DALE P. DE VORE, PH.D.

Dale P. DeVore is currently serving as a contract Chief Scientific Officer for Sanova Bioscience, Inc. and continues to provide regulatory, clinical, and R&D consulting services to the pharmaceutical, medical device and tissue engineering industry. Until December 2008, Dr. DeVore was Vice President of Research & Development for BioForm Medical, Inc. (now Merz Pharmaceuticals), a medical aesthetics company with technology and products in dermatology and plastic surgery. Following his tenure at BioForm Medical, Dr. DeVore joined Euclid Systems Corporation assuming the role of Chief Scientist to develop novel collagen-based compositions for sustained delivery of ocular therapeutic agents. Dr. DeVore is a principal in several start-up ventures in the medical device/tissue engineering field. He recently served as a consultant for Clear Vascular, a company formed by Essex Woodlands Health Ventures to utilize Tin 117m for diagnosis and treatment of vulnerable plaque. He was also Scientific Director for Membrell and ECM Technologies, LLC developing and testing processed eggshell membrane to reduce pain associated with osteoarthritis. His own company, Xium, LLC was awarded a Phase I SBIR in 2004 to develop natural polymer systems to deliver drugs to the back of the eye. He was Project Director for a major hyaluronic acid manufacturer, Anika Therapeutics, Inc., to develop and clinically evaluate a hyaluronate product for soft tissue augmentation. This product gained FDA approval in December 2006. Prior to this assignment he was Executive Director of Government Programs for a small technology firm developing methods to attach enzymes to the skin surface to protect against penetration by nerve agents. Dr. DeVore was the principal investigator on a Phase II STTR contract from the Department of the Army. He was co-founder, Chief Scientific Officer, Senior Vice President of Research and Development, and a Director at Collagenesis, Inc., a Beverly, MA-based technology company commercializing tissue matrix systems, derived from processed human tissues, for use in plastic surgery and dermatology, otolaryngology, urology, orthopedics and drug delivery. Dr. DeVore was responsible for all FDA communications and submissions. Collagenesis evolved from Autogenesis Technologies, Inc., a small research & development company co-founded by Dr. DeVore and Dr. Charles D. Kelman, a world-renowned ophthalmologist from New York City. Prior to Autogenesis, Dr. DeVore was Vice President of Scientific Affairs at MedChem Products in Woburn, MA. He developed and patented a hyaluronic-based product called AMVISC PLUS, coordinated clinical studies, submitted appropriate documentation to FDA and obtained FDA clearance for this product now being sold by Bausch & Lomb for use as an adjunct to cataract surgery.

Dr. DeVore received his Ph.D. in 1973 from Rutgers University in New Brunswick, NJ. He subsequently joined Battelle Memorial Institute in Columbus, OH as a Research Biochemist. At Battelle, Dr. DeVore was awarded five NIH grants and two Arthritis Foundation grants. The latter grants focused on determining the mechanism of action of D-penicillamine as a remission-inducing drug to treat rheumatoid arthritis.

In 1979, while a Principle Research Biochemist and Group Leader of Cell & Molecular Biology at Battelle, he accepted a position with 3M's Riker Laboratories as a Research Specialist and Supervisor of the Connective Tissue Laboratory. Dr. DeVore's responsibilities were to develop *in vitro* and animal models to evaluate new Riker agents for treatment of rheumatoid arthritis. In 1981, he joined the Surgical Products Division to develop biomaterials for ophthalmic and orthopedic applications. In 1983 he was promoted to Senior Research Specialist and was responsible for programs in Collagen and Biopolymer Technology. From 1981-1985 he also held an academic appointment in the School of Dentistry at the University of Minnesota lecturing on connective tissue and continuing work on his NIH grant to characterize sea mussel adhesive

Dr. DeVore is generally regarded as one of the leading experts in the development, evaluation, and commercialization of natural polymer-based medical implants. Dr. DeVore has authored or co-authored more than 36 issued U.S. patents and more than 100 issued patents worldwide. In addition to his patents, he has more than 70 technical publications and several hundred technical presentations. He is a member of the Society for Biomaterials and the Association for Research in Vision and Ophthalmology and has been a member of American College of Rheumatology, American Burn Association, International Ocular Surface Society, American Urogynecologic Society and American Association of Tissue Banks. In addition Dr. DeVore has served on the Editorial Review Board of the *Journal of Long-term Effects of Medical Implants*. Dr. DeVore is a consultant to two healthcare venture capital organizations and is a member of scientific advisory boards. In 2015, Dr. DeVore was honored for "Excellence in Medical Device Consulting" by Worldwide Who's Who.

