

DANIEL PERLMAN

Title Senior Research Scientist and Inventor

Contact Email: dperلمان@brandeis.edu
Phone: 781-736-2428; Fax: 781-736-2915
Department of Physics, MS 057
Brandeis University
415 South St
Waltham, MA 02453 USA
<http://www.brandeis.edu/physics/people/profiles/perلمان-daniel.html>

Research Interests Developing new methods for improving the nutritional quality of processed food products, and using chemical, biochemical and materials science approaches to create new consumer products and laboratory research tools.

Employment & education

BRANDEIS UNIVERSITY, 2003 - present
Senior Research Scientist and Inventor, Martin A. Fisher School of Physics

BRANDEIS UNIVERSITY, 1980 – 2003
Senior Research Scientist, Rosenstiel Basic Medical Sciences Research Center and Biology Department

BRANDEIS UNIVERSITY, 1978 - 1980
Postdoctoral Fellow, Rosenstiel Basic Medical Sciences Research Center (1978 – 1980)
Postdoctoral Fellow, Department of Molecular Biology (1978-1980)

MASSACHUSETTS INSTITUTE OF TECHNOLOGY, 1975 - 1977
Visiting Postdoctoral Research Associate, Department of Biology, (1976 – 1977)
Postdoctoral Research Associate, Department of Biology (1975-1976)
Postdoctoral Research Associate, Department of Molecular Biology (1975-1977)

UNIVERSITY OF WISCONSIN, MADISON, 1968-1974
Ph.D. in Molecular Biology (1974)
Graduate NIH Research Trainee, Laboratory of Molecular Biology, 1968-1969

BROOKHAVEN NATIONAL LABORATORY, 1968
Research student, Department of Biology

BRANDEIS UNIVERSITY, 1964 -1968
B.A. in Chemistry & Biology, cum laude (1968)
Chemistry Award, (1968); Fine Arts/Sculpture Award (1968)

Publications

Structure and replication of R-factor deoxyribonucleic acid in Proteus mirabilis. Rownd, Robert H., Perlman, Daniel and Goto, Mobuichi. In D. Schlessinger (ed.) Microbiology-1974. First ASM conference on Extrachromosomal Elements in Bacteria. American Society for Microbiology, Washington, D.C.

Accumulation of replicating bacterial plasmid DNA during thymine limitation or hydroxyurea treatment. Perlman, Daniel and Rownd, Robert H. Molec. Gen. Genet. 138:281-291 (1975).

Transition of R factor NR1 in Proteus mirabilis: Molecular structure and replication of NR1 deoxyribonucleic acid. Perlman, Daniel and Rownd, Robert H. J. Bacteriol. 123:1013-1034 (1975).

Denaturation mapping of R factor deoxyribonucleic acid. Perlman, Daniel, Twose, Trevor M., Holland, Mary Jo and Rownd, Robert H. J. Bacteriol. 123:1035-1042 (1975).

Two origins of replication in composite R plasmid DNA. Perlman, Daniel and Rownd, Robert H. Nature 259:281-284 (1976).

Selective amplification of genes on the R plasmid, NR1, in Proteus mirabilis: An example of the induction of selective gene amplification. Perlman, Daniel and Stockgold, Robert. Proc. Natl. Acad. Sci. USA. 74:2518-2522 (1977).

Frequency of replication from alternative origins in the composite R plasmid NR1. Perlman, Daniel. J. Bacteriol. 133:729-736.

Preparation of large quantities of separated strands from simian virus 40 DNA restriction fragments by low temperature, low salt agarose gel electrophoresis. Perlman, Daniel and Huberman, Joel A. Anal. Biochem. 83:666-677 (1977).

Asymmetric Okazaki piece synthesis during replication of simian virus 40 DNA in vivo. Perlman, Daniel and Huberman, Joel A. Cell 12:1029-1043 (1977).

