

Perry L. Miller, MD, PhD

Education

AB, 1966, Harvard University, Cambridge, MA (Physics & Chemistry)
MS, 1969, University of California, Berkeley, CA (EE & Computer Science)
PhD, 1973, MIT, Cambridge, MA (Computer Science)
MD, 1978, University of Miami, Miami, FL

Experience

1966-68, Systems Engineer, IBM
 1966-67, Boston; 1967-68, London, England
1969-73, Research Assistant, MIT
 1969-71, Project MAC; 1971-73, MIT Lincoln Laboratory
1973-76, MIT Research Laboratory of Electronics
 1973-75, Research Staff, 1975-76, Research Affiliate
1975-76, Assistant Professor, Computer Sciences, Boston College
1978-81, Resident, Anesthesiology, University of Pennsylvania
1981- , Department of Anesthesiology, Yale University School of Medicine
 1981-87, Assistant Professor; 1987-92, Associate Professor; 1992- , Professor
1985- , Director, Medical Informatics Research Training Program, Yale University School of Medicine
1991- , Director, Center for Medical Informatics, Yale University School of Medicine
2001- , Professor, Molecular, Cellular & Developmental Biology
2003- , Co-Director for Graduate Studies, Interdepartmental PhD Program in Computational Biology and Bioinformatics
2003- , Co-Director, Bioinformatics, Yale Center for Genomics and Proteomics

National Activities in Medical Informatics

American Association for Artificial Intelligence (AAAI)
 AI in Medicine Liaison: 1986-88

American Association for Medical Systems and Informatics (AAMSI)
 Annual Congress Program Committee: 1985-86
 Board of Directors: 1985-88

Symposium for Computer Applications in Medical Care (SCAMC)
 Program Committee: 1985-86
 Board of Directors: 1985-90

American Medical Informatics Association (AMIA)

Board of Directors: 1992-94
IAIMS Consortium: Chair, 1997-99

American College of Medical Informatics (ACMI)

Fellow: 1985- ; Secretary: 1998- 2000
Scientific Advisory Committee: 1999-2001
Central Committee, White Paper on Education: 2001-

National Academies of Science (NAS)

Bioinformatics Workshop Planning Committee, Session chair: 2000

Editorial Boards

Expert Systems Research and Applications 1985-90
Medical Decision Making 1986-88
Journal of the American Medical Informatics Association 1994-99
Journal of Biomedical Informatics 2001-

Books and Monographs

1. Miller PL: A Critiquing Approach to Expert Computer Advice: ATTENDING. London: Pitman, 1984.
2. Miller PL: Expert Critiquing Systems: Practice-Based Medical Consultation by Computer. New York: Springer-Verlag, 1986.
3. Miller PL (Ed.): Selected Topics in Medical Artificial Intelligence. New York: Springer-Verlag, 1988.
4. Miller PL: Automatic Creation of a Code Generator from a Machine Description. MAC-TR-85, Project MAC, MIT, May 1971.
5. Miller PL: A Locally-Organized Parser for Spoken Input. TR-503, MIT Lincoln Laboratory, May 1973.

Selected Articles

1. Miller PL: A locally-organized parser for spoken input. Communications of the Association for Computing Machinery 17:621-630, 1974.
2. Miller PL: An adaptive natural language parser. Proceedings of the Association for Computational Linguistics Conference, 1975; American Journal of Computational Linguistics Fall 1975.
3. Miller PL: ATTENDING: Critiquing a physician's management plan. IEEE Transactions On Pattern Analysis and Machine Intelligence PAMI-5:449-461, 1983.
4. Miller PL: Critiquing anesthetic management: The "ATTENDING" computer system. Anesthesiology 58:362-369, 1983.
5. Miller PL, Black HR: Medical plan-analysis by computer: Critiquing the pharmacologic management of essential hypertension. Computers and Biomedical Research 17:38-54, 1984.

