Publications

Journals

1. F.A. Cebul, K.A. Kirk, D.W. Lupo, L.M. Pittenger, M.D. Schuh, I.R. Williams and G.C. Winston, "Charge-Transfer Mechanism for Quenching of the lowest $3^{n,\pi}$ State of Vapor Phase Carbonyl-Containing Compounds by 0_2", *J. Amer. Chem. Soc.* **102**, 5656 (1980).

2. D.W. Lupo, H. Abdel-Halim and G.E. Ewing, "Temperature Dependence of Vibrational Energy Transfer in Liquids: V-V Relaxation of CO(v =1) by O_2 in Liquid Ar from 86 to 145 K", *Chem. Phys*. **104**, 455 (1986).

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5. D.W. Lupo, M. Quack and B. Vogelsanger, "IR Laser Chemistry and C-F Chromophore Absorption of 1,2-Dichloro-1,1,2-trifluoroethane", *Helv. Chim. Acta* **70**, 129 (1987).

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7. D. W. Lupo and M. Quack, "Absolute Rate Coefficients in IR-Photochemistry: Simple Estimates of the Rate Constant from Molecular Parameters", *Ber. Bunsenges. Phys. Chem.* **91**, 565 (1987).

8. D. Lupo, W. Prass, U. Scheunemann, A. Laschewsky, H. Ringsdorf and I. Ledoux, "Second-harmonic Generation in Langmuir-Blodgett Monolayers of Stilbazium Salt and Phenylhydrazone Dyes", *J. Opt. Soc. America* **B5**, 300 (1988).

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10. I. Ledoux, D. Josse, J. Zyss, T. Maclean, R.A. Hann, P.F. Gordon, S. Allen, D. Lupo, W. Prass, U. Scheunemann, A. Laschewsky, H. Ringsdorf, "Quadratic Nonlinear Behaviour of Various Langmuir-Blodgett Molecules" , in: *Nonlinear Optical Effects in Organic Polymers*, J. Messier et al., ed. Dordrecht: Kluwer Academic Publishers (1989).

11. D. Lupo, W. Prass and U. Scheunemann, "Structure and Properties of Langmuir-Blodgett Films Made from Polyamides", *Thin Solid Films* **178**, 403 (1989).

12. J.D. Magan, P. Lemoine, W. Blau, M. Hogan, D. Lupo, W. Prass and U. Scheunemann, "Photoablative Etching of Langmuir-Blodgett Films", *Thin Solid Films* **191**, 349 (1990).

13. W. Groh, D. Lupo and H. Sixl, "Polymer Optical Fibers and Nonlinear Optical Device Principles", *Angew. Chemie Advan. Mat.* **101**, 1580 (1989).

14. W. Hickel, D. Lupo, P. Ottenbreit, W. Prass, U. Scheunemann, J. Schneider, H. Ringsdorf, "Stabilisation of LB-Multilayers of NLO-active dyes by Means of Complexation with Polymeric Counterions", in: *Organic Materials for Nonlinear Optics II*, R.A. Hann and D. Bloor, ed. London: Royal Society of Chemistry (1991).

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33. U. Bach, D. Corr, D. Lupo, F. Pichot, M. Ryan, "Nanomaterials-Based Electrochromics for Paper-Quality Displays", *Advanced Materials* **14**, 845 (2002).

34. D. Lupo, "Covion Proffers Blend of Services, Advanced Materials in OLEDs", *Display Devices* **31**, 28 (2003).

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Selected Patents and Patent Applications

1. „Amphiphilic polymers bearing silyl groups forming monomolecular films". Hoechst AG, EP 92-103535 (1992).

2. „Aromatically substituted pyrimidine derivatives, their preparation, and their use in liquid-crystal mixtures for nonlinear optics". Hoechst AG, DE 92-4241806 (1992).

3. „Optical elements with Langmuir-Blodgett layers". Hoechst AG, EP 93-116954 (1993).

4. „Conjugated polymers with a spiro atom for use as electroluminescent materials". Hoechst AG, EP 707020 (1994)

5. „Conjugated polymers with hetero spiro atoms and their use as electroluminescent materials". Hoechst AG, DE 94-4442052 (1994).

6. „Polymers comprising 4,5,9,10-tetrahydropyrene-2,7-diyl units and their use as electroluminescent materials", Hoechst AG, EP 699699 (1995).

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10. „Photovoltaische Zelle", Hoechst AG, WO 97-10617 (1997).

11. „Sensor Element and Sensor for the Determination of Ozone Concentration", Hoechst AG, DE 196 19 226 (1997).

12. „Photovoltaic Cell", Hoechst AG, WO 9848433 (1998).

13. „Photodetector and Use of Same", Aventis Research and Technology, WO 9945595 (1999).

14. „Electroluminescent Device made of organic Material", Aventis Research and Technology, EP 0946995 (1999).

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16. „Method of Fabrication and Structure of an Active Matrix Light Emitting Display", Sony International (Europe) GmbH, EP 0996176 (2000).

17. „Polyimide Layer Comprising Functional Material, Device Emplying the Same and Method of Manufacturing Same Device“, Sony International (Europe) GmbH, EP 1011154 (2000).

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20. “Electrochromic Particles”, NTera Ltd., EP 1592758 (2005).

21. “Multilayer System Method for Production and Use Thereof in Electro-Optical Components”, University of Mainz, EP 1834343 (2007).

22. “Active Matrix Electronic Display Comprising Diode Based Matrix Driving Circuit”, UPM Kymmene Corporation, WO 2007096456 (2007).

Selected Lectures and Conference Presentations

1. „Second Harmonic Generation in Langmuir-Blodgett Films“, invited lecture, Department of Physics, Trinity College, Dublin, 22 May 1988.

2. „Nichtlineare Optik für Chemiker“, invited lecture, Institut für org. Chemie, Universität München, 20 Dec. 1988.

3. „Ultrathin Organic Films for Nonlinear Optics“, invited lecture, Dept. of Chemistry, Indiana University, 30 March 1989.

4. „Optische Eigenschaften ultradünner organischer Schichten“, invited lecture, 28. Dechema Symposium „Polymere und Licht“, Tutzing, 12.-15. March 1990.

5. „Organische Materialien und Dünne Schichten für nichtlineare Optik“, invited lecture, Institut für org. Chemie, Universität Braunschweig, 12 Feb. 1992.

6. „From Monolayers to Waveguides: Langmuir-Blodgett Films for Nonlinear Optics", plenary lecture, Miyazaki Symposium of the Japanese Polymer Society, Tokyo, 24 June 1993.

7. „The Plastic LED: Devices and Materials for Polymeric Light-Emitting Diodes“, invited lecture, Department of Chemistry, Davidson College, 27 April 1995.

8. „Ultrafast Hole Injection from Dye Molecules into an Organic Hole Conductor for Solid-State Dye-Sensitized Solar Cells“, U. Bach, F. Weissoertel, J. Uebe, M. Graetzel, D. Lupo and J. Salbeck, Poster, Bayreuth Polymer and Materials Research Symposium, 7.-9. April 1997.

9. „Strom aus Himbeeren? Die „Grätzel-Zelle“, eine neuartige Technik zur Gewinnung von Solarstrom“, guest lecture in course “Einführung in die Solartechnik”, Fachhochschule-Frankfurt am Main, Fachbereich Mathematik-Naturwissenschaften-Datenverarbeitung, 21. May 1997.

10. “Lichtemittierende Polymere: ein Weg zu flachen Anzeigen”, plenary lecture, graduation ceremony, Chemieschule Fresenius, Kloster Eberbach, July 1997.

11. “Organic Solar Cells: Overview and Perspectives”, invigted talk, Spring Meeting of the Deutschen Physikalischen Gesellschaft, Gruppe Festkörperphysik, Münster, 30 March 1999.

12. “Novel Nanostructured Electrochromic Devices for Smart Windows and Displays”, Poster, Gordon Conference on Electronic Processes in Organic Systems, Newport, R.I., USA, 30. Juli – 4. August 2000.

13. “Doing a Lot with a Little: Grundlagen und Anwendungen chemisch modifizierter nanostrukturierter Halbleiter”, Seminar in chemical technology, Universität Mainz, 5. June 2002.

14. „Electronic Paper Displays: Applications, Requirements and Technologies“, invited lecture, Electronic Displays 2003, Wiesbaden, Sept. 2003.

15. “Printable Non-Volatile Re-Writable Memory”, invited lecture, International Symposium on Flexible Electronics and Displays, Hsinchu, Taiwan, Nov. 2008.