Constitutive synthesis of the GAL4 protein, a galactose pathway regulatory in Saccharomyces cerevisiae. Perlman, Daniel and Hopper, James E. Cell 16:89-95 (1979).

Distinct repressible mRNAs for cytoplasmic and secreted yeast invertase are encoded by a single gene. Perlman, Daniel and Halvorson, Harlyn O. Cell 25:525-95 (1979).

Presecretory and cytoplasmic invertase polypeptides encoded by distinct mRNAs derived from the same structural gene differ by a signal sequence. Perlman, D., Halvorson, H.O. and Cannon, L.E. Proc. Natl. Acad. Sci. USA 79:781-785 (1982).

A putative signal peptidase recognition site and sequence in eucaryotic and procaryotic signal peptides. Perlman, D. and Halvorson, H.O. J. Mol. Biol. 167:391-409 (1983).

Cytoplasmic and secreted mRNAs encoded by one gene can be differentially or coordinately regulated. Perlman, D., Raney, P. and Halvorson, H.O. Molec. and Cell. Biol. 4:1682-1688 (1984).

Conformational alterations in the proximal portion of the yeast invertase signal peptide do not block secretion. Brown, P., Halvorson, H.O., Raney, P. and Perlman, D. Molec. Gen. Genet. 197:351-257 (1984).

The MURFI linker for multiple reading frame insertion of a sense or nonsense codon into DNA. Perlman, D., and Halvorson, H.O. Nucleic Acids Research. 14,5:2139-2155 (1986).

Improved resolution of DNA fragments in polysaccharide-supplemented agarose gels. Perlman, D., Chikarmane, H., Halvorson, H.O. Analytical Biochemistry 163: May (1987)

Precise nucleotide sequence modifications with bidirectionally cleaving class IIS excision linkers. Mormeneo, S., Knott; R., and Perlman, D. Gene 61: 21-30 (1987).

Method for reducing microbial contamination in tissue culture incubators. Perlman, D. and Rohrabacher, C. BioTechniques. 9: 313-314 (1990).

A synergistic gelling and sieving agent for gel electrophoresis in normal and low melting temperature agarose. Perlman, D. BioTechniques. 11:754-756 (1991).

Vitamin E in fortified cow milk uniquely enriches human plasma lipoproteins. Hayes, K.C., Pronczuk, A, and Perlman, D. Am. J. Clin. Nutr. 74, August (2001).

Nonesterified phytosterols dissolved and recrystallized in oil reduce plasma cholesterol in gerbils and humans. Hayes KC, Pronczuk A., and Perlman D. J Nutr. Jun; 134(6), 1395-1399 (2004).

U.S. Patents (Issued)

See [U.S. Patent Office web site](#) for full text and images:

Oxygen indicator for packaging, Perlman, D. and Linschitz, H. U.S. #4,526,752. (1985).

Method for isolating mutant microorganisms from populations and kits for practicing same. Perlman, D. U.S. #4,649,109. (1987).

Sheet cutting and dispensing device. Perlman, D. U.S. #4,754,674. 1988

Methods for isolating mutant microorganisms using microcapsules coated with indicator material. Perlman, D. U.S. #4,801,529. (1989).

Method of and passive apparatus for detecting radon. Perlman, D. U.S. #4,812,648. (1989).

Hydrophobic membrane for drying gel matrices. Perlman, D. U.S. #4,883,597. (1989).

Plastic pipette canister. Perlman, D. U.S. #4,859,423. (1989).

Radiation shield. Perlman, D. U.S. #4,851,702. (1989).

Dilution pipette device. Perlman, D. U.S. #4,877,585. (1989).

Microtube vortexer adapter and method of its use. Perlman, D. U.S. #4,883,644. (1989).

Liquid scintillation solution for measuring ^{222}Rn in charcoal. Perlman, D. U.S. #4,920,269. (1990).

Pipetter barrel extension tube. Perlman, D. U.S. #4,933,148. (1990).

