

Curriculum Vitae

Constantin F. Aliferis M.D., Ph.D., F.A.C.M.I.

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Date and Place of Birth December 31, 1966, Chania, Crete, Greece (naturalized US citizen).

Education

Undergraduate & Graduate	Athens University	M.D., 1990	Medicine
Graduate	University of Pittsburgh	M.S., 1994	Intelligent Systems
Postgraduate Fellowship	University of Pittsburgh	1991-1994	Post-doctoral Fellowship in Medical Informatics, Dept. of Internal Medicine
Graduate	University of Pittsburgh	Ph.D., 1998	Intelligent Systems/ Medical Informatics

Academic Appointments

June 1998-May 2000	Athens University, Greece	Research Associate in Epidemiology
June 2000-present	Vanderbilt University	Assistant Professor of Biomedical Informatics
June 2000-present	Vanderbilt-Ingram Cancer Center	Investigator
June 2000-Sept. 2001	Vanderbilt University	Founding Director, MS/PhD Program in Biomedical Informatics
Sept 2001-October 2008	Vanderbilt University	Founding Director, Discovery Systems Laboratory
May 2005-October 2008	Vanderbilt University	Assistant Professor of Cancer Biology (secondary appointment)
June 2007-October 2008	Vanderbilt University	Assistant Professor of Computer Science (secondary appointment)
July 2007-October 2008	Vanderbilt University	Assistant Professor of Biostatistics (secondary appointment)
October 2008-present	Vanderbilt University	Adjunct Associate Professor of Biomedical Informatics
October 2008-present	Vanderbilt University	Adjunct Associate Professor of Biostatistics
October 2008-present	New York University	Associate Professor of Pathology
January 2009-present	New York University	Member of the Faculty, Sackler Institute of Graduate Biomedical Studies
October 2008-present	New York University	Director, Center for Health Informatics and Bioinformatics
October 2008-present	New York University	Director, Informatics Core for the Clinical and Translational Science Institute

Teaching Activities

- **Architect and Founding Director, M.S./Ph.D. Program in Biomedical Informatics**, Vanderbilt University (2000- 2001): designed and defended in front of Vanderbilt and external reviewers the Vanderbilt M.S./Ph.D. program in Biomedical Informatics. Wrote the program proposal and curriculum. Headed recruitments and day-to-day operations of the program.
- **Organized the Gene Expression and Proteomics Data Analysis Interest Group** (summer 2000-summer 2001).
- **Pathology Residents Training**, New York University School of Medicine (October 2009): teaching a series of 5 Bioinformatics modules to Pathology residents.
- **Informatics Faculty Seminars**, New York University School of Medicine (Spring 2009): delivered a series of 5 lectures on Causal Discovery Algorithms.

Graduate and Medical School Courses (at Vanderbilt University)

- Primary instructor for BMIF 330, and BMIF 330a: **“Biomedical Artificial Intelligence: Decision Support Systems and Machine Learning”** (graduate level core courses in MS/PhD Program and open to all graduate students). Note: taught in 2002, 2003, 2004, 2006, with C. Aliferis as primary instructor; it was offered in 2008 with Subramani Mani as primary instructor and C. Aliferis as co-instructor. From 2008 and on this course is offered to EECS students too. Together BMIF315 and BMIF 330 serve as primary courses in Machine Learning for EECS graduate students.
- Primary instructor for BMIF 315 **“Foundations of Biomedical Informatics Methods”** (graduate level core courses in MS/PhD Program and open to all graduate students). Taught in Spring 2007 and 2008 and planned to be taught every year. From 2008 and on this course is offered to EECS students too.
- Lecturer in CANB 342 (graduate-level course in **Cancer Biology** for PhD students in that program).
- Lecturer in MCI **Clinical Proteomics** class (graduate level).
- Lecturer in **Introduction to Bioinformatics** (graduate level).
- Lecturer in **Introduction to Biomedical Informatics** 2000-2005 (taught by DBMI faculty to medical students as elective until 2005 when it was replaced by emphasis course).
- Graduate-level independent studies offered in:
 - **Artificial Intelligence/Machine Learning**,
 - **Advanced algorithms for Biomedical Informatics**,
 - **Information Retrieval**.

Graduate Students and Postdoctoral Fellows:

- Yin Aphinyanaphongs (MD/PhD student) – Received MS in Biomedical Informatics in 2005. Received PhD in May 2008.
- Nafeh Fananapazir (MD/MS student). Received MS in Biomedical Informatics in summer 2007.
- Alexander Statnikov (PhD student). Received MS degree in 2005; received Ph.D. in 2008.
- Lawrence Fu (PhD student) received PhD in 2008.

- Firas Wehbe (PhD student) expected to defend Ph.D. proposal in Spring of 2009.
- Shuo Chen (M.S. student).
- Kassatihun Gebre-Amlak (Medical Student, Emphasis Research Project advisor).

Faculty Mentoring:

- Chair, Mentoring Committee of Marc Triola, MD, Assistant Professor
- Chair, Mentoring Committee of Alexander Statnikov, PhD, Assistant Professor
- Chair, Mentoring Committee of Alexander Alekseyenko, PhD, Research Assistant Professor
- Chair, Mentoring Committee of Lawrence Fu, PhD, Research Assistant Professor
- Member, Mentoring Committee of Nirav Shah, MD, Assistant Professor
- Member, Mentoring Committee of Ilseung Cho, MD, Assistant Professor
- Member, Mentoring Committee of Alexander Pearlman, Assistant Research Scientist
- Member, Mentoring Committee of Boyce Griffith, PhD, Assistant Professor
- Research Mentor for Jinhua Wang, PhD, Research Assistant Professor
- Mentor for the Medical Scientist Training Program, a dual MD/PhD program
- Mentor, Cancer Center RT25T grant

Distinctions awarded to primary advisees:

- **Donald Lindberg Fellowship** awarded in 2005 to Yin Aphinyanaphongs (one such fellowship awarded annually by NIH accompanied by a \$25,000 grant award).
- **Gold Medal in 2004 MEDINFO** (tri-annual world congress of Medical informatics) Student Paper Competition for Alexander Statnikov (selected among 100 international competitors, accompanied by travel award and monetary prize).
- **First Prize in AMIA (American Medical Informatics Association) 2003 meeting** Student Paper Competition for Yin Aphinyanaphongs (selected among 40 international competitors, accompanied by travel award and monetary prize).
- **Finalist in AMIA (American Medical Informatics Association) 2005 meeting** Student Paper Competition for Andrea Sboner (selected among 100 international competitors, accompanied by travel award) (Andrea Sboner was visiting student to Vanderbilt/Discovery Systems Laboratory from Trento University).
- **Finalist in AMIA (American Medical Informatics Association) 2008 meeting** Student Paper Competition for Lawrence Fu (selected among 80 international competitors, accompanied by travel award).