BIOGRAPHICAL SKETCH

Name: Dale P. DeVore, PhD
Executive/Consultant to the Pharmaceuticals/Medical Device/Tissue Engineering Industry

Address: 3 Warwick Drive, Chelmsford, MA 01824

Education:

Rutgers University New Brunswick, NJ	B.S.	Biochemistry
Rutgers University	M.S.	Biochemistry
Rutgers University	Ph.D.	Biochemistry

Employment:

Chief Scientific Officer **2016-present**
Sanova Bioscience, Inc.
42 Nagog Park, Suite 110
Acton, MA 01720

Chief Scientific Officer and co-inventor of 4 provisional patents describing compositions for soft tissue augmentation and for improving skin appearance. Responsible for establishing the Sanova Bioscience, Inc. laboratory and for directing all research and development.

Chief Scientific Officer **2014-2016**
EternoGen, LLC
1601 South Providence Road
Columbia, MO 65211

Chief Scientific Officer and co-inventor of Eternogen's novel collagen composition for soft tissue augmentation and device coating. Responsible for executive management of research and development activities and assisting is regulatory and clinical activities including preparing CE mark documents and IDE/PMA documents for FDA review and approvals.

Chief Scientist **2010-2015**
Euclid Systems Corporation
2776 Towerview Road
Herndon, VA 20171

Chief Scientist, inventor and principal investigator for an ophthalmology company (1) developing biological agents and medical devices for stabilizing the human cornea following orthokeratology lens wear and post-LASIK procedures, and for treatment of keratoconus and (2) developing and evaluating collagen-based compositions for sustained drug delivery of ophthalmic agents to treat glaucoma and age-related macular degeneration. Responsible for assisting in the preparation and presentation of IND/NDA and IDE/PMA documents for FDA approval of novel biologic agents.

Vice President of Research & Development **2004-2009**
BioForm Medical, Inc. (now Merz Pharmaceuticals)
4133 Courtney Road, Suite 10
Franksville, WI 53126

Position on a ½ time basis serving as Vice President of R & D for a medical aesthetics company developing products for the dermatology, plastic surgery and otolaryngology markets. Responsible for directing development of new products and for interfacing with regulatory executives to prepare FDA communications, draft submissions, and present at FDA panel meetings.

Anika Therapeutics **2002-2004**
Project Director-Soft Tissue Augmentation
160 New Boston St., Woburn, MA 01810

Responsible for leading development, preclinical and clinical evaluation of a crosslinked hyaluronic acid composition for soft tissue augmentation.

Technical Advisor/Consulting **2005-Present**

Histogenics Corporation
830 Winter Street, Waltham, MA 02451

Consulting services to establish a manufacturing facility to produce bovine collagen and collagen based sponges for delivery of autologous chondrocytes for cartilage repair.

CollPlant, LTD
2 Pekeris St
Rechovot, 76122 Israel

Senior Technical Advisor for CollPlant to assist in development and regulatory approval of pharmaceutical and medical device applications for human recombinant Type I Collagen derived from plants.

BD Medical-Ophthalmic Systems
411 Waverly Oaks Road, Waltham, MA 02452

Technical advisor to BD Medical to evaluate acquisition of pharmaceutical and medical device products for use during cataract surgery.

TauTona Research & Development Company
4040 Campbell Ave., Suite 110
Menlo Park, CA 94025

Consultant to TauTona on projects to develop, test, and gain FDA approval for novel solid state hyaluronic acid compositions for application in aesthetic medicine. Product called Aline HA sold to Allergan.

Davol, Inc.
100 Crossings Blvd
Cranston, RI 02886

Technical advisor on projects to develop, evaluate, and commercialize porcine derived surgical meshes for soft tissue repair. Advisory responsibilities including coordinating viral clearance evaluations, drafting testing reports and reviewing documents for 510(k) submission and for EU approvals. CollaMend Implant received 510(k) clearance in 2006.

Essex Woodlands Health Ventures
717 Fifth Avenue, 14th Floor, New York, NY 10022

Consultant to EWHV on drug delivery technologies and other product opportunities.

The Innovation Factory
2750 Premiere Pkwy, Suite 200, Duluth, GA 30097

Consultant to The Innovation Factory on ophthalmic opportunities.

Histogen, Inc.
9855 Towne Centre Drive, San Diego, CA 92121

Scientific Board Member

Consultant **2006-2007**
Clear Vascular, Inc. (Essex Woodlands Health Care Ventures)
171 Fifth Avenue, 14th Floor
New York, NY
10022

Responsible for providing technical expertise in the area of collagen and other extracellular matrix constituents and identification of monoclonal and humanized antibodies reacting with these targets in vascular tissue, particularly vulnerable plaque.

Founder and Partner **1999-2010**
Xium, LLC
3 Warwick Drive
Chelmsford, MA 01824

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