

Genome Technology Program Bibliography Publications and Patents

NHGRI launched an ambitious program in 2004 to reduce the cost of full genome sequencing initially by 100-fold and subsequently by an additional 100-fold. Below, listed by Principal Investigator, are citations and links to many of the articles and patents resulting from this and closely related programs.

Branton D, Deamer DW, Marziali A, Bayley H, Benner SA, Butler T, Di Ventra M, Garaj S, Hibbs A, Huang X, Jovanovich SB, Krstic PS, Lindsay S, Ling XS, Mastrangelo CH, Meller A, Oliver JS, Pershin YV, Ramsey JM, Riehn R, Soni GV, Tabard-Cossa V, Wanunu M, Wigginn M, Schloss JA. The potential and challenges of nanopore sequencing. *Nat Biotechnol.* 2008 Oct;26(10):1146-53. Review.
http://www.ncbi.nlm.nih.gov/pubmed/18846088?ordinalpos=5&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_DefaultReportPanel.Pubmed_RVDocSum

Schloss JA. How to get genomes at one ten-thousandth the cost. *Nat Biotechnol.* 2008 Oct; 26(10): 1113-5.
http://www.ncbi.nlm.nih.gov/pubmed/18846084?ordinalpos=2&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_DefaultReportPanel.Pubmed_RVDocSum

Benner, Steven A.

Wharton JE, Jin P, Sexton LT, Horne LP, Sherrill SA, Mino WK, Martin CR. A method for reproducibly preparing synthetic nanopores for resistive-pulse biosensors. *Small.* 2007 Aug;3(8):1424-30.
http://www.ncbi.nlm.nih.gov/pubmed/17615589?ordinalpos=19&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_DefaultReportPanel.Pubmed_RVDocSum

Yang Z, Sismour AM, Sheng P, Puskar NL, Benner SA. Enzymatic incorporation of a third nucleobase pair. *Nucleic Acids Res.* 2007;35(13):4238-49. Epub 2007 Jun 18.
http://www.ncbi.nlm.nih.gov/pubmed/17576683?ordinalpos=1&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum

Yang Z, Sismour AM, Benner SA. Nucleoside alpha-thiotriphosphates, polymerases and the exonuclease III analysis of oligonucleotides containing phosphorothioate linkages. *Nucleic Acids Res.* 2007;35(9):3118-27. Epub 2007 Apr 22.
http://www.ncbi.nlm.nih.gov/pubmed/17452363?ordinalpos=2&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum

Harrell CC, Choi Y, Horne LP, Baker LA, Siwy ZS, Martin CR. Resistive-pulse DNA detection with a conical nanopore sensor. *Langmuir*. 2006 Dec 5;22(25):10837-43.

http://www.ncbi.nlm.nih.gov/pubmed/17129068?ordinalpos=34&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_DefaultReportPanel.Pubmed_RVDocSum

Wellington KW, Benner SA. Synthesis of aryl C-glycosides via the heck coupling reaction. *Nucleosides Nucleotides Nucleic Acids*. 2006;25(12):1309-33. Review. http://www.ncbi.nlm.nih.gov/pubmed/17067955?ordinalpos=14&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_DefaultReportPanel.Pubmed_RVDocSum

Church, George (http://arep.med.harvard.edu/gmc_pub.html)

Varley KE, Mitra RD. Nested Patch PCR Enables Highly Multiplex Mutation Discovery in Candidate Genes (submitted). *Genome Res* (2008).

Lunshof JE, Chadwick R, Vorhaus DB, Church GM. From genetic privacy to open consent. *Nat Rev Genet* (2008).

http://www.ncbi.nlm.nih.gov/pubmed/18379574?ordinalpos=1&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum

Dantas G, Sommer MOA, Oluwasegun RD, Church GM. Functional Microbiomics: bacteria subsisting on antibiotics in soil. *Science* (2008).

http://www.ncbi.nlm.nih.gov/pubmed/18388292?ordinalpos=1&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum

Sherley JL. All good cells come from cells. *Nat Cell Biol* **10**, 248 (2008).

http://www.ncbi.nlm.nih.gov/pubmed/18311176?ordinalpos=2&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum

Shendure JA, Porreca GJ, Church GM. Overview of DNA sequencing strategies. *Curr Protoc Mol Biol* **Chapter 7**, Unit 7 1 (2008).

http://www.ncbi.nlm.nih.gov/pubmed/18231983?ordinalpos=2&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum

Nardi V, Raz T, Cao X, Wu CJ, Stone, RM, Cortes J, Deininger MW, Church G, Zhu J, Daley GQ. Quantitative monitoring by polymerase colony assay of known mutations resistant to ABL kinase inhibitors. *Oncogene* **27**, 775-82 (2008).

http://www.ncbi.nlm.nih.gov/pubmed/17684485?ordinalpos=1&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum

Kim DS, Ross SE, Trimarchi JM, Aach J, Greenberg ME, Cepko CL. Identification of molecular markers of bipolar cells in the murine retina. *J Comp Neurol*. 2008 Apr 10;507(5):1795-810.

http://www.ncbi.nlm.nih.gov/pubmed/18260140?ordinalpos=21&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum

Rieger C, Poppino R, Sheridan R, Moley K, Mitra R, Gottlieb D. Polony analysis of gene expression in ES cells and blastocysts. *Nucleic Acids Res*. 2007;35(22):e151.

- Epub 2007 Dec 10.
http://www.ncbi.nlm.nih.gov/pubmed/18073198?ordinalpos=2&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum
- Leparc GG, Mitra RD. A sensitive procedure to detect alternatively spliced mRNA in pooled-tissue samples. *Nucleic Acids Res.* 2007;35(21):e146. Epub 2007 Nov 13.
http://www.ncbi.nlm.nih.gov/pubmed/18000005?ordinalpos=1&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum
- Wang H, Johnston M, Mitra RD. Calling cards for DNA-binding proteins. *Genome Res.* 2007 Aug;17(8):1202-9. Epub 2007 Jul 10.
http://www.ncbi.nlm.nih.gov/pubmed/17623806?ordinalpos=3&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum
- Leparc GG, Mitra RD. Non-EST-based prediction of novel alternatively spliced cassette exons with cell signaling function in *Caenorhabditis elegans* and human. *Nucleic Acids Res.* 2007;35(10):3192-202. Epub 2007 Apr 22.
http://www.ncbi.nlm.nih.gov/pubmed/17452356?ordinalpos=4&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum
- Willerth SM, Fixel TE, Gottlieb DI, Sakiyama-Elbert SE. The effects of soluble growth factors on embryonic stem cell differentiation inside of fibrin scaffolds. *Stem Cells* **25**, 2235-44 (2007).
http://www.ncbi.nlm.nih.gov/pubmed/17585170?ordinalpos=2&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum
- Sherley JL. Commentary: Facing up to the feasibility of ANT-OAR. *Stem Cell Rev* **3**, 66-7 (2007).
http://www.ncbi.nlm.nih.gov/pubmed/17873383?ordinalpos=5&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum
- Porreca GJ, Zhang K, Li JB, Xie B, Austin D, Vassallo SL, LeProust EM, Peck BJ, Emig CJ, Dahl F, Gao Y, Church GM, Shendure J. Multiplex amplification of large sets of human exons. *Nat Methods* **4**, 931-6 (2007).
http://www.ncbi.nlm.nih.gov/pubmed/17934468?ordinalpos=3&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum
- Kim JB, Porreca GJ, Song L, Greenway SC, Gorham JM, Church GM, Seidman CE, Seidman JG. Polony multiplex analysis of gene expression (PMAGE) in mouse hypertrophic cardiomyopathy. *Science* **316**, 1481-4 (2007).
http://www.ncbi.nlm.nih.gov/pubmed/17556586?ordinalpos=4&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum
- Conrad C, Zhu J, Conrad C, Schoenfeld D, Fang Z, Ingelsson M, Stamm S, Church G, Hyman BT. Single molecule profiling of tau gene expression in Alzheimer's disease. *J Neurochem* **103**, 1228-36 (2007).
http://www.ncbi.nlm.nih.gov/pubmed/17727636?ordinalpos=4&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum

- Bakal C, Aach J, Church G, Perrimon N. Quantitative morphological signatures define local signaling networks regulating cell morphology. *Science* **316**, 1753-6 (2007).
http://www.ncbi.nlm.nih.gov/pubmed/17588932?ordinalpos=1&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum
- Zhang K, Zhu J, Shendure J, Porreca GJ, Aach JD, Mitra RD, Church GM. Long-range polony haplotyping of individual human chromosome molecules. *Nat Genet* **38**, 382-7 (2006).
http://www.ncbi.nlm.nih.gov/pubmed/16493423?ordinalpos=7&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum
- Zhang K, Martiny AC, Reppas NB, Barry KW, Malek J, Chisholm SW, Church GM. Sequencing genomes from single cells by polymerase cloning. *Nat Biotechnol* **24**, 680-6 (2006).
http://www.ncbi.nlm.nih.gov/pubmed/16732271?ordinalpos=3&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum
- Willerth SM, Arendas KJ, Gottlieb DI, Sakiyama-Elbert SE. Optimization of fibrin scaffolds for differentiation of murine embryonic stem cells into neural lineage cells. *Biomaterials* **27**, 5990-6003 (2006).
http://www.ncbi.nlm.nih.gov/pubmed/16919326?ordinalpos=5&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum
- Turner DJ, Shendure J, Porreca G, Church G, Green P, Tyler-Smith C, Hurles ME. Assaying chromosomal inversions by single-molecule haplotyping. *Nat Methods* **3**, 439-45 (2006).
http://www.ncbi.nlm.nih.gov/pubmed/16721377?ordinalpos=6&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum
- Tannenbaum E, Sherley JL, Shakhnovich EI. Semiconservative quasispecies equations for polysomic genomes: the haploid case. *J Theor Biol* **241**, 791-805 (2006).
http://www.ncbi.nlm.nih.gov/pubmed/16527313?ordinalpos=11&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum
- Porreca GJ, Shendure J, Church GM. Polony DNA sequencing. *Curr Protoc Mol Biol* **Chapter 7**, Unit 7 8 (2006).
http://www.ncbi.nlm.nih.gov/pubmed/18265387?ordinalpos=1&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum
- Pare JF, Sherley JL. Biological principles for ex vivo adult stem cell expansion. *Curr Top Dev Biol* **73**, 141-71 (2006).
http://www.ncbi.nlm.nih.gov/pubmed/16782458?ordinalpos=6&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum
- Lee SI, Pe'er D, Dudley AM, Church GM, Koller D. Identifying regulatory mechanisms using individual variation reveals key role for chromatin modification. *Proc Natl Acad Sci U S A* **103**, 14062-7 (2006).
http://www.ncbi.nlm.nih.gov/pubmed/16968785?ordinalpos=17&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum

- Church GM. Genomes for all. *Sci Am* **294**, 46-54 (2006).
http://www.ncbi.nlm.nih.gov/pubmed/16468433?ordinalpos=32&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum
- Xian HQ, Werth K, Gottlieb DI. Promoter analysis in ES cell-derived neural cells. *Biochem Biophys Res Commun* **327**, 155-62 (2005).
http://www.ncbi.nlm.nih.gov/pubmed/15629444?ordinalpos=1&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum
- Wei L, Cui L, Snider BJ, Rivkin M, Yu SS, Lee CS, Adams LD, Gottlieb DI, Johnson EM Jr., Yu SP, Choi DW. Transplantation of embryonic stem cells overexpressing Bcl-2 promotes functional recovery after transient cerebral ischemia. *Neurobiol Dis* **19**, 183-93 (2005).
http://www.ncbi.nlm.nih.gov/pubmed/15837573?ordinalpos=9&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum
- Tannenbaum E, Sherley JL, Shakhnovich EI. Evolutionary dynamics of adult stem cells: comparison of random and immortal-strand segregation mechanisms. *Phys Rev E Stat Nonlin Soft Matter Phys* **71**, 041914 (2005).
http://www.ncbi.nlm.nih.gov/pubmed/15903708?ordinalpos=14&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum
- Shendure J, Porreca GJ, Reppas NB, Lin X, McCutcheon JP, Rosenbaum AM, Wang MD, Zhang K, Mitra RD, Church GM. Accurate multiplex polony sequencing of an evolved bacterial genome. *Science* **309**, 1728-32 (2005).
http://www.ncbi.nlm.nih.gov/pubmed/16081699?ordinalpos=9&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum
- Rambhatla L, Ram-Mohan S, Cheng JJ, Sherley JL. Immortal DNA strand cosegregation requires p53/IMPDH-dependent asymmetric self-renewal associated with adult stem cells. *Cancer Res* **65**, 3155-61 (2005).
http://www.ncbi.nlm.nih.gov/pubmed/15833845?ordinalpos=1&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum
- Lee HS, Sherley JL, Chen JJ, Chiu CC, Chiou LL, Liang JD, Yang PC, Huang GT, Sheu JC. EMP-1 is a junctional protein in a liver stem cell line and in the liver. *Biochem Biophys Res Commun* **334**, 996-1003 (2005).
http://www.ncbi.nlm.nih.gov/pubmed/16036215?ordinalpos=9&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum
- Lee CS, Tee LY, Dusenbery S, Takata T, Golden JP, Pierchala BA, Gottlieb DI, Johnson EM Jr., Choi DW, Snider BJ. Neurotrophin and GDNF family ligands promote survival and alter excitotoxic vulnerability of neurons derived from murine embryonic stem cells. *Exp Neurol* **191**, 65-76 (2005).
http://www.ncbi.nlm.nih.gov/pubmed/15589513?ordinalpos=4&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum
- Church GM. The personal genome project. *Mol Syst Biol* **1**, 2005 0030 (2005).
http://www.ncbi.nlm.nih.gov/pubmed/16729065?ordinalpos=25&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum

- Xian H, Gottlieb DI. Dividing Olig2-expressing progenitor cells derived from ES cells. *Glia* **47**, 88-101 (2004).
http://www.ncbi.nlm.nih.gov/pubmed/15139016?ordinalpos=7&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum
- Tannenbaum E, Sherley JL, Shakhnovich EI. Imperfect DNA lesion repair in the semiconservative quasispecies model: derivation of the Hamming class equations and solution of the single-fitness peak landscape. *Phys Rev E Stat Nonlin Soft Matter Phys* **70**, 061915 (2004).
http://www.ncbi.nlm.nih.gov/pubmed/15697410?ordinalpos=15&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum
- Shendure J, Mitra RD, Varma C, Church GM. Advanced sequencing technologies: methods and goals. *Nat Rev Genet* **5**, 335-44 (2004).
http://www.ncbi.nlm.nih.gov/pubmed/15143316?ordinalpos=11&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum
- Mikkilineni V, Mitra RD, Merritt J, DiTonno JR, Church GM, Ogunnaike B, Edwards JS. Digital quantitative measurements of gene expression. *Biotechnol Bioeng* **86**, 117-24 (2004).
http://www.ncbi.nlm.nih.gov/pubmed/15052631?ordinalpos=8&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum
- Aach J, Church GM. Mathematical models of diffusion-constrained polymerase chain reactions: basis of high-throughput nucleic acid assays and simple self-organizing systems. *J Theor Biol* **228**, 31-46 (2004).
http://www.ncbi.nlm.nih.gov/pubmed/15064081?ordinalpos=6&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum
- Zhu J, Shendure J, Mitra RD, Church GM. Single molecule profiling of alternative pre-mRNA splicing. *Science* **301**, 836-8 (2003).
http://www.ncbi.nlm.nih.gov/pubmed/12907803?ordinalpos=12&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum
- Xian HQ, McNichols E, St Clair A, Gottlieb DI. A subset of ES-cell-derived neural cells marked by gene targeting. *Stem Cells* **21**, 41-9 (2003).
http://www.ncbi.nlm.nih.gov/pubmed/12529550?ordinalpos=3&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum
- Qu Y, Vadivelu S, Choi L, Liu S, Lu A, Lewis B, Girgis R, Lee CS, Snider BJ, Gottlieb DI, McDonald JW. Neurons derived from embryonic stem (ES) cells resemble normal neurons in their vulnerability to excitotoxic death. *Exp Neurol* **184**, 326-36 (2003).
http://www.ncbi.nlm.nih.gov/pubmed/14637103?ordinalpos=8&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum
- Mitra RD, Shendure J, Olejnik J, Edyta Krzymanska O, Church GM. Fluorescent in situ sequencing on polymerase colonies. *Anal Biochem* **320**, 55-65 (2003).
http://www.ncbi.nlm.nih.gov/pubmed/12895469?ordinalpos=13&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum

Mitra RD, Butty VL, Shendure J, Williams BR, Housman DE, Church GM. Digital genotyping and haplotyping with polymerase colonies. *Proc Natl Acad Sci U S A* **100**, 5926-31 (2003).

http://www.ncbi.nlm.nih.gov/pubmed/12730373?ordinalpos=14&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum

Merritt J, DiTonno JR, Mitra RD, Church GM, Edwards JS. Parallel competition analysis of *Saccharomyces cerevisiae* strains differing by a single base using polymerase colonies. *Nucleic Acids Res* **31**, e84 (2003).

http://www.ncbi.nlm.nih.gov/pubmed/12888536?ordinalpos=3&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum

Lee HS, Crane GG, Merok JR, Tunstead JR, Hatch NL, Panchalingam K, Powers MJ, Griffith LG, Sherley JL. Clonal expansion of adult rat hepatic stem cell lines by suppression of asymmetric cell kinetics (SACK). *Biotechnol Bioeng* **83**, 760-71 (2003).

http://www.ncbi.nlm.nih.gov/pubmed/12889016?ordinalpos=1&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum

Collins, Scott D.

Tondare VN, Gierhart BC, Howitt DG, Smith RL, Chen SJ, Collins SD. An electron microscopy investigation of the structure of porous silicon by oxide replication. *Nanotechnology* 2008 Jun; 19(22):225301 (4pp).

http://www.iop.org/EJ/article/-search=58939455.1/0957-4484/19/22/225301/nano8_22_225301.pdf?request-id=0f93f6ca-11f5-429a-a290-5e9dd8330b74

Gierhart BC, Howitt DG, Chen SJ, Zhu Z, Kotecki DE, Smith RL, Collins SD. Nanopore with transverse nanoelectrodes for electrical characterization and sequencing of DNA. *Sensors and Actuators B: Chemical*, Volume 132, Issue 2, 16 June 2008, Pages 593-600.

http://www.sciencedirect.com/science?_ob=MIimg&_imagekey=B6THH-4R8WJV2-2-11&_cdi=5283&_user=5755111&_orig=search&_coverDate=06%2F16%2F2008&_sk=998679997&_view=c&_wchp=dGLbVtz-zSkWA&_md5=ee83f4584972f76c16bf4605b5de8c4e&_ie=/sdarticle.pdf

Gierhart BC, Howitt DG, Chen SJ, Smith RL, Collins SD. Frequency dependence of gold nanoparticle superassembly by dielectrophoresis. *Langmuir*. 2007 Nov 20;23(24):12450-6. Epub 2007 Oct 27.

http://www.ncbi.nlm.nih.gov/pubmed/17963407?ordinalpos=1&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum

Spinney PS, Collins SD, Smith RL. Solid-phase direct write (SPDW) of carbon via scanning force microscopy. *Nano Lett*. 2007 Jun;7(6):1512-5. Epub 2007 May 9.

http://www.ncbi.nlm.nih.gov/pubmed/17488134?ordinalpos=11&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_DefaultReportPanel.Pubmed_RVDocSum

Davis, Ronald W.

Umehara S, Pourmand N, Webb CD, Davis RW, Yasuda K, Karhanek M. Current rectification with poly-L-lysine-coated quartz nanopipettes. *Nano Lett.* 2006 Nov;6(11):2486-92.

http://www.ncbi.nlm.nih.gov/sites/entrez?db=PubMed&cmd=retrieve&dopt=AbstractPlus&list_uids=17090078

Karhanek M, Kemp JT, Pourmand N, Davis RW, Webb CD. Single DNA molecule detection using nanopipettes and nanoparticles. *Nano Lett.* 2005 Feb;5(2):403-7

http://www.ncbi.nlm.nih.gov/sites/entrez?db=PubMed&cmd=retrieve&dopt=AbstractPlus&list_uids=17090078

Drndic, Marija

Fischbein MD, Drndic M. Electron beam nanosculpting of suspended grapheme sheets. *Appl Phys Lett.* 2008 Sept; 93(11): 113107.

<http://link.aip.org/link/?APPLAB/93/113107/1>

Fischbein MD, Drndic M. Sub-10nm device fabrication in a transmission electron microscope. *Nano Lett.* 2007 May; 7(5): 1329-37.

<http://www.ncbi.nlm.nih.gov/pubmed/17439186>

Healy K, Schiedt B, Morrison AP. Solid-state nanopore technologies for nanopore-based DNA analysis. *Nanomed.* 2007 Dec; 2(6): 875-97.

<http://www.ncbi.nlm.nih.gov/pubmed/18095852>

Healy K. Nanopore-based single molecule DNA analysis. *Nanomed.* 2007 Aug; 2(4): 459-81.

http://www.ncbi.nlm.nih.gov/pubmed/17716132?ordinalpos=6&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_DefaultReportPanel.Pubmed_RVDocSum

Egholm, Michael

Leamon JH, Rothberg JM. Cramming more sequencing reactions onto microreactor chips. *Chem Rev.* 2007 Aug;107(8):3367-76. Epub 2007 Jul 10. Review. No abstract available.

http://www.ncbi.nlm.nih.gov/pubmed/17622174?ordinalpos=2&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum

Pinard R, de Winter A, Sarkis GJ, Gerstein MB, Tartaro KR, Plant RN, Egholm M, Rothberg JM, Leamon JH. Assessment of whole genome amplification-induced bias through high-throughput, massively parallel whole genome sequencing. *BMC Genomics.* 2006 Aug 23;7:216.

http://www.ncbi.nlm.nih.gov/pubmed/16928277?ordinalpos=9&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum

Margulies M, Egholm M, Altman WE, Attiya S, Bader JS, Bemben LA, Berka J, Braverman MS, Chen YJ, Chen Z, Dewell SB, Du L, Fierro JM, Gomes XV, Godwin BC, He W, Helgesen S, Ho CH, Irzyk GP, Jando SC, Alenquer ML, Jarvie TP, Jirag KB, Kim JB, Knight JR, Lanza JR, Leamon JH, Lefkowitz SM,

Lei M, Li J, Lohman KL, Lu H, Makhijani VB, McDade KE, McKenna MP, Myers EW, Nickerson E, Nobile JR, Plant R, Puc BP, Ronan MT, Roth GT, Sarkis GJ, Simons JF, Simpson JW, Srinivasan M, Tartaro KR, Tomasz A, Vogt KA, Volkmer GA, Wang SH, Wang Y, Weiner MP, Yu P, Begley RF, Rothberg JM. Genome sequencing in microfabricated high-density picolitre reactors. *Nature*. 2005 Sep 15;437(7057):376-80. Epub 2005 Jul 31. Erratum in: *Nature*. 2006 May 4;441(7089):120. Ho, Chun He [corrected to Ho, Chun Heen].
http://www.ncbi.nlm.nih.gov/pubmed/16056220?ordinalpos=13&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum

Fair, Richard

Fair RB. "Digital Microfluidics: is a true lab-on-a-chip possible?" *J. Microfluidics and Nanofluidics*, vol. 3, 245-281 (2007).
<http://www.springerlink.com/content/hm52823378710385/fulltext.pdf>

Fair RB, Khylstov A, Tailor TD, Ivanov I, Evans RD, Srinivasan V, Pamula VK, Pollack MG, Griffin RB, Zhou J. Chemical and Biological Applications of Digital Microfluidic Devices. *IEEE Design and Test of Computers*, 24, No. 1, pp.10-24, Jan-Feb (2007).
<http://ieeexplore.ieee.org/iel5/54/4212055/04212064.pdf?isnumber=4212055&prod=JNL&arnumber=4212064&arSt=10&ared=24&arAuthor=Fair%2C+R.B.%3B+Khylstov%2C+A.%3B+Tailor%2C+T.D.%3B+Ivanov%2C+V.%3B+Evans%2C+R.D.%3B+Griffin%2C+P.B.%3B+Vijay+Srinivasan%3B+Pamula%2C+V.K.%3B+Pollack%2C+M.G.%3B+Zhou%2C+J>

patents

Pollack MG, Pamula VK, Allen DJ, Fair RB, Griffin PB. WO 2007/120240 A2 - International Publication Number: Droplet-Based Pyrosequencing, Oct. 25, 2007.
<http://www.wipo.int/pctdb/en/wo.jsp?WO=2007120240&IA=WO2007120240&DISPLAY=STATUS>

Ghadiri, M. Reza and Hagan Bayley

Stoddart D, Heron A, Mikhailova E, Maglia G, Bayley H. Single nucleotide discrimination in immobilized DNA oligonucleotides with a biological nanopore. *Proc Natl Acad Sci U S A*. 2009 May 12; 106(19): 7702-7.
<http://www.ncbi.nlm.nih.gov/pubmed/19380741>

Clarke J, Wu H, Jayasinghe L, Patel A, Reid S, Bayley H. Continuous base identification for single molecule nanopore DNA sequencing. *Nat Nanotechnol*. 2009 Apr; 4(4): 265-70. <http://www.ncbi.nlm.nih.gov/pubmed/19350039>

Maglia G, Restrepo MR, Mikhailova E, Bayley H. Enhanced translocation of single DNA molecules through alpha-hemolysin nanopores by manipulation of internal charge. *Proc Natl Acad Sci U S A*. 2008 Dec 16;105(50):19720-5. Epub 2008 Dec 5.
http://www.ncbi.nlm.nih.gov/pubmed/19060213?ordinalpos=2&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_DefaultReportPanel.Pubmed_RVDocSum

Cockroft SL, Chu J, Amorin M, Ghadiri MR. A single-molecule nanopore device detects DNA polymerase activity with single-nucleotide resolution. *J Am Chem Soc.* 2008 Jan 23;130(3):818-20. Epub 2008 Jan 1.

http://www.ncbi.nlm.nih.gov/pubmed/18166054?ordinalpos=4&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum

Wu HC, Astier Y, Maglia G, Mikhailova E, Bayley H. Protein nanopores with covalently attached molecular adapters. *J Am Chem Soc.* 2007 Dec 26;129(51):16142-8. Epub 2007 Nov 30.

http://www.ncbi.nlm.nih.gov/pubmed/18047341?ordinalpos=1&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum

Astier Y, Kainov DE, Bayley H, Tuma R, Howorka S. Stochastic detection of motor protein-RNA complexes by single-channel current recording. *Chemphyschem.* 2007 Oct 22;8(15):2189-94.

http://www.ncbi.nlm.nih.gov/pubmed/17886244?ordinalpos=2&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum

Ashkenasy N, Sánchez-Quesada J, Bayley H, Ghadiri MR. Recognizing a single base in an individual DNA strand: a step toward DNA sequencing in nanopores. *Angew Chem Int Ed Engl.* 2005 Feb 18;44(9):1401-4.

http://www.ncbi.nlm.nih.gov/pubmed/15666419?ordinalpos=18&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum

Sánchez-Quesada J, Saghatelian A, Cheley S, Bayley H, Ghadiri MR. Single DNA rotaxanes of a transmembrane pore protein. *Angew Chem Int Ed Engl.* 2004 Jun 7;43(23):3063-7.

http://www.ncbi.nlm.nih.gov/pubmed/15188482?ordinalpos=24&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum

Golovchenko, Jene A., Daniel Branton, Mark Akeson and David Deamer

(<http://www.mcb.harvard.edu/branton/>)

Benner S, Chen RJ, Wilson NA, Abu-Shumays R, Hurt N, Lieberman KR, Deamer DW, Dunbar WB, Akeson M. Sequence-specific detection of individual DNA polymerase complexes in real time using a nanopore. *Nat Nanotechnol.* 2007 Nov;2(11):718-24. Epub 2007 Oct 28.

http://www.ncbi.nlm.nih.gov/pubmed/18654412?ordinalpos=1&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_DefaultReportPanel.Pubmed_RVDocSum

Hornblower B, Coombs A, Whitaker RD, Kolomeisky A, Picone SJ, Meller A, Akeson M. Single-molecule analysis of DNA-protein complexes using nanopores. *Nat Methods.* 2007 Apr;4(4):315-7. Epub 2007 Mar 4.

http://www.ncbi.nlm.nih.gov/pubmed/17339846?ordinalpos=1&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum

Gershow M, Golovchenko JA. Recapturing and trapping single molecules with a solid-state nanopore. *Nature Nanotechnology* 2: 775-779 (2007).

http://www.ncbi.nlm.nih.gov/pubmed/18654430?ordinalpos=1&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum

[m2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_DefaultReportPanel.Pubmed_RVDocSum](#)

Fologea D, Brandin E, Uplinger J, Branton D, Li J. DNA conformation and base number simultaneously determined in a nanopore. *Electrophoresis* **28**: 3186-3192 (2007).

http://www.ncbi.nlm.nih.gov/pubmed/17854121?ordinalpos=2&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum

Hoogerheide DP, Golovchenko JA. Dynamics of ion beam stimulated surface mass transport to nanopores. *in* Ion-Beam-Based Nanofabrication, edited by D. Ila, J. Baglin, N. Kishimoto, P.K. Chu (Mater. Res. Soc. Symp. Proc. Volume 1020, Warrendale, PA, 2007), paper number 1020-GG-02-01.

http://www.mrs.org/s_mrs/sec_subscribe.asp?CID=8753&DID=198276&action=detail

Hughes ME, Brandin E, Golovchenko JA. Optical absorption of DNA-carbon nanotube structures. *Nano Letters* **7**: 1191-1194 (2007).

http://www.ncbi.nlm.nih.gov/pubmed/17419658?ordinalpos=2&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum

DeGuzman VS, Lee CC, Deamer DW, Vercoutere WA. Sequence-dependent gating of an ion channel by DNA hairpin molecules. *Nucleic Acids Res.* 2006;34(22):6425-37. Epub 2006 Nov 27.

http://www.ncbi.nlm.nih.gov/pubmed/17130164?ordinalpos=1&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum

Peng HB, Hughes ME, Golovchenko JA. Room-temperature single-charge sensitivity in carbon nanotube field-effect transistors. *Appl. Phys. Lett.* **89**: 243502-1 – 243502-3 (2006).