Current and past member of thesis committee (non-primary advisor) for:

- Laura Brown (MS and PhD committee member)
- Tricia Thornton (MS committee member)
- Joel Parker (MS committee member)
- Stephany Duda (MS committee member)
- Firas Wehbe (MS committee member)
- Lawrence Fu (MS committee member)
- Andrea Sboner (visiting student)

Post-doctoral project advisor to:

- Eva Kasparova Ph.D.

Research Grants

Ongoing

1. **Principal Investigator (20% effort):** NIH/NLM, 7 R56 LM007948-04A1, “Causal Discovery Algorithms for Translational Research with High-Throughput Data”, 10/15/09 – 10/14/10, Total Award: \$344,512.
2. **Director of Biomedical Informatics Core (50% effort):** NIH/NCRR 1 U54 RR024386-01A1 (Cronstein), “NYU-HHC Clinical and Translational Science Award”, 07/14/09 – 03/31/14, Total Award: \$32,411,416.
3. **Principal Investigator of subcontract (15% effort):** NIH/NCCAM 1 R01 AT004662-01A1 (Kokkotou), “Omics and Variable Responses to Placebo and Acupuncture in Irritable Bowel Syndrome”, 05/01/09 – 04/30/14, Total Subcontract Award: \$347,688.
4. **Co-Investigator (10% effort):** NIH 3R01 AR056667201S1 (Cronstein), “The Pharmacology of Dermal Fibrosis”, 01/15/09 – 12/31/13, Total Award: \$798,312

Pending

5. **Scientific Director, High Performance Computing Facility (10% effort):** 1 S10 RR029683-01, “High Performance Computing Equipment to Support Biomedical Research at NYU”, 12/02/09 – 11/30/10, Total Award: \$650,433.
6. **Principal Investigator (15% effort):** Department of Defense PC093319P1 (Ostrer & Aliferis – dual PI mechanism), “Enhanced Predication of Prostate Cancer Risk and Progression and Causative Gene Identification Award Mechanism: Synergistic Idea Development Award”, 07/01/10 – 6/30/13, Total Award: \$633,750

Completed

7. **Co-Investigator (8% effort):** NIH/NHLBI 1 U01 HL081332-01 (Ware), “Biomarker Profiles in the Diagnosis/Prognosis of ARDS”, 08/12/2005 – 06/30/2009 Total Award: \$6,059,257.
8. **Co-Investigator (5% effort):** NIH, NCI 1 U24 CA126479-01 (Liebler), “Clinical Proteomic Technology Assessment for Cancer”, 09/28/2006 – 08/31/2011, Total Award: \$7,388,990.
9. **Co-Principal Investigator (5% effort, in kind):** NSF 0725746 (Guyon), “Causal Discovery Workbench and Challenge Program”, 08/15/2007 – 07/31/2009, Total Award: \$107,721.
10. **Mentor (0% effort):** NIH, NLM 2 T15 LM007450-06 (Gadd) “Vanderbilt Biomedical Informatics Training Program”, 07/01/2007 – 06/30/2012, Total Award: \$3,969,225.
11. **Principal Investigator (35% effort):** NIH/NLM, 1 R01 LM007948-01 “Principled methods for very-large-scale causal discovery.” 07/01/2003 – 06/30/2006. Total Award: \$631,180.
12. **Principal Investigator (20% effort):** NIH/NLM BISTI Planning Grant, 1 P20 LM007613-01 (Stead) “Pilot Project Computational Models of Lung Cancer: Connecting Classification, Gene Selection, and Molecular Sub-typing”, 09/01/2002 – 08/30/2004, Total Award: \$226,500.
13. **Co-Principal Investigator (15% effort):** NIH/NLM 1 T15 LM07450-01 (Miller), “Biomedical Informatics Training Grant.” 07/01/2002 – 06/30/2007, Total Award: \$3,966,644.
14. **Training Director (10% effort):** BMS training contract, Fall-Spring 2002, Total Award: \$150,000.

14. **Principal Investigator (30% effort):** “Vanderbilt Academic Venture Capital Fund support for the Discovery Systems Laboratory”, 07/01/2003 – 06/30/2006, Total Award: \$846,347¹.
15. **Principal Investigator (5% effort):** “Vanderbilt University Discovery Grant to study Complex Modeling of Clinical Trial Data with Gene Expression Covariates & Development of Optimal Re-analysis Policies” 07/01/2001 – 06/30/2002, Total Award: \$50,000.
16. **Principal Investigator (10% effort):** “WWW system to deliver pediatric care guidelines” Funded by the Ministry of Health, Greek Government, 2000-2002, Total Award: \$10,000.
17. **Co-Principal Investigator (5% effort/no salary support):** “Causal Discovery Challenge” from PASCAL (Pattern Analysis, Statistical Modeling and Computational Learning). PASCAL is the European Commission's IST-funded Network of Excellence for Multimodal Interfaces, 03/01/2006 – 11/30/2007, Total Award: 18,000 Euros.
18. **Co-Investigator (15% effort):** NIH/NCI 1 P50 CA095103-01 (Coffey) “SPORE in GI Cancer” 09/24/2002 – 04/30/2007, Total Award: \$11,851,282.
19. **Co-Investigator (15% effort):** NIH/NHLBI 1 U01 HL65962-01A1 (Roden) “Pharmacogenics of Arrhythmia Therapy”, 04/01/2001 – 03/31/2005, Total Award: \$11,189,918.
20. **Co-Investigator (5% effort):** NIH/NCI 1 P50 CA98131-01 (Arteaga) “SPORE in Breast Cancer” 08/01/2003 – 05/31/2008, Total Award: \$12,804,130.