Hypochlorite compositions containing thiosulfate and use thereof. Perlman, D.S. #4,908,215. (1990).

Method of, and apparatus for detecting radon (continuation in part), Perlman, D. U.S. #4,975,575. (1990).

Electric heating elements free of electromagnetic fields. Perlman, D. U.S. #4,998,006 (1991).

Sterile transfer system. Perlman, D. U.S. #5,060,823. (1991).

Replica plating device. Perlman, D. U.S. #5,061,621. (1991).

Radon detectors. Perlman, D. (Improved α -track detectors). U.S. #5,065,030. (1991).

Autography marking tape. Perlman, D. U.S. #5,051,596. (1991).

Stabilized phenol solution. Perlman, D. - U.S. #5,098,603 (1992).

Capillary blotting pad for molecular transfer to membranes. Perlman, D. U.S. #5,149,408 (1992).

Galactomannan-agarose binary gel for nucleic acid electrophoresis. Perlman, D. U.S. #5,230,832 (1993). Various corresponding foreign patents also have been issued.

Microcentrifuge tube with upwardly projecting lid extension. Perlman, D. U.S. #5,225,165 (1993).

Method for containment of a laboratory chemical. Perlman, D. -U.S. #5,302,344 (1994).

Use of non-adhesive stretch film as a laboratory container closure. Perlman, D. - U.S. #5,341,557 (1994).

Modified fat blends. Perlman, D. and Hayes, K.C. U.S. #5,382,442 (1995).

Modified fat blends. Perlman, D. and Hayes, K.C. U.S. #5,514,407 (1996).

Microcentrifuge tube with upwardly projecting lid extension. Perlman, D. CIP of U.S. #5,382,408 (1995).

Holder for pipette and focussed beam flashlight used therewith. Perlman, D. and Rohrabacher, C. U.S.D 0357174 (1995).

Temporary liquid storage cavities in a centrifuge tube. Perlman, D. U.S. #5,462,881 (1995).

Chemical treatment system for producing odor and taste-free potable water. Perlman, D. U.S. #5,575,945 (1996).

Temporary liquid storage cavities in a centrifuge tube. Perlman, D., U.S. #5,620,662 (1997).

Buffer shaping device. Perlman, D., U.S. #5,518,604.

Increasing the HDL level and the HDL/LDL ratio in human serum with fat blends. Sundram, K., Perlman, D., and Hayes, K.C., U.S. #5,578,334

Modified fat blends. Perlman, D. and Hayes, K.C., and Massie, C U.S. #5,624,703 (1997).

Anti-graffiti coatings and method of graffiti removal. Perlman, D. and Black, R. U.S. #5,773,091 (1998)

Vortex mixing implement for sample vessels. Perlman, D. U.S. #5,795,061 (1998)

Adhesive support assembly with heat-meltable adhesive. Perlman, D. U.S. #5,810,312 (1998)

Stretchable thermoplastic labels for cryogenic storage containers. Perlman, D. U.S. #5,836,618 (1998).

Increasing the HDL level and the HDL/LDL ratio in human serum by balancing saturated and polyunsaturated fatty acids. Sundram, K., Perlman, D., and Hayes, K.C., U.S. #5,843,497 (1998).

Absorbent filter paper stick. Perlman, D. U.S. #5,851,613 (1998).

Isopropanol blended with aqueous ethanol for flame coloration without use of salts or hazardous solvents. Perlman, D. U.S. #5,858,031 (1999).

Cell culture plate with oxygen and carbon dioxide-permeable waterproof sealing membrane. Perlman, D. U.S. # 5,858,770 (1999).

Blends of palm fat and corn oil provide oxidation-resistant shortenings for baking and frying. Sundram, K., Perlman, D., and Hayes K. U.S. #5,874,117 (1999).

Elastomeric sheet and support member for storing specimen vials. Perlman, D. U.S. #5,950,832 (1999).

