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Education

Long Island University	B.S. 1956
St. John's University	M.S. 1965
Columbia University	Ph.D. 1968

Experience

Dispensary pharmacist, U.S. Army	1956-58
Community pharmacist	1958-64
E.R. Squibb (Quality Assurance Chemist)	1964-65
Columbia University (Research Assistant)	1966-68
Rutgers University (Assistant Professor)	1968-71
Rutgers University (Associate Professor)	1971-79
Rutgers University (Professor)	1979-2001
Rutgers University (Department Chair)	1988-98
Rutgers University (Professor Emeritus)	2001-

Honors

Graduated magna cum laude, L.I.U., 1956
College Silver Medal, Chemistry Gold Medal and H.B. Smith Award, 1956
Fellow, American Foundation for Pharmaceutical Education, 1964-68
Robert Lincoln McNeil Citation Fellow, 1967-68
Member of Rho Chi (Pharmaceutical Honor Society)
Member, Society of Sigma Xi
Lederle Pharmacy Faculty Award, 1970, 1971, 1973, 1977
Research Award, NJ Pharmaceutical Research Discussion Group, 1978
Research Award, NJ Pharmaceutical Research Discussion Group, 1981
Society of Cosmetic Chemists Award (Best paper, Scientific Seminar), 1985
Society of Cosmetic Chemists Award (Best paper, Annual Meeting), 1990
Fellow, Society of Cosmetic Chemists, July 1991
Who's Who in Science and Engineering, 1992, 1996
Who's Who in the East, 1992
Who's Who in American Education 1995
American Men and Women of Science 1997

Areas of Research Interest

Skin permeation of drugs and cosmetics
Formulation, stability and bioavailability of topical delivery systems
Novel approaches to topical delivery

Recent Professional Activities

Member, Editorial Board, *Journal of the Society of Cosmetic Chemists*, 1985-present.
Member, Editorial Board, *Journal of Pharmaceutical Sciences*, 1991-1993.
Reviewer, *Pharmaceutical Research*, *Journal of Pharmaceutical Sciences*, *International Journal of Pharmaceutics*, *Journal of Cosmetic Science*, *Colloids and Surfaces* and other journals
Course director and speaker, "Skin Product Development" short course, USA and Europe, Center for Professional Advancement, 1985-2004; Center for Professional Innovation and Education, 2005-2008.
Member, Society of Cosmetic Chemists Education Committee, 1987, 88.
Member, Society of Cosmetic Chemists Committee on Scientific Affairs, 1987-89.
Lecturer, "Dermal Toxicology" short course, Center for Professional Advancement, 1989, 90.
Member, American Association Of Pharmaceutical Scientists Graduate Education Committee, 1989-1993.
Chair, Society of Cosmetic Chemists Educational Institutional Grants Committee, 1992.
Chair, American Association Of Pharmaceutical Scientists Pharmaceutical Technology Section, Graduate and Undergraduate Education Committee, 1992.
Member, organizing committee, "Rutgers Centennial Pharmaceutics Conference," October 1992.
Co-chair, moderator, and speaker, Conference on "Insights into Evaluation of Topical and Transdermal Products," November 1992
Member, American Association Of Pharmaceutical Scientists-FDA Committee on Scale-up of Topical Products, 1993.
Instructor, Course for FDA inspectors under contract with University of Maryland, June, 1993.
Reviewer, Small Business Innovative Research grants, U. S. Department of Agriculture, 1993.
Consultant, FDA Generic Drugs Division, on in vitro release from dermatologic products, August 1994.
Co-chair and moderator, Conference on "Insights into Advances in Dermatological Therapies," October 1994.
Moderator, session on "Retarding and Enhancing Skin Penetration", CTFA Annual Scientific Conference, October 1994.
Member, Industry Advisory Committee for Interphex, 1995-96.
Chair, Rutgers Pharmaceutics Conference 1995, Rutgers University, October, 1995.
Co-chair, moderator, and speaker, Conference on "Insights into Dermatologic Drug Development. Linking Bioavailability, Bioequivalency and Therapy", October, 1995.
Member FDA SUPAC-SS Working Group, 1996/97
Expert reviewer, Organization for Economic Co-Operation and Development, 1997.
Chair, NY Chapter, Society of Cosmetic Chemists, 1998.
Expert reviewer, TNO Nutrition and Food Research Institute, 1998.
Developed Skin Delivery Web Site, <http://www-rci.rutgers.edu/~zatz/>, 1998.-
Editor, *Journal of Cosmetic Science*, 1998-2000
Course director and speaker, "Dermatological Product Development" short course, 2005-.9, Center for Professional Innovation and Education
Member, Round Table consulting group 2005-
Expert witness in patent infringement cases
Consultant for various pharmaceutical and cosmetic companies