6. Miller PL: Medical plan-analysis by computer. *Computer Programs in Biomedicine* 18:15-20, 1984.
7. Miller PL: Training for a research career in Medical Information Science: How much is enough? *Medical Informatics* 9:301-304, 1984.
8. Miller PL, Blumenfrucht SJ, Black HR: An expert system which critiques patient workup: Modeling conflicting expertise. *Computers and Biomedical Research* 17:554-569, 1984.
9. Miller PL, Black HR: HT-ATTENDING: Critiquing the pharmacologic management of essential hypertension. *Journal of Medical Systems* 8:181-187, 1984.
10. Miller PL: Goal-directed critiquing by computer: Ventilator management. *Computers and Biomedical Research* 18:422-438, 1985.
11. Miller PL: Building an expert critiquing system: ESSENTIAL-ATTENDING. *Methods of Information in Medicine* 25:71-78, 1986. Republished in *Methods of Information in Medicine, Special Issue 1988*: 297-304.
12. Miller PL: Critiquing: A different approach to computer-based advice in medicine. *Medical Informatics* 11:29-38, 1986.
13. Tanner GE, Angers DG, Barash PG, Mulla A, Miller PL, Rothstein P: Effect of left-to-right, mixed left-to-right, and right-to-left shunts on inhalational anesthetic induction in children: A computer model. *Anesth Analg* 64:101-107, 1985.
14. Miller PL: Extending computer-based critiquing to a new domain: ATTENDING, ESSENTIAL-ATTENDING, and VQ-ATTENDING. *International Journal of Clinical Monitoring and Computing* 2:135-142, 1986.
15. Miller PL, Shaw C, Rose JR, Swett HA: Critiquing the process of radiologic differential diagnosis. *Computer Methods and Programs in Biomedicine* 22:12-25, 1986.
16. Miller PL: The evaluation of artificial intelligence systems in medicine. *Computer Methods and Programs in Biomedicine* 22:5-11, 1986.
17. Rennels GD, Shortliffe EH, Miller PL: Choice and explanation in medical management: A multi-attribute model of artificial intelligence approaches. *Medical Decision Making* 7:22-31, 1987.
18. Rennels GD, Miller PL: Artificial intelligence research in anesthesia and intensive care. *Journal of Clinical Monitoring* 4:274-289, 1988.
19. Miller PL, Rennels GD: Prose generation from expert systems: An applied computational linguistics approach. *AI Magazine* 9;3:37-44, 1988.
20. Mars NJI, Miller PL: Knowledge acquisition and verification tools for medical expert systems. *Medical Decision Making* 7:6-11, 1987.
21. Miller PL, Blumenfrucht SJ, Rose JR, Rothschild M, Swett HA, Weltin G, Mars NJI: HYDRA: A knowledge acquisition tool for expert systems which critique medical workup. *Medical Decision Making* 7:12-21, 1987.
22. Frolich M, Morrow J, Miller PL: Modeling differential diagnosis as "dynamic competition" between systematic analysis and disease directed deduction. *Computers and Biomedical Research* 23:449-513, 1990.
23. Swett HA, Miller PL: ICON: A computer-based approach to differential diagnosis in radiology. *Radiology* 163:555-558, 1987.
24. Rothschild M, Swett HA, Fisher PR, Weltin G, Miller PL: Exploring subjective vs. objective issues in the validation of computer-based critiquing advice. *Computer Methods and Programs in Biomedicine* 31:11-18, 1990.