<http://scitation.aip.org/vsearch/servlet/VerityServlet?KEY=APPLAB&ONLINE=YES&smode=stresults&sort=chron&maxdisp=25&threshold=0&possible1=Golovchenko&possible1zone=article&OUTLOG=NO&viewabs=APPLAB&key=DISPLAY&docID=10&page=1&chapter=0>

Kim Y-R, Chen P, Aziz MJ, Branton D, Vlassak JJ. Focused ion beam induced deflections of freestanding thin films. *J. Appl. Phys.* **100**: 104322-1 - 104322-9 (2006).

<http://scitation.aip.org/vsearch/servlet/VerityServlet?KEY=JAPIAU&ONLINE=YES&smode=stresults&sort=chron&maxdisp=25&threshold=0&possible1=Focused+ion+beam+induced+deflections+of+freestanding+thin+films&possible1zone=article&OUTLOG=NO&viewabs=JAPIAU&key=DISPLAY&docID=1&page=1&chapter=0>

Park SY, Russo CJ, Branton D, Stone HA. Eddies in a bottleneck: An arbitrary Debye length theory for capillary electroosmosis. *J. Colloid Interface Sci.* **297**: 832-839 (2006).

http://www.ncbi.nlm.nih.gov/pubmed/16376361?ordinalpos=2&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum

Mitsui T, Stein D, Kim Y-R, Hoogerheide D, Golovchenko JA. Nanoscale volcanoes: Accretion of matter at ion-sculpted nanopores. *Phys. Rev. Lett.* **96**: 036102-1 -

036102-4 (2006).

http://www.ncbi.nlm.nih.gov/pubmed/16486735?ordinalpos=4&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_DefaultReportPanel.Pubmed_RVDocSum

King GM, Golovchenko JA. Probing nanotube-nanopore interactions. *Phys. Rev. Lett.* **95**: 216103-1 - 216103-42005 (2005).

http://www.ncbi.nlm.nih.gov/pubmed/16384162?ordinalpos=5&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_DefaultReportPanel.Pubmed_RVDocSum

Fologea D, Gershow M, Ledden B, McNabb DS, Golovchenko JA, Li J. Detecting single stranded DNA with a solid state nanopore. *Nano Letters* **5**: 1905-1909 (2005).

<http://pubs.acs.org/cgi-bin/abstract.cgi/nalefd/2005/5/i10/abs/nl051199m.html>

King GM, Schürmann G, Branton D, Golovchenko JA. Nanometer patterning with ice.

Nano Letters **5**: 1157-1160 (2005). <http://pubs.acs.org/cgi-bin/abstract.cgi/nalefd/2005/5/i06/abs/nl050405n.html>

Ristroph T, Goodsell A, Golovchenko JA, Hau LV. Detection and quantized conductance of neutral atoms near a charged carbon nanotube. *Phys. Rev. Lett.* **94**: 066102-1 - 066102-4 (2005).

<http://scitation.aip.org/getabs/servlet/GetabsServlet?prog=normal&id=PRLTAO00094000006066102000001&idtype=cvips&gifs=yes>

Chen P, Gu J, Brandin E, Kim Y-R, Wang Q, Branton D. Probing single DNA molecule transport using fabricated nanopores. *Nano Letters* **4**: 2293-2298 (2004).

<http://pubs.acs.org/cgi-bin/abstract.cgi/nalefd/2004/4/i11/abs/nl048654j.html>

Wang H, Dunning JE, Huang AP, Nyamwanda JA, Branton D. DNA heterogeneity and phosphorylation unveiled by single-molecule electrophoresis. *Proc. Natl. Acad. Sci. USA* **101**: 13472-13477 (2004).

http://www.ncbi.nlm.nih.gov/pubmed/15342914?ordinalpos=4&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum

Peng HB, Golovchenko JA. Coulomb blockade in suspended Si₃N₄-coated single-walled carbon nanotubes. *App. Phys. Lett.* **84**: 5428-5430 (2004).

<http://scitation.aip.org/getabs/servlet/GetabsServlet?prog=normal&id=APPLAB000084000026005428000001&idtype=cvips&gifs=yes>

Chen P, Mitsui T, Farmer DB, Golovchenko JA, Gordon RG, Branton D. Atomic layer deposition to fine-tune the surface properties and diameters of fabricated nanopores. *Nano Letters* **4**:1333-1337 (2004).

<http://pubs.acs.org/cgi-bin/abstract.cgi/nalefd/2004/4/i07/abs/nl0494001.html>

patents

Li J, Stein D, Schurmann G, King G, Golovchenko J, Branton D, Aziz M, inventors. Ion beam sculpting of multiple distinct materials. U.S. Patent Number 7,258,838, issued 21 August 2007. <http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO2&Sect2=HITOFF&p=1&u=%2Fnetacgi%2FPTO%2Fsearch>

=

[bool.html&r=1&f=G&l=50&co1=AND&d=PTXT&s1=7,258,838.&OS=7,258,838.&RS=7,258,838,](http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO1&Sect2=HITOFF&d=PALL&p=1&u=%2Fnetahhtml%2FPTO%2Fsrchnum.htm&r=1&f=G&l=50&co1=AND&d=PTXT&s1=7,258,838.&OS=7,258,838.&RS=7,258,838)

Golovchenko J, Peng H, inventors. Suspended carbon nanotube field effect transistor. U.S. Patent Number 7,253,434, issued 7 August 2007.

<http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO1&Sect2=HITOFF&d=PALL&p=1&u=%2Fnetahhtml%2FPTO%2Fsrchnum.htm&r=1&f=G&l=50&s1=7253434.PN.&OS=PN/7253434&RS=PN/7253434>

Akeson M, Branton D, Deamer DW, Sampson JR, inventors. Methods and apparatus for characterizing polynucleotides. U.S. Patent Number 7,238,485, issued 3 July 2007.

[http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO2&Sect2=HITOFF&p=1&u=%2Fnetahhtml%2FPTO%2Fsearch-bool.html&r=1&f=G&l=50&co1=AND&d=PTXT&s1=7,238,485.&OS=7,238,485.&RS=7,238,485,](http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO2&Sect2=HITOFF&p=1&u=%2Fnetahhtml%2FPTO%2Fsearch-bool.html&r=1&f=G&l=50&co1=AND&d=PTXT&s1=7,238,485.&OS=7,238,485.&RS=7,238,485)

Akeson M, Branton D, Church G, Deamer D, inventors. Characterization of individual polymer molecules based on monomer-interface interactions. U.S. Patent Number 7,189,503, issued 13 March 2007.

[http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO2&Sect2=HITOFF&p=1&u=%2Fnetahhtml%2FPTO%2Fsearch-bool.html&r=1&f=G&l=50&co1=AND&d=PTXT&s1=7,189,503.&OS=7,189,503.&RS=7,189,503,](http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO2&Sect2=HITOFF&p=1&u=%2Fnetahhtml%2FPTO%2Fsearch-bool.html&r=1&f=G&l=50&co1=AND&d=PTXT&s1=7,189,503.&OS=7,189,503.&RS=7,189,503)

Golovchenko J, Stein D, Li J, inventors. Pulsed ion beam control of solid state features. U.S. Patent Number 7,118,657, issued 10 October 2006.

<http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO2&Sect2=HITOFF&p=1&u=%2Fnetahhtml%2FPTO%2Fsearch-bool.html&r=1&f=G&l=50&co1=AND&d=PTXT&s1=7,118,657&OS=7,118,657&RS=7,118,657>

Golovchenko J, Chopra N, Basile D, inventors. System with nano-scale conductor and nano-opening. U.S. Patent Number 6,870,361, issued 22 March 2005.

<http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO2&Sect2=HITOFF&p=1&u=%2Fnetahhtml%2FPTO%2Fsearch-bool.html&r=2&f=G&l=50&co1=AND&d=PTXT&s1=6,870,361&OS=6,870,361&RS=6,870,361>

Gorfinkel, Vera

Tsupryk A, Tovkach I, Gavrillov D, Kosobokova O, Gudkov G, Tyshko G, Gorbovitski B, Gorfinkel V. Ultra sensitive sensor with enhanced dynamic range for high speed detection of multi-color fluorescence radiation. Biosens Bioelectron. 2008 May 15;23(10):1512-8. Epub 2008 Jan 19.

http://www.ncbi.nlm.nih.gov/pubmed/18304800?ordinalpos=1&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_DefaultReportPanel.Pubmed_RVDocSum

Stepukhovich A, Tsupryk A, Kosobokova O, Gavrilo DN, Gorbovitski B, Gudkov G, Tyshko G, Tcherevishnik M, Gorfinkel V. Analysis of DNA Sequencing Systems Based on Capillary Electrophoresis. Technical Physics, Vol. 78, Issue 6 pp.90-102, 2008. <http://springerlink.com/content/t74v645425252212/>

Dhulla V, Gudkov G, Gavrilo D, Stepukhovich A, Tsupryk A, Kosobokova O, Borodin A, Gorbovitski B, Gorfinkel V. Single Photon Counting Module Based On Large Area APD And Novel Logic Circuit For Quench And Reset Pulse Generation. Journal of Selected Topics in Quantum Electronics, v.13,NO 4, 926-933, (2007). http://ieeexplore.ieee.org/xpls/abs_all.jsp?isnumber=4301403&arnumber=4305212&count=27&index=11

Kosobokova O, Gavrilo DN, Khozikov V, Stepukhovich A, Tsupryk A, Pan'kov S, Somova O, Abanshin N, Gudkov G, Tcherevishnik M, Gorfinkel V. Electrokinetic injection of DNA from gel micropads: basis for coupling polony technology with CE separation. Electrophoresis. 2007 Nov;28(21):3890-900. http://www.ncbi.nlm.nih.gov/pubmed/17922519?ordinalpos=2&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum

Khozikov V, Kosobokova O, Citver G, Tyshko G, Gavrilo DN, Gudkov G, Gorfinkel V. Experimental study of the formation of high resistivity zones at the gel/buffer interface in capillary electrophoresis. Accepted to Electrophoresis, Volume 28, Issue 3, Date: No. 3 February 317-321, 2007. http://www.ncbi.nlm.nih.gov/pubmed/17154326?ordinalpos=3&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum

Gavrilo D, Gorbovitski B, Gudkov G, Stepukhovich A, Tcherevishnik M, Tyshko G, Tsupryk A, Gorfinkel V. Highly sensitive single photon detection system for multi-lane DNA sequencer. Proc.of SPIE vol.6372, 63720C, Boston, Massachusetts, USA Oct 1-4, 2006. <http://spiedigitallibrary.aip.org/getabs/servlet/GetabsServlet?prog=normal&id=PSISDG00637200000163720B000001&idtype=cvips&gifs=Yes&bproc=year&scode=2006>

Gudkov G, Dhulla V, Borodin A, Gavrilo D, Stepoukhovitch A, Tsupryk A, Gorbovitski B, Gorfinkel V. 32-channel single-photon counting module for ultrasensitive detection of DNA sequences. Conference on Advanced Photon Counting Techniques, Proc.of SPIE vol.6372, 63720C, Boston, Massachusetts, USA Oct 1-4, 2006. <http://spiedigitallibrary.aip.org/getabs/servlet/GetabsServlet?prog=normal&id=PSISDG00637200000163720C000001&idtype=cvips&gifs=Yes&bproc=year&scode=2006>

Tsupryk M, Gorbovitski B, Kabotyanski E, Gorfinkel V. Novel design of multi-capillary arrays for high throughput DNA sequencing. Electrophoresis, 27,

Issue 14, 2869-2879, 2005.

http://www.ncbi.nlm.nih.gov/pubmed/16800025?ordinalpos=4&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum

Gavrilov DN, Kosobokova O, Khozikov V, Stepuhovitch A, Gorfinkel V. Electrophoresis in capillary cells with detection gap. *Electrophoresis*, Vol. 26, 2005, 3430-3437.

http://www.ncbi.nlm.nih.gov/pubmed/16167363?ordinalpos=6&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum

Gundlach, Jens and Michael Niederweis

Butler TZ, Pavlenok M, Derrington IM, Niederweis M, Gundlach JH. Single-molecule DNA detection with an engineered MspA protein nanopore. *Proc Natl Acad Sci U S A*. 2008 Dec; 105:20647–20652

Huang, Xiaohua

Joneja A, Huang X. A device for hydrodynamic shearing of genomic DNA. Accepted, to appear in *BioTechniques*.

