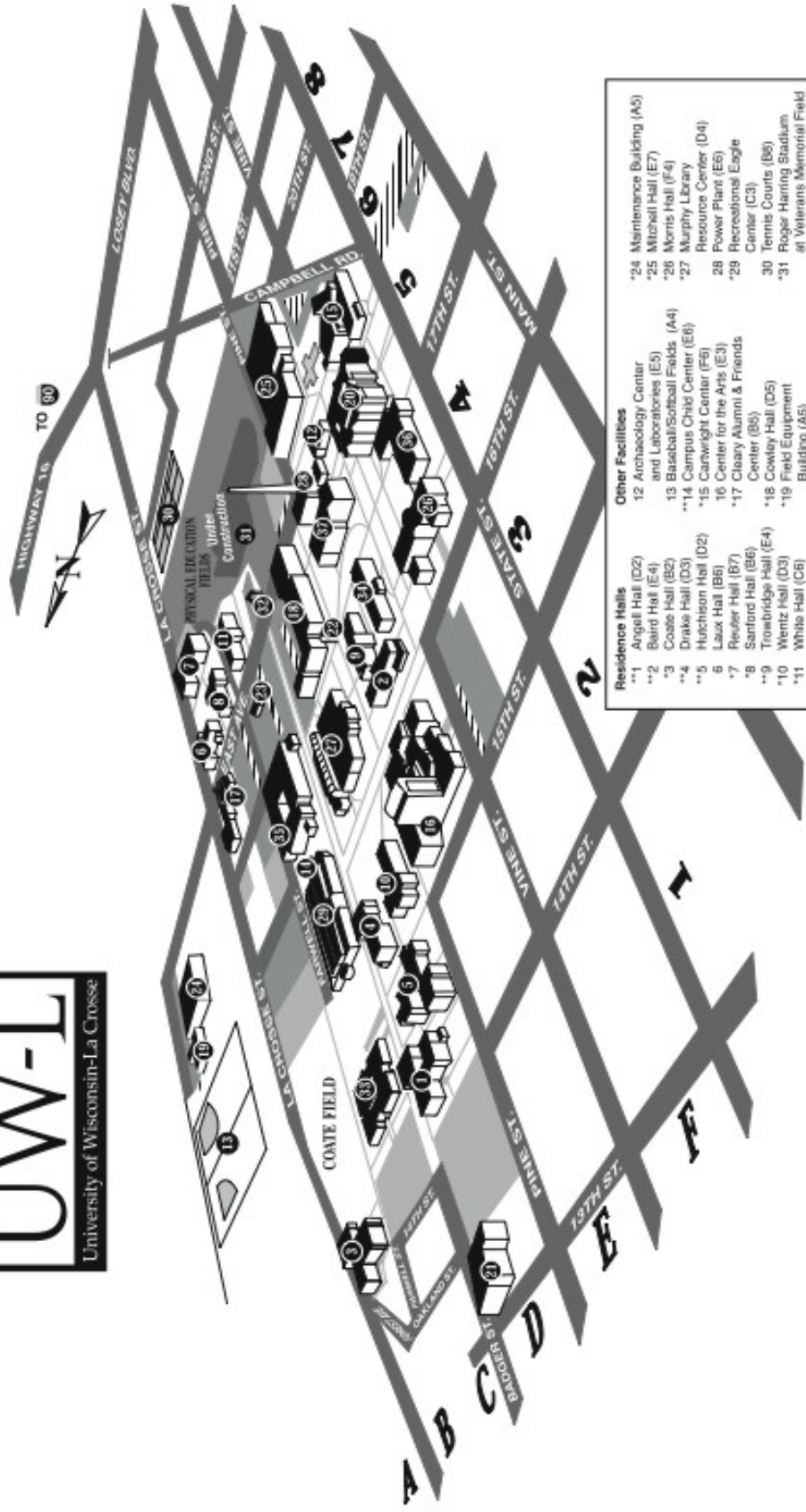
**University of Wisconsin-La Crosse;
Cartwright Center, Valhalla B**

As science has given us more insight to the environmental effects of refrigerants on our planet, the requirements of refrigerant chemistry has also had to change with the times. Dr. Leck will discuss properties and chemistry of CFCs, HCFCs, HFCs, and a new class of refrigerants called hydrofluoroolefins as they relate to changing environmental and societal needs, and how changing the chemical make up of the refrigerant gases has met these needs. This will include changes due to stratospheric ozone depletion and current proposed changes in response to global warming.

Why were these classes of molecules selected for use as refrigerants? What desirable properties did they possess? What properties were later deemed to be undesirable? What is the current understanding of environmental chemistry of some of these molecules? Some proposed replacement refrigerants will be discussed, including R-22 replacements, and a proposed R-134a replacement, tetrafluoropropene, HFO-1234yf currently being considered for future automobile AC applications.



Thomas Leck has worked in research and development at DuPont since 1979 and holds 14 US patents in refrigeration and fluoropolymer technology. His work has spanned fluoropolymer development including coatings and refrigerant compositions, catalysis and the study of ozone depleting reactions and mechanisms.



<p>Residence Halls</p> <ul style="list-style-type: none"> *1 Angell Hall (D2) *2 Baird Hall (E4) *3 Coate Hall (B2) *4 Drake Hall (D3) *5 Hutchison Hall (D2) *6 Laux Hall (B8) *7 Reuter Hall (B7) *8 Sanford Hall (B6) *9 Trowbridge Hall (E4) *10 Wentz Hall (D3) *11 White Hall (C8) <p> Computer Parking Resident Parking Metered Parking Handicapped accessible Limited accessibility </p>	<p>Other Facilities</p> <ul style="list-style-type: none"> 12 Archaeology Center and Laboratories (E5) 13 Baseball/Softball Fields (A4) **14 Campus Child Center (E6) **15 Carwright Center (F6) 16 Center for the Arts (E3) Center (B6) **18 Cowley Hall (D5) **19 Field Equipment Building (A5) **20 Graff Main Hall (F6) **21 Health Science Center (D1) 22 Hoeschler Clock Tower (E4) **23 Info/Protective Services (C5) 	<ul style="list-style-type: none"> *24 Maintenance Building (A5) *25 Mitchell Hall (E7) *26 Morris Hall (F4) *27 Murphy Library Resource Center (D4) 28 Power Plant (E6) **29 Recreational Eagle Center (C3) 30 Tennis Courts (B6) *31 Roger Harring Stadium at Veterans Memorial Field Sports Complex (D7) 32 Veterans Monument (D6) **33 Whitney Center (C2) *34 Wilder Hall (E4) *35 Wimberly Hall (C4) **36 Wing Technology Center (F4) *37 Wittich Hall (E5)
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