25. Rennels GD, Shortliffe EH, Stockdale FE, Miller PL: A computational model of reasoning from the clinical literature. *Computer Methods and Programs in Biomedicine* 24:139-149, 1987.
26. Rennels GD, Shortliffe EH, Stockdale FE, Miller PL: A structured representation of the clinical literature and its use in a medical management advice system. *Bulletin du Cancer* 74:215-220, 1987.
27. Miller PL, Barwick KW, Morrow JS, Powsner SM, Riely CA: Semantic relationships and medical bibliographic retrieval: A preliminary assessment. *Computers and Biomedical Research* 21:64-77, 1988.
28. Miller PL: Exploring the critiquing approach: Clinical practice-based feedback by computer. *Biomedical Measurement, Informatics and Control* 2:108-112, 1988.
29. Rennels GD, Shortliffe EH, Stockdale FE, Miller PL: A computational model of reasoning from the clinical literature. *AI Magazine* 10(1):49-57, 1988.
30. Miller PL, Morrow JS, Powsner SM, Riely CA: Semantically assisted medical bibliographic retrieval: An experimental computer system. *Bulletin of the Medical Library Association* 76:131-136, 1988.
31. Swett HA, Rothschild M, Weltin GG, Fisher PR, Miller PL: Optimizing radiologic workup: An artificial intelligence approach. *Journal of Digital Imaging* 2:15-20, 1989.
32. Miller PL, Smith P, Morrow JS, Riely CA, Powsner SM: Capturing the semantic relationship between clinical terms with current MeSH bibliographic coding. *Computer Methods and Programs in Biomedicine* 27:205-211, 1988.
33. Powsner SM, Barwick KW, Morrow JS, Riely CA, Miller PL: Automated bibliographic retrieval based on current topics in hepatology: HEPATOPIX. *Computers and Biomedical Research* 22:552-564, 1989.
34. Cohn AI, Fisher PR, Mutalik P, Miller PL, Swett HA: AXON: Knowledge-based retrieval of radiographic studies using "axes" of clinical relevance. *Computers and Biomedical Research* 23:199-221, 1990.
35. Cohn AI, Rosenbaum SH, Factor M, Miller PL: DYNASCENE: An approach to computer-based intelligent cardiovascular monitoring using sequential clinical "scenes". *Methods of Information in Medicine* 29:122-131, 1990.
36. Swett HA, Fisher PR, Miller PL, Mutalik PG: Expert system controlled image display. *Radiology* 172:487-493, 1989.
37. Miller PL, Sittig DF: The evaluation of clinical decision support systems: What is necessary vs. what is interesting. *Medical Informatics* 15:185-190, 1990.
38. Factor M, Sittig DF, Cohn AI, Gelernter D, Miller PL, Rosenbaum SH: A parallel software architecture for building intelligent medical monitors. *International Journal of Clinical Monitoring & Computing* 7:117-128, 1990.
39. Berger M, Gelfand R, Miller PL: Combining statistical, rule-based and physiologic model-based methods to assist in the management of diabetes mellitus. *Computers and Biomedical Research* 23:346-357, 1990.
40. Miller PL, Nadkarni PM, Carriero NM: Parallel computation and FASTA: Confronting the problems of parallel database search for a fast sequence comparison algorithm. *Computer Applications in the Biosciences* 7:71-78, 1991.
41. Factor M, Gelernter D, Kolb C, Miller PL, Sittig DF: Real-time data fusion in the ICU. *IEEE Computer* 24:45-54, 1991.

42. Sittig DF, Foulser D, Carriero N, McCorkle G, Miller PL: A parallel computing approach to genetic sequence comparison: The master-worker paradigm with interworker communication. *Computers and Biomedical Research* 24:152-169, 1991.
43. Clyman JI, Issacsohn J, Gelfand RA, Miller PL: LIPID-ADVISOR: A computer program to help in the management of hyperlipidemia. *Journal of Medical Practice Management* 6:186-192, 1991.
44. Ball SS, Mah VH, Miller PL: SENEX: A computer-based representation of the cellular signal transduction processes in the central nervous system. *Computer Applications in the Biosciences* 7:175-187, 1991.
45. Miller PL, Nadkarni P, Gelernter JE, Carriero N, Pakstis AJ, Kidd KK: Parallelizing genetic linkage analysis: A case study for applying parallel computation in molecular biology. *Computers and Biomedical Research* 24:234-248, 1991. Also published in: van Bommel JH, McCray AT: *Yearbook 92 of Medical Informatics Stuttgart*: Schattauer, 1992, pp. 478-492.
46. Goradia TM, Lange K, Miller PL, Nadkarni PM: Fast computation of genetic likelihoods on human pedigree data. *Human Heredity* 42:42-62, 1992.
47. Shifman MA, Windemuth A, Schulten K, Miller PL: Molecular dynamics on a network of workstations using a machine-independent parallel programming language. *Computers and Biomedical Research* 25:168-180, 1992.
48. Miller PL, Nadkarni PM, Pearson WR: Comparing machine-independent vs. machine-specific parallelization of a software platform for biological sequence comparison. *Computer Applications in the Biosciences* 8:167-175, 1992.
49. Miller PL, Nadkarni PN, Bercovitz P: Harnessing networked workstations as a powerful parallel machine: A general paradigm illustrated using three programs for genetic linkage analysis. *Computer Applications in the Biosciences* 8:141-147, 1992.
50. Sittig DF, Shifman MA, Nadkarni P, Miller PL: Parallel computation for medicine and biology: Experience with Linda at Yale University. *International Journal of Supercomputing Applications* 6:147-163, 1992.
51. Miller PL, Paton JA, Clyman JI, Powsner SM: Prototyping an institutional IAIMS/UMLS information environment for an academic medical center. *Bulletin of the Medical Library Association* 80:281-287, 1992. Also published in: van Bommel JH, McCray AT: *Yearbook 93 of Medical Informatics Stuttgart*: Schattauer, 1993, pp. 133-139.
52. Jachna J, Miller PL, Powsner SM: Augmenting Grateful Med with the UMLS metathesaurus: An initial evaluation with psychiatric consultation cases. *Bulletin of the Medical Library Association* 81:20-28, 1993.
53. Powsner SM, Miller PL: Automated online transition from the medical record to the psychiatric literature. *Methods of Information in Medicine* 31:169-174, 1992. Also published in: van Bommel JH, McCray AT: *Yearbook 93 of Medical Informatics Stuttgart*: Schattauer, 1993, pp. 234-239.
54. Clyman JI, Powsner SM, Paton JA, Miller PL: Using the UMLS information sources map to access online reference materials. *Bulletin of the Medical Library Association* 8:207-216. 1993.
55. Berman L, Cullen MR, Miller PL: Automated integration of external databases: A knowledge-based approach to enhancing rule-based expert systems. *Computers and Biomedical Research* 26:230-241, 1993.