Patents

J. L. Zatz and D.W. Woodford, "Controlled Release Liquid Pharmaceuticals", US 4717713, January 5, 1988.

J. L. Zatz and G. G. Malhotra, "Composition And Method For Topical Nail Treatment", US 6,821,508, November 23, 2004.

Bibliography

1. J. L. Zatz, N. D. Weiner and M. Gibaldi, "Monomolecular Film Properties of Protective and Enteric Film Formers, I.", *J. Pharm. Sci.*, 57, 1440-1442 (1968)
2. J. L. Zatz, N. D. Weiner and M. Gibaldi, "Monomolecular Film Properties of Protective and Enteric Film Formers, II.", *J. Pharm. Sci.*, 58, 1493-1496 (1969)
3. J. L. Zatz, N. D. Weiner and M. Gibaldi, "Orientation of Monolayers of Half-Esters of Poly (Methyl Vinyl Ether/Maleic Anhydride)", *J. Colloid Interface Sci.*, 33, 1-7 (1970)
4. J. L. Zatz, "Trace Solvent Contamination as Determined by Surface Pressure Measurement", *J. Pharm. Sci.*, 59, 117-118 (1970)
5. J. L. Zatz and B. Knowles, "Monomolecular Film Properties of Some Cellulose Esters", *J. Pharm. Sci.*, 59, 1188-1190 (1970)
6. J. L. Zatz, "Surface Properties of Cellulose Acetate Phthalate", *J. Colloid Interface Sci.*, 33, 465-467 (1970)
7. J. L. Zatz and B. Knowles, "The Effect of pH on Monolayers of Cellulose Acetate Phthalate", *J. Pharm. Sci.*, 59, 1750-1751 (1970)
8. J. L. Zatz, "Comments on 'Monolayers of Polyvinyl Acetate' ", *J. Colloid Interface Sci.*, 37, 505 (1971)
9. J. L. Zatz and B. Knowles, "Monolayers of Polyvinylpyrrolidone Copolymers", *J. Pharm. Sci.*, 60, 1731-1733 (1971)
10. J. L. Zatz, "Accumulation of Organochlorine Pesticides in Man", *J. Pharm. Sci.*, 61, 948-949 (1972)
11. J. L. Zatz, "Penetration of Polymer Monolayers", *J. Pharm. Sci.*, 61, 977-978 (1972)
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13. G. W. Cleary and J. L. Zatz, "Effect of a Dissolved Corticosteroid on the Surface Potential of Lipid Monolayers", *J. Colloid Interface Sci.*, 45, 507-511 (1973)
14. J. L. Zatz, *Pharmaceutical Calculations*, Wiley-Interscience, NY, 1973
15. J. L. Zatz, "The Condensing Effect of Cholesterol - A Physical Model", *J. Pharm. Sci.*, 63, 858-861 (1974)
16. J. L. Zatz, "Contact Angles on Human Skin", *J. Pharm. Sci.*, 64, 1080 (1975)

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18. J. L. Zatz, "Free Energy of Adsorption of Nonionic Surfactants at the Saturated Air-Water Interface", *J. Colloid Interface Sci.*, 56, 179-180 (1976)
19. J. L. Zatz, "Interaction of Polyvinylpyrrolidone/Polyvinyl Acetate Graft Copolymers with p-Hydroxybenzoic Acid Derivatives", in *Colloid and Interface Sci.*, Academic, 1976, Vol. 5, 231-238.
20. G. W. Cleary and J. L. Zatz, "Interaction of Hydrocortisone with Model Membranes Containing Phospholipid and Cholesterol", *J. Pharm. Sci.*, 66, 975-980 (1977)
21. V. Shahi and J. L. Zatz, "Effect of Certain Formulation Factors on the Penetration of Hydrocortisone Through Mouse Skin", *J. Pharm. Sci.*, 67, 789-792 (1978)
22. J. L. Zatz, "Comparison of Adsorbed Films of a Polyvinylpyrrolidone Copolymer with Spread Monolayers", *J. Pharm. Sci.*, 67, 1464-1466 (1978)
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32. J. S. Tempio and J. L. Zatz, "Interaction of Xanthan Gum with Suspended Solids", *J. Pharm. Sci.*, 70, 554-558 (1981)
33. J. L. Zatz, P. Sarpotdar, G. Gergich and A. Wong, "Effect of Surfactants on the

- Flocculation of Magnesium Carbonate Suspensions by Xanthan Gum", *Int. J. Pharm.*, 9, 315-319 (1981)
34. J. L. Zatz and R.-Y. Lue, "Effect of Polyols on Physical Stability of Suspensions Containing Nonionic Surfactant", *J. Soc. Cosmet. Chem.*, 33, 149-155 (1982)
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 36. U. G. Dalvi and J. L. Zatz, "Effect of Skin Binding on Percutaneous Transport of Benzocaine from Aqueous Suspensions and Solutions", *J. Pharm. Sci.*, 71, 824-826 (1982)
 37. J. L. Zatz, "Fundamentals of Transdermal Controlled Drug Administration: Physicochemical Considerations", *Drug Dev. Ind. Pharm.*, 9, 561-577 (1983)
 38. J. L. Zatz, "Factors in Percutaneous Absorption", *CTFA Cosmetic J.*, 15, No. 3, 6-19 (1983)
 39. J. L. Zatz and U. G. Dalvi, "Evaluation of Solvent-Skin Interaction in Percutaneous Absorption", *J. Soc. Cosmet. Chem.*, 34, 327-334 (1983)
 40. J. L. Zatz, "Factors in Percutaneous Absorption" in *Pharmacokinetics and Topically Applied Cosmetics*, CTFA Scientific Monograph Series No. 2, Washington, DC, 1983
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 49. J. L. Zatz and C. Yarus, "Stabilization of Sulfamerazine Suspensions by Xanthan Gum",

- Pharm. Res.*, 3, 118-121 (1986)
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 61. J. L. Zatz, J.J. Berry and D.A. Alderman, "Viscosity Imparting Agents in Disperse Systems", in *Pharmaceutical Dosage Forms: Disperse Systems*, H. Lieberman, M. Rieger and G. Banker, Eds., Dekker, NY, 1989, Vol. 2, pp. 171-203
 62. J. L. Zatz and G. P. Kushla, "Gels", in *Pharmaceutical Dosage Forms; Disperse Systems*, H. Lieberman, M. Rieger and G. Banker, Eds., Dekker, NY, 1989, Vol. 2, pp. 495-510
 63. J. L. Zatz, "Intellectual Property: An Academician's Perspective," *Am J. Pharm. Ed.*, 53, 346-350 (1989)
 64. J. N. Twist and J. L. Zatz, "Interaction of Vehicles with Model Skin Membranes in the Permeation Process", *Percutaneous Absorption*, Second Edition, R. Bronaugh and H. Maibach, Eds., Dekker, NY, 1989, pp. 147-173

65. J. N. Twist and J. L. Zatz, "A Model for Alcohol-Enhanced Permeation through Polydimethylsiloxane Membranes," *J. Pharm. Sci.*, 79, 28-31 (1990)
66. J. L. Zatz, "Scratching the Surface: Skin Permeation," *Cosmet. Toil.*, 105 (8), 39-50 (1990)
67. G. P. Kushla and J. L. Zatz, "Evaluation of a Noninvasive Method for Monitoring Percutaneous Absorption of Lidocaine in Vivo," *Pharm. Res.*, 7, 1033-1037 (1990)
68. J. L. Zatz, "Modification of Skin Permeation by Solvents," *Cosmet. Toil.*, 106 (2), 91-98 (1991)
69. G. P. Kushla and J. L. Zatz, "Influence of pH on Lidocaine Penetration through Human and Hairless Mouse Skin in Vitro," *Int. J. Pharm.*, 71, 167-173 (1991)
70. J. L. Zatz, "Modification of Skin Permeation by Surfactants," *Cosmet. Toil.*, 106 (7), 89-94 (1991)
71. G. P. Kushla and J. L. Zatz, "Correlation of Water and Lidocaine Flux Enhancement by Cationic Surfactants in Vitro," *J. Pharm. Sci.*, 80, 1079-1083 (1991)
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73. J. K. Mills, J. L. Zatz and R. S. Berger, "Physiological End Points: Instrumental Monitoring," *Cosmet. Toil.*, 107 (2), 77-86 (1992)
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76. P. S. Shah and J. L. Zatz, "Plasticization of Cellulose Esters used in the Coating of Sustained Release Solid Dosage Forms," *Drug Dev. Ind. Pharm.*, 18, 1759-1772 (1992)
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79. J. L. Zatz, "Scratching the Surface: Rationale and Approaches to Skin Permeation," *Skin Permeation*, J. L. Zatz, Ed., Allured, 1993, pp. 11-31
80. J. L. Zatz, "Modification of Skin Permeation by Solvents," *Skin Permeation*, J. L. Zatz, Ed., Allured, 1993, pp. 127-148
81. J. L. Zatz, "Modification of Skin Permeation by Surfactants," *Skin Permeation*, J. L. Zatz,

Ed., Allured, 1993, pp. 149-162

82. J. L. Zatz and H. Fares, "Recent Trends in Skin Care," *Pharmacy Times*, supplement, May, 1993
83. V. Dhopeswarkar and J. L. Zatz, *Drug Dev. Ind. Pharm.*, 19, 999- (1993)
84. C.-R. Chen and J. L. Zatz, "Ion-Pairing of Dyclonine with Dyes," *Drug Dev. Ind. Pharm.*, 19, 1265-1282 (1993)
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93. E. P Guenin and J. L. Zatz, "Interaction of Skin with Surfactant Vesicle Components," *J. Soc. Cosmet. Chem.*, 46, 77-84 (1995)
94. J. L. Zatz, "Drug Release from Semisolids: Effect of Membrane Permeability on Sensitivity to Product Parameters," *Pharm. Res.*, 12, 787-789 (1995)
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96. J. L. Zatz, J. J. Berry and D. A. Alderman, "Viscosity-Imparting Agents in Disperse Systems", in *Pharmaceutical Dosage Forms; Disperse Systems*, 2nd Ed., H. Lieberman, M. Rieger and G. Banker, Eds., Dekker, NY, 1996, Vol. 2, pp. 287-313
97. J. L. Zatz and G. P. Kushla, "Gels", in *Pharmaceutical Dosage Forms; Disperse Systems*, 2nd

- Ed., H. Lieberman, M. Rieger and G. Banker, Eds., Dekker, NY, 1996, Vol. 2, pp. 399-421
98. J. L. Zatz, "Factors Affecting the Quality of Dermatological Products", continuing education program for pharmacists sponsored by Key Pharmaceuticals, Power-Pak Communications, 1996
 99. J. L. Zatz, J. Varsano and V. P. Shah, "In Vitro Release of Betamethasone Dipropionate from Petrolatum-Based Ointments", *Pharm. Dev. Technol.*, 1, 293-298 (1996)
 100. J. D. Segers, J. L. Zatz and V. P. Shah, "In Vitro Release of Phenol from Ointment Formulations", *Pharm. Tech.*, 21 (1), 70-81 (1997)
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 102. G. V. Gupchup and J. L. Zatz, "Targeted Delivery to Pilosebaceous Structures", *Cosmet. Toil.*, 112 (3), 79-88 (1997)
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 105. H. M. Fares and J. L. Zatz, "Dual-Probe Method for Assessing Skin Barrier Integrity: Effect of Storage Conditions on Permeability of Micro-Yucatan Pig Skin, *J. Soc. Cosmet. Chem.*, 48, 175-186 (1997)
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 108. V. K. Gupta and J. L. Zatz, "In-vitro Method for Modeling Water Resistance of Sunscreen Formulations", *J. Cosmet. Sci.*, 50, 79-90 (1999)
 109. H. L. Fares and J. L. Zatz, "Mechanism of Polyethylene Glycol-8/SMDI Copolymer In Controlled Release Of Topically Applied Drugs", *J. Cosmet. Sci.*, 50, 133-146 (1999)
 110. M. Rangarajan and J. L. Zatz, "Skin Delivery of Vitamin E", *J. Cosmet. Sci.*, 50, 249-279 (1999)
 111. V. K. Gupta, J. L. Zatz and M. Rerek, "Percutaneous Absorption of Sunscreens through Micro-Yucatan Pig Skin in-vitro", *Pharm. Res.*, 16, 1602-1607 (1999)
 112. G. V. Gupchup and J. L. Zatz, "Structural Characteristics and Permeability Properties of the Human Nail: A Review", *J. Cosmet. Sci.*, 50, 363-385 (1999)

113. J. L. Zatz, "Optimizing Skin Delivery", *Cosmet. Toil.*, 115 (1), 31-35 (2000)
114. G. G. Malhotra and J. L. Zatz, "Characterization of the Physical Factors Affecting Nail Permeation Using Water as a Probe", *J. Cosmet. Sci.*, 51, 367-377 (2000)
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116. J. L. Zatz, "The Quality of Skin Care Products and their Ingredients", *Ostomy/Wound Management*, 47(2), 22-33 (2001)
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118. M. Rangarajan and J. L. Zatz, "Effect of Formulation on the Delivery and Metabolism of Alpha-Tocopheryl Acetate", *J. Cosmet. Sci.*, 52, 225-36 (2001)
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121. M. Rangarajan and J. L. Zatz, "Effect of Formulation on the Topical Delivery of Alpha-Tocopheryl Acetate", *J. Cosmet. Sci.*, 54, 601 (2003)
122. M. R. Motwani, L. D. Rhein and J. L. Zatz, "Deposition of Salicylic Acid into Hamster Sebaceous Glands", *J. Cosmet. Sci.*, 55, 519-531 (2004)
123. J. L. Zatz and M. G. Teixeira, *Pharmaceutical Calculations*, Fourth Edition, Wiley-Interscience, NY, 2005

Invited Presentations Since 1990

Scientific Seminar, Society of Cosmetic Chemists, May 1990. "Polar Pathway, Transepidermal Water Loss and Moisturization"

Symposium on Insights into Advances in Dermatological Therapies, October 1990. "Progress in Dermal Drug Delivery"

SmithKline Beecham Laboratories, October 1990. "Membrane Permeation"

Richardson Vicks Corporation, November 1990. "Dermal Drug Absorption"

Searle Inc., January 1991. "Mechanisms of Skin Penetration Enhancement"

Kelco Co., March 1991. "Bioavailability of Cephalexin from Matrix Tablets"

Taro Pharmaceuticals, March 1992. "Topical Corticosteroids: Stability and Bioavailability"

Proctor and Gamble, October, 1992. "Skin Uptake and Penetration from Nonionic Surfactant Vesicles"

Symposium on Insights into Evaluation of Topical and Transdermal Products, November 1992. "Considerations of in Vitro Evaluation"

Symposium on The Epidermal Permeability Barrier and its Interactions with Drugs and Cosmetics, International Society for Bioengineering and the Skin and Society of Cosmetic Chemists, December 1992. "Skin Retention vs. Permeability"

Meeting on "Scientific Aspects of in Vitro Release of Topical Dermatologic Products, drug release from topical preparations", FDA, December 1992. "Issues Concerning "In Vitro Release" Experiments"

Lecture for FDA inspectors, University of Maryland, May 1993. "Semisolids and Topical Delivery"

Workshop on Scale-up of Liquid and Semisolid Disperse Systems, AMERICAN ASSOCIATION OF PHARMACEUTICAL SCIENTISTS, FDA and USP, May, 1993. "Overview-Creams/Ointments/Gels and Associated Issues of Scale-up"

Congress on Biocosmetics- Skin Aging, IFSCC, September 1993. "New Trends in Topical Delivery Systems"

Society of Cosmetic Chemists, Midwest Chapter, October, 1993. "Applications of Skin Permeation"

Society of Cosmetic Chemists Scientific Seminar, May 1994. "Skin Permeation Of Retinyl Palmitate From Vesicles"

FDA Generic Drugs Advisory Committee Meeting, September 1994. "In Vitro Methodology: Validation- Membrane Contribution to Release from Semisolids"

- AAPS Annual Meeting Workshop on In Vitro Release from Topical Dosage Forms, November 1994. "Limitations of In Vitro Testing"
- Conference on "Insights into Dermatologic Drug Development. Linking Bioavailability, Bioequivalency and Therapy", October, 1995. "Predicting Formulation Activity"
- Renaissance Pharmaceutical invited seminar, June 1996. "Topical Drug Delivery"
- Advances in the Biology of the Skin: Pharmacology and Toxicology, June 1996. "Formulation and Topical Drug Delivery"
- Taro Pharmaceuticals, August 1996. "Bioavailability and Stability of Dermatologicals"
- AAPS Workshop on Bioequivalence of Topical Dermatological Dosage Forms, September, 1996. "In Vitro Release Methodology and its Use"
- Annual Symposium on Scientific, Regulatory and Marketing Developments for Advanced Skincare Products, October, 1996. Workshop on novel clinical and in-vitro testing methodologies "Skin Permeation of Active Compounds"
- Cosmeticos Nuevos Conference, January 1997. "Skin Penetration: Enhancement and Control"
- SUPAC-SS Guidance Industry Training Program (sponsored by FDA), May, 1997. "Complexities of Topical Dosage Forms"
- Formulations Forum 97 Conference, September 1997. "Rheology, Modification and Utility, of Pharmaceuticals"
- AAPS Workshop on Assessment and Applications of In-Vitro Testing of Topical Dermatological Drug Products, September 1997. "In-Vitro Release: Experimental Considerations and Validation"
- SUPAC '98, May 1998. "Supac-SS: Semisolid Dosage Forms- Scale-Up And Post-Approval Changes"
- SCC Area IV Conference on Emerging Technologies in Skin Care Technology and Delivery Systems, October, 1998. "Optimizing Skin Permeation"
- Olin Biocides, December 1998. "Research in Skin Permeation"
- SUPAC '98, December 1998. "Supac-SS: Semisolid Dosage Forms- Scale-Up And Post-Approval Changes"
- R. P. Scherer, January 1999. "Rheological Control of Drug Suspensions"
- Procter and Gamble, September 1999, "Manipulation of Skin Permeation"
- Noninvasive Testing course, S.K.I.N. Inc., October 1999. "Delivery of Active Compounds to the Skin"

Seminar, Huber Engineered Materials, March 2001. "Fundamentals of Skin Delivery"

FDA Center for Drug Evaluation and Research (CDER) lecture series on percutaneous absorption, May 2001. "Impact of Excipients and Manufacturing Process on Skin Delivery"

Procter and Gamble, November 2001. "Skin Delivery and its Role in Product Development"

Short course lectures, Introduction to Skin Product Development, May 2011. "From the Top Down" and "Skin Delivery and Delivery Systems"

Contributed Papers and Published Abstracts Since 1990

Society of Toxicology, February 1990. "An in Vitro Model System for Studying Skin Permeation of TCDD"

16th Congress, International Federation of Societies of Cosmetic Chemists, October 1990. "Simulation Studies of Skin Permeation"

American Association of Pharmaceutical Scientists National Meeting, November 1990. "Evaluation of Xanthan Gum in the Preparation of Sustained Release Matrix Tablets"

American Association of Pharmaceutical Scientists National Meeting, November 1990. "Correlation of Water and Lidocaine Flux Enhancement by Cationic Surfactants in Vitro"

American Association of Pharmaceutical Scientists National Meeting, November 1990. "Interaction of Human Epidermal Growth Factor with Homogenates of Human and Hairless Mouse Skin"

Society of Toxicology, February 1991. "Infinite Dose Skin Permeation Studies of TCDD"

AAPS Eastern Regional Meeting, June 1991. "Physical Chemistry of the Interaction between Dyclonine HCl and Model Membranes"

AAPS Eastern Regional Meeting, June 1991. "Entrapment and Delivery of Salicylic Acid by Vesicles"

American College of Clinical Pharmacy, August 1991. "Assessment of Release Characteristics for a Sustained Release Cephalexin Tablet in Healthy Male Volunteers"

American Association of Pharmaceutical Scientists National Meeting, November 1991. "Noninvasive Assessment of Topical Anesthesia in Humans and Comparison to in Vitro Flux Data"

American Association of Pharmaceutical Scientists National Meeting, November 1991. "Development of an Oral Sustained-Release Antibiotic Formulation Using in Vitro-in Vivo Correlations"

American Association of Pharmaceutical Scientists National Meeting, November 1991. "Entrapment and Membrane Transport of Salicylic Acid from Vesicles"

American Academy of Dermatology, December 1991. "A Quantitative Method for Assessing Topically Applied Local Anesthetic Formulations in Humans"

Society of Toxicology Annual Meeting, February 1992. "Comparative in Vitro Permeation of 2,3,7,8-TCDD through Hairless Mouse and Human Skin"

Society of Toxicology Annual Meeting, February 1992. "In Vitro Dermal Uptake of 2,3,7,8-TCDD in Hairless Mouse and Human Skin from Laboratory-Contaminated Soils"

North Eastern Regional Pharmaceutics Association, April 1992. "Topical Delivery of Salicylic Acid from Surfactant Vesicles"

- Second Jerusalem Conference on Pharmaceutical Sciences and Clinical Pharmacology, May 1992. "Influence of Vesicles on Penetration of Tritiated Water through Hairless Mouse Skin"
- 6th International Conference on Pharmaceutical Technology, June 1992. "Skin Permeation of a Hydrophobe, 2,3,7,8-Tetrachlorodibenzo-p-dioxin"
- 18th World Congress of Dermatology, June 1992. "An Electrometric Method for Measuring Absorption and Clearance of Local Anesthetics in Humans"
- American Association of Pharmaceutical Scientists National Meeting, November 1992. "Delivery of Salicylic Acid through Hairless Mouse Skin from Surfactant Vesicles"
- Society of Cosmetic Chemists Annual Meeting, December 1992. "Enhancement of Skin Permeation by Surfactant Vesicle Components"
- CTFA Annual Scientific Meeting, October 1993. "Principles of Release Measurements on Topical Products"
- American Association of Pharmaceutical Scientists National Meeting, November 1993. "Modeling Topical Delivery of Salicylic acid from Vesicles"
- CTFA Annual Scientific Conference, October 1994. "Mechanistic Studies Of Skin Uptake From Nonionic Surfactant Vesicles"
- American Association of Pharmaceutical Scientists National Meeting, November 1995. "In Vitro Release Procedure for Oxiconazole Nitrate (1%) and Fluticasone Propionate (0.05%) Cream"
- American Association of Pharmaceutical Scientists National Meeting, November 1995. "In Vitro Release of Phenol from Ointment Formulations"
- American Association of Pharmaceutical Scientists National Meeting, November 1995. "A Method for Evaluating Drug Release from Aqueous Suspensions"
- American Association of Pharmaceutical Scientists National Meeting, November 1997. "Mechanism of Polyethylene Glycol-8/SMDI Copolymer in Controlled Delivery of Topically Applied Drugs"
- Society of Cosmetic Chemists National Meeting, December 1997. "Skin Delivery of Salicylic Acid from Vehicles Containing Polyol Prepolymers"
- Society of Cosmetic Chemists Scientific Semionar, May 1999. "Characterization of the Components of Model Sebum using Differential Scanning Calorimetry"
- Society of Cosmetic Chemists Scientific Semionar, May 1999. "Methodology for Studying Nail Permeation in vitro."
- American Association of Pharmaceutical Scientists National Meeting, November 1999. "Enhancement of Water Permeation through Human Nails in vitro".

American Association of Pharmaceutical Scientists National Meeting, November 1999.
"Characterization of a Model Sebum using Differential Scanning Calorimetry"

Society of Cosmetic Chemists Scientific Semionar, May 2000. "Skin Delivery of Sunscreens"

Society of Cosmetic Chemists Scientific Semionar, May 2000. "Effect of Chemical Enhancers on Nail Permeation in vitro"

Society of Cosmetic Chemists Scientific Semionar, May 2000. "Topical Delivery and Metabolism of Vitamin E Acetate"

Society of Cosmetic Chemists Scientific Semionar, May 2000. "Effect of Formulation Factors on the Skin Permeation of Benzophenone-3"

Society of Cosmetic Chemists Scientific Semionar, May 2000. "Correlation of Differential Scanning Calorimetry Transition Temperature of Model Sebum with Salicylic Acid Deposition into Hamsters Sebaceous Glands"

American Academy of Dermatology Annual Meeting, March 2001. "Skin Permeation of 5-Fluorouracil from Cream Formulations"

American Academy of Dermatology Annual Meeting, March 2003. "Critical Components of Dermatologic Vehicles"