Chaisson MJ, Brinza D, Pevzner PA. *De novo* fragment assembly with short mate-paired reads: Does the read length matter? *Genome Res*. 2009 Feb; 19(2): 336-46. <http://www.ncbi.nlm.nih.gov/pubmed/19056694>

Chen YJ, Huang X. DNA sequencing by denaturation: principle and thermodynamic simulations. *Anal Biochem*. 2009 Jan 1;384(1):170-9. Epub 2008 Oct 7. [http://www.ncbi.nlm.nih.gov/entrez/utils/fref.fcgi?PrId=3048&itool=AbstractPlus-def&uid=18930015&db=pubmed&url=http://linkinghub.elsevier.com/retrieve/pii/S0003-2697\(08\)00664-7](http://www.ncbi.nlm.nih.gov/entrez/utils/fref.fcgi?PrId=3048&itool=AbstractPlus-def&uid=18930015&db=pubmed&url=http://linkinghub.elsevier.com/retrieve/pii/S0003-2697(08)00664-7)

Barbee KD, Huang X. Magnetic assembly of high-density DNA arrays for genomic analyses. *Anal Chem*. 2008 Mar 15;80(6):2149-54. Epub 2008 Feb 9. http://www.ncbi.nlm.nih.gov/pubmed/18260655?ordinalpos=1&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum

Chaisson MJ, Pevzner PA. Short read fragment assembly of bacterial genomes. *Genome Res*. 2008 Feb;18(2):324-30. Epub 2007 Dec 14. http://www.ncbi.nlm.nih.gov/pubmed/18083777?ordinalpos=1&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum

Jovanovich, Stevan B., Annelise E. Barron and Richard A. Mathies

Hert DG, Fredlake CP, Barron AE. DNA sequencing by microchip electrophoresis using mixtures of high- and low-molar mass poly(N,N-dimethylacrylamide) matrices. *Electrophoresis*. 2008 Dec;29(23):4663-8. http://www.ncbi.nlm.nih.gov/pubmed/19053157?ordinalpos=1&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_DefaultReportPanel.Pubmed_RVDocSum

- Forster RE, Chiesl TN, Fredlake CP, White CV, Barron AE. Hydrophobically modified polyacrylamide block copolymers for fast, high-resolution DNA sequencing in microfluidic chips. *Electrophoresis*. 2008 Dec;29(23):4669-76.
http://www.ncbi.nlm.nih.gov/pubmed/19053064?ordinalpos=4&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_DefaultReportPanel.Pubmed_RVDocSum
- Root BE, Hammock ML, Barron AE. Thermoresponsive N-alkoxyalkylacrylamide polymers as a sieving matrix for high-resolution DNA separations on a microfluidic chip. *Electrophoresis*. 2008 Dec;29(23):4677-83.
http://www.ncbi.nlm.nih.gov/pubmed/19053065?ordinalpos=4&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_DefaultReportPanel.Pubmed_RVDocSum
- Kumaresan P, Yang CJ, Cronier SA, Blazej RG, Mathies RA. High-throughput single copy DNA amplification and cell analysis in engineered nanoliter droplets. *Anal Chem*. 2008 May 15;80(10):3522-9. Epub 2008 Apr 15.
http://www.ncbi.nlm.nih.gov/pubmed/18410131?ordinalpos=4&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_DefaultReportPanel.Pubmed_RVDocSum
- Blazej RG, Kumaresan P, Cronier SA, Mathies RA. Inline injection microdevice for attomole-scale sanger DNA sequencing. *Anal Chem*. 2007 Jun 15;79(12):4499-506. Epub 2007 May 12.
http://www.ncbi.nlm.nih.gov/pubmed/17497827?ordinalpos=3&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum
- Emrich CA, Medintz IL, Chu WK, Mathies RA. Microfabricated Two-Dimensional Electrophoresis Device for Differential Protein Expression Profiling. *Analytical Chemistry* **79**, 7360-7366 (2007).
http://www.ncbi.nlm.nih.gov/pubmed/17822308?ordinalpos=1&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum
- Toriello NM, Liu CN, Blazej RG, Thaitrong N, Mathies RA. Integrated Affinity Capture, Purification and Capillary Electrophoresis Microdevice for Quantitative Double-Stranded DNA Analysis. *Anal. Chem.*, **79**, 8549-8556 (2007).
http://www.ncbi.nlm.nih.gov/pubmed/17929900?ordinalpos=1&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum
- Toriello NM, Liu CN, Mathies RA. Multichannel Reverse Transcription-PCR Microdevice for Rapid Multiplex Gene Expression Analysis. *Micro TAS 2006*, Vol. II, November 5-9, 2006, Tokyo, Japan, eds. T. Kitamori, H. Fujita, S. Hasebe, pp. 1453-1455.
- Blazej RG, Kumaresan P, Mathies RA. Microfabricated bioprocessor for integrated nanoliter-scale Sanger DNA sequencing. *Proc Natl Acad Sci U S A*. 2006 May 9;103(19):7240-5. Epub 2006 Apr 28.
http://www.ncbi.nlm.nih.gov/pubmed/16648246?ordinalpos=4&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum

Liu CN, Toriello NM, Mathies RA. Multichannel PCR-CE Microdevice for Genetic Analysis. *Anal. Chem.*, **78**, 5474-5479 (2006).
http://www.ncbi.nlm.nih.gov/pubmed/16878885?ordinalpos=91&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum

Tian H, Emrich CA, Scherer JR, Mathies RA, Andersen PS, Larsen LA, Christiansen M. High Throughput Single-Strand Conformation Polymorphism Analysis on a Microfabricated Capillary Array Device. *Electrophoresis*, **26**, 1834-1842 (2005).
http://www.ncbi.nlm.nih.gov/pubmed/15706574?ordinalpos=3&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum

Kamei T, Toriello NM, Lagally ET, Blazej RG, Scherer JR, Street RA, Mathies RA. Microfluidic Genetic Analysis with an Integrated a-Si:H Detector. *Biomedical Microdevices*, **7**, 147-152 (2005).
http://www.ncbi.nlm.nih.gov/pubmed/15940430?ordinalpos=5&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum

Toriello NM, Douglas ES, Mathies RA. Microfluidic Device for Electric-Field Driven Single-Cell Capture and Activation. *Analytical Chemistry*, **77**, 6935-6941 (2005).
http://www.ncbi.nlm.nih.gov/pubmed/16255592?ordinalpos=4&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum

patents

Stevan Jovanovich, Iuliu Blaga, David Rank. Microfluidic Devices. US Patent Application. [20080014576 Microfluidic Devices](#)

Mattias Vangbo, William Nielsen, Iuliu Blaga, Joanne Horn, Michael Nguyen, Stevan Jovanovich. Universal sample preparation system and use in an integrated analysis system. US Patent Application.

Ju, Jingyue

Chen L, Rengifo HR, Grigoras C, Li X, Li Z, Ju J, Koberstein JT. Spin-on end-functional diblock copolymers for quantitative DNA immobilization. *Biomacromolecules*. 2008 Sep;9(9):2345-52. Epub 2008 Aug 5.
http://www.ncbi.nlm.nih.gov/pubmed/18680342?ordinalpos=12&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_DefaultReportPanel.Pubmed_RVDocSum

Guo J, Xu N, Li Z, Zhang S, Wu J, Kim DH, Sano Marma M, Meng Q, Cao H, Li X, Shi S, Yu L, Kalachikov S, Russo JJ, Turro NJ, Ju J. Four-color DNA sequencing with 3'-O-modified nucleotide reversible terminators and chemically cleavable fluorescent dideoxynucleotides. *Proc Natl Acad Sci U S A*. 2008 Jul 8;105(27):9145-50. Epub 2008 Jun 30.
http://www.ncbi.nlm.nih.gov/pubmed/18591653?ordinalpos=18&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_DefaultReportPanel.Pubmed_RVDocSum

Rengifo HR, Chen L, Grigoras C, Ju J, Koberstein JT. "Click-functional" block copolymers provide precise surface functionality via spin coating. *Langmuir*. 2008 Jul 15;24(14):7450-6. Epub 2008 Jun 18.

http://www.ncbi.nlm.nih.gov/pubmed/18558782?ordinalpos=21&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_DefaultReportPanel.Pubmed_RVDocSum

- Wu J, Zhang S, Meng Q, Cao H, Li Z, Li X, Shi S, Kim DH, Bi L, Turro NJ, Ju J. 3'-O-modified nucleotides as reversible terminators for pyrosequencing. *Proc Natl Acad Sci U S A*. 2007 Oct 16;104(42):16462-7. Epub 2007 Oct 8.
http://www.ncbi.nlm.nih.gov/pubmed/17923668?ordinalpos=9&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum
- Ju J, Kim DH, Bi L, Meng Q, Bai X, Li Z, Li X, Marma MS, Shi S, Wu J, Edwards JR, Romu A, Turro NJ. Four-color DNA sequencing by synthesis using cleavable fluorescent nucleotide reversible terminators. *Proc Natl Acad Sci U S A*. 2006 Dec 26;103(52):19635-40. Epub 2006 Dec 14.
http://www.ncbi.nlm.nih.gov/pubmed/17170132?ordinalpos=3&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum
- Meng Q, Kim DH, Bai X, Bi L, Turro NJ, Ju J. Design and synthesis of a photocleavable fluorescent nucleotide 3'-O-allyl-dGTP-PC-Bodipy-FL-510 as a reversible terminator for DNA sequencing by synthesis. *J Org Chem*. 2006 Apr 14;71(8):3248-52.
http://www.ncbi.nlm.nih.gov/pubmed/16599623?ordinalpos=37&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum
- Bi L, Kim DH, Ju J. Design and synthesis of a chemically cleavable fluorescent nucleotide, 3'-O-allyl-dGTP-allyl-bodipy-FL-510, as a reversible terminator for DNA sequencing by synthesis. *J Am Chem Soc*. 2006 Mar 1;128(8):2542-3.
http://www.ncbi.nlm.nih.gov/pubmed/16492031?ordinalpos=48&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum
- Bai X, Edwards J, Ju J. Molecular engineering approaches for DNA sequencing and analysis. *Expert Rev Mol Diagn*. 2005 Sep;5(5):797-808. Review.
http://www.ncbi.nlm.nih.gov/pubmed/16149881?ordinalpos=41&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum
- Ruparel H, Bi L, Li Z, Bai X, Kim DH, Turro NJ, Ju J. Design and synthesis of a 3'-O-allyl photocleavable fluorescent nucleotide as a reversible terminator for DNA sequencing by synthesis. *Proc Natl Acad Sci U S A*. 2005 Apr 26;102(17):5932-7. Epub 2005 Apr 13.
http://www.ncbi.nlm.nih.gov/pubmed/15829589?ordinalpos=1&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum
- Seo TS, Bai X, Kim DH, Meng Q, Shi S, Ruparel H, Li Z, Turro NJ, Ju J. Four-color DNA sequencing by synthesis on a chip using photocleavable fluorescent nucleotides. *Proc Natl Acad Sci U S A*. 2005 Apr 26;102(17):5926-31. Epub 2005 Apr 13.
http://www.ncbi.nlm.nih.gov/pubmed/15829588?ordinalpos=2&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum

Lee, James W., Peter T. Cummings and Predrag S. Krstić

- Payne CM, Zhao X, Cummings PT. Electrophoresis of ssDNA through nanoelectrode gaps from molecular dynamics: impact of gap width and chain length. *J Phys Chem B*. 2008 Oct 9;112(40):12851-8. Epub 2008 Sep 11.
http://www.ncbi.nlm.nih.gov/pubmed/18783267?ordinalpos=1&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_DefaultReportPanel.Pubmed_RVDocSum
- Lu JQ, Zhang XG. Nucleotide capacitance calculation for DNA sequencing. *Biophys J*. 2008 Nov 1;95(9):L60-2. Epub 2008 Aug 15.
http://www.ncbi.nlm.nih.gov/pubmed/18708466?ordinalpos=6&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_DefaultReportPanel.Pubmed_RVDocSum
- Payne CM, Zhao X, Vlcek L, Cummings PT. Molecular dynamics simulation of ss-DNA translocation between copper nanoelectrodes incorporating electrode charge dynamics. *J Phys Chem B*. 2008 Feb 14;112(6):1712-7. Epub 2008 Jan 23.
http://www.ncbi.nlm.nih.gov/pubmed/18211061?ordinalpos=1&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum
- Meunier V, Krstić PS. Enhancement of the transverse conductance in DNA nucleotides. *J Chem Phys*. 2008 Jan 28;128(4):041103.
http://www.ncbi.nlm.nih.gov/pubmed/18247922?ordinalpos=1&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum
- Zhao X, Payne CM, Cummings P. Controlled Transport of DNA segments through nano gaps. *J. Phys. Chem. C*, volume 112, 8-12, 2008. <http://pubs.acs.org/cgi-bin/abstract.cgi/jpccck/2008/112/i01/abs/jp709652y.html>
- Zhao X, Krstic PS. Molecular dynamics simulation study on trapping ions in a nanoscale Paul trap. *Nanotechnology*, volume 19, 195702, 2008.
<http://www.iop.org/EJ/abstract/0957-4484/19/19/195702/>
- Zikic R, Krstić PS, Zhang XG, Fuentes-Cabrera M, Wells J, Zhao X. Reply to "Comment on 'Characterization of the tunneling conductance across DNA bases' ". *Phys Rev E Stat Nonlin Soft Matter Phys*. 2007 Jul;76(1 Pt 1):013902. Epub 2007 Jul 9.
http://www.ncbi.nlm.nih.gov/pubmed/17677521?ordinalpos=3&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_DefaultReportPanel.Pubmed_RVDocSum
- Payne CM, Zhao X, Cummings, PT. Molecular simulations of DNA transport in solution. *Molecular Simulation*, volume 33, 399-403, 2007.
<http://www.informaworld.com/smpp/content?content=10.1080/08927020601154355>
- Zhao X, Payne CM, Cummings PT, Lee JW. Single stranded DNA molecules translocation through nanoelectrode gaps. *Nanotechnology*, volume 18, 424018, 2007. <http://www.iop.org/EJ/abstract/0957-4484/18/42/424018/>

Lee JW, Meller A. Rapid DNA Sequencing by Direct Nanoscale Reading of Nucleotide Bases on Individual DNA chains, in "Perspectives in BioPhysics, Vol. 2: New High Throughput Technologies for DNA Sequencing and Genomics." ed. K. Mitchelson, Elsevier Scientific Publishing, New York, p. 245-263 (2007).
http://www.sciencedirect.com/science?_ob=ArticleURL&_udi=B8GX0-4PT86Y3-B&_user=10843&_rdoc=1&_fmt=&_orig=search&_sort=d&_view=c&_acct=C000000150&_version=1&_urlVersion=0&_userid=10843&md5=097f822c6de0d25ea95e94d7f23f7135

Lee JW. Nanoelectrode-gated detection of individual molecules with potential for rapid DNA sequencing. *Solid state Phenomena* **121-123**, 1379 (2007).
<http://www.scientific.net/3-908451-30-2/1379/>

Krstić PS, Wells JC, Fuentes-Cabrera M, Xu D, and Lee JW. Toward Electronic Conductance Characterization of DNA Nucleotide Bases. *Solid State Phenomena* **121-123**, 1387 (2007). <http://www.scientific.net/3-908451-30-2/1387/>

Fuentes-Cabrera M, Meunier V, Sumpter BG. Benzo-homologated nucleobases in a nanotube-electrode set-up for DNA sequencing. *Nanotechnology* **18** 424019 (2007). <http://www.iop.org/EJ/abstract/0957-4484/18/42/424019/>

Zikic R, Krstić PS, Zhang XG, Fuentes-Cabrera M, Wells J, Zhao X. Characterization of the tunneling conductance across DNA bases. *Phys Rev E Stat Nonlin Soft Matter Phys.* 2006 Jul;74(1 Pt 1):011919. Epub 2006 Jul 28.
http://www.ncbi.nlm.nih.gov/pubmed/16907139?ordinalpos=6&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum

Zhang XG, Krstić PS, Zikić R, Wells JC, Fuentes-Cabrera M. First-principles transversal DNA conductance deconstructed. *Biophys J.* 2006 Jul 1;91(1):L04-6. Epub 2006 May 5. Erratum in: *Biophys J.* 2006 Jul 15;91(2):777.
http://www.ncbi.nlm.nih.gov/pubmed/16679371?ordinalpos=8&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum

Lindsay, Stuart M.