56. Wright LW, Lichter JB, Shifman MA, Kidd KK, Miller PL: Computer-assisted restriction mapping: An integrated approach to handling experimental uncertainty. *Computer Applications in the Biosciences* 10:435-442, 1994.
57. Board of Directors of the American Medical Informatics Association (Ackerman MJ, Ball MJ, Clayton PD, Frisse ME, Gardner RM, Greenes RA, Hammond WE, Kingsland LC, McDonald CJ, Masys DR, Miller PL, Miller RA, Mitchell JA, Ozbolt JG, Stead WW): Standards for medical identifiers, codes and messages needed to create an efficient computer-stored medical record. *Journal of the American Medical Informatics Association* 1:1-7, 1994.
58. Miller PL, Frawley SJ: Tradeoffs in producing patient-specific recommendations from a computer-based clinical guideline: A case study. *Journal of the American Medical Informatics Association* 2:238-242, 1995.
59. Miller PL, Frawley SJ, Wright L, Roderer NK, Powsner SM: Lessons learned from a pilot implementation of the UMLS information sources map. *Journal of the American Medical Informatics Association* 2:102-115, 1995.
60. Schippits MG, Miller PL, Perrino AC, Rosenblatt W, Smith W: MUPIT: Helping clinicians build computer-based multimedia applications. *MD Computing* 12:215-225, 1995.
61. Krauter K, Montgomery K, Yoon SJ, LeBlanc-Straceski J, Renault B, Marondel I, Herdman V, Banks A, Lieman J, Menninger J, Bray-Ward P, Nadkarni P, Weissenbach J, Chumakov I, Cohen D, Miller P, Ward D, Kucherlapati R: A second generation physical map of human chromosome 12. *Nature* 377 Suppl.:321-333, 1995.
62. Miller PL, Nadkarni PM, Kidd KK, Cheung K, Ward DC, Banks A, Bray-Ward P, Cupelli L, Herdman V, Marondel I, Montgomery K, Renault B, Yoon S, Krauter KS, Kucherlapati R: Internet-based support for biomedical research: A collaborative genome center for human chromosome 12. *Journal of the American Medical Informatics Association* 2:351-364, 1995.
63. Miller PL: Medical informatics in clinical medicine and the biosciences. *Nature Medicine* 1:93-94, 1995.
64. Nadkarni PM, Banks A, Montgomery K, LeBlanc-Straceski J, Miller P, Krauter K: CONTIG-EXPLORER: Interactive marker content map assembly. *Genomics* 31:301-310, 1996.
65. Kannry JL, Wright L, Shifman M, Silverstein S, Miller PL: Portability issues for a structured clinical vocabulary: Mapping from Yale to the Columbia Medical Entities Dictionary. *Journal of the American Medical Informatics Association* 3:66-78, 1996.
66. Cheung KH, Nadkarni P, Silverstein S, Kidd JR, Pakstis AJ, Miller P, Kidd KK: PhenoDB: An integrated client/server database for linkage and population genetics. *Computers and Biomedical Research* 29:327-337, 1996.
67. Nadkarni P, Cheung KH, Castiglione C, Miller P, Kidd K: DNA Workbench: A database to manage regional mapping. *Journal of Computational Biology* 3:319-329, 1996.
68. Miller DW, Frawley SJ, Miller PL: Using semantic constraints to help verify the completeness of a computer-based clinical guideline for childhood immunization. *Computer Methods and Programs in Biomedicine* 58:267-280, 1999.
69. Peterson BE, Healy M, Nadkarni P, Shepherd GM, Miller PL: ModelDB: An environment for running and storing computer models and their results applied to

- computational neuroscience. *Journal of the American Medical Informatics Association* 6:389-398, 1996.
70. Brandt C, Frawley SJ, Powsner SM, Shiffman RN, Miller PL: Visualizing the logic of a clinical guideline: A case study in childhood immunization. *Methods of Information in Medicine* 36:179-183, 1997.
 71. Grajek SE, McKay J, Miller PL, Paton JA, Roderer NK: Evaluating IAIMS at Yale: Information access. *Journal of the American Medical Informatics Association* 4:138-149, 1997.
 72. Healy MD, Smith JE, Singer MS, Nadkarni PM, Miller PL, Shepherd GM: Olfactory receptor database (ORDB): A resource for sharing and analyzing published and unpublished data. *Chemical Senses* 22:321-326, 1997.
 73. Miller PL: Aspects of IAIMS implementation that require further research. *Journal of the American Medical Informatics Association* 4:S52-S61, 1997.
 74. Panzer S, Cooley L, Miller PL: Using explicitly defined biological relationships for database navigation and searching via the World-Wide Web. *Computer Applications in the Biosciences* 13:281-290, 1997.
 75. Miller PL, Frawley SJ, Sayward FG, Yasnoff WA, Duncan L, Fleming D: Combining tabular, rule-based and procedural knowledge in computer-based guidelines for childhood immunization. *Computers and Biomedical Research* 30:211-231, 1997.
 76. Miller PL: Tools for immunization guideline knowledge maintenance I: Automated generation of the logic "kernel" for immunization forecasting. *Computers and Biomedical Research* 31:172-189, 1998.
 77. Miller PL, Frawley SJ, Brandt C, Sayward FG: Tools for immunization guideline knowledge maintenance II: Automated Web-based generation of user-customized test cases. *Computers and Biomedical Research* 31:190-208, 1998.
 78. Nadkarni PM, Brandt C, Frawley SJ, Sayward FG, Einbinder R, Zeltermann D, Schacter L, Miller PL: ACT/DB: A client-server database system for managing attribute-value clinical trials data. *Journal of the American Medical Informatics Association* 5:139-151, 1998.
 79. Mirsky JS, Nadkarni PM, Healy MD, Miller PL, Shepherd GM: Database tools for integrating neuronal data to facilitate construction of neuronal models. *Journal of Neuroscience Methods* 82:105-121, 1998.
 80. Shepherd GM, Mirsky JS, Healy MD, Singer MS, Skoufos E, Hines MS, Nadkarni PM, Miller PL: The Human Brain Project: Neuroinformatics tools for integrating, searching, and modeling multidisciplinary neuroscience data. *Trends in Neuroscience* 21:460-468, 1998.
 81. Skoufos E, Healy MD, Singer MS, Nadkarni PM, Miller PL, Shepherd GM: Olfactory receptor database: A database of the largest eukaryotic gene family. *Nucleic Acids Research* 27:343-345, 1999.
 82. Stein HD, Nadkarni P, Erdos J, Miller PL: Answering clinical queries from a clinical data warehouse: Issues in integrating coded and textual data. *Journal of the American Medical Informatics Association* 7:42-54, 2000.
 83. Ross-Macdonald P, Roemer T, Coelho P, des Etages S, Sheehan A, Symoniatis D, Jansen R, Umansky L, Nelson K, Agarwal S, Hagar K, Cheung K, Miller P, Kanada D, Roeder S, Snyder M: Large scale analysis of the yeast genome by transposon tagging and disruption. *Nature* 402:413-418, 2000.

