BIOGRAPHICAL SKETCH

Provide the following information for the key personnel in the order listed on Form Page 2.
Photocopy this page or follow this format for each person.

NAME	POSITION TITLE
Ronald A. Siegel	**Professor of Pharmaceutics and Biomedical Engineering**

EDUCATION/TRAINING *(Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)*

INSTITUTION AND LOCATION	DEGREE *(if applicable)*	YEAR(s)	FIELD OF STUDY
University of Oregon, Eugene, OR	B.S. *cum laude*	1975	Mathematics
Massachusetts Institute of Technology Cambridge, MA	M.S. Sc.D.	1979 1984	Electrical Engineering and Computer Science **(Bioelectrical Engineering)**

RESEARCH AND PROFESSIONAL EXPERIENCE: Concluding with present position, list, in chronological order, previous employment, experience, and honors. Include present membership on any Federal Government public advisory committee. List, in chronological order, the titles, all authors, and complete references to all publications during the past three years and to representative earlier publications pertinent to this application. If the list of publications in the last three years exceeds two pages, select the most pertinent publications.

1969-1975	Oregon Research Institute, Eugene, OR. Research Programmer/Analyst.
1975-1976	Systems Control, Inc., Palo Alto, CA. Research Programmer/Analyst.
1978	Scientific Systems, Inc., Cambridge, MA. Research Engineer.
1976-1983	Departments of Electrical Engineering and Computer Science, and Nutrition and Food Science, Massachusetts Institute of Technology, Cambridge, MA. Research and Teaching Assistant.
1984-1998	Depts. of Biopharmaceutical Sciences and Pharmaceutical Chemistry, University of California at San Francisco, San Francisco, CA. Assistant Professor (1984-1990), Associate Professor (1990-1997), Professor (1997-1998). Vice-Chair, Department of Biopharmaceutical Sciences (1996-1998).
1998-	Department of Pharmaceutics, University of Minnesota. Professor (1998-), Dept. Head (1999-2009). Department of Biomedical Engineering, University of Minnesota. Professor (2000-).

Honors and Awards:

1975	De Cou Award, Outstanding Mathematics Student, University of Oregon.
1975	Phi Beta Kappa
1978-1980	NIH Predoctoral Fellowship
1982	Paint Research Institute Fellowship
1988	American Association of Pharmaceutical Scientists (AAPS)/Pfizer Young Investigator Grant Award
1989	Controlled Release Society (CRS) Young Investigator Research Award
1997-1998	President, Controlled Release Society (Executive Committee, 1996-2000)
1999	Fellow, American Institute for Medical and Biological Engineering
1999	Fellow, American Association of Pharmaceutical Scientists
2001	CRS/Ethypharm Best Pharmaceutical Paper Award
2003	CRS/Jorge Heller Journal of Controlled Release Outstanding Paper Award
2010	Fellow, CRS

Publications:

1. R.A. Siegel and H.S. Colburn, "Internal and External Noise in Binaural Detection," *Hearing Research* 11, 117-123 (1983).
2. R.A. Siegel and R. Langer, "Controlled Release of Polypeptides and Other Macromolecules," *Pharmaceutical Research* 1, 2-10 (1984).
3. J. Cohen, R.A. Siegel and R. Langer, "Sintering Technique for the Preparation of Polymer Matrices for the Sustained Release of Macromolecules," *J. Pharm. Sci.* 73, 1034-1037 (1984).
4. R. Langer, R.A. Siegel, L. Brown, K. Leong, J. Kost and E. Edelman. "Controlled Release and Magnetically Modulated Systems for Macromolecular Drugs," in Macromolecules as Drugs and Carriers for Biologically Active Materials (Tirell, D., Donaruma G., and Turek A., eds) Ann. N.Y. Acad. Sci., Vol. 446, New York Academy of Sciences, New York, pp. 1-13 (1985).
5. A.C. Balazs., D.F. Calef, J.M. Deutch, R.A. Siegel and R. Langer. "The Role of Polymer Matrix Structure and Interparticle Interaction in Diffusion Limited Drug Release," *Biophys. J.* 47, 97-104 (1985).
6. R. Bawa, R.A. Siegel, B. Marasca, M. Karel and R. Langer. "An Explanation for the Sustained Release of Macromolecules from Biocompatible Polymers," *J. Controlled Release* 1, 259-267 (1985).
7. R.A. Siegel and R. Langer, "A New Monte Carlo Approach to Diffusion in Constricted Porous Geometries," *J. Coll. Interf. Sci. 109,* 426-440 (1986).
8. R.A. Siegel "A Laplace Transform Techniques for Calculating Diffusion Time Lags," *J. Membr. Sci.* 26, 251-262 (1986).
9. R.A. Siegel, "The Urinary Elimination Time Lag: Determination of the Mean Residence Time from Drug Accumulation in the Urine During Infusion," *J. Pharm. Sci.* 75, 627-628 (1986).
10. R. Langer, R.A. Siegel, L. Brown, K. Leong, J. Kost and E. Edelman, "Controlled Release: Three Mechanisms," *Chemtech* 16, 108-110 (1986).

11. R.A. Siegel, "Pharmacokinetic Transfer Functions and Generalized Clearances," *J. Pharmacokin. Biopharm.* 14, 511-521 (1986).
12. C.A. Hunt, R.D. McGregor and R.A. Siegel, "Engineering Targeted In Vivo Drug Delivery. I: The Physiological and Physicochemical Principles Governing Opportunities and Limitations," *Pharmaceutical Research* 3, 333-344 (1986).
13. R.A. Siegel and R.D. Schoenwald, "Note on 'A General Relationship Between Concentration, Time and the Total Mass Transport Through a Membrane," *J. Controlled Release* 5, 193-195 (1987).
14. B.A. Firestone and R.A. Siegel, "Dynamic pH-Dependent Swelling Properties of a Hydrophobic Polyelectrolyte Gel," *Polym. Commun.* 29, 204-208 (1988).
15. C.A. Hunt, R.D. MacGregor and R.A. Siegel, "Central Role of Pharmacokinetics in Determining the Feasibility of Targeting Drug Delivery," in Pharmacokinetics: Regulatory-Industrial-Academic Perspectives (Welling P.G. and Tse F.L.S., eds.), pp. 285-305 (1988).
16. R.A. Siegel, "Commentary to 'Linear and Nonlinear System Approaches to Pharmacokinetics. How Much Do They Have To Offer? I. General Considerations," *J. Pharmacokinet. Biopharm.* 16, 667-672 (1988).
17. R.A. Siegel and B.A. Firestone, "pH-Dependent Equilibrium Swelling Properties of Hydrophobic Polyelectrolyte Copolymer Gels," *Macromolecules* 21, 3254-3259 (1988).
18. E. Juengst and R.A. Siegel, "Subtracting Insult from Injury: Ethical Issues in the Use of Pharmaceutical Implants," *Hastings Center Report* 18, 41-46 (1988).
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21. R.A. Siegel, J. Kost and R. Langer, "Mechanistic Studies of Macromolecular Drug Release from Macroporous Polymers. I. Experiments and Preliminary Theory Concerning Completeness of Drug Release", *J. Controlled Release* 8, 223-236 (1989).
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