Method and composition for preventing oil separation in vegetable kernel butters by combining with microparticulate silicon dioxide. Perlman, D. U.S. #5,962,064 (1999).

Aqueous wax emulsion as a paint primer and paint repair adhesive. Perlman, D. and Black, R. U.S. #6,033,736 (2000).

Microwave oven with removable storage cassette in dashboard of motor vehicle. Perlman, D. and Katims, J. U.S. #6,060,700 (2000).

Hyper-absorption of vitamin E dispersed in milks. Perlman, D. and Hayes, K., U.S. #6,156,354 (2000).

Thickened butyrolactone-based nail polish remover with applicator. Perlman, D. U.S. #6,156,711 (2000).

Water-permeable polymer-treated cane reeds for wind instruments. Perlman, D. U.S. Pat. #6,346,663 (2002).

Hyper-absorption of vitamin E combined with milk protein. Perlman, D. and Hayes, K., U.S. Pat. #6,503,545 (2003).

Thickened butyrolactone-based nail polish remover. Perlman, D., U.S. Pat. #6,521,572 (2003).

Increasing the HDL level and the HDL/LDL ratio in human serum by balancing saturated and polyunsaturated dietary fatty acids. Sundram, K., Perlman, D., and Hayes, K., U.S. Pat. #6,630,192 (2003).

Prepared foods containing triglyceride-recrystallized non-esterified phytosterols. Perlman, D., Hayes, K. and Pronczuk, A., U.S. Pat. # 6,638,547 (2003).

Tilting liquid storage container for either oblique or vertical entry of pipets. Perlman, D., U.S. Pat. #6,742,668 (2004).

Freestanding plastic container for controlled combustion of alcohol-based lighter fluid. Perlman, D., U.S. Pat. #6,755,877 (2004).

Marker Pen Holder. Perlman, D., U.S. Pat. #6,871,767 (2005).

Phosphorescent marker for laboratory autography. Perlman, D., U.S. Pat. #6,881,000 (2005).

Composition and method of forming sand sculptures. Perlman, D., U.S. Pat. #6,899,755 (2005).

Disposable paper weighing dishes. Perlman, D., U.S. Pat. #7,037,471 (2006).

Stretchable thermoplastic labels on cryogenic containers. Perlman, D., U.S. Pat. #7,108,909 (2006).

Prepared foods containing triglyceride-recrystallized non-esterified phytosterols. Perlman, D., Hayes, K. and Pronczuk, A., U.S. Pat. # 7,144,595 (2006).

Angled bottle rest. Perlman, D., U.S. Pat. #D536,933 (2007).

Protection of fragrance in a wax candle using an antioxidant. D'Amico, D., Black, R., Perlman, D., and Signorelli, R., U.S. Pat. #7,220,288 (2007),

Increasing the HDL level and the HDL/LDL ratio in human serum by balancing saturated and polyunsaturated dietary fatty acids. Sundram, K., Perlman, D., and Hayes, K., U.S. Pat. #7,229,653 (2007).

Oxidative stabilization of omega-3 fatty acids in low linoleic acid-containing peanut butter. Perlman, D., U.S. Pat. #7,344,747 (2008).

pH-buffered alkylene carbonate nail polish and paint remover. Perlman, D., U.S. Pat. #7,485,608 (2009).

Dietary supplements and prepared foods containing triglyceride-recrystallized phytosterols. Perlman, Hayes, K. and Pronczuk, A., U.S. Pat. #7,575,768 (2009).

Prepared foods containing triglyceride-recrystallized non-esterified phytosterols. Perlman, D., Hayes, K. and Pronczuk, A., U.S. Pat. # 7,709,038 (2010).

Balanced sn-2 myristate-containing edible oil. Perlman and Hayes, K., U.S. Pat. #8,114,461 (2012).

[U.S. Patents Pending](#)