84. Miller PL, Frawley SJ, Sayward FG: IMM/Scrub: A domain-specific tool for the deduplication of vaccination history records in childhood immunization registries. *Computers and Biomedical Research* 33:126-143, 2000.
85. Mattie ME, Staib L, Stratmann E, Tagare HD, Duncan J, Miller PL: PathMaster: Content-based cell image retrieval using automated feature extraction. *Journal of the American Medical Informatics Association* 7:404-415, 2000.
86. Nadkarni P, Marengo L, Chen R, Skoufos E, Shepherd G, Miller P: Organization of heterogeneous scientific data using the EAV/CR representation. *Journal of the American Medical Informatics Association* 6:478-493, 1999.
87. Cheung KH, Osier MV, Kidd JR, Pakstis AJ, Miller PL, Kidd KK: ALFRED: An allele frequency database for diverse populations and DNA polymorphisms. *Nucleic Acids Research* 28:361-363, 2000.
88. Kumar A, Cheung KH, Ross-Macdonald P, Coelho PSR, Miller P, Snyder M: TRIPLES: A database of transposon mutagenesis in *S. cerevisiae*. *Nucleic Acids Research* 28:81-84, 2000.
89. Skoufos E, Marengo L, Nadkarni PM, Miller PL, Shepherd, GM: Olfactory receptor database: A sensory chemoreceptor resource. *Nucleic Acids Research* 28:341-347, 2000.
90. Chen RS, Nadkarni P, Marengo L, Miller PL: Exploring performance issues for a clinical database organized using an entity-attribute-value representation. *Journal of the American Medical Informatics Association* 7:475-487, 2000.
91. Cheung KH, Kumar A, Snyder M, Miller P: An integrated Web interface for large-scale characterization of sequence data. *Functional and Integrative Genomics* 1:70-75, 2000.
92. Brandt CA, Nadkarni P, Marengo L, Karras BT, Lu C, Fisk JM, Miller PL: Re-engineering a database for clinical trials management: Lessons of systems architects. *Controlled Clinical Trials* 21:440-461, 2000.
93. Miller PL, Nadkarni P, Singer M, Marengo L, Hines M, Shepherd G: Neuroinformatics research at Yale in support of the Human Brain Project: SenseLab. *Journal of the American Medical Informatics Association* 8:34-48, 2001.
94. Miller PL, Brandt C, Cheung K, Mattie M, Nadkarni P, Shiffman RN: The Yale Center for Medical Informatics: Clinical, neuro- and genomic informatics. *MD Computing* 17(4):29-32, 2000.
95. Miller PL: The opportunities at the intersection of bioinformatics and health informatics: A case study. *Journal of the American Medical Informatics Association* 7:431-438, 2000.
96. Miller PL: Domain-constrained generation of clinical condition sets to help test computer-based clinical guidelines. *Journal of the American Medical Informatics Association* 8:131-145, 2001.
97. Miller PL, Sayward FG, Frawley SJ: Exploring the utility of demographic data and vaccination history data in the deduplication of immunization registry patient records. *Journal of Biomedical Informatics* 34(1):37-50, 2001.
98. Cheung KH, Kidd JR, Pakstis AJ, Miller PL, Kidd KK: ALFRED: An allele frequency database for diverse populations and DNA polymorphisms - an update. *Nucleic Acids Research* 29:317-319, 2001.
99. Miller PL, Sayward FG, Frawley SJ: Issues in computer-based decision support in public health illustrated using a set of related projects involving childhood immunization. *Journal of Public Health Management Practice* 7:75-86, 2001.

100. Miller PL, Sayward FG, Frawley SJ: Maintaining and incrementally revalidating a computer-based clinical guideline: A case study. *Journal of Biomedical Informatics* 34:99-111, 2001.
101. Zhu H, Bilgin M, Bangham R, Hall D, Casamayor A, Bertone P, Lan N, Jansen R, Bidlingmaier S, Houfek T, Mitchell T, Miller P, Dean RA, Gerstein M, Snyder M: Global analysis of protein activities using proteome chips. *Science* 293:2101-2105, 2001.
102. Crasto C, Marenco L, Miller P, Shepherd G: Olfactory Receptor Database: A metadata-driven automated population from sources of gene and protein sequences. *Nucleic Acids Research* 30:354-360, 2002.
103. Kumar A, Afarwal S, Hayman JA, Matson S, Heidtman M, Piccirillo S, Unamskyu L, Drawid A, Jansen R, Liu Y, Cheung KH, Miller P, Gerstein M, Roeder GS, Snyder M: Subcellular localization of the yeast proteome. *Genes and Development* 16:707-19, 2002.
104. Kumar A, Harrison PM, Cheung KH, Lan N, Echols N, Bertone P, Miller P, Gerstein MB, Snyder M: An integrated approach for finding overlooked genes in yeast. *Nature Biotechnology* 20:58-63, 2002.
105. Kumar A, Cheung KH, Tosches N, Masiar P, Liu Y, Miller P, Snyder M: The TRIPLES database: a community resource for yeast molecular biology. *Nucleic Acids Research* 30:73-5, 2002.
106. Shifman MA, Sayward FG, Mattie ME, Miller PL: Exploring issues of quality of service in a Next Generation Internet testbed: A case study using PathMaster. *Journal of the American Medical Informatics Association* 9(5):491-9, 2002
107. Osier MV, Cheung KH, Kidd JR, Pakstis AJ, Miller PL, Kidd KK: ALFRED: An allele frequency database for anthropology. *American Journal of Physical Anthropology* 119:77-83, 2002.
108. Rajeevan H, Osier MV, Cheung K, Deng H, Druskin L, Heinzen R, Kidd JR, Stein S, Pakstis AJ, Tosches NP, Yeh C, Miller PL, Kidd K: ALFRED - The ALlele FREquency Database - update. *Nucleic Acids Research* 31:270-1, 2003.
109. Brandt CA, Morse R, Matthews K, Sun K, Deshpande AM, Gadagkar R, Cohen DB, Miller PL, Nadkarni PM: Metadata-driven creation of data marts from an EAV-modeled clinical research database. *International Journal of Medical Informatics* 65(3):225-41, 2002.
110. Rinn JL, Euskirchen G, Bertone P, Martone R, Luscombe NM, Hartman S, Harrison PM, Nelson FK, Miller P, Gerstein M, Weissman S, Snyder M: The transcriptional activity of human Chromosome 22. *Genes and Development* 17:529-40, 2003.
111. Crasto CJ, Marenco LM, Migliore M, Mao B, Nadkarni PM, Perry Miller P, Shepherd GM: Text mining neuroscience journal articles to populate neuroscience databases. *Neuroinformatics* 1:215-237, 2003.
112. Marenco L, Tosches N, Crasto C, Shepherd G, Miller PL, Nadkarni, PM: Achieving evolvable web-database bioscience applications using the EAV/CR framework: Recent advances. *Journal of the American Medical Informatics Association* 10:444-453, 2003.
113. Liu N, Xu F, Marenco L, Hyder F, Miller P, Shepherd GM: Informatics approaches to functional MRI odor mapping of the rodent olfactory bulb: OdorMapBuilder and OdorMapDB. *Neuroinformatics* 2:3-18, 2004.

