Andrew S. Janoff 25 Spring Street Number 310 Princeton, NJ 08542

EDUCATION

1980 - 81	Harvard Medical School, Research Fellow in Pharmacology
1980 - 81	Massachusetts General Hospital, Research Fellow in Anesthesia
1980	Michigan State University, Ph.D., Biophysics
1977	Michigan State University, M.S., Biophysics
1971	The American University, B.S., Biology

PROFESSIONAL POSITIONS

2014	Chairman, CEO, and President, Taaneh, Inc.
2012-	Expert Consultant
2009-2011	CEO TranslationUP
2005-2008	Chairman and CEO Celator Pharmaceuticals, Inc., Princeton, New Jersey
1999-2007	Visiting Research Collaborator, Department of Chemical Engineering Princeton University, Princeton, New Jersey
1996-2006	Adjunct Professor, Department of Pathology, Anatomy & Cell Biology Thomas Jefferson University, Philadelphia, Pennsylvania
2002 – 2005	Chairman and CEO Celator Technologies, Inc., Vancouver, British Columbia, Canada
2001 - 2002	Chairman Celator Technologies, Inc., Vancouver, British Columbia, Canada
1997 - 2001	Vice President of Research & Development The Liposome Company, Inc., Princeton, New Jersey
1997 - 1999	Visiting Research Collaborator, Department of Molecular Biology Princeton University, Princeton, New Jersey
1996 - 1997	Visiting Research Scholar, Department of Physics Princeton University, Princeton, New Jersey
1993 - 1997	Vice President of Research The Liposome Company, Inc., Princeton, New Jersey



1988 - 1995	Adjunct Associate Professor of Pathology, Anatomy & Cell Biology Thomas Jefferson University, Philadelphia, Pennsylvania
1988 - 1993	Executive Director of Research The Liposome Company, Inc., Princeton, New Jersey
1984 - 1988	Director of Membrane Research The Liposome Company, Inc., Princeton, New Jersey
1981-1984	Senior Scientist The Liposome Company, Inc., Princeton, New Jersey
1982 - 1988	Adjunct Assistant Professor of Physiology & Biophysics Rutgers Medical School, Piscataway, New Jersey
1981	Adjunct Assistant Professor of Biology Boston College, Chestnut Hill, Massachusetts

EDITORIAL POSITIONS

2008-	Editor Emeritus, The Journal of Liposome Research, Informa, New York.
1997-2008	Editor-in-Chief, The Journal of Liposome Research Informa., New York.
1994-1997	Editorial Board, The Journal of Liposome Research, Marcel Dekker Inc., New York.
1998-1999	Editor, Liposomes: Rational Design, Marcel Dekker Inc., New York, 1999.

ADVISORY COMMITTEES/CONSULTING

National Institutes of Health Advisory Committee on Antiphospholipid Antibodies and Thrombosis, 1987, 1991 *Ad hoc* member, National Institutes of Health, Hematology Study Section, 1992

Scientific Advisory Board, Rider University, Lawrenceville, New Jersey, 1990 - 1994

The Committee on Science and the Arts, Franklin Institute, Philadelphia, Pennsylvania 1994 – 1996

NATO Advanced Study Institute, Cape Sounion, Greece, 1997

United States Food and Drug Administration, United States Pharmacopeia, American Association of Pharmaceutical Scientists Joint Symposia: Assuring Quality and Performance of Sustained and Controlled Release Parentials, Washington, D.C. 2001

National Cancer Institute Developmental Therapeutics Program Symposium: *Preclinical Models for Defining Efficacy of Drug Combinations*, The National Cancer Institute, Frederick, Maryland, 2003

Centre for Drug Research and Development, Vancouver, Canada 2009

AstraZeneca, 2012

Zydus Pharmaceuticals, 2014-present Alnylam Pharmaceuticals, 2012

Viking Pharmaceuticals, 2014

EXPERT TESTIMONY

United States Federal District Court

REVIEW GRANTS AND MANUSCRIPTS FOR

National Institutes of Health National Science Foundation Proceedings of the National Academy of Sciences Science Nature



Biochemistry
Biochemical Pharmacology
Biophysical Journal
Clinical Chemistry
Chemistry and Physics of Lipids
CRC Press, Inc.
Journal of Biological Chemistry
Journal of Pharmaceutical Sciences
Journal of Liposome Research
Journal of Theoretical Biology

INVITED LECTURES (selected)

Gordon Research Conference on Lipid Metabolism, 1985

Swathmore College, Department of Chemistry, 1987

Gordon Research Conference on Liposomes and Other Organized Lipid Assemblies, 1987

Walter Reed Army Institute for Research, 1988

Sigma Xi, Princeton Chapter, Guest Lecture, 1988

Bayer Centenary Symposium, Perspectives in Antiinfective Therapy, Washington, D.C., 1988

Fourth Annual Princeton Liposome Conference, Princeton, New Jersey, 1989

Thomas Jefferson University, Pathology Grand Rounds, 1990

International Society on Thrombosis & Hemostasis, 26 Annual Meeting, Barcelona, Spain, 1990

Liposomes in Drug Delivery, Twenty-One Years On, London, England, 1990

Bristol-Myers Squibb Pharmaceutical Research Institute Symposia on Systemic Fungal Disease, Princeton, New Jersey, 1990

International Society on Thrombosis and Hemostasis, 27 Annual Meeting, Amsterdam, The Netherlands, 1991 Contrast Media Research Conference, Cambridge, England, 1991

Biomedical Engineering Society Annual Meeting, Charlottesville, Virginia, 1991

Eighteenth Annual Western Canada Biomembranes Conference, Whistler, British Columbia, Canada, 1992

Thirty-fourth International Conference on the Biochemistry of Lipids, Noordwijkerhout, The Netherlands, 1993

The Fifth Princeton Liposome Conference, Princeton, New Jersey, 1993

Liposomes as Biomimetics Conference, Rome, Italy, 1993

Liposomes in Drug Delivery, London, England, 1993

New York University Medical Center, Rheumatology Grand Rounds, 1994

Liposomes as Biomembrane Models: Principles, Applications and interactions with Metals Ions and Biological Molecules, Sevilla, Spain, 1994

Liposome Research Days, Vancouver, Canada, 1994

Liposomes in Biomedical Research, Berlin, Germany, 1994

A Liposome Birthday Conference: 1965 Back to the Future 1995, Cambridge, England, 1995

Satellite Symposium: British Society for Haematology Annual Scientific Meeting, Brighton, England, 1995

The Annual Congress of the Association of Faculties of Pharmacy of Canada, Montréal, Canada, 1995

35th Interscience Conference on Antimicrobial Agents and Chemotherapy, San Francisco, California, 1995

The Sixth Princeton Liposome Conference, Princeton, New Jersey, 1995

Reunión de Farmacia Hospitalaria, Madrid, Spain, 1996

Societat Catalana de Farmàcia Clínica Sessió Científica, Barcelona, Spain, 1996

Symposium on Systemic Fungal Infections, Prague, 1996

Pre-Congress Symposium at The IHS 9th International Symposium on Infections in the Immunocompromised Host, Assisi, Italy, 1996

The Fifth Liposome Research Days, Shizuoka, Japan, 1996

Simpósio de Lançamento ABELCET[®], Lisboa, Portugal, 1996

Liposome Advances: Progress in Drug and Vaccine Delivery, London, England, 1996

4th International Antifungal Drug Discovery & Development Summit, Princeton, New Jersey, 1999

American Chemical Society National Meeting, Anaheim, California, 1999

Liposome Advances: Progress in Drug and Vaccine Delivery, London, England, 1999

Gordon Research Conference on Drug Carriers in Medicine & Biology, Ventura, California, 2000

7th Liposome Research Days Conference, Napa Valley, California, 2000

Rroakdala University Hospital Hamatology _ Oncology Conference 2000



Brooklyn Hospital Center, Hematology - Oncology Lecture Series, 2000

Mount Sinai Hospital, Hematology - Oncology Grand Rounds, 2000

The 27th International Symposium of Bioactive Materials, Paris, France, 2000

US – Swiss Forum on NanoBiosciences, Princeton University, Princeton, New Jersey, 2000

Ventures West CEO Summit, Vancouver, Canada, 2003

Canadian Consulate Trade Office's Venture Capital Advisory Board meeting, San Francisco, California, 2003

Sixth International Conference, Liposome Advances: Progress in Drug and Vaccine Delivery, School of Pharmacy, University of London, England, 2003

Canada-US Venture Capital Conference, Quebec City, Canada, 2004

Controlled Release Society, 32nd Annual Meeting, Miami, Florida, 2005

Lipids, Liposomes & Biomembranes Conference, Vancouver, Canada, 2005

The Cancer Institute of New Jersey, Grand Rounds, 2005.

RSC/KAST Bilateral Symposium: Drug Delivery Systems, Vancouver, Canada, 2005

Advances in Drug Delivery, School of Pharmacy, University of London, 2007

Piper Jaffray 19th Annual Heathcare Conference, 2007

Biotech 2007 Conference, Philadelphia. (Invited Panelist-Funding Early Stage Bioscience Companies - Do You Have What It Takes?")

Mid Atlantic Capital Alliance Conference, 2007

C21 Bioparterning Conference, 2007

CDRD (seminar series), Vancouver British Columbia, 2009

ILS Liposome Advances, Annual Meeting, London, England, 2009

ILS Liposome Advances, Annual Meeting, London England, 2011 (session chair)

ILS Liposome Advances annual Meeting, London England, 2013 (session chair)

1st International Congress: From Drug Discovery to Drug Delivery. Athens, Greece, 2014 (keynote speaker)

ILS/LRD Joint International Conference, Progress in Liposome Drug and Vaccine Delivery, Athens, Greece 2017 (invited speaker)

GRANTS

Core Director - NIH RFA 90-IA-10; NCDDG for Treatment of AIDS: Opportunistic Infections, \$4,315,876 (1991-1994).

MEMBERSHIPS

American Association for the Advancement of Science Biophysical Society New York Academy of Sciences International Liposome Society American Association for Cancer Research American Society for Clinical Oncology

INVESTIGATIONAL NEW DRUG APPLICATIONS

- 1987 TLCTM-D99 (Doxorubicin HCL Liposome Injection)
- 1988 ABLC (Amphotericin B Lipid Complex)
- 1990 TLCTM-G65 (Gentamicin Liposome Injection)
- 1992 TLCTM-C53 (Liposomal Prostaglandin E₁ Injection)
- 1998 ELL-12 (Liposomal Ether Lipid)
- 2001 BRT-216 (Bromoacylated Paclitaxel)
- 2004 CPX-1 (Liposomal Floxuridine Irinotecan Injection; CTA)
- 2006 CPX-1 (Liposomal Floxuridine Irinotecan Injection; *IND*)
- 2006 CPX-351 (Liposomal Cytarabine Daunorubicin Injection)



NEW DRUG APPLICATIONS

1995 ABELCET® (Amphotericin B Lipid Complex Injection) 1998 EVACET® (Liposomal Doxorubicin Injection)

MARKETING AUTHORISATION APPLICATIONS

2000 MYOCET® (Liposomal Doxorubicin Injection)

ORIGINAL ARTICLES

- 1. **Cagen, A., Janoff, A.S., Bus, J.S. and Gibson, J.E.:** Effects of paraquat (methylviologen) on liver function in mice. *J. Pharm. Exper. Ther.* 198, 222-229, 1976.
- Janoff, A.S. and Rosenberg, B.: Chemically evoked hypothermia in the mouse: Towards a method for investigating thermodynamic parameters of aging and death in mammals. *Mech. Aging and Develop.* 7, 335-349, 1978.
- 3. **Janoff, A.S., Haug, A. and McGroarty, E.J.:** Relationship of growth temperature and thermotropic lipid phase changes in cytoplasmic and outer membranes from E. coli. *Biochem. Biophys. Acta* 555, 56-66, 1979.
- 4. **Janoff, A.S., Coughlin, R.T., Racine, F.M., McGroarty, E.J. and Vary, J.C.:** Use of electron spin resonance to study *Bacillus megaterium* spore membranes. *Biochem. Biophys. Res. Comm.* 89, 565-570, 1979.
- 5. **Janoff, A.S., Gupte, S. and McGroarty, E.J.:** Correlation between temperature range of growth and structural transitions in membranes and lipids of E. coli K12. *Biochim. Biophys. Acta* <u>598</u>, 641-644, 1980.
- 6. **Janoff, A.S., Haug, A. and McGroarty, E.J.:** Anesthetics alter outer membrane architecture and temperature range of growth of *Escherichia coli* K12. *Biochem. Biophys. Res. Comm.* 95, 1364-1371, 1980.
- 7. **Janoff, A.S., Mazarow, D.L., Coughlin, R.T., Bowdler, A.J., Haug, A. and McGroarty, E.J.:** The modification of human erythrocyte membrane structure by membrane stabilizers: An electron spin resonance study. *Am. J. Hematol.* 10, 171-179, 1981.
- 8. **Janoff, A.S., Pringle, M.J. and Miller, K.W.:** Correlation of general anesthetic potency with solubility in membranes. *Biochim. Biophys. Acta* 649, 125-128, 1981.
- 9. **Renshaw, P., Janoff, A.S. and Miller, K.W.:** On the nature of dilute aqueous cholesterol suspensions. *J. Lipid Research* 24, 47-51, 1983.
- Janoff, A.S., Carpenter-Green, S., Weiner, A.L., Seibold, J., Weissmann, G. and Ostro, M.J.: Novel liposome composition for a rapid colorimetric test for systemic lupus erythematosus. *Clin. Chem.* 29, 1587-1592, 1983.
- 11. **Madden, T.D., Bally, M.B., Hope, M.J., Cullis, P.R., Schieren, H.P. and Janoff, A.S.:** Protection of large unilamellar vesicles by trehalose during dehydration: Retention of vesicle contents. *Biochim. Biophys. Acta* 817, 67-74, 1985.
- 12. **Mayer, L.D., Hope, M.J., Cullis, P.R. and Janoff, A.S.:** Solute distributions and trapping efficiencies observed in freeze-thawed multilamellar vesicles. *Biochim. Biophys. Acta* <u>817</u>, 193-196, 1985.
- 13. **Gruner, S.M., Lenk, R.P., Janoff, A.S. and Ostro, M.J.:** Novel multi- Lamellar lipid vesicles: comparison of physical characteristics of multilamellar liposomes (MLVs) and stable pleurilamellar vesicles (SPLVs). *Biochemistry* 24, 2833-2842, 1985.



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