Chang S, He J, Lin L, Zhang P, Liang F, Young M, Huang S, Lindsay S. Tunnel conductance of Watson-Crick nucleoside-base pairs from telegraph noise. *Nanotechnology.* 2009 May 6; 20(18): 185102. Epub 2009 Apr 14.
<http://www.ncbi.nlm.nih.gov/pubmed/19420603>

Chang S, He J, Kibel A, Lee M, Sankey O, Shang P, Lindsay S. Tunneling readout of hydrogen-bonding-based recognition. *Nat Nanotechnol.* 2009 May; 4(5): 297-301. Epub 2009 Mar 22.
<http://www.ncbi.nlm.nih.gov/sites/entrez?Db=pubmed&Cmd=ShowDetailView&TermToSearch=19421214>

He J, Lin L, Liu H, Zhang P, Lee M, Sankey OF, Lindsay SM. A hydrogen-bonded electron-tunneling circuit reads the base composition of unmodified DNA.

Nanotechnology. 2009 Feb 18; 20(7): 75102. Epub 2009 Jan 23.
<http://www.ncbi.nlm.nih.gov/pubmed/19417406?dopt=Abstract>

Lee MH, Sankey OF. Insights into electron tunneling across hydrogen-bonded base-pairs in complete molecular circuits for single-stranded DNA sequencing J. Phys.: Condens. Matter. 2009 Jan 21;21(3):035110 (11pp) published online 2008 Dec 11. doi: [10.1088/0953-8984/21/3/035110](https://doi.org/10.1088/0953-8984/21/3/035110)

Ashcroft BA, Spadola Q, Qamar S, Zhang P, Kada G, Bension R, Lindsay S. An AFM/rotaxane molecular reading head for sequence-dependent DNA structures. Small. 2008 Sep;4(9):1468-75.
http://www.ncbi.nlm.nih.gov/pubmed/18680093?ordinalpos=4&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_DefaultReportPanel.Pubmed_RVDocSum

He J, Lin L, Zhang P, Spadola Q, Xi Z, Fu Q, Lindsay S. Transverse tunneling through DNA hydrogen bonded to an electrode. Nano Lett. 2008 Aug;8(8):2530-4. Epub 2008 Jul 29.
http://www.ncbi.nlm.nih.gov/pubmed/18662039?ordinalpos=5&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_DefaultReportPanel.Pubmed_RVDocSum

Qamar S, Williams PM, Lindsay SM. Can an atomic force microscope sequence DNA using a nanopore? Biophys J. 2008 Feb 15;94(4):1233-40. Epub 2007 Oct 26.
http://www.ncbi.nlm.nih.gov/pubmed/17965134?ordinalpos=1&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum

He J, Lin L, Zhang P, Lindsay S. Identification of DNA basepairing via tunnel-current decay. Nano Lett. 2007 Dec;7(12):3854-8. Epub 2007 Nov 28.
http://www.ncbi.nlm.nih.gov/pubmed/18041859?ordinalpos=111&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum

Ling, Xinsheng Sean

Peng H, Ling XS. Reverse DNA translocation through a solid-state nanopore by magnetic tweezers. Nanotechnology. 2009 May 6; 20(18): 185101.
<http://www.ncbi.nlm.nih.gov/pubmed/19420602>

Patents

Ling XS, Bready B, Pertsinidis. Hybridization-assisted nanopore sequencing of nucleic acids. US Patent Number 20,070,190,542. <http://appft1.uspto.gov/netacgi/nph-Parser?Sect1=PTO2&Sect2=HITOFF&p=1&u=%2Fnetacgi%2FPTO%2Fsearch.html&r=1&f=G&l=50&co1=AND&d=PG01&s1=Xinsheng&s2=ling&OS=Xinsheng+AND+ling&RS=Xinsheng+AND+ling>

Ling XS. Nanopores, methods for using same, methods for making same and methods for characterizing biomolecules using same. US Patent Number 20,070,042,366.
<http://appft1.uspto.gov/netacgi/nph-Parser?Sect1=PTO2&Sect2=HITOFF&p=1&u=%2Fnetacgi%2FPTO%2Fsearch.html>

bool.html&r=2&f=G&l=50&co1=AND&d=PG01&s1=Xinsheng&s2=ling&OS=Xinsheng+AND+ling&RS=Xinsheng+AND+ling

Ling XS. Addressable nanopores and micropores including methods for making and using same. US Patent Number 20,050,127,035.

<http://appft1.uspto.gov/netacgi/nph-Parser?Sect1=PTO2&Sect2=HITOFF&p=1&u=%2Fnetahhtml%2FPTO%2Fsearch-bool.html&r=3&f=G&l=50&co1=AND&d=PG01&s1=Xinsheng&s2=ling&OS=Xinsheng+AND+ling&RS=Xinsheng+AND+ling>

Mandecki, Wlodek

(http://njmsmicro.umdj.edu/index.php?option=com_content&task=view&id=96&Itemid=73)

Mandecki W, Bharill S, Borejdo J, Cabral D, Cooperman BS, Farrell I, Fetter L, Goldman E, Gryczynski Z, Jakubowski H, Liu H, Luchowski R, Matveeva E, Pan D, Qin H, Tennant D, Gryczynski I. Fluorescence enhancement on silver nanostructures: studies of components of ribosomal translation in vitro. Proc. SPIE Vol. 6862, 68620T (Feb. 15, 2008).

<http://spiedigitallibrary.aip.org/getabs/servlet/GetabsServlet?prog=normal&id=PSI SDG00686200000168620T000001&idtype=cvips&gifs=Yes&bproc=year&scode=2008>

patents

Wlodek Mandecki, Single molecule fluorescence assay, USPO Application Number 20050282173

<http://appft1.uspto.gov/netacgi/nph-Parser?Sect1=PTO2&Sect2=HITOFF&p=1&u=%2Fnetahhtml%2FPTO%2Fsearch-bool.html&r=2&f=G&l=50&co1=AND&d=PG01&s1=mandecky.IN.&OS=IN/mandecky&RS=IN/mandecky>

Margulies, Marcel

Leamon JH, Rothberg JM. Cramming more sequencing reactions onto microreactor chips. Chem Rev. 2007 Aug;107(8):3367-76. Epub 2007 Jul 10. Review. No abstract available.

http://www.ncbi.nlm.nih.gov/pubmed/17622174?ordinalpos=1&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum

Margulies M, Jarvie TP, Knight JR, Simons JF. The 454 Life Sciences Picoliter Sequencing System, in New High Throughput Technologies for DNA Sequencing and Genomics, edited by Keith R. Mitchelson, Chapter 5, p. 153-186 (2007).

<http://www.science-direct.com/science/bookseries/18710069>

Pinard R, de Winter A, Sarkis GJ, Gerstein MB, Tartaro KR, Plant RN, Egholm M, Rothberg JM, Leamon JH. Assessment of whole genome amplification-induced bias through high-throughput, massively parallel whole genome sequencing. BMC Genomics. 2006 Aug 23;7:216.

http://www.ncbi.nlm.nih.gov/pubmed/16928277?ordinalpos=1&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum

Margulies M, Egholm M, Altman WE, Attiya S, Bader JS, Bembem LA, Berka J, Braverman MS, Chen YJ, Chen Z, Dewell SB, Du L, Fierro JM, Gomes XV, Godwin BC, He W, Helgesen S, Ho CH, Irzyk GP, Jando SC, Alenquer ML, Jarvie TP, Jirage KB, Kim JB, Knight JR, Lanza JR, Leamon JH, Lefkowitz SM, Lei M, Li J, Lohman KL, Lu H, Makhijani VB, McDade KE, McKenna MP, Myers EW, Nickerson E, Nobile JR, Plant R, Puc BP, Ronan MT, Roth GT, Sarkis GJ, Simons JF, Simpson JW, Srinivasan M, Tartaro KR, Tomasz A, Vogt KA, Volkmer GA, Wang SH, Wang Y, Weiner MP, Yu P, Begley RF, Rothberg JM. Genome sequencing in microfabricated high-density picolitre reactors. *Nature*. 2005 Sep 15;437(7057):376-80. Epub 2005 Jul 31. Erratum in: *Nature*. 2006 May 4;441(7089):120. Ho, Chun He [corrected to Ho, Chun Heen].
http://www.ncbi.nlm.nih.gov/pubmed/16056220?ordinalpos=2&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum

patents

Berka J, *Paired End Sequencing*, United States Patent 11/448,462, filed on 06/06/06.
[20060292611 Paired end sequencing](#)

Kim JB, et al., *Thin-Film Coated Microwell Arrays and Methods of Making Same*, United States Patent 11/215,458, filed on 08/30/05. [20060228722 Thin film coated microwell arrays and methods of making same](#)

Leahmon JH, et al., *Methods for Determining Sequence Variants Using Ultra-Deep Sequencing*, United States Patent 11/104,781, filed on 04/12/05. [20060228721 Methods for determining sequence variants using ultra-deep sequencing](#)

Nobile J, et al., *Thin-Film Coated Microwell Arrays and Methods of Making Same*, United States Patent 11/102,075, filed on 04/07/05. [20060228716 Thin film coated microwell arrays and methods of making same](#)

Marziali, Andre

Jetha NN, Wiggin M, Marziali A. Nanopore force spectroscopy on DNA duplexes, in *Microfluids, Nanotechnologies, and Physical Science in Separation, Detection, Manipulation, and Analysis of Biomolecules*. In press, 2009.

Jetha NN, Wiggin M, Marziali A. Forming an α -hemolysin nanopore for single molecule analysis in *Microfluids, Nanotechnologies, and Physical Science in Separation, Detection, Manipulation, and Analysis of Biomolecules*. In press, 2009.

Wiggin M, Tropini C, Tabard-Cossa V, Jetha NN, Marziali A. Nonexponential kinetics of DNA escape from alpha-hemolysin nanopores. *Biophys J*. 2008 Dec;95(11):5317-23. Epub 2008 Sep 5.
<http://www.biophysj.org/cgi/content/abstract/95/11/5317>

Tropini C, Marziali A. Multi-nanopore force spectroscopy for DNA analysis. *Biophys J*. 2007 Mar 1;92(5):1632-7. Epub 2006 Dec 8.
http://www.ncbi.nlm.nih.gov/pubmed/17158571?ordinalpos=2&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum

- Tabard-Cossa V, Trivedi D, Wiggin M, Jetha NN, Marziali A. Noise analysis and reduction in solid-state nanopores. *Nanotechnology*, 18 (2007) 305505.
<http://www.iop.org/EJ/abstract/0957-4484/18/30/305505/>
- Nakane J, Wiggin M, Marziali A. A nano-sensor for trans-membrane capture and identification of single nucleic acid molecules. *Biophysical Journal*, 87: 615-621 July 2004.
http://www.ncbi.nlm.nih.gov/pubmed/15240494?ordinalpos=8&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum
- Nakane J, Akeson M, and Marziali A. Nanopore sensors for macromolecule analysis. *Journal of Physics: Condensed Matter*, 2003, 15: R1365–R1393.
<http://www.iop.org/EJ/abstract/0953-8984/15/32/203/>
- Vercoutere WA, Winters-Hilt S, DeGuzman VS, Deamer D, Ridino S, Rodgers JT, Olsen HE, Marziali A, Akeson M. Discrimination Among Individual Watson-Crick Base-Pairs at the Termini of Single DNA Hairpin Molecules. *Nucleic Acids Research*, 2003, Vol. 31, 4, 1311-1318.
http://www.ncbi.nlm.nih.gov/pubmed/12582251?ordinalpos=11&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum
- Nakane J, Akeson M, Marziali A. Evaluation of nanopores as candidates for electronic analyte detection. *Electrophoresis* 2002, 23, 2592–2601.
http://www.ncbi.nlm.nih.gov/pubmed/12210162?ordinalpos=13&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum

Mastrangelo, Carlos

- Chen L, Wang Y, Mastrangelo C. Microfabrication of nanopore devices without nanolithography. 21st IEEE International Conference on Micro Electro Mechanical Systems 2008 Jan: 701-704.
http://www.ieeexplore.ieee.org/xpl/freeabs_all.jsp?isnumber=4443570&arnumber=4443753&count=276&index=182

Meller, Amit

- Wanunu M, Sutin J, McNally B, Chow A, Meller A. DNA translocation governed by interactions with solid-state nanopores. *Biophys J*. 2008 Nov 15;95(10):4716-25. Epub 2008 Aug 15.
http://www.ncbi.nlm.nih.gov/pubmed/18708467?ordinalpos=3&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_DefaultReportPanel.Pubmed_RVDocSum
- McNally B, Wanunu M, Meller A. Electromechanical unzipping of individual DNA molecules using synthetic sub-2 nm pores. *Nano Lett*. 2008 Oct;8(10):3418-22. Epub 2008 Aug 30.
http://www.ncbi.nlm.nih.gov/pubmed/18759490?ordinalpos=2&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_DefaultReportPanel.Pubmed_RVDocSum

- Wanunu M, Meller A. Single Molecule Analysis of Nucleic Acids and DNA-protein Interactions using Nanopores, Laboratory Manual on Single Molecules, Eds. T. Ha and P. Selvin, Cold Spring Harbor Press (2008).
http://www.scionpublishing.com/shop/product_display.asp?currencyid=2&productid=9780879697754
- Soni GV, Meller A. Progress toward ultrafast DNA sequencing using solid-state nanopores. Clin Chem. 2007 Nov;53(11):1996-2001. Epub 2007 Sep 21.
http://www.ncbi.nlm.nih.gov/pubmed/17890440?ordinalpos=1&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum
- Wanunu M, Meller A. Chemically modified solid-state nanopores. Nano Lett. 2007 Jun;7(6):1580-5. Epub 2007 May 16.
http://www.ncbi.nlm.nih.gov/pubmed/17503868?ordinalpos=1&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum
- Dudko O, Mathé J, Szabo A, Meller A, Hummer G. Extracting kinetics from single-molecule force spectroscopy: Nanopore unzipping of DNA hairpins. Biophys. J., 92, 4188-4195 (2007).
http://www.ncbi.nlm.nih.gov/pubmed/17384066?ordinalpos=2&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum
- Kim M-J, McNally B, Murata K, Meller A. Characteristics of solid-state nanometer pores fabricated using transmission electron microscope (TEM). Nanotechnology, 18, 205302 (2007). <http://www.iop.org/EJ/abstract/0957-4484/18/20/205302>
- Kim M-J, Wanunu M, Bell CD, Meller A. Rapid Fabrication of Uniform Size Nanopores and Nanopore Arrays for Parallel DNA Analysis. Adv. Mater. 18, 3149-3153 (2006). <http://www3.interscience.wiley.com/journal/113489218/abstract>
- Lee JW, Meller A. Rapid DNA Sequencing by Direct Nanoscale Reading of Nucleotide Bases on Individual DNA chains. In: Perspectives in Bioanalysis. K. Mitchelson (Ed.), Elsevier (2006). [http://www.science-direct.com/science?ob=ArticleURL&udi=B8GX0-4PT86Y3-B&user=10843&coverDate=12%2F31%2F2007&rdoc=10&fmt=high&orig=browse&srch=doc-info\(%23toc%2342424%232007%23999979999%23670011%23FLA%23display%23Volume\)&cdi=42424&sort=d&docanchor=&ct=15&acct=C00000150&version=1&urlVersion=0&userid=10843&md5=6f80d90f8b027be1f6a0e0168d2446af](http://www.science-direct.com/science?ob=ArticleURL&udi=B8GX0-4PT86Y3-B&user=10843&coverDate=12%2F31%2F2007&rdoc=10&fmt=high&orig=browse&srch=doc-info(%23toc%2342424%232007%23999979999%23670011%23FLA%23display%23Volume)&cdi=42424&sort=d&docanchor=&ct=15&acct=C00000150&version=1&urlVersion=0&userid=10843&md5=6f80d90f8b027be1f6a0e0168d2446af)

Metzker, Michael L

- Wu W, Stupi BP, Litosh VA, Mansouri D, Farley D, Morris S, Metzker S, Metzker ML. Termination of DNA synthesis by N6-alkylated, not 3'-O-alkylated, photocleavable 2'-deoxyadenosine triphosphates. Nucleic Acids Res. 2007;35(19):6339-49. Epub 2007 Sep 18.
http://www.ncbi.nlm.nih.gov/pubmed/17881370?ordinalpos=1&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_DefaultReportPanel.Pubmed_RVDocSum

Jiao GS, Thoresen LH, Kim TG, Haaland WC, Gao F, Topp MR, Hochstrasser RM, Metzker ML, Burgess K. Syntheses, photophysical properties, and application of through-bond energy-transfer cassettes for biotechnology. *Chemistry*. 2006 Oct 16;12(30):7816-26.

http://www.ncbi.nlm.nih.gov/pubmed/16888738?ordinalpos=2&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_DefaultReportPanel.Pubmed_RVDocSum

Lu G, Burgess K. A diversity oriented synthesis of 3'-O-modified nucleoside triphosphates for DNA 'sequencing by synthesis'. *Bioorg Med Chem Lett*. 2006 Aug 1;16(15):3902-5. Epub 2006 Jun 6.

http://www.ncbi.nlm.nih.gov/pubmed/16757167?ordinalpos=169&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum

Metzker ML. Emerging technologies in DNA sequencing. *Genome Res*. 2005 Dec;15(12):1767-76. Review.

http://www.ncbi.nlm.nih.gov/pubmed/16339375?ordinalpos=5&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum

Lewis EK, Haaland WC, Nguyen F, Heller DA, Allen MJ, MacGregor RR, Berger CS, Willingham B, Burns LA, Scott GB, Kittrell C, Johnson BR, Curl RF, Metzker ML. Color-blind fluorescence detection for four-color DNA sequencing. *Proc Natl Acad Sci U S A*. 2005 Apr 12;102(15):5346-51. Epub 2005 Mar 30.

http://www.ncbi.nlm.nih.gov/pubmed/15800037?ordinalpos=7&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum

Mishra, Bud

Reed J, Hsueh C, Mishra B, Gimzewski JK. Atomic force microscope observation of branching in single transcript molecules derived from human cardiac muscle. *Nanotechnology*. 2008 Sept; 19(38): 384021. <http://www.iop.org/EJ/abstract/-search=63665510.1/0957-4484/19/38/384021>

Reed J, Mishra B, Pittenger B, Magonov S, Troke J, Teitell M, Gimzewski JK. Single molecule transcription profiling with AFM. *Nanotechnology*. 2007 Jan; 18(4): 044032. <http://www.iop.org/EJ/abstract/-search=63665578.1/0957-4484/18/4/044032>

Muthukumar, Murugappan

Wong CT, Muthukumar M. Scaling theory of polymer translocation into confined regions. *Biophys J*. 2008 Oct;95(8):3619-27. Epub 2008 Jul 11.

http://www.ncbi.nlm.nih.gov/pubmed/18621833?ordinalpos=2&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_DefaultReportPanel.Pubmed_RVDocSum

Kundagrami A, Muthukumar M. Theory of competitive counterion adsorption on flexible polyelectrolytes: divalent salts. *J Chem Phys*. 2008 Jun 28;128(24):244 901.

http://www.ncbi.nlm.nih.gov/pubmed/18601377?ordinalpos=3&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_DefaultReportPanel.Pubmed_RVDocSum

- Kumar R, Muthukumar M. Confinement free energy of flexible polyelectrolytes in spherical cavities. *J Chem Phys.* 2008 May 14;128(18):184902.
http://www.ncbi.nlm.nih.gov/pubmed/18532843?ordinalpos=4&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_DefaultReportPanel.Pubmed_RVDocSum
- Wong CT, Muthukumar M. Polymer translocation through a cylindrical channel. *J Chem Phys.* 2008 Apr 21;128(15):154903.
http://www.ncbi.nlm.nih.gov/pubmed/18433273?ordinalpos=5&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_DefaultReportPanel.Pubmed_RVDocSum
- Forrey C, Muthukumar M. Langevin dynamics simulations of ds-DNA translocation through synthetic nanopores. *J Chem Phys.* 2007 Jul 7;127(1):015102.
http://www.ncbi.nlm.nih.gov/pubmed/17627369?ordinalpos=9&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_DefaultReportPanel.Pubmed_RVDocSum
- Wong CT, Muthukumar M. Polymer capture by electro-osmotic flow of oppositely charged nanopores. *J Chem Phys.* 2007 Apr 28;126(16):164903.
http://www.ncbi.nlm.nih.gov/pubmed/17477630?ordinalpos=12&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_DefaultReportPanel.Pubmed_RVDocSum
- Muthukumar M. Mechanism of DNA transport through pores. *Annu Rev Biophys Biomol Struct.* 2007;36:435-50. Review.
http://www.ncbi.nlm.nih.gov/pubmed/17311526?ordinalpos=14&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_DefaultReportPanel.Pubmed_RVDocSum
- Ou Z, Muthukumar M. Entropy and enthalpy of polyelectrolyte complexation: Langevin dynamics simulations. *J Chem Phys.* 2006 Apr 21;124(15):154902.
http://www.ncbi.nlm.nih.gov/pubmed/16674260?ordinalpos=18&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_DefaultReportPanel.Pubmed_RVDocSum
- Muthukumar M, Kong CY. Simulation of polymer translocation through protein channels. *Proc Natl Acad Sci U S A.* 2006 Apr 4;103(14):5273-8. Epub 2006 Mar 27.
http://www.ncbi.nlm.nih.gov/pubmed/16567657?ordinalpos=20&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_DefaultReportPanel.Pubmed_RVDocSum
- Ou Z, Muthukumar M. Langevin dynamics of semiflexible polyelectrolytes: rod-toroid-globule-coil structures and counterion distribution. *J Chem Phys.* 2005 Aug 15;123(7):074905.
http://www.ncbi.nlm.nih.gov/pubmed/16229618?ordinalpos=23&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_DefaultReportPanel.Pubmed_RVDocSum

Kong CY, Muthukumar M. Polymer translocation through a nanopore. II. Excluded volume effect. *J Chem Phys.* 2004 Feb 15;120(7):3460-6.
http://www.ncbi.nlm.nih.gov/pubmed/15268503?ordinalpos=24&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_DefaultReportPanel.Pubmed_RVDocSum

Muthukumar M. Theory of counter-ion condensation on flexible polyelectrolytes: adsorption mechanism. *J Chem Phys.* 2004 May 15;120(19):9343-50.
http://www.ncbi.nlm.nih.gov/pubmed/15267872?ordinalpos=25&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_DefaultReportPanel.Pubmed_RVDocSum

Oliver, John S.

Preparata FP, Oliver JS. DNA sequencing by hybridization using semi-degenerate bases. *J Comput Biol.* 2004;11(4):753-65.
http://www.ncbi.nlm.nih.gov/pubmed/15579243?ordinalpos=57&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum

Quake, Stephen

Harris TD, Buzby PR, Babcock H, Beer E, Bowers J, Braslavsky I, Causey M, Colonell J, DiMeo J, Efcavitch JW, Giladi E, Gill J, Healy J, Jarosz M, Lapen D, Moulton K, Quake SR, Steinmann K, Thayer E, Tyurina A, Ward R, Weiss H, and Xie Z (2008) Single-Molecule DNA Sequencing of a Viral Genome *Science* **320**, 106-109.
http://www.ncbi.nlm.nih.gov/pubmed/18388294?ordinalpos=23&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum

Marcy Y, Ishoey T, Lasken RS, Stockwell TB, Walenz BP, Halpern AL, Beeson KY, Goldberg SM, Quake SR. Nanoliter reactors improve multiple displacement amplification of genomes from single cells. *PLoS Genet.* 2007 Sep;3(9):1702-8.
http://www.ncbi.nlm.nih.gov/pubmed/17892324?ordinalpos=37&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum

Marcy Y, Ouverney C, Bik EM, Lösekann T, Ivanova N, Martin HG, Szeto E, Platt D, Hugenholtz P, Relman DA, Quake SR. Dissecting biological "dark matter" with single-cell genetic analysis of rare and uncultivated TM7 microbes from the human mouth. *Proc Natl Acad Sci U S A.* 2007 Jul 17;104(29):11889-94. Epub 2007 Jul 9.
http://www.ncbi.nlm.nih.gov/pubmed/17620602?ordinalpos=38&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum

Zhong JF, Weiner LP, Burke K, Taylor CR. Viral RNA extraction for in-the-field analysis. *J Virol Methods.* 2007 Sep;144(1-2):98-102. Epub 2007 Jun 4.
http://www.ncbi.nlm.nih.gov/pubmed/17548117?ordinalpos=5&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum

Melin J, Quake SR. Microfluidic large-scale integration: the evolution of design rules for biological automation. *Annu Rev Biophys Biomol Struct.* 2007;36:213-31. Review.

- http://www.ncbi.nlm.nih.gov/pubmed/17269901?ordinalpos=40&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum
- Zhong JF, Song Y, Du J, Gamache C, Burke KA, Lund BT, Weiner LP. Gene regulation networks related to neural differentiation of hESC. *Gene Expr.* 2007;14(1):23-34. http://www.ncbi.nlm.nih.gov/pubmed/17933216?ordinalpos=3&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum
- Ottosen EA, Hong JW, Quake SR, Leadbetter JR. Microfluidic digital PCR enables multigene analysis of individual environmental bacteria. *Science.* 2006 Dec 1;314(5804):1464-7. http://www.ncbi.nlm.nih.gov/pubmed/17138901?ordinalpos=41&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum
- Kartalov EP, Walker C, Taylor CR, Anderson WF, Scherer A. Microfluidic vias enable nested bioarrays and autoregulatory devices in Newtonian fluids. *Proc Natl Acad Sci U S A.* 2006 Aug 15;103(33):12280-4. Epub 2006 Aug 3. http://www.ncbi.nlm.nih.gov/pubmed/16888040?ordinalpos=4&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum
- Kartalov EP, Anderson WF, Scherer A. The analytical approach to polydimethylsiloxane microfluidic technology and its biological applications. *J Nanosci Nanotechnol.* 2006 Aug;6(8):2265-77. Review. http://www.ncbi.nlm.nih.gov/pubmed/17037833?ordinalpos=3&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum
- Barbic M, Scherer A. Stray field magnetic resonance tomography using ferromagnetic spheres. *J Magn Reson.* 2006 Aug;181(2):223-8. Epub 2006 Jun 5. http://www.ncbi.nlm.nih.gov/pubmed/16750406?ordinalpos=4&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum
- Liu J, Williams BA, Gwartz RM, Wold BJ, Quake S. Enhanced signals and fast nucleic acid hybridization by microfluidic chaotic mixing. *Angew Chem Int Ed Engl.* 2006 May 26;45(22):3618-23. No abstract available. http://www.ncbi.nlm.nih.gov/pubmed/16639763?ordinalpos=34&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum
- Marcus JS, Anderson WF, Quake SR. Microfluidic single-cell mRNA isolation and analysis. *Anal Chem.* 2006 May 1;78(9):3084-9. http://www.ncbi.nlm.nih.gov/pubmed/16642997?ordinalpos=39&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum
- Hansen CL, Classen S, Berger JM, Quake SR. A microfluidic device for kinetic optimization of protein crystallization and in situ structure determination. *J Am Chem Soc.* 2006 Mar 15;128(10):3142-3. http://www.ncbi.nlm.nih.gov/pubmed/16522084?ordinalpos=22&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum
- Marcus JS, Anderson WF, Quake SR. Parallel picoliter rt-PCR assays using microfluidics. *Anal Chem.* 2006 Feb 1;78(3):956-8.

http://www.ncbi.nlm.nih.gov/pubmed/16448074?ordinalpos=40&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum

Kartalov EP, Zhong JF, Scherer A, Quake SR, Taylor CR, Anderson WF. High-throughput multi-antigen microfluidic fluorescence immunoassays. *Biotechniques*. 2006 Jan;40(1):85-90.

http://www.ncbi.nlm.nih.gov/pubmed/16454045?ordinalpos=29&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum

Garg NK, Woodroffe CC, Lacenere CJ, Quake SR, Stoltz BM. A ligand-free solid-supported system for Sonogashira couplings: applications in nucleoside chemistry. *Chem Commun (Camb)*. 2005 Sep 28;(36):4551-3. Epub 2005 Aug 12.

http://www.ncbi.nlm.nih.gov/pubmed/16158111?ordinalpos=16&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum

Kartalov EP, Quake SR. Microfluidic device reads up to four consecutive base pairs in DNA sequencing-by-synthesis. *Nucleic Acids Res*. 2004 May 20;32(9):2873-9. Print 2004.

http://www.ncbi.nlm.nih.gov/pubmed/15155856?ordinalpos=28&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum

Kartalov EP, Unger MA, Quake SR. Polyelectrolyte surface interface for single-molecule fluorescence studies of DNA polymerase. *Biotechniques*. 2003 Mar;34(3):505-10. <http://www.ncbi.nlm.nih.gov/pubmed/12661156>

Fu AY, Chou HP, Spence C, Arnold FH, Quake SR. An integrated microfabricated cell sorter. *Anal Chem*. 2002 Jun 1;74(11):2451-7.

http://www.ncbi.nlm.nih.gov/pubmed/12069222?ordinalpos=12&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum

Ramsey, J. Michael, Arthur Baddorf, Shengting Cui, Hanno Weitering and Massimiliano Di Ventra

Zwolak M, Di Ventra M. Physical approaches to DNA sequencing and detection. *Rev. Mod. Phys.* 80, 141 (2008).

<http://scitation.aip.org/getabs/servlet/GetabsServlet?prog=normal&id=RMPHAT00080000001000141000001&idtype=cvips&gifs=yes>

Lagerqvist J, Zwolak M, Di Ventra M. Comment on "Characterization of the tunneling conductance across DNA bases". *Phys Rev E Stat Nonlin Soft Matter Phys*. 2007 Jul;76(1 Pt 1):013901; author reply 013902. Epub 2007 Jul 9.

http://www.ncbi.nlm.nih.gov/pubmed/17677520?ordinalpos=7&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_DefaultReportPanel.Pubmed_RVDocSum

Cui ST. Counterion-hopping along the backbone of single-stranded DNA in nanometer pores: a mechanism for current conduction. *Phys Rev Lett*. 2007 Mar 30;98(13):138101. Epub 2007 Mar 26.

http://www.ncbi.nlm.nih.gov/pubmed/17501241?ordinalpos=1&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum

Lagerqvist J, Zwolak M, Di Ventra M. Influence of the environment and probes on rapid DNA sequencing via transverse electronic transport. *Biophys. J.* 93, 2384 (2007).

http://www.ncbi.nlm.nih.gov/pubmed/17526560?ordinalpos=3&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum

Lagerqvist J, Zwolak M, Di Ventra M. Comment on "Characterization of tunneling conductance across DNA bases", *Phys. Rev. E* 76, 013901 (2007).

http://www.ncbi.nlm.nih.gov/pubmed/17677520?ordinalpos=4&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum

McEvoy AL, Stevens F, Langford SC, Dickinson JT. Scanning-induced growth on single crystal calcite with an atomic force microscope. *Langmuir.* 2006 Aug 1;22(16):6931-8.

http://www.ncbi.nlm.nih.gov/pubmed/16863241?ordinalpos=2&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum

Rodriguez BJ, Jesse S, Baddorf AP, Kalinin SV. High resolution electromechanical imaging of ferroelectric materials in a liquid environment by piezoresponse force microscopy. *Phys Rev Lett.* 2006 Jun 16;96(23):237602. Epub 2006 Jun 16.

http://www.ncbi.nlm.nih.gov/pubmed/16803404?ordinalpos=4&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum

Lagerqvist J, Zwolak M, Di Ventra M. Fast DNA sequencing via transverse electronic transport, 6, 779 (2006).

http://www.ncbi.nlm.nih.gov/pubmed/16608283?ordinalpos=5&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum

Cui ST. Molecular self-diffusion in nanoscale cylindrical pores and classical Fick's law predictions. *J Chem Phys.* 2005 Aug 1;123(5):054706.

http://www.ncbi.nlm.nih.gov/pubmed/16108684?ordinalpos=2&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum

Zwolak M, Di Ventra M, Electronic signature of DNA nucleotides via transverse transport, *Nano Lett.* 5, 421 (2005).

http://www.ncbi.nlm.nih.gov/pubmed/15755087?ordinalpos=7&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum

Ronaghi, Mostafa

Doostzadeh J, Shokralla S, Absalan F, Jalili R, Mohandessi S, Langston JW, Davis RW, Ronaghi M, Gharizadeh B. High throughput automated allele frequency estimation by pyrosequencing. *PLoS ONE.* 2008 Jul 16;3(7):e2693.

http://www.ncbi.nlm.nih.gov/pubmed/18628978?ordinalpos=4&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_DefaultReportPanel.Pubmed_RVDocSum

Sundquist A, Bigdeli S, Jalili R, Druzin ML, Waller S, Pullen KM, El-Sayed YY, Taslimi MM, Batzoglou S, Ronaghi M. Bacterial flora-typing with targeted, chip-based Pyrosequencing. *BMC Microbiol.* 2007 Nov 30;7:108.

http://www.ncbi.nlm.nih.gov/pubmed/18047683?ordinalpos=41&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum

Ronaghi M, Shokralla S, Gharizadeh B. Pyrosequencing for discovery and analysis of DNA sequence variations. *Pharmacogenomics*. 2007 Oct;8(10):1437-41.

http://www.ncbi.nlm.nih.gov/pubmed/17979516?ordinalpos=32&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum

Parameswaran P, Jalili R, Tao L, Shokralla S, Gharizadeh B, Ronaghi M, Fire AZ. A pyrosequencing-tailored nucleotide barcode design unveils opportunities for large-scale sample multiplexing. *Nucleic Acids Res*. 2007;35(19):e130. Epub 2007 Oct 11.

http://www.ncbi.nlm.nih.gov/pubmed/17932070?ordinalpos=26&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum

Sundquist A, Ronaghi M, Tang H, Pevzner P, Batzoglou S. Whole-genome sequencing and assembly with high-throughput, short-read technologies. *PLoS ONE*. 2007 May 30;2(5):e484.

http://www.ncbi.nlm.nih.gov/pubmed/17534434?ordinalpos=42&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum

Mashayekhi F, Ronaghi M. Analysis of read length limiting factors in Pyrosequencing chemistry. *Anal Biochem*. 2007 Apr 15;363(2):275-87. Epub 2007 Feb 13.

http://www.ncbi.nlm.nih.gov/pubmed/17343818?ordinalpos=18&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum

Agah A, Aghajan M, Mashayekhi F, Amini S, Davis RW, Plummer JD, Ronaghi M, Griffin PB. A multi-enzyme model for Pyrosequencing. *Nucleic Acids Res*. 2004 Dec 2;32(21):e166.

http://www.ncbi.nlm.nih.gov/pubmed/15576673?ordinalpos=2&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum

Schwartz, David C. (<http://www.lmcg.wisc.edu>)

Kidd JM, Cooper GM, Donahue WF, Hayden HS, Sampas N, Graves T, Hansen N, Teague B, Alkan C, Antonacci F, Haugen E, Zerr T, Yamada NA, Tsang P, Newman TL, Tüzün E, Cheng Z, Ebling HM, Tusneem N, David R, Gillett W, Phelps KA, Saranga D, Brand A, Tao W, Gustafson E, McKernan K, Chen L, Malig M, Smith JD, McCarroll SA, Altshuler DA, Peiffer DA, Dorschner M, Stamatoyannopoulos J, Schwartz D, Nickerson DA, Mullikin JC, Wilson RK, Bruhn L, Olson MV, Kaul R, Smith DR, Eichler EE. Fine-scale mapping and sequencing of structural variation from eight human genomes. *Nature* 453(7191): 56-64 (2008).

http://www.ncbi.nlm.nih.gov/pubmed/18451855?ordinalpos=1&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum

Jo K, Dhingra DM, Odijk T, de Pablo JJ, Graham MD, Runnheim R, Forrest D, Schwartz DC. A single-molecule barcoding system using nanoslits for DNA analysis. *Proceedings of the National Academy of Sciences of the United States of America* 104(8): 2673-2678 (2007).

http://www.ncbi.nlm.nih.gov/pubmed/17296933?ordinalpos=56&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum

Knotts TA, Rathore N, Schwartz DC, de Pablo JJ. A coarse grain model for DNA. *J Chem Phys* 126(8): 084901 (2007).

http://www.ncbi.nlm.nih.gov/pubmed/17343470?ordinalpos=73&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum

Li H, Valouev A, Schwartz DC, Waterman MS, Li LM. A quantile method for sizing optical maps. *J Comput Biol* 14(3): 255-66 (2007).

http://www.ncbi.nlm.nih.gov/pubmed/17563310?ordinalpos=77&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum

Zhou S, Bechner MC, Place M, Churas CP, Pape L, Leong SA, Runnheim R, Forrest DK, Goldstein S, Livny M, Schwartz DC. Validation of rice genome sequence by optical mapping. *BMC Genomics* 8: 278 (2007).

http://www.ncbi.nlm.nih.gov/pubmed/17697381?ordinalpos=140&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum

Zhou S, Herschleb J, Schwartz DC. A Single Molecule System for Whole Genome Analysis. Amsterdam, Elsevier (2007). [http://www.science-](http://www.science-direct.com/science?_ob=ArticleURL&_udi=B8GX0-4PT86Y3-C&_user=10843&_coverDate=12%2F31%2F2007&_rdoc=11&_fmt=high&_orig=browse&_srch=doc-info(%23toc%2342424%232007%23999979999%23670011%23FLA%23display%23Volume)&_cdi=42424&_sort=d&_docanchor=&_ct=15&_acct=C00000150&_version=1&_urlVersion=0&_userid=10843&md5=c53b8f56f66b77e82a2b136c1b1f9e1a)

[direct.com/science?_ob=ArticleURL&_udi=B8GX0-4PT86Y3-C&_user=10843&_coverDate=12%2F31%2F2007&_rdoc=11&_fmt=high&_orig=browse&_srch=doc-info\(%23toc%2342424%232007%23999979999%23670011%23FLA%23display%23Volume\)&_cdi=42424&_sort=d&_docanchor=&_ct=15&_acct=C00000150&_version=1&_urlVersion=0&_userid=10843&md5=c53b8f56f66b77e82a2b136c1b1f9e1a](http://www.science-direct.com/science?_ob=ArticleURL&_udi=B8GX0-4PT86Y3-C&_user=10843&_coverDate=12%2F31%2F2007&_rdoc=11&_fmt=high&_orig=browse&_srch=doc-info(%23toc%2342424%232007%23999979999%23670011%23FLA%23display%23Volume)&_cdi=42424&_sort=d&_docanchor=&_ct=15&_acct=C00000150&_version=1&_urlVersion=0&_userid=10843&md5=c53b8f56f66b77e82a2b136c1b1f9e1a)

Zody MC, Garber M, Adams DJ, Sharpe T, Harrow J, Lupski JR, Nicholson C, Searle SM, Wilming L, Young SK, Abouelleil A, Allen NR, Bi W, Bloom T, Borowsky ML, Bugalter BE, Butler J, Chang JL, Chen CK, Cook A, Corum B, Cuomo CA, de Jong PJ, DeCaprio D, Dewar K, FitzGerald M, Gilbert J, Gibson R, Gnerre S, Goldstein S, Grafham DV, Grocock R, Hafez N, Hagopian DS, Hart E, Norman CH, Humphray S, Jaffe DB, Jones M, Kamal M, Khodiyar VK, LaButti K, Laird G, Lehoczky J, Liu X, Lokyitsang T, Loveland J, Lui A, Macdonald P, Major JE, Matthews L, Mauceli E, McCarroll SA, Mihalev AH, Mudge J, Nguyen C, Nicol R, O'Leary SB, Osoegawa K, Schwartz DC, Shaw-Smith C, Stankiewicz P, Steward C, Swarbreck D, Venkataraman V, Whittaker CA, Yang X, Zimmer AR, Bradley A, Hubbard T, Birren BW, Rogers J, Lander ES, Nusbaum C. DNA sequence of human chromosome 17 and analysis of rearrangement in the human lineage. *Nature* 440(7087): 1045-9 (2006).

http://www.ncbi.nlm.nih.gov/pubmed/16625196?ordinalpos=145&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum

Valouev A, Schwartz DC, Zhou S, Waterman MS. An algorithm for assembly of ordered restriction maps from single DNA molecules. *Proc Natl Acad Sci U S A* 103(43): 15770-5 (2006).

http://www.ncbi.nlm.nih.gov/pubmed/17043225?ordinalpos=127&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum

Ramanathan A, Pape L, Schwartz DC. High Density Polymerase-Mediated Incorporation of Fluorochrome Labeled Nucleotides. *Anal. Biochem.* 337: 1 – 11 (2005).
http://www.ncbi.nlm.nih.gov/pubmed/15649370?ordinalpos=94&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum

Ramanathan A, Huff EJ, Lamers CC, Potamouisis KD, Forrest DK, Schwartz DC. An integrative approach for the optical sequencing of single DNA molecules. *Analytical Biochemistry* 330(2): 227-241 (2004).
http://www.ncbi.nlm.nih.gov/pubmed/15203328?ordinalpos=95&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum

Dimalanta ET, Lim A, Runnheim R, Lamers C, Churas C, Forrest DK, de Pablo JJ, Graham MD, Coppersmith SN, Goldstein S, Schwartz DC. A microfluidic system for large DNA molecule arrays. *Anal Chem* 76(18): 5293-301 (2004).
http://www.ncbi.nlm.nih.gov/pubmed/15362885?ordinalpos=27&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum

Thompson, John F. & Harris, Timothy D.

Harris TD, Buzby PR, Babcock H, Beer E, Bowers J, Braslavskiy I, Causey M, Colonell J, DiMeo J, Efcavitch JW, Giladi E, Gill J, Healy J, Jarosz M, Lapen D, Moulton K, Quake SR, Steinmann K, Thayer E, Tyurina A, Ward R, Weiss H, and Xie Z (2008) Single-Molecule DNA Sequencing of a Viral Genome *Science* **320**, 106-109.
http://www.ncbi.nlm.nih.gov/pubmed/18388294?ordinalpos=23&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum

Timp, Gregory L., Aleksei Aksimentiev, Jean Pierre Leburton, Klaus Schulten and Stephen Sligar

Dorvel B, Sigalov G, Zhao Q, Dimitrov V, Mirsaidov U, Aksimentiev A, Timp G. Analyzing the forces binding a restriction endonuclease to DNA using a synthetic nanopore. *Nucleic Acids Res.* 2009 May 11 [Epub ahead of print].
<http://www.ncbi.nlm.nih.gov/pubmed/19433506?dopt=Abstract>

Aksimentiev A, Brunner RK, Cruz-Chu E, Comer J, Schulten K. Modeling transport through synthetic nanopores. *IEEE Nanotechnology Magazine.* 2009 Mar; 3(1): 20-28.
http://ieeexplore.ieee.org/xpls/abs_all.jsp?isnumber=4815088&arnumber=4815096&count=8&index=5

Mirsiadov U, Timp W, Zou X, Dimitrov V, Schulten K, Feinberg A, Timp G. Nanoelectromechanics of methylated DNA in a synthetic nanopore. *Biophys J.* 2009 Feb 18; 96(4): L32-4.
<http://www.ncbi.nlm.nih.gov/pubmed/19217843>

Cruz-Chu ER, Aksimentiev A, Schulten K. Ionic current rectification through silica nanopores. *J Phys Chem C.* 2009 Jan; 113(5): 1850-62.
<http://pubs.acs.org/doi/abs/10.1021/jp804724p>

- Comer J, Dimitrov V, Timp G, Aksimentiev A. Microscopic mechanics of hairpin DNA translocation through synthetic nanopores. *Biophys J*. 2009 Jan; 96(2): 593-608.
<http://www.ncbi.nlm.nih.gov/pubmed/19167307>
- Timp G. Electronic nanopores. McGraw-Hill Encyclopedia Yearbook of Science and Technology 96-99 (2009).
- Luan B, Aksimentiev A. DNA Attraction in Monovalent and Divalent Electrolytes. *J Am Chem Soc*. 2008 Oct 31. [Epub ahead of print] No abstract available.
http://www.ncbi.nlm.nih.gov/pubmed/18975864?ordinalpos=2&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_DefaultReportPanel.Pubmed_RVDocSum
- Aksimentiev A, Brunner R, Cohen J, Comer J, Cruz-Chu E, Hardy H, Rajan, Shih A, Sigalov G, Yin Y, Schulten K. Computer modeling in biotechnology, a partner in development. In *Protocols in Nanostructure Design*, Methods in Molecular Biology. 2008 Sept; 474: 181-234.
http://www.springerprotocols.com/Abstract/doi/10.1007/978-1-59745-480-3_11
- Luan B, Aksimentiev A. Strain softening in stretched DNA. *Phys Rev Lett*. 2008 Sep 12;101(11):118101. Epub 2008 Sep 10.
http://www.ncbi.nlm.nih.gov/pubmed/18851334?ordinalpos=3&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_DefaultReportPanel.Pubmed_RVDocSum
- Luan B, Aksimentiev A. Electro-osmotic screening of the DNA charge in a nanopore. *Phys Rev E Stat Nonlin Soft Matter Phys*. 2008 Aug;78(2 Pt 1):021912. Epub 2008 Aug 26.
http://www.ncbi.nlm.nih.gov/pubmed/18850870?ordinalpos=4&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_DefaultReportPanel.Pubmed_RVDocSum
- Zhao Q, Comer J, Dimitrov V, Yemenicioglu S, Aksimentiev A, Timp G. Stretching and unzipping nucleic acid hairpins using a synthetic nanopore. *Nucleic Acids Res*. 2008 Mar;36(5):1532-41. Epub 2008 Jan 21.
http://www.ncbi.nlm.nih.gov/pubmed/18208842?ordinalpos=1&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum
- Sigalov G, Comer J, Timp G, Aksimentiev A. Detection of DNA sequences using an alternating electric field in a nanopore capacitor. *Nano Lett*. 2008 Jan;8(1):56-63. Epub 2007 Dec 11.
http://www.ncbi.nlm.nih.gov/pubmed/18069865?ordinalpos=2&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum
- Wells DB, Abramkina V, Aksimentiev A. Exploring transmembrane transport through alpha-hemolysin with grid-steered molecular dynamics. *J Chem Phys*. 2007 Sep 28;127(12):125101.
http://www.ncbi.nlm.nih.gov/pubmed/17902937?ordinalpos=5&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum

Gracheva ME, Vidal J, Leburton JP. p-n Semiconductor membrane for electrically tunable ion current rectification and filtering. Nano Lett. 2007 Jun;7(6):1717-22. Epub 2007 May 22.

http://www.ncbi.nlm.nih.gov/pubmed/17516680?ordinalpos=1&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum

Zhao Q, Sigalov G, Dimitrov V, Dorvel B, Mirsaidov U, Sligar S, Aksimentiev A, Timp G. Detecting SNPs using a synthetic nanopore. Nano Lett. 2007 Jun;7(6):1680-5. Epub 2007 May 15.

http://www.ncbi.nlm.nih.gov/pubmed/17500578?ordinalpos=3&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum

Cruz-Chu ER, Aksimentiev A, Schulten K. Water-silica force field for simulating nanodevices. J Phys Chem B. 2006 Nov 2;110(43):21497-508.

http://www.ncbi.nlm.nih.gov/pubmed/17064100?ordinalpos=1&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum

Lu D, Aksimentiev A, Shih AY, Cruz-Chu E, Freddolino PL, Arkhipov A, Schulten K. The role of molecular modeling in bionanotechnology. Phys Biol. 2006 Feb 2;3(1):S40-53. Review.

http://www.ncbi.nlm.nih.gov/pubmed/16582464?ordinalpos=8&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum

Heng JB, Aksimentiev A, Ho C, Marks P, Grinkova YV, Sligar S, Schulten K, Timp G. The electromechanics of DNA in a synthetic nanopore. Biophys J. 2006 Feb 1;90(3):1098-106. Epub 2005 Nov 11.

http://www.ncbi.nlm.nih.gov/pubmed/16284270?ordinalpos=5&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum

Heng JB, Aksimentiev A, Ho C, Marks P, Grinkova YV, Sligar S, Schulten K, Timp G. Stretching DNA using the electric field in a synthetic nanopore. Nano Lett. 2005 Oct;5(10):1883-8.

http://www.ncbi.nlm.nih.gov/pubmed/16218703?ordinalpos=6&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum

patents

Leburton JP, Timp G, Vidal J, Gracheva M. Solid State Devices. US Patent Application Number 60,975,774.

Timp W, Timp G, Feinberg A, Mirsaidov U. Sorting of unmodified methylated DNA from unmethylated DNA using a nanometer-diameter pore. US Patent Application Number 61,139,056.

Turner, Stephen W.

Eid J, Fehr A, Gray J, Luong K, Lyle J, Otto G, Peluso P, Rank D, Baybayan P, Bettman B, Bibillo A, Bjornson K, Chaudhuri B, Christians F, Cicero R, Clark S, Dalal R, Dewinter A, Dixon J, Foquet M, Gaertner A, Hardenbol P, Heiner C, Hester K, Holden D, Kearns G, Kong X, Kuse R, Lacroix Y, Lin S, Lundquist P, Ma C, Marks P, Maxham M, Murphy D, Park I, Pham T, Phillips M, Roy J, Sebra R, Shen G, Sorenson J, Tomaney A, Travers K, Trulson M, Vieceli J, Wegener J,

Wu D, Yang A, Zaccarin D, Zhao P, Zhong F, Korlach J, Turner S. Real-Time DNA Sequencing from Single Polymerase Molecules. *Science*. 2009 Jan 2; 323(1):133-138.

http://www.ncbi.nlm.nih.gov/pubmed/19023044?ordinalpos=1&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_DefaultReportPanel.Pubmed_RVDocSum

Korlach J, Bibillo A, Wegener J, Peluso P, Pham TT, Park I, Clark S, Otto GA, Turner SW. Long, processive enzymatic DNA synthesis using 100% dye-labeled terminal phosphate-linked nucleotides. *Nucleosides Nucleotides Nucleic Acids*. 2008 Sep;27(9):1072-83.

http://www.ncbi.nlm.nih.gov/pubmed/18711669?ordinalpos=3&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_DefaultReportPanel.Pubmed_RVDocSum

Korlach J, Marks PJ, Cicero RL, Gray JJ, Murphy DL, Roitman DB, Pham TT, Otto GA, Foquet M, Turner SW. Selective aluminum passivation for targeted immobilization of single DNA polymerase molecules in zero-mode waveguide nanostructures. *Proc Natl Acad Sci U S A*. 2008 Jan 29;105(4):1176-81. Epub 2008 Jan 23.

http://www.ncbi.nlm.nih.gov/pubmed/18216253?ordinalpos=1&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum

Vezenov, Dmitri

Manohar S, Mantz AR, Bancroft KE, Hui CY, Jagota A, Vezenov DV. Peeling single-stranded DNA from graphite surface to determine oligonucleotide binding energy by force spectroscopy. *Nano Lett*. 2008 Dec; 8(12): 4365-72.

<http://www.ncbi.nlm.nih.gov/pubmed/19368004>

patents

Vezenov DV. Systems, Compositions and Methods for Nucleic Acid Detection. US Patent Application Number 20080286878. Filed on 20 Nov 2008.

<http://appft1.uspto.gov/netacgi/nph-Parser?Sect1=PTO1&Sect2=HITOFF&d=PG01&p=1&u=%2Fnethtml%2FPTO%2Fsrchnum.html&r=1&f=G&l=50&s1=%2220080286878%22.PGNR.&OS=DN/20080286878&RS=DN/20080286878>

Williams, John G.K., Jon P. Anderson, Greg Bashford and Lyle Middendorf

Williams JG, Steffens DL, Anderson JP, Urlacher TM, Lamb DT, Grone DL, Egelhoff JC. An artificial processivity clamp made with streptavidin facilitates oriented attachment of polymerase-DNA complexes to surfaces. *Nucleic Acids Res*. 2008 Oct; 36(18):e121. Epub 2008 Aug 22.

http://www.ncbi.nlm.nih.gov/pubmed/18723573?ordinalpos=4&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_DefaultReportPanel.Pubmed_RVDocSum

Reynolds B, Miller R, Williams JG, Anderson JP. Synthesis and stability of novel terminal phosphate-labeled nucleotides. *Nucleosides Nucleotides Nucleic Acids*. 2008 Jan;27(1):18-30.

http://www.ncbi.nlm.nih.gov/pubmed/18188766?ordinalpos=5&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum

Bashford G, Lamb D, Grone D, Eckles B, Kornelsen K, Middendorf L, Williams J. Automated bead-trapping apparatus and control system for single-molecule DNA sequencing. *Opt. Express* **16**, 3445-3455 (2008).

<http://www.opticsinfobase.org/abstract.cfm?URI=oe-16-5-3445>

Steffens DL, Williams JG. Efficient site-directed saturation mutagenesis using degenerate oligonucleotides. *J Biomol Tech.* 2007 Jul;18(3):147-9.

http://www.ncbi.nlm.nih.gov/pubmed/17595310?ordinalpos=1&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum

patents

Williams JG, et al., *Flowcell system for single molecule detection*, 20080206764 filed on 26 Oct. 2007. [20080206764 Flowcell system for single molecule detection](#)

Williams JG, et al., *Charge Switch Nucleotides*, 20080153095 filed on 26 Oct. 2007. [20080153095 Charge Switch Nucleotides](#)

Williams JG, et al., *System and method for nucleic acid sequencing by polymerase synthesis*, United States Patent 7,229,799, 12 June 2007. [7,229,799 System and method for nucleic acid sequencing by polymerase synthesis](#)

Williams JG, et al., *Mutant polymerases for sequencing and genotyping*, 20070048748 filed on 1 Mar. 2007. [20070048748 Mutant polymerases for sequencing and genotyping](#)

Williams JG, et al., *Single molecule detection systems and methods*, United States Patent 7,118,907, 10 Oct. 2006. [7,118,907 Single molecule detection systems and methods](#)

Williams JG, et al., *Charge switch nucleotides*, 20060063173 filed on 23 Mar. 2006. [20060063173 Charge switch nucleotides](#)

Williams JG, et al., *Field-switch sequencing*, 20050266456 filed on 1 Dec. 2005. [20050266456 Field-switch sequencing](#)

Williams JG, et al., *Charge-switch nucleotides*, United States Patent 6,936,702, 30, Aug. 2005. [6,936,702 Charge-switch nucleotides](#)

Williams JG, et al., *Nucleic acid sequencing using charge-switch nucleotides*, United States Patent 6,869,764, 22 Mar. 2005. [6,869,764 Nucleic acid sequencing using charge-switch nucleotides](#)

Williams JG, *Composition and method for nucleic acid sequencing*, 20050042633 filed on 24 Feb. 2005. [20050042633 Composition and method for nucleic acid sequencing](#)

- Williams JG, *Polymerases with charge-switch activity and methods of generating such polymers*, 20040259082 filed on 23 Dec. 2004. [20040259082 Polymerases with charge-switch activity and methods of generating such polymers](#)
- Williams JG, *System and apparatus for nucleic acid sequencing on single molecules by polymerase synthesis*, United States Patent 6,762,048, 13 July 2004. [6,762,048 System and apparatus for nucleic acid sequencing of single molecules by polymerase synthesis](#)
- Williams JG, *System and method for nucleic acid sequencing by polymerase synthesis*, 20030194740 filed on 16 Oct. 2003. [20030194740 System and method for nucleic acid sequencing by polymerase synthesis](#)
- Williams JG, et al., *Single molecule detection systems and methods*, 20030186255 filed on 2 Oct. 2003. [20030186255 Single molecule detection systems and methods](#)
- Williams JG, *Microfluidics system for single molecule DNA sequencing*, 20030064400 filed on 3 Apr. 2003. [20030064400 Microfluidics system for single molecule DNA sequencing](#)
- Williams JG, et al., *Flowcell system for nucleic acid sequencing*, 20020168678 filed on 14 Nov. 2002. [20020168678 Flowcell system for nucleic acid sequencing](#)
- Williams JG, *System and apparatus for nucleic acid sequencing of single molecules by polymerase synthesis*, 20020115076 filed on 22 Aug. 2002. [20020115076 System and apparatus for nucleic acid sequencing of single molecules by polymerase synthesis](#)
- Williams JG, et al., *Charge-switch nucleotides*, 20020042071 filed on 11 Apr. 2002. [20020042071 Charge-switch nucleotides](#)
- Williams JG, et al., *Nucleic acid sequencing using charge-switch nucleotides*, 20020039738 filed on 4 Apr. 2002. [20020039738 Nucleic acid sequencing using charge-switch nucleotides](#)
- Williams JG, *Heterogeneous assay for pyrophosphate*, United States Patent 6,306,607, 23 Oct. 2001. [6,306,607 Heterogeneous assay for pyrophosphate](#)
- Williams JG, *System and methods for nucleic acid sequencing of single molecules by polymerase synthesis*, United States Patent 6,255,083, 3 July 2001. [6,255,083 System and methods for nucleic acid sequencing of single molecules by polymerase synthesis](#)
- Williams JG, *Heterogeneous assay for pyrophosphate detection*, United States Patent 6,232,075, 15 May 2001. [6,232,075 Heterogeneous assay for pyrophosphate detection](#)

Williams, Peter

Aksyonov SA, Bittner M, Bloom LB, Reha-Krantz LJ, Gould IR, Hayes MA, Kiernan UA, Niederkofler EE, Pizziconi V, Rivera RS, Williams DJ, Williams P. Multiplexed

DNA sequencing-by-synthesis. Anal Biochem. 2006 Jan 1;348(1):127-38. Epub 2005 Oct 21.

http://www.ncbi.nlm.nih.gov/pubmed/16289447?ordinalpos=1&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum

Aksyonov SA, Williams P. Impact desolvation of electrosprayed microdroplets--a new ionization method for mass spectrometry of large biomolecules. Rapid Commun Mass Spectrom. 2001;15(21):2001-6.

http://www.ncbi.nlm.nih.gov/pubmed/11675666?ordinalpos=2&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum

Aksyonov S, Williams P. Electrospray ionization using disposable plastic pipette tips. Rapid Commun Mass Spectrom. 2001;15(19):1890-1. No abstract available.

http://www.ncbi.nlm.nih.gov/pubmed/11565109?ordinalpos=28&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum
