

1.4 Three lives and three core subjects

Abbreviations:

<i>AuH:</i>	<i>Alexander von Humboldt</i>
<i>CAS:</i>	<i>Chinese Academy of Sciences</i>
<i>CRC:</i>	<i>Collaborative Research Center (DFG)</i>
<i>CRDS:</i>	<i>cavity ring-down spectroscopy</i>
<i>CVD:</i>	<i>chemical vapor deposition</i>
<i>DAAD:</i>	<i>Deutscher Akademischer Austauschdienst</i>
<i>DFG:</i>	<i>Deutsche Forschungsgemeinschaft</i>
<i>D(FV)LR:</i>	<i>Deutsches Zentrum für Luft- und Raumfahrt</i>
<i>DFWM:</i>	<i>degenerate four-wave mixing</i>
<i>EI:</i>	<i>electron ionization</i>
<i>EurASc:</i>	<i>European Academy of Sciences</i>
<i>GRC:</i>	<i>Gordon Research Conference</i>
<i>LIF:</i>	<i>laser-induced fluorescence</i>
<i>MBMS:</i>	<i>molecular-beam mass spectrometry</i>
<i>ONERA:</i>	<i>Office National d'Études et de Recherches Aéronautiques</i>
<i>PAH:</i>	<i>polycyclic aromatic hydrocarbon</i>
<i>PEPICO:</i>	<i>photoelectron photoion coincidence</i>
<i>PI:</i>	<i>photoionization</i>
<i>PP:</i>	<i>Priority Programme (DFG)</i>
<i>PSE:</i>	<i>pulsed-spray evaporation</i>
<i>REMPI:</i>	<i>resonance-enhanced multi-photon ionization</i>
<i>RU:</i>	<i>Research Unit (DFG)</i>
<i>SRI:</i>	<i>Stanford Research Institute, now SRI International</i>

SUBJECTS

Materials, CVD

Semiconductors, Si, diamond, GaN	→2.8
Al ₂ O ₃ , Co ₃ O ₄	
Precursor analysis	
PSE-CVD Metals	
Perovskites, spinel, mixed oxides, catalytic combustion, aftertreatment	
Soot, nanocarbon	

Chemical analysis

EI-MBMS Soot precursors PAHs	→2.7
Model validation	
PI-MBMS Synchrotrons Isomers, enols Sampling probe influences	
Low-temperature oxidation	
Biofuel oxidation	
Advanced biofuels	
PEPICO	
Alternative fuels and systems	
Low-carbon processes	→2.9

Laser diagnostics

Energy transfer Turbulent flames Imaging Picosecond resolution DFWM	→2.6
Proteins	
Sampling probe influences	
CRDS	
Microwave analysis	

1970

1975

1980

1985

1990

1995

2000

2005

2010

2015

2020

Scientific life

High-school exam Chemistry studies, Bochum University	→2
Diploma Marriage	→2.1
Laser, atmospheric chemistry PhD DFVLR Stuttgart	→2.2
Flames Laser methods Atoms, radicals	
LIF REMPI Energy transfer	
Stanford, SRI Shock tubes Group leader DLR Diamonds	→2.3
Birth of daughter Habilitation Oldenburg move Heisenberg Fellow ONERA	→2.4
Full Professor, Bielefeld University	→2.5
Dean Vice Rector	
Princeton	
Leopoldina University Council	
Sabbatical	
acatech EurASc Senior Professor CAS	

LIVES

Networking life

DAAD PPs GRC RU: FOR 387 CRC: SFB 549 VW Foundation AvH Foundation Editor-in-Chief	→3
CRC: SFB 686 AvH Board Bunsen President DFG Senate Helmholtz Senate	
Combustion Institute President Science and Humanities Council	
RU: FOR 2410	

Mentoring life

teutolab Science Live Weekly Feature HighChem up Close	→4
Direct Views – into the Research Lab	
BiNaturE	

Fig. 1.9.
Timeline and
synopsis.