114. Cheung KH, Hager J, Nelson K, White K, Li Y, Snyder M, Williams K, Miller P: A dynamic approach to mapping coordinates between microplates and microarrays. *Journal of Biomedical Informatics* 35:306-312, 2002.
115. Shifman MA, Srivastava R, Brandt CA, Li TR, White K, Miller PL: Exploring the portability of informatics capabilities from a clinical application to a bioscience application: A case study. *Journal of the American Medical Informatics Association* 11:294-299, 2004.
116. Martone R, Euskirchen G, Bertone P, Hartman S, Royce T, Luscombe NM, Rinn JL, Nelson K, Miller P, Gerstein M, Weissman S, Snyder M: Distribution of NF-kB-binding sites across human chromosome 22. *Proceedings of the National Academy of Sciences* 100:12247-52, 2003.
117. Friedman CP, Altman RB, Kohane IS, McCormick KA, Miller PL, Ozbolt JG, Shortliffe EH, Stormo GD, Szczepaniak MC, Tuck D, and Jeffrey Williamson J: Training the next generation of informaticians: The impact of "BISTI" and bioinformatics—A report from the American College of Medical Informatics. *Journal of the American Medical Informatics Association* 11:167-172, 2004.
118. Euskirchen G, Royce TE, Bertone P, Martone R, Rinn JL, Nelson FK, Sayward F, Luscombe NM, Miller P, Gerstein M, Weissman S, Snyder M: CREB binds to multiple loci on human chromosome 22. *Mol Cell Biol* 24:3804-14, 2004.
119. Cheung KH, Hager J, Pan D, Srivastava R, Mane S, Li Y, Miller P, Williams KR: KARMA: A web server application for comparing and annotating heterogeneous microarray platforms. *Nucleic Acids Res* 32 (Web Server issue):W441-4, 2004.
120. Brandt CA, Cohen DB, Shifman MA, Miller PL, Nadkarni PM, Frawley SJ: Approaches and informatics tools to assist in the integration of similar clinical research questionnaires. *Methods of Information in Medicine* 43:156-62, 2004.
121. Marenco L, Wang TY, Shepherd G, Miller PL, Nadkarni P: QIS: A framework for biomedical database federation. *Journal of the American Medical Informatics Association* 11:423-434, 2004.
122. Carriero N, Osier MV, Cheung K, Miller PL, Gerstein M, Zhao H, Rifkin S, Chang J, Zhang H, White K, Kenneth Williams K, Schultz M: A high productivity/low maintenance approach to high performance computation for biomedicine: Four case studies. *Journal of the American Medical Informatics Association* 12:90-98, 2005.
123. Gerstein M, Greenbaum D, Cheung K, Miller PL: An interdepartmental Ph.D. program in Computational Biology and Bioinformatics: The Yale perspective. *Journal of Biomedical Informatics* 40:73-9, 2007.
124. Bruce C, Shifman MA, Miller P, Gulcicek EE: Probabilistic enrichment of phosphopeptides by their mass defect in tandem mass spectrometry. *Anal Chem* 78:4374-82, 2006.
125. Dinu V, Miller PL, Zhao H: Integrating domain knowledge with statistical and data mining methods for high-density genomic SNP disease association analysis. *Journal of Biomedical Informatics* 20:750-60, 2007.
126. Liu N, Marenco L, Miller P: ResourceLog: An embeddable tool for dynamically monitoring the usage of Web-based bioscience resources. *Journal of the American Medical Informatics Association* 13:432-437, 2006.

127. Liu N, Xu F, Miller PL, Shepherd GM: OdorMapComparer: An application for quantitative analyses and comparisons of fMRI brain odor maps. *Neuroinformatics* 5:105-14, 2007.
128. Corwin J, Silberschatz A, Miller PL, Marenco L: Dynamic tables: An architecture for managing evolving, heterogeneous biomedical data in relational database management systems. *Journal of the American Medical Informatics Association* 14:86-93, 2007.
129. Rozowsky J, Newburger D, Sayward F, Wu J, Jordan G, Korbel JO, Nagalakshmi U, Yang J, Zheng D, Guigo R, Gingeras T, Weissman S, Miller P, Snyder M, Gerstein M: The DART classification of unannotated transcription within the ENCODE regions: associating transcription with known and novel loci. *Genome Research* 2007 Jun;17(6):732-45.
130. Crasto CJ, Masiar P, Shepherd GM, Miller PL: NeuroExtract: Facilitating Neuroscience-Oriented Retrieval from Broadly-Focused Bioscience Databases using Text-based Query Mediation. *Journal of the American Medical Informatics Association* 14:355-60, 2007.
131. Dinu V, Miller PL, Zhao H: Evidence for association between multiple complement pathway genes and AMD. *Genet Epidemiol* 31:224-37, 2007.
132. Crasto CJ, Marenco LN, Liu N, Morse TM, Cheung KH, Lai PC, Bahl G, Masiar P, Lam HY, Lim E, Chen H, Nadkarni P, Migliore M, Miller PL, Shepherd GM: SenseLab: New developments in disseminating neuroscience information. *Briefings in Bioinformatics* 8(3):150-62, 2007.
133. Lam HY, Marenco L, Clark T, Gao Y, Kinoshita J, Shepherd G, Miller P, Wu E, Wong GT, Liu N, Crasto C, Morse T, Stephens S, Cheung KH: AlzPharm: Integration of neurodegeneration data using RDF. *BMC Bioinformatics* 8 Suppl 3:S4, 2007.
134. Shifman MA, Li Y, Colangelo CM, Stone KL, Wu TL, Cheung KH, Miller PL, Williams KR: YPED: A Web-accessible database system for protein expression analysis. *Journal of Proteome Research* 6:4019-24, 2007.
135. Bjornson R, Shifman M, Miller P, Carriero N: X!Tandem, an improved method for running X!Tandem in parallel on collections of commodity computers. *Journal of Proteome Research* 7:293-9, 2008.