Consulting

- Prediction Sciences LLC (La Jolla, CA) (Proteomic-based stroke diagnosis biomarker discovery and diagnostics signatures development).
- Ontar Corporation (North Andover, MA) (Tool for Pharmacovigilance for Infectious Disease, Combat Casualty Care and Biological Warfare and Chemical Defense and Vaccines).
- Sanctis LLC (Leesburg, VA) (Molecular signatures development)
- Discovery Holdings LLC (Nashville, TN) (Machine learning algorithms development).

Reviewer Service

- Journal of Machine Learning Research
- Machine Learning,
- Journal of the American Medical Informatics Association,
- BMC Bioinformatics,
- Cancer Informatics,
- Medical Decision Making,
- Journal of Biomedical Informatics.
- International Journal of Medical Informatics,
- Artificial Intelligence in Medicine,
- Transactions of the IEEE,
- Journal of Public Health Management and Practice,
- Future Generation Of Computer Systems,
- International Joint Conference in Artificial Intelligence (IJCAI),
- Pacific Symposium in Biocomputing (PSB),
- IEEE Transactions in Information technology in Biomedicine
- MEDINFO,

- FLAIRS,
- AMIA Fall Conference: papers reviewer & tutorials reviewer.
- Book proposal reviewer for Elsevier

Professional Service/Distinctions

1993	Finalist, Best paper award competition, AMIA Fall Symposium
1994	Student Paper Award in the 18 th Annual AMIA Fall Symposium
1995	Student Paper Award from American College of Medical Informatics (ACMI) in World Congress of Medical Informatics MEDINFO 1995.
1996	Selection of publication in the Yearbook of Medical Informatics
1997	Invited editorial: Yearbook of Medical Informatics
2000,6, 7,8	Session Chair, American Medical Informatics Association Fall Meeting
2001-2008	Director & Founder, Discovery Systems Laboratory
2002	Finalist, Best paper award competition, AMIA Fall Symposium
2002-2003	American Medical Informatics Association Professional Relations Committee
2002-2006	American Medical Informatics Association Education Committee
2004-6	Scientific Program Committee: International Workshop on Feature Selection for Data Mining
2005	Best Poster Award in Intelligent Systems in Molecular Biology
2005	Editorial Board member: Biomedical Knowledge
2005	Editorial Board member: Cancer Informatics
2005	Research spotlight: Cancer Informatics
2005-2007	Vanderbilt Department Representative to Graduate Faculty Assembly
2006,7	Scientific Program Committee: American Medical Informatics Fall Symposium
2006	Invited talk in American Physiological Society Conference on Physiological Genomics and Proteomics of Lung Disease
2006	Co-organizer: NIPS 2006 workshop on causality and feature selection
2007	Editorial Board member: Open Artificial Intelligence Journal
2007-8	Editor Journal of Machine Learning Research, Special Topic on Causality
2007-8	Co-organizer of Causal Discovery Challenge PASCAL (Pattern Analysis, Statistical Modeling and Computational Learning) network of the European Commission's IST-funded Network of Excellence for Multimodal Interfaces.
2007	Elected Fellow of American College of Medical Informatics (ACMI).
2008	Workshop on New Challenges for Feature Selection in Data Mining and Knowledge Discovery
2008	Scientific Program Committee 2008 ICML/UAI workshop on Machine Learning in Health Care Applications.
2008	Co-organizer WCCI causality competition workshop.
2008	Co-organizer NIPS causality competition workshop.
2008	Scientific Program Committee: Feature Selection in Data Mining and Knowledge Discovery (FSDM08)

Participation in University and Medical School Committees (selected, Vanderbilt University):

1. Research Informatics Advisory Committee, Vanderbilt University (December 2000-2005).
2. Vanderbilt MS-PhD Program in Biomedical Informatics Recruitment and Admissions Committees (2000, 2001).
3. DBMI Post-Doctoral Fellows Committee (May 2000).
4. Education Committee for BISTI Planning Grant (2002-2003).
5. Recruiting Team of the Vanderbilt Trans-Institutional Bioinformatics Initiative (2001-2004).
6. Committee for Medical School Curriculum (2002).
7. Committee for assessment of proposed investment of Vanderbilt University to NuTek Inc. (2002).
8. Retreat for Personalized Medicine (2002, 2005).
9. Reviewer for Pilot and Feasibility Committee of the Vanderbilt Diabetes Center (2003).
10. Faculty candidate & student candidate interviewing (for Department of Biomedical Informatics and other departments on an ongoing basis)
11. Biomedical Informatics MS/PhD Academic Program Committee (2003-2004)
12. Biomedical Informatics MS/PhD Curriculum Committee and sub-committee (2004-2005)
13. Retreat for McKesson technology transfer (2006, 2007).
14. Member of mentoring committee for Terri Ni Ph.D., Research Assistant Professor.

Current participation in University and Medical School Service Activities and Committees (New York University):

1. Research IT Committee
2. NYU – Geisinger Collaborative Steering Committee
3. Clinical and Translational Science Institute Steering Committee
4. EPIC Implementation Research Workgroup
5. MD/PhD and Medical School Candidate Interviewer
6. Chair, OMIC LIMS Advisory Group
7. Chair, Federated Data Warehouse ad-hoc group for institutional user needs assessment
8. Director, Molecular Signatures Lab
9. Scientific Director, Best Practices Integrative Informatics Consulting Core
10. Scientific Director, High Performance Computing Facility
11. Member, Search Committee for Director of NYU Health Sciences Library
12. Faculty Member, Sackler Institute of Graduate Biomedical Sciences

Membership on Study Sections/Review Panels

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| 2001 | NIH Cardiovascular Sciences Initial Review Group ZRG1-CVA-01, Bioengineering Research Partnership Review |
| 2004 | NIH/NLM Grants Review Panel for Exploratory/Developmental Research grants in Biomedical Informatics and Informatics for Disaster Management grants |
| 2005 | DOD Epidemiology, Breast Cancer review panel |
| 2005 | NIH/NLM RO1/R21/R13 Review Panel |
| 2008 | McArthur Foundation Fellowship reviewer |

Publications

A. *Peer reviewed articles*¹

1. "Computer-Assisted Growth Assessment": A Program for Monitoring Growth and Prognosing Final Height of Children'. **C. F. Aliferis**, E. Georgiou, K. Dalles, C. Proukakakis. *Materia Medica Greca*, 18(1); 62-68, 1990.
2. "Effects of Socioeconomic Factors on the Height of Young Greeks". E. Georgiadis, L. Papandreou, C. Mantzoros, **C. F. Aliferis**. *Hippokrates*, (4); 237-243, 1991.
3. "Are Adrenal and Testicular Androgen Levels Correlated?" E. Georgiadis, C. Mantzoros, **C. F. Aliferis**, M. Batrinos. *Hormone and Metabolic Research*, 10 (24); 488-91, Oct. 1992.
4. "Data Explorer : A Prototype Expert System for Statistical Analysis". **C. F. Aliferis**, E. Chao, G. F. Cooper. *Proc Annu Symp Comput Appl Med Care*, 389-93, 1993.
5. "Body Height, Weight, and Obesity in Young Greeks". E. Georgiadis, **C.F. Aliferis**, L. Papandreou, C. Mantzoros, D. Trichopoulos. *Iatriki*, 63(3); 272-276, 1993.
6. "Effects of Socioeconomic Factors on the Weight and the Obesity of Young Greeks ". E. Georgiadis, L. Papandreou, C. Mantzoros, **C.F. Aliferis**, K. Konstantinou. *Iatriki*, 63(6) 595-601, 1993.
7. "Evidence for an Increase in the Prevalence of Known Diabetes in a Sample of an Urban population in Greece". N. Katsilambros, **K. Aliferis**, C. Darviri, P. Tsapogas, Z. Alexiou, N. Tritos, M. Arvanitis. *Diabet Med*. 10; 87-90 1993.
8. "Serum Lipids and Arterial Blood Pressure in Relation to Waist-To-Hip Ratio in Young Males" (letter). N. Katsilambros, E. Georgiadis, **C.F. Aliferis**, L. Papandreou, D. Triantaphyllou, S. Kouroutis, N. Grigoriadis, A. Tzavaras. *Am J Clin Nutr*, 57; 697-8, 1993.
9. "Pattern of Treatment Among Diabetic Patients in a Sample of Urban Greek Population". N. Katsilambros, **K. Aliferis** et al. *Diabete & Metabolisme*, 19; 130-132, 1993.
10. "An Evaluation of an Algorithm for Inductive Learning of Bayesian Belief Networks Using Simulated Data Sets". **C. F. Aliferis**, G. Cooper. *Proc. Uncertainty in Artificial Intelligence*, 8-14, 1994.
11. "A Temporal Analysis of QMR: Abstracted Temporal Representation and Reasoning and Initial Assessment of Diagnostic Performance Trade-Offs". **C.F. Aliferis**, G.F. Cooper, R. Bankowitz. *Proc Annu Symp Comput Appl Med Care*, 709-15, 1994.
12. "Incidence of Gynecomastia in 954 Young Males and its Relationships to Somatometric Parameters". E. Georgiadis, L. Papandreou, C. Evangelopoulou, **C.F. Aliferis**, C. Lymberis, C. Panitsa, M. Batrinos. *Ann Hum Biol*, 21; 579-87, 1994.
13. "On the Heuristic Nature of Medical Decision-Support Systems." **C.F. Aliferis**, and R. Miller, *Methods of Information in Medicine*, 34; 5-14, 1995.

¹ Constantin Aliferis is a medical computer scientist and Bioinformatician. Following the practice in computer science and biomedical informatics, this section includes *full-length* papers published in peer-reviewed journals and *full-length* papers in major, rigorously peer-reviewed biomedical informatics and computer science conference proceedings (most acceptance rates of computer science conferences in present vitae range from less than 25% to less than 5%). Computer science publications not appearing in Medline appear in *Citeseer* (<http://citeseer.ist.psu.edu/>), as well as in *The Collection of Computer Science Bibliographies* (<http://iinwww.ira.uka.de/csbib>), *Google Scholar* (<http://scholar.google.com/schhp>), and *DBLP* (<http://www.informatik.uni-trier.de/~ley/db/>).

14. "Temporal Reasoning Abstractions in QMR. **C.F. Aliferis**, G.F. Cooper, B.G. Buchanan, R.A. Miller, R. Bankowitz, and N. Giuse. *Proc MEDINFO*, 8 (Pt 1); 847-51, 1995.
15. "A New Formalism for Temporal Modeling in Medical Decision-Support Systems". **C.F. Aliferis**, G.F. Cooper. *Proc Annu Symp Comput Appl Med Care*, 213-7, 1995.
16. "A Temporal Analysis of QMR." Aliferis, **C. F.**, **Cooper**, G. F., Miller, R. A., Buchanan, B. G., Bankowitz, R., and Giuse, N. *Journal of the American Medical Informatics Association*, 3; 79-91, 1996.
18. "A Structurally and Temporally Extended Bayesian Belief Network Model: Definitions, Properties, and Modeling Techniques". **C.F. Aliferis**, G. Cooper. *Proc. Uncertainty in Artificial Intelligence*, 28-39, 1996.
19. "Representing and Developing Temporally Abstracted Knowledge as a means Towards Facilitating Time Modeling in Medical Decision-Support Systems". **C.F. Aliferis**, G.F. Cooper, M.E. Pollack, B.G. Buchanan, M.M. Wagner. *Comput. Biol. Med.*, 27; 411-434, 1997.
20. "An Evaluation of Machine Learning Methods for Predicting Pneumonia Mortality". G.F. Cooper, **C.F. Aliferis**, R. Ambrosino, J. Aronis, B.G. Buchanan, R. Caruana, M.J. Fine, C. Glymour, G. Gordon, B.H. Hanusa, J.E. Janosky, C. Meek, T. Mitchell, T. Richardson, and P. Spirtes. *Artificial Intelligence in Medicine*, 9; 107-138, 1997.
21. "Temporal Representation Design Principles: An Assessment in the Domain of Liver Transplantation". **C.F. Aliferis**, and G. F. Cooper. *Proc AMIA Symp.*, 170-4, 1998.
22. "Issues and Opportunities in Public Health Informatics: A Panel Discussion". R. Kukafka, P.W. O'Carroll, J.L. Gerberding, E.H. Shortliffe, **C. Aliferis**, J.R. Lumpkin, W.A. Yasnoff. *J Public Health Manag Pract.*, 7(6); 31-42, 2001.
23. "Machine Learning Models For Lung Cancer Classification Using Array Comparative Genomic Hybridization". **C. F. Aliferis**, D. Hardin, P. Massion. *Proc AMIA Symp.*, 7-11, 2002.
24. "Towards Principled Feature Selection: Relevance, Filters, and Wrappers". I. Tsamardinos and **C.F. Aliferis**. In *Proceedings of the Ninth International Workshop on Artificial Intelligence and Statistics*, Key West, Florida, USA, January 3-6, 2003.
25. "Machine Learning Models For Classification Of Lung Cancer and Selection of Genomic Markers Using Array Gene Expression Data". **C.F. Aliferis**, I. Tsamardinos, P. Massion, A. Statnikov, N. Fananapazir, D. Hardin. In *Proceedings of the 16th International Florida Artificial Intelligence Research Society (FLAIRS) Conference*, St. Augustine, Florida, USA; AAAI Press, pages 67-71, May 12-14, 2003.
26. "Algorithms for Large Scale Markov Blanket Discovery". I. Tsamardinos, **C.F. Aliferis**, A. Statnikov. In *Proceedings of the 16th International Florida Artificial Intelligence Research Society (FLAIRS) Conference*, St. Augustine, Florida, USA; AAAI Press, pages 376-380, May 12-14, 2003.
27. "Why Classification Models Using Array Gene Expression Data Perform So Well: A Preliminary Investigation Of Explanatory Factors". **C.F. Aliferis**, I. Tsamardinos, P. Massion, A. Statnikov, D. Hardin. In *Proceedings of the 2003 International Conference on Mathematics and Engineering Techniques in Medicine and Biological Sciences (METMBS)*, Las Vegas, Nevada, USA; CSREA Press, June 23-26, 2003.

28. "Causal Explorer: A Probabilistic Network Learning Toolkit for Biomedical Discovery". **C. Aliferis**, I. Tsamardinos, A. Statnikov, L.E. Brown. In *Proceedings of the 2003 International Conference on Mathematics and Engineering Techniques in Medicine and Biological Sciences (METMBS)*, Las Vegas, Nevada, USA; CSREA Press, June 23-26, 2003.
29. "Time and Sample Efficient Discovery of Markov Blankets and Direct Causal Relations". I. Tsamardinos, **C.F. Aliferis**, A. Statnikov. In *Proceedings of the 9th ACM SIGKDD International Conference on Knowledge Discovery and Data Mining*, Washington, DC, USA; ACM Press, pages 673-678, August 24-27, 2003.
30. "HITON, A Novel Markov Blanket Algorithm for Optimal Variable Selection". **C. F. Aliferis**, I. Tsamardinos, A. Statnikov. In *Proceedings of the 2003 American Medical Informatics Association (AMIA) Annual Symposium*, pages 21-25, 2003.
31. "Text Categorization Models for Retrieval of High Quality Articles in Internal Medicine." Y. Aphinyanaphongs, **C.F. Aliferis**. In *Proceedings of the 2003 American Medical Informatics Association (AMIA) Annual Symposium*, Washington, DC, USA; pages 31-35, 2003.
32. "Identifying Markov Blankets with Decision Tree Induction." L. Frey, D. Fisher, I. Tsamardinos, **C.F. Aliferis**, A. Statnikov. In *Proceedings of the Third IEEE International Conference on Data Mining (ICDM)*, Melbourne, Florida, USA, IEEE Computer Society Press; pages 59-66, November 19-22, 2003.
33. "Methods for Multi-Category Cancer Diagnosis from Gene Expression Data: A Comprehensive Evaluation to Inform Decision Support System Development". A. Statnikov, **C.F. Aliferis**, I. Tsamardinos. In *Proceedings of the 11th World Congress on Medical Informatics (MEDINFO)*, San Francisco, California, USA; September 7-11, 2004.
34. "A Theoretical Characterization of Linear SVM-Based Feature Selection". D. Hardin, I. Tsamardinos, **C.F. Aliferis**. In *Twenty-First International Conference on Machine Learning (ICML)*, 2004.
35. "Learning Boolean Queries for Article Quality Filtering". Y. Aphinyanaphongs, **C.F. Aliferis**. In *Proceedings of the 11th World Congress on Medical Informatics (MEDINFO)*, San Francisco, California, USA; September 7-11, 2004.
36. "A Novel Algorithm for Scalable and Accurate Bayesian Network Learning". L.E. Brown, I. Tsamardinos, **C.F. Aliferis**. In *Proceedings of the 11th World Congress on Medical Informatics (MEDINFO)*, San Francisco, California, USA; September 7-11, 2004.
37. "A Comprehensive Evaluation of Multicategory Classification Methods for Microarray Gene Expression Cancer Diagnosis". A. Statnikov, **C.F. Aliferis**, I. Tsamardinos, D. Hardin, S. Levy. *Bioinformatics*, Mar 1;21(5):631-43, 2005.
38. "Text Categorization Models for Retrieval of High Quality Articles in Internal Medicine". Y. Aphinyanaphongs, I. Tsamardinos, A. Statnikov, D. Hardin, **C.F. Aliferis**. *J Am Med Inform Assoc.*, Mar-Apr;12(2):207-16, 2005.
39. "Gene Expression Model Selector (GEMS): a system for decision support and discovery from array gene expression data". A. Statnikov, I. Tsamardinos, Y. Dosbayev, **C.F. Aliferis**. *Int J Med Inform.*, Aug;74(7-8):491-503, 2005.
40. "Modeling Clinical Judgment and Implicit Guideline Compliance in the Diagnosis of Melanomas Using Machine Learning". A. Sboner, **C.F. Aliferis**. *Proc AMIA Symposium*, 2005.

41. "Extracting Drug-Drug Interaction Articles from MEDLINE to Improve the Content of Drug Databases". S. Duda, **C.F. Aliferis**, R.A. Miller, A. Statnikov, K.B.Johnson, *Proc AMIA Symposium*, 2005.
42. "Formative Evaluation of a Prototype System for Automated Analysis of Mass Spectrometry Data". N. Fananapazir, M. Li, D. Spentzos, **C.F. Aliferis**. *Proc AMIA Symposium*, 2005.
43. "A Comparison of Novel and State-of-the-Art Polynomial Bayesian Network Learning Algorithms" Laura E. Brown, Ioannis Tsamardinos, **C. F. Aliferis**. *Proc AAAI Conference*, 2005.
44. "Predicting Dire Outcomes of Patients with Community Acquired Pneumonia" G.F. Cooper, V. Abraham , **C.F. Aliferis**, J. Aronis, B.G. Buchanan , R.Caruana, M. J. Fine, J.E. Janosky, G. Livingston, S. Monti, T. Mitchell, P. Spirtes. *J Biomed Inform.*, Oct; 38(5):347-66, 2005.
45. "Using citation data to improve retrieval from MEDLINE". E.V.Bernstam, J.R.Herskovic, Y. Aphinyanaphongs, **C.F.Aliferis**, M.G.Sriram, W.R. Hersh. *J Am Med Inform Assoc.*, Jan-Feb; 13(1):96-105, 2006 .
46. "The Max-Min Hill Climbing Bayesian Network Structure Learning Algorithm". I. Tsamardinos, L.E. Brown, **C.F. Aliferis**. *Machine Learning*, 65:31-78, 2006.
47. "Using SVM Weight-Based Methods to Identify Causally Relevant and Non-Causally Relevant Variables". Statnikov A., Hardin D., Aliferis CF. Workshop on: Feature Selection and Causality, *NIPS*, 2006.
48. "Challenges in the Analysis of Mass-Throughput Data: A Technical Commentary from the Statistical Machine Learning Perspective". **Aliferis CF**, Statnikov A, Tsamardinos I. *Cancer Informatics*, 2: 133–162, 2006.
49. "Prospective validation of text categorization models for indentifying high-quality content-specific articles in PubMed". Y. Aphinyanaphongs, **C.F. Aliferis**. *Proc Annual Fall Conf AMIA*, 2006.
50. "A Comparison of Citation Metrics to Machine Learning Filters for the Identification of High Quality MEDLINE Documents". Y. Aphinyanaphongs, A. Statnikov, **C.F. Aliferis**. *J Am Med Inform Assoc.* Jul-Aug; 13(4):446-55, 2006.
51. "An Algorithm for Generation of Large Bayesian Networks". I. Tsamardinos, L. E. Brown, A. Statnikov, **C. F. Aliferis**. *Proc of 19th International Florida AI Research Society (FLAIRS)* 2006.
52. "A Causal Modeling Framework for Generating Clinical Practice Guidelines from Data". – S. Mani and **C. Aliferis**. "AI in medicine Europe (AIME) Conference, Amsterdam, July 2007.
53. "Text Categorization Models for Identifying Unproven Cancer Treatments on the Web" Y. Aphinanaphongs, **C.F. Aliferis**. In International Medical Informatics Congress, *MEDINFO*, 2007.
54. "Learning Causal and Predictive Clinical Practice Guidelines from Data". S. Mani, **C. F. Aliferis**, S. Krishnaswami, T. Kotchen. In International Medical Informatics Congress, *MEDINFO*, 2007.
55. "A comparison of Impact Factor, Clinical Query Filters, and Pattern Recognition Query Filters in Terms of Sensitivity to Topic". L. Fu, L. Wang, Y. Aphinyanaphongs, **C. F. Aliferis**. In International Medical Informatics Congress, *MEDINFO*, 2007.
57. "Are Random Forests Better than Support Vector Machines for Microarray-Based Cancer Classification?" A. Statnikov, **C.F. Aliferis**. *Proc AMIA Fall Symposium* 2007.

58. “Genomics and Proteomics of Lung Disease: Conference Summary” J.U. Raj, **C. Aliferis**, R.M. Caprioli, et al. *Am J Physiol Lung Cell Mol Physiol*. 2007 Jul;293(1):L45-51. Epub 2007 Apr 27.
56. “Dissecting the role of environment, genetics and data analysis bias in genome-wide association studies: a case study in esophageal cancer”. A. Statnikov, C. Li, **C.F. Aliferis**. *PLoS ONE* 2(9): e958 doi:10.1371/journal.pone.0000958
59. “A Statistical Reappraisal of the Findings of an Esophageal Cancer Genome-Wide Association Study” A. Statnikov, C. Li, **C.F. Aliferis**. *Cancer Research* 68, 3074-3075, April 15, 2008. doi: 10.1158/0008-5472.CAN-07-2999
60. “A comprehensive comparison of random forests and support vector machines for microarray-based cancer classification” Alexander Statnikov, Lily Wang, **Constantin F. Aliferis**. *BMC Bioinformatics* 2008, 9:319.
61. “Models for Predicting and Explaining Citation Count of Biomedical Articles” Lawrence D. Fu, **Constantin Aliferis**. AMIA Fall Symposium 2008.
62. “Design and Analysis of the Causation and Prediction Challenge” I. Guyon, **C.F. Aliferis**, G.F. Cooper, A. Elisseeff, JP. Pellet, P. Spirtes, A. Statnikov. *Journal of Machine Learning Research Research Workshop and Conference Proceedings, Volume 3: Causation and Prediction Challenge (WCCI 2008)*, 2008.
63. “A Novel Information Retrieval Model for High-Throughput Molecular Medicine Modalities” Firas H. Wehbe, Steven H. Brown, Pierre P. Massion, Cynthia S. Gadd, Daniel R. Masys, and **Constantin F. Aliferis**. *Cancer Informatics* 2009, 8: 1-17.
64. “Factors Influencing the Statistical Power of Complex Data Analysis Protocols for Molecular Signature Development from Microarray Data”. **C.F. Aliferis**, A. Statnikov, I. Tsamardinos., J. Schildcrout, B. Shepherd, F. Harrell Jr. *PLoS ONE*, 2009; 4(3): e4922.
65. “The FAST-AIMS Clinical Mass Spectrometry Analysis System” N. Fananapazir, A. Statnikov, **C.F. Aliferis**. *Advances in Bioinformatics*, vol. 2009, Article ID 598241, 2009.
66. “TIED: An Artificially Simulated Dataset with Multiple Markov Boundaries” A. Statnikov, **C. F. Aliferis**. (to appear in *Journal of Machine Learning Research Workshop and Conference Proceedings, Workshop on Causality (NIPS 2008)*, 2009).
67. “Local Causal and Markov Blanket Induction for Causal Discovery and Feature Selection for Classification. Part I: Algorithms and Empirical Evaluation” **Constantin F. Aliferis**, Alexander Statnikov, Ioannis Tsamardinos, Subramani Mani, and Xenofon D. Koutsoukos (to appear in *Journal of Machine Learning Research* 2009).
68. “Local Causal and Markov Blanket Induction for Causal Discovery and Feature Selection for Classification. Part II: Analysis and Extensions” **Constantin F. Aliferis**, Alexander Statnikov, Ioannis Tsamardinos, Subramani Mani, and Xenofon D. Koutsoukos (to appear in *Journal of Machine Learning Research* 2009).
69. “Local Regulatory-Network Inducing Algorithms for Biomarker Discovery from Mass-Throughput Datasets”. **C.F. Aliferis**, A. Statnikov, E. Kokkotou, P.P. Massion, I. Tsamardinos (Submitted).
70. “Analysis and Computational Dissection of Molecular Signature Multiplicity” A. Statnikov, **C.F. Aliferis** (Submitted).

71. "The Problem of Statistical Gene Instability in Microarray Studies: External Reproducibility and Biological Importance of Unstable Genes and their Molecular Signatures" **C.F. Aliferis**, A. Statnikov, S. Pratap, E. Kokkotou. (In preparation).
72. "Novel Bioinformatics methods for discovery of complex Molecular Signatures, pathways, and biomarkers in very small sample situations" Statnikov A, Feig , Fisher E., **Aliferis CF**. (In preparation).
73. "Using Content-based and Bibliometric Features for Machine Learning Models to Predict Citation Counts in the Biomedical Literature: L.D. Fu, **C.F. Aliferis**. (In preparation).
74. "A Comparison of Evaluation Metrics for Journals, Articles, and Websites in Terms of Sensitivity to Topic" L.D. Fu, **C.F. Aliferis**. (In preparation).
75. "Machine Learning Models for Automatic Classification of Instrumental Citations" L.D. Fu, **C.F. Aliferis**. (In preparation).

B. Peer-reviewed Abstracts & Peer-reviewed Software Presentations (Selected):

76. "A Method for the Assessment and Monitoring of the Growth and Final Height of Greek Children With the Help of a Computer". **C. Aliferis**, E. Georgiou, K. Dalles, G. Raptis, C. Proukakis. 15th Panhellenic Medical Congress, 1989.
77. "W/H Ratio and BMI in a Group of Young Healthy Males, and Relationshipsto Blood Glucose and Other Factors". E. Georgiadis, L. Papandreou, **K. Aliferis**, N. Grigoriadis, A. Tzavaras, N. Katsilambros. *Diabetes*, (40) 491a (supl. 1); 14th IDF Congress, Washington D.C. May 1991.
78. "Body Fat Distribution and Blood Pressure in Young Men". N. Katsilambros,E. Georgiadis, L. Papandreeou, **C. Aliferis**, N.Gregoriadis, D.Triantafyllou. *Third Mediterranean Congress of Angiology*, Rhodes, Greece. Abstracts book p. 18, May 1991.
79. "W/H Ratio and BMI in Young Healthy Females and Relationships to Blood Pressure and Biochemical Factors". E. Georgiadis, **C. Aliferis**, L.Papandreou, K.Evangelopoulou, J.Katsarakis, N. Katsilambros. *Sixth European Nutrition Conference*, Athens, Greece. Abstracts book p.73, May 1991.
80. "Serum Lipids, Blood Glucose and Arterial Blood Pressure in a Group of Young Men - Relationships to Body Fat Distribution". N. Katsilambros, E. Georgiadis, **C. Aliferis**, D. Triantafyllou, S. Kouroutis, N. Gregoriadis, A. Tzavaras, L. Papandreou. Presented at the *Twenty-Sixth Annual Meeting of the European Diabetes Epidemiology Study Group*, Lund, Sweden. May 1991.
81. "Incidence and Relationships of Gynecomastia in 954 Healthy Young Males". E. Georgiadis, L. Papandreou, C. Evangelopoulou, **C. Aliferis**, C. Panitsa, M. Batrinos. *Seventh International Congress on Senology*, Rhodes, Greece. Abstracts book p. 198; 3-7th May 1992,
82. "W/H Ratio and Blood Pressure in Young Female Persons". N.Katsilambros, E.Georgiadis, **C.Aliferis**, C. Evangelopoulou, L.Papandreou, K.Kostaras". 4th European Conference on Obesity, 7-9 May 1992 Noordwijkerhout, Netherlands. *Int. J. Obesity*, 16(sup1); 69, May 1992.
83. "Improving the Cost-Effectiveness of Health Care Through Machine Learning Applied to Large Clinical Databases". G. Cooper, **C. Aliferis**, B.G. Buchanan, M.J. Fine, C. Glymour, G. Gordon, C. Meek, T. Mitchell, F. provost, T. Richardson, R. Scheines, and P. Spirtes. *Annual Fall Meeting of the Biomedical Engineering Society*, 1994.
84. "Health Education Software System for Accidents Prevention". **C. Aliferis**, S. Palamas, E. Maragkaki, M. Chioni, E. Petridou. *Panhellenic Pediatric Conference*, 1999.
85. "A Multimedia Health Promotion Software System for Teaching Accidents and First Aids to Children and Young Adults". E. Petridou, **C. Aliferis**, S. Palamas, E. Maragkaki, M. Hioni. *Fifth World Conference on Injury Prevention and Control*, 1999.

86. "Modeling liver transplant survival: Comparing techniques of deriving predictor sets". Hoot, N., Feurer, I., Pinson, C.W., **Aliferis, C.F.**, *Journal of Gastrointestinal Surgery*, Apr 2005.
87. "GEMS: A System for Cancer Diagnosis and Biomarker Discovery from Microarray Gene Expression Data". Statnikov A, Tsamardinos I, **Aliferis CF**. *AMIA Annual Symposium*, 2005.
88. "Using the GEMS System for Cancer Diagnosis and Biomarker Discovery from Microarray Gene Expression Data". Statnikov A, Tsamardinos I, **Aliferis CF**. *Twelfth National Conference on Artificial Intelligence (AAAI)*, 2005.
89. "Using GEMS for Cancer Diagnosis and Biomarker Discovery from Microarray Gene Expression Data". Statnikov A, Tsamardinos I, **Aliferis CF**. *Thirteenth Annual International Conference on Intelligent Systems for Molecular Biology (ISMB)*, 2005.
90. "Application and Comparative Evaluation of Causal and Non-Causal Feature Selection Algorithms for Biomarker Discovery in High-Throughput Biomedical Datasets". **Aliferis CF**, Statnikov A., Tsamardinos I, Kokkotou E, Massion PP. Workshop on Feature Selection and Causality, *NIPS 2006*.
91. "Pathway induction and high-fidelity simulation for molecular signature and biomarker discovery in lung cancer using microarray gene expression data". **Aliferis CF**, Statnikov A, Massion P. In *Proc 2006 American Physiological Society Conference: Physiological Genomics and Proteomics of Lung Disease*. November 2-5, 2006.
92. "Formative Comparative Evaluation of Traditional and Recent Quality-Content Filters for Answering Clinical Questions with MEDLINE." Aphinyanaphongs, Y, Jerome, R, **Aliferis C**. *MLA Annual Meeting and Exhibition*, Philadelphia, PA, 2007.
93. "Serum biomarker analysis of placebo responses in patients with Irritable Bowel Syndrome". Efi Kokkotou, Augusto Lois, Cheryl Triggs, Lisa A Conboy, Lindsay E McDougall, Charalabos Pothoulakis, Alexander Statnikov, **Constantin F. Aliferis**, Ted J Kaptchuk, Anthony J Lembo. *Neurogastroenterology and Motility 2008 Meeting*, Luzern Switzerland
94. "Bayesian Algorithms for Causal Data Mining" S. Mani, **C.F. Aliferis**, A. Statnikov. (to appear in *Journal of Machine Learning Research Workshop and Conference Proceedings, Workshop on Causality (NIPS 2008)*), 2009.

Ca. Peer-reviewed Books:

95. Challenges in Causality Volume I: Causation and Prediction Challenge. I. Guyon, **C.F. Aliferis**, G.F. Cooper, A. Elisseeff, J.P. Pellet, P. Spirtes and A. Statnikov (eds.). In press, *Microtome Publishing*, 2009.
96. A Gentle Introduction to Support Vector Machines in Biomedicine, Volume I A. Statnikov, **C.F. Aliferis**, D. Hardin and I. Guyon. In preparation, *World Scientific Publishing Co. Pte. Ltd.*, 2010.
97. A Gentle Introduction to Support Vector Machines in Biomedicine, Volume II A. Statnikov, **C.F. Aliferis**, D. Hardin and I. Guyon. In preparation, *World Scientific Publishing Co. Pte. Ltd.*, 2010.

Cb. Peer-reviewed Book Chapters & Tutorials (Selected):

98. "On the Heuristic Nature of Medical Decision-Support Systems." **C.F. Aliferis**, and R. Miller, in: Yearbook of Medical Informatics Schattauer Publishers, JH van Bommel, A. T. McCray eds.; 371-380, 1996.
99. "Medical Informatics in Preventive Medicine". **C. F. Aliferis**. In the Textbook of Preventive Medicine; (E. Petridou and D. Trichopoulos eds.), Paschalidis Publications, Athens 2000.

100. "Machine Learning Methods for Biomedical Discovery and Decision Support". **C. F. Aliferis**, I. Tsamardinos. Full-day tutorial in *American Medical Informatics Fall Symposium*, 2003.
101. "Machine Learning Methods for Biomedical Discovery and Decision Support". **C. F. Aliferis**, I. Tsamardinos. Full-day tutorial in *World Congress in Medical Informatics (MEDINO)*, 2004.
102. "Biomedical Informatics Training Program at Vanderbilt University". D. Aronsky, **C.F. Aliferis**, K. B. Johnson, N. Lorenzi, R.A. Miller. *IMIA Yearbook of Medical Informatics*, 2004.
103. "Selection And Interpretation Of Laboratory Procedures". E. Shultz, **C. F. Aliferis**, D. Aronsky. In: "Tietz Textbook of Clinical Chemistry and Molecular Diagnostics", Carl A. Burtis, Edward R. Ashwood, David E. Bruns (eds.). Elsevier Saunders, St Louis, MO, 2006.
104. "Causal Feature Selection". I. Guyon, **C.F. Aliferis**, A. Elisseeff. In: Computational Methods of Feature Selection, H. Liu and H. Motoda (Eds). