

CURRICULUM VITAE

NAME: Werner E. Klotzbücher

DATE OF BIRTH: August 16, 1946

MARITAL STATUS: Married

NATIONALITY: German

PROFESSION: Scientist

DEGREES: Diplom-Physiker (TH Darmstadt 1972)
Master of Science (Univ. of Toronto 1974)
Doctorate (Univ. of Toronto 1979)

LANGUAGES: German, English (fluent)
French, Russian (rudimentary)

BUSINESS ADDRESS_2012: Max-Planck-Institut für Chemische Energiekonversion
(1981 – 2003: “MPI für Strahlenchemie“)
(2003 – 2012: “MPI für Bioanorganische Chemie“)
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STATUS: Officially retired – Guest Scientist Department Prof. Lubitz.

Until 2011: Max-Planck-Institute, Member of the Permanent Scientific Staff, Group Leader.
* Supervisor Laboratory for Low Temperature Spectroscopy (1982-2003 Lab for Matrix Isolation and Cryosolution Spectroscopy)
(1988-1995 also Supervisor Lab for Flash Photolysis with IR Detection)
* Public Relations Officer and Assistant to the Managing Director (including annual scientific reports, preparation

evaluation board meetings, Internet presentation)
* Liaison Officer ("EU-Beauftragter") to the European Union
Programmes
* Speaker, Working Group of EU Liaison Officers of the Max
Planck Society (1999 – 2006)

UNIVERSITY EDUCATION

Diplom-Physiker (Dipl. Phys.) 1966-1972
TH Darmstadt, Institut für Technische Physik
Thesis: Bestimmung der Zink-Konzentration in Praseodym-
Doppelnitrat-Mischkristallen aus der Absorptionskonstante
von optischen Satellitenlinien (Supervisor: Prof. H. Hellwege)

Master of Science (M.Sc.) 1972-1974
University of Toronto, Department of Chemistry
Thesis: Binary Mixed Dioxygen Dinitrogen Complexes of
Nickel, Palladium and Platinum (Supervisor: Prof. G.A. Ozin)

Doctorate (Ph.D.) 1974-1979
University of Toronto, Department of Chemistry
Thesis: Bimetal Vapour Chemistry: Synthesis,
Characterization and Photochemistry of Transition Metal
Atoms and Clusters in Inert Gas Matrices
(Supervisor: Prof. G.A. Ozin)

SCHOLARSHIPS:

1972-1974 Deutscher Akademischer Austauschdienst
Research Scholarships
1975-1979 Research Scholarships University of Toronto,
NORANDA Fellowship
1980-1982 Research Scholarships DFG and MPG

SERVICES:

* Founder and Editor of MIDE (Matrix Isolation Digest by
Electronic mail, 1991-2006)
* Founder and Editor of EUROMAP (Communication of the
European Liaison Officers of the MPG, 1994-2006)
* Member, Steering Committee of the International
Matrix Isolation Community, 1999 - 2007)
* Supervisor Computer-assisted Information and
Communication 1984-2004
* Co-Chairman and Member of the Organisation Committee
EuroConference 2001 "Chemistry and Physics of Matrix-
Isolated Species", Szklarska Poreba, Poland, July 2001
* Co-Chairman and Member of the Organisation Committee
Conference "Matrix 2005 Chemistry and Physics of Matrix-
Isolated Species", Funchal / Madeira, Portugal, July 2005

SCIENTIFIC PUBLICATIONS:

- (1) Binary Mixed Dioxygen Dinitrogen Complexes of Nickel, $(\text{N}_2)\text{Ni}(\text{O}_2)$ and $(\text{N}_2)_2\text{Ni}(\text{O}_2)$.
W.E. Klotzbücher, G.A. Ozin; J. Americ. Chem. Soc. 95 (1973) 3790.
- (2) Binary Dioxygen Complexes of Nickel, Palladium and Platinum, $\text{M}(\text{O}_2)$ and $\text{M}(\text{O}_2)_2$
in Low Temperature Matrices.
H. Huber, W. Klotzbücher, G.A. Ozin, A. Van der Voet; Can. J. Chem. 51 (1973) 2722
- (3) Binary Transition Metal Dinitrogen Complexes, Part III: Metal-Nitrogen Stretching
Mode of $\text{Ni}(\text{N}_2)_n$, $\text{Pd}(\text{N}_2)_m$ and $\text{Pt}(\text{N}_2)_m$ (where $n = 1-4$ and $m = 1-3$).
W. Klotzbücher, G.A. Ozin; J. Americ. Chem. Soc. 97 (1975) 2672
- (4) Binary Mixed Dioxygen Dinitrogen Complexes of Nickel, Palladium and Platinum,
 $(\text{O}_2)\text{M}(\text{N}_2)_n$ (where $\text{M} = \text{Ni}, \text{Pd}, \text{Pt}$ and $n = 1$ or 2).
W. Klotzbücher, G.A. Ozin; J. Americ. Chem. Soc. 97 (1975) 3965
- (5) Reinvestigation of the Optical Spectra of Nickel, Palladium and Platinum Atoms in
Noble Gas Matrices.
W. Klotzbücher, G.A. Ozin; Inorg. Chem. 15 (1976) 292 .
- (6) Divandium.
T.A. Ford, H. Huber, W. Klotzbücher, E.P. Kündig, M. Moskovits, G.A. Ozin;
J. Chem. Phys. 66 (1977) 524
- (7) Direct Synthesis with Vanadium Atoms. Part I: Synthesis of $\text{V}(\text{CO})_6$ and $\text{V}_2(\text{CO})_{12}$.
T.A. Ford, H. Huber, W. Klotzbücher, M. Moskovits, G.A. Ozin;
Inorg. Chem. 15 (1976) 1666
- (8) Direct Synthesis with Vanadium Atoms. Part II: Synthesis and Characterization
of Vanadium Hexadinitrogen $\text{V}(\text{N}_2)_6$ in Low Temperature Matrices.
H. Huber, T.A. Ford, W. Klotzbücher, G.A. Ozin;
J. Americ. Chem. Soc. 98 (1976) 3176
- (9) Discandium and Dytitanium. Their Synthesis and Optical Spectra in Low
Temperature Argon Matrices.
R. Busby, W. Klotzbücher, G.A. Ozin; J. Americ. Chem. Soc. 98 (1976) 4013
- (10) Diniobium, Nb_2 , and Dimolybdenum, Mo_2 . Synthesis, UV-visible Spectra and
Molecular Orbital Investigation of Nb_2 and Mo_2 . Spectral and Bonding
Comparison with V_2 and Cr_2 .
W. Klotzbücher, G.A. Ozin; Inorg. Chem. 16 (1977) 984
- (11) $\text{Ti}(\text{CO})_6$ and $\text{Ti}(\text{N}_2)_6$: Synthesis Using Titanium Atoms and Characterization
by Matrix Infrared and UV-visible Spectroscopy.
R. Busby, W. Klotzbücher, G.A. Ozin; Inorg. Chem. 16 (1977) 822
- (12) Bimetal Atom Chemistry, Part I. Synthesis, Electronic Absorption Spectrum
and EH/SCF- $X\alpha$ -SW Molecular Orbital Analyses of the CrMO Molecule;
Relevance to Alloy and Bimetallic Cluster Catalysis.
W. Klotzbücher, G.A. Ozin, J.G. Norman, Jr., H.J. Kolari; Inorg. Chem. 16 (1977) 2871

- (13) Metal Atom - Metal Cluster Chemistry, Part I. Alkane matrices.
W. Klotzbücher, S.A. Mitchell, G.A. Ozin; *Inorg. Chem.* 16 (1977) 3063
- (14) Cryophotoclustering Techniques for Synthesizing Very Small, Naked Metallic and Bimetallic Clusters of Known Size; The Cr-Mo System; Relevance to Metallic and Bimetallic Cluster Catalysts.
G.A. Ozin, W.E. Klotzbücher; *J. Mol. Catal.* 3 (1977) 195
- (15) Selective Photoaggregation of Metal Atoms to Small Bimetallic Clusters of Known Size. The Chromium-Molybdenum System Cr_nMo_m .
W.E. Klotzbücher, G.A. Ozin; *J. Americ. Chem. Soc.* 100 (1978) 2262
- (16) Bimetal Atom Chemistry. 2. Selective Bimetallic Photoaggregation of Ag and Cr Atoms to Very Small Clusters.
W.E. Klotzbücher, G.A. Ozin; *Inorg. Chem.* 18 (1979) 2101
- (17) Photosensitive Bimetallic Aggregation; A New Route to Bimetallic Clusters.
W.E. Klotzbücher, G.A. Ozin; *Proceedings of the 10th Material Research Symposium on Characterization of High Temperature Vapours and Gases, National Bureau of Standards, Gaithersburg, USA, 1978. NBS Special Publ. 561 (1979) 567-586*
- (18) Very Small Bimetallic Clusters of Silver with Manganese, Molybdenum and Copper in Rare Gas Matrices.
W.E. Klotzbücher, G.A. Ozin; *Inorg. Chem.* 19 (1980) 3776
- (19) Double Refractory Bimetallic Clusters: Optical and Extended Hückel Molecular Orbital Studies of the MoNb Molecule.
W.E. Klotzbücher, G.A. Ozin; *Inorg. Chem.* 19 (1980) 2848
- (20) Optical Spectra of Hafnium, Tungsten, Rhenium, and Ruthenium Atoms and Other Heavy Transition-Metal Atoms and Small Clusters ($\text{Zr}_{1,2}$, $\text{Pd}_{1,2}$, $\text{Au}_{1,2,3}$) in Noble Gas Matrices.
W.E. Klotzbücher, G.A. Ozin; *Inorg. Chem.* 19 (1980) 3767
- (21) Photochemical Cleavage and Recombination Reactions of Matrix Isolated (1- σ -4,5,6- η^3 -organo)tricarbonyliron Complexes.
F.-W. Grevels, W.E. Klotzbücher; *Inorg. Chem.* 20 (1981) 3002
- (22) A Deposition Aid for Matrix-Isolation Studies.
W.E. Klotzbücher; *Cryogenics* 23 (1983) 554
- (23) Transformations in Thin Solid Layers: The Reversible Polymerization-Depolymerization of 2,6-Di-n-propyl-1,3,5,7-tetraoxa-2,6-dibora-4,8-octalindiones at Low Temperatures.
M. Yalpani, W.E. Klotzbücher; *Z. Naturforsch.* 40b (1985) 222
- (24) Low-Temperature Matrix Photochemistry (η^4 -Diene)tetracarbonylchromium Complexes.

- Gerhartz, F.-W. Grevels, W.E. Klotzbücher, E.A. Koerner on Gustorf, R.N. Perutz; Z. Naturforsch., 40b (1985) 518
- (25) I.r.-Monitored Flash Photolysis of $\text{Fe}(\text{CO})_5$ in Benzene Solution.
S.P. Church, F.-W. Grevels, H. Hermann, J.M. Kelly, W.E. Klotzbücher, K. Schaffner; JCS Chem. Comm. (1985) 594
- (26) Low-Temperature Photochemistry of Matrix-Isolated $\text{Fe}(\text{CO})_4$ -Complexes of α,β -Unsaturated Esters: C=C vs. Ester Group Coordination.
Wolfgang Gerhartz, Friedrich-Wilhelm Grevels and Werner E. Klotzbücher; Organometallics 6 (1987) 1850
- (27) Generation of $\text{Re}_2(\text{CO})_9(\text{N}_2)$ from $\text{Re}_2(\text{CO})_{10}$: Identification of Photochemical Intermediates by Matrix Isolation and Liquid-Noble Gas Techniques.
Stephen Firth, Werner E. Klotzbücher, Martyn Poliakoff and James J. Turner; Inorg. Chem. 26 (1987) 3370-3375
- (28) Dynamic Processes on the IR Time Scale: Coalescence of CO Stretching Vibrational Bands in (η^4 -Dien) $\text{Fe}(\text{CO})_3$ -Complexes.
Friedrich-Wilhelm Grevels, Jürgen Jacke, Werner E. Klotzbücher, Carl Krüger, Klaus Seevogel, Yi-Hung Tsay; Angew. Chem. 99 (1987) 960-961 (Int. Ed. 99 (1987) 885-887)
- (29) Rhenium Carbonyl and Dinitrogen Complexes: Identification of Intermediates by Matrix Isolation Photochemistry and Metal Atom Synthesis.
W. E. Klotzbücher; J. Mol. Struct. 174 (1988) 5-10
- (30) Photoreactions of Group 6 Metal Carbonyls with Olefins.
Friedrich-Wilhelm Grevels, Jürgen Jacke, Werner E. Klotzbücher, Saim Özkar, and Volker Skibbe; Pure and Appl. Chem. 60 (1988) 1017-1024
- (31) Intermediates in the Time-resolved and Matrix Photochemistry of (η^5 -cyclopentadienyl) Rhodium Complexes - Roles of Alkane Activation and Rhodium-Rhodium Bond Formation.
S.T. Belt, F.-W. Grevels, W. E. Klotzbücher, A. McCamley, and R. N. Perutz; J. Americ. Chem. Soc. 111 (1989) 8373-8382
- (32) The Photochemistry of $\text{M}(\text{CO})_4(\eta^4\text{-norbornadiene})$ Complexes of Group 6 Transition Metals (M = Cr, Mo, W) in Low Temperature Matrices.
Friedrich-Wilhelm Grevels, Jürgen Jacke, Werner E. Klotzbücher, Kurt Schaffner, Richard H. Hooker, and Antony J. Rest; J. Organomet. Chem. 382 (1990) 201-224
- (33) $\text{Os}_2(\text{CO})_8$: Transient Existence in Solution as Observed by Time-Resolved IR Spectroscopy upon Flash Photolysis of Octacarbonyl-1,2-diosmacyclobutane.
Friedrich-Wilhelm Grevels, Werner E. Klotzbücher, Frank Seils, Kurt Schaffner, and Josef Takats; J. Americ. Chem. Soc. 112 (1990) 1995-1996
- (34) Dynamic IR Spectroscopy: Occurrence and Predictability of Coalescence in the CO Stretching Vibrations of ^{13}C -Enriched Tricarbonyl(η^4 -norbornadiene)iron.

- James J. Turner, Friedrich-Wilhelm Grevels, Steven M. Howdle, Jürgen Jacke, Mark T. Haward, and Werner E. Klotzbücher;
J. Americ. Chem. Soc. 113 (1991) 8347-8353
- (35) Short-Wavelength Flash Photolytic Fragmentation of $\text{Ru}_3(\text{CO})_{12}$ in the Presence of CO and Complementary Experiments with $\text{Ru}(\text{CO})_5$: a Time-resolved IR Spectroscopic Study.
Friedrich-Wilhelm Grevels, Werner E. Klotzbücher, Jörg Schrickel, and Kurt Schaffner; J. Americ. Chem. Soc. 116 (1994) 6229-6237
- (36) Short-wavelength flash-photolytic fragmentation of $\text{Ru}_3(\text{CO})_{12}$ in the presence of CO and complementary experiments with $\text{Ru}(\text{CO})_5$: transient IR-spectroscopic evidence for $\text{Ru}_3(\text{CO})_{13}$.
F.W. Grevels, W.E. Klotzbücher, K. Schaffner, J. Schrickel; Springer Proc Phys 74 (Time-Resolved Vibrat. Spectr. VI), (1994) 177-8
- (37) A Structural Investigation of the Ground and Excited States of $\text{C}(\text{Re}(\text{CO})_3(4,4'\text{-bipyridyl})_2)$ using Vibrational and Time-Resolved Vibrational Spectroscopy
Daniel R. Gamelin, Michael W. George, Paul Glyn, Friedrich-Wilhelm Grevels, Frank P. A. Johnson, Werner Klotzbücher, Sara L. Morrison, Graham Russell, Kurt Schaffner, and James J. Turner; Inorg. Chem. 33 (1994) 3246-3250
- (38) Reactions of Samarium Atoms in Inert and Reactive Matrices
Werner E. Klotzbücher, Marina A. Petrukhina and Gleb B. Sergeev;
Mendeleev Commun. (1994) 5-7
- (39) Photo-induzierte Fragmentierung von $\text{Ru}_3(\text{CO})_{12}$: eine blitzphotolytische Studie mit zeitaufgelöster IR-Detektion;
F.-W. Grevels, W. E. Klotzbücher, J. Schrickel, K. Schaffner;
J. Inf. Rec. Mats. 21 (1994) 433-435
- (40) Photochemistry of Metal Carbonyls by Infrared Photodetection Method
Tetsuro Majima, Katsutoshi Yasufuku, Michio Takami, W. E. Klotzbücher and F.-W. Grevels; Reza Kagaku Kenkyu 15 (1993) 107-109
- (41) Photolytic Behaviour of Tricarbonyl($(1,2,5,6\text{-}\eta\text{-cycloocta-1,5-diene})$)iron in Solution and Low-Temperature Matrices
Friedrich-Wilhelm Grevels, Werner E. Klotzbücher, Graham Russell and Kurt Schaffner; Recl. Trav. Chim. Pays-Bas 114 (1995) 571-576
- (42) Photochemistry of $(\eta^4\text{-6-2,6-X}_2\text{C}_5\text{H}_3\text{N})\text{Cr}(\text{CO})_3$ ($\text{X}=\text{H}, \text{CH}_3, (\text{CH}_3)_3\text{Si}$). First Example of a Photoinduced Ring-Slip at an $(\eta^6\text{-Arene})\text{M}(\text{CO})_3$ Center. Molecular Structures of $(\eta^6\text{-2,6-}(\text{CH}_3)_2\text{C}_5\text{H}_3\text{N})\text{Cr}(\text{CO})_3$ and $(\eta^6\text{-2,6-}((\text{CH}_3)_3\text{Si})_2\text{C}_5\text{H}_3\text{N})\text{Cr}(\text{CO})_3$
Ciara J. Breheny, Sylvia M. Draper, Friedrich-W. Grevels, Werner E. Klotzbücher, Conor Long, Mary T. Pryce, and Graham Russell;
Organometallics 15 (1996) 3679-3687
- (43) Holmium Atoms and Small Clusters in Inert Matrices
Werner E. Klotzbücher, Marina A. Petrukhina, and Gleb B. Sergeev;
J. Phys. Chem. A 101 (1997) 4548-4554

- (44) Predicting Lanthanide Cluster Properties: A Comparison with the Observed Optical Spectra of Ho_2
V. Nemukhin, A. Yu. Ermilov, M. A. Petrukhina, W. E. Klotzbücher, J. Smets; *Spectrochim Acta A*, 53 (1997) 1803-1812
- (45) The very low barrier of CO site exchange in tricarbonyl(η^4 -1,5-cyclooctadiene)iron: Picosecond kinetics in solution investigated by line shape simulation of the ν_{CO} IR bands and complementary evidence from the course of ^{13}CO incorporation in a low-temperature matrix
Friedrich-Wilhelm Grevels, Klaus Kerpen, Werner E. Klotzbücher, R.E.D. McClung, Graham Russell, Manuela Viotte and Kurt Schaffner
J. Americ. Chem. Soc. 120 (1998) 10423-10433
- (46) Sequential Photosubstitution of CO by (E)-cyclooctene in hexacarbonyl tungsten: Structural aspects, multistep photokinetics, and quantum yields
Friedrich-Wilhelm Grevels, Jürgen Jacke, Werner E. Klotzbücher, Franz Mark, Volker Skibbe, Kurt Schaffner, Klaus Angermund, Carl Krüger, Christian W. Lehmann, and Saim Özkar; *Organometallics* 18 (1999) 3278-3293
- (47) Formation of mixed d- and f-block metal clusters in inert matrices: comparison of the observed and theoretical optical spectra of AgHo
W.E. Klotzbücher, M.A. Petrukhina, A.V. Nemukhin, A. Yu. Ermilov, and B.L. Grigorenko; *Spectrochim. Acta A*, 57 (2001) 1093-1101
- (48) Dissociative CO Photosubstitution in $\text{M}(\text{CO})_4(1,4\text{-diazabutadiene})$ Complexes ($\text{M} = \text{W}, \text{Mo}$) by an Olefin Affording Novel $\text{fac-M}(\text{CO})_3(1,4\text{-diazabutadiene})(\eta^2\text{-olefin})$ Derivatives
Friedrich-Wilhelm Grevels, Klaus Kerpen, Werner E. Klotzbücher, Kurt Schaffner, Richard Goddard, Bruno Weimann, Ceyhan Keyran, and Saim Özkar
Organometallics 20 (2001) 4775-4792
- (49) Calculation of Vibrational Spectra of Linear Tetrapyrroles. 3. Hydrogen-Bonded Hexamethylpyrromethene Dimers
Maria-Andrea Mroginski, Karoly Nemeth, Tanja Bauschlicher, Werner Klotzbücher, Richard Goddard, Oliver Heinemann, Peter Hildebrandt, and Franz Mark
J. Phys. Chem. A 109 (2005) 2139-2150

Roughly 10 publications on lanthanide atom chemistry are in preparation.

OTHER PUBLICATIONS

- (1) Sequestered Matrix Isolation Research in the USSR.
Werner E. Klotzbücher; *EPA Newsletter* 25 (1985) 37
- (2) Online Literaturrecherchen: Erfahrungen beim Aufbau einer kleinen Informationsvermittlung.
Werner E. Klotzbücher; *Berichte* 8. Frühjahrstagung der Online Benutzergruppe der DGD, Hofheim 1986, DGD 1/87, 89-103

- (3) EARN, BITNET, DFN - Neue, weltweite Kommunikationswege für Wissenschaftler.
Werner E. Klotzbücher; Berichte 8. Frühjahrstagung der Online Benutzergruppe der DGD, Hofheim 1986, DGD 1/87, 104-111
- (4) Low Temperature Chemistry in the USSR.
Werner E. Klotzbücher; Proceedings of the NATO Science Committee Symposium 'Soviet Scientific Research', Brussels 24.-26.9.1986, p. 211-224
- (5) Book Review: From CA to CAS Online.
Werner E. Klotzbücher; EPA Newsletter 34 (1988) 89-90
- (6) Book Review: Chemical Information - A Practical Guide to Utilization.
Werner E. Klotzbücher; EPA Newsletter 35 (1989) 44-45
- (7) George C. Pimentel, 1922-1989. A life dedicated to chemistry.
Werner Klotzbücher; EPA Newsletter 36 (1989) 4-5
- (8) Online Behind the Old Iron Curtain: Computer-assisted Information and Communication With CMEA Countries.
Werner Klotzbücher; ONLINE (Weston) 15 (1991) 103-108
- (9) Book-Review: A Tale of Four Books with an Epigraph
Werner E. Klotzbücher; EPA Newsletter 41 (1991) 73-75
- (10) Book-Review: Spectroscopy of Matrix-Isolated Species.
Werner E. Klotzbücher; Angew. Chem. 1-3 (1991) 220-221
- (11) Computer-Assisted Communication with the C.I.S.
Werner E. Klotzbücher; EPA Newsletter 44 (1992) 56-59
- (12) Computer-Assisted Communication with the Commonwealth of Indep. States.
Werner E. Klotzbücher; World of Learning 1992, A35-A50
- (13) Online Communication with the Ex-USSR
Werner Klotzbücher, ONLINE (Weston) 16 (1992) 106-108

INVITED LECTURES 1998 - 2007

- 1998:** Workshop "Basics of IR- and UV Spec-troscopy" Border Technikon, East London; RSA
- 1999:** Univ of Fort Hare, Alice; Border Technikon, East London; Univ. of Natal, Durban; Univ. at Pietermaritzburg; (all South Africa).
Workshop "European Funding" Brussels;
ICLTC3 Nagoya (Japan); MIWRI4 Tsu (Japan).
- 2000:** Rands Afrikaans University, Johannesburg; Potchefstroom University; Universität von Pretoria (all South Africa). Workshop "European Funding" Frankfurt.
- 2001:** Max-Planck-Institut Rostock ("European Funding")
- 2002:** University Bielefeld & Max Planck Institutes Golm ("European Funding")
- 2003:** National FP6 Kickoff Event Germany, Hannover; Max Planck Institute Cologne; National FP6 Kickoff Event Turkey, Istanbul ("European Funding")

- 2003:** Max-Planck-Institut für Züchtungsforschung, Köln ("European Funding")
NEST Preparatory Meeting, Stockholm ("European Funding")
- 2004:** Max-Planck-Institut Marburg ("European Funding")
- 2007:** Bayerische Forschungsallianz ("European Funding")

RESEARCH INTERESTS:

Until 2000 all my research centered around a matrix isolation service group accommodating the needs of organic, inorganic and organometallic chemists towards infrared and UV-visible spectroscopic characterization of stable complexes and reactive photoproducts. Attention was directed towards synthesis of novel compounds by cocondensation of transition metal vapours with inert and reactive matrices, aided by photochemical activation. Furthermore, attempts were directed towards experimental improvements of matrix isolation techniques and their interaction with synthetic procedures on a preparative scale.

In 1987 spectroscopy in low temperature hydrocarbon and liquified inert gas solutions was added to the techniques employed. Within the framework of these studies a cooperation with the Institute of Spectroscopy, Academy of Sciences USSR, was established. In 1988 (upon retirement of Dr. Hermann) his group for flash photolysis with infrared detection was added, the techniques modernized and the capabilities enlarged. This group was transferred in 1995 to Dr. Görner.

In 1995 the technique of spectroelectrochemistry (in-situ electrochemistry in an OTTLE cell for IR and UV-vis) was added, matrix isolation fluorescence spectroscopy was introduced.

Since 1995 the thematic mission of the Institute changed from radiation and photochemistry to topics in bioinorganic chemistry and biophysics. Taking over more and more administrative duties my research capabilities were gradually reduced, parts of the laboratory went to colleagues, parts were used to investigate inorganic and biological samples at low temperatures. Research continued on the (photo)chemical reactions of lanthanide and silicon atoms in inert and reactive matrices. In 2011 the cryosolution equipment was donated to a colleague at Imperial College, one half of the remaining matrix lab was given to Hungarian colleagues and the other half remained to be modified for new research at the evolving Max Planck Institute for Chemical Energy Conversion.

Since 2000 my main concerns were the organisation of the transition of the Institute and to assist the directors with academic administration tasks. This includes being responsible for all public relations, the website, private funding issues and the official reports. Furthermore, through my intimate knowledge of the funding system of the European Commission my activities as EU Liaison Officer increased: until November 2006 I was 'Speaker of the Working Group of EU Liaison Officers of the Max Planck Society'.

Presently I continue to give seminars on third party funding on the regional, national and international level.

PROJECT COORDINATION

INTAS 94-4299	Seven laboratories in Eastern- and Western Europe, funding 20 scientists in Russia and Ukraine
HCM ERBCHBGCT930402	Centre of excellence in training: 4 'European' postdoc fellows
STIFTERVERBAND	Three pilot projects on 'Russian science'
BMBF	Cooperation project with University of Fort Hare, South Africa
DFG	Cooperation Project Hungary

In 2008-2013 I managed the local execution of EU cooperation projects SOLAR-H, SOLAR-H2 and the Marie Curie IIF project EXTREMOPHIL.

GENERAL INTERESTS

Problems of electronic information retrieval and -transfer, modern technology in the areas of computers, corporate intelligence, networking, new materials, sociological effects of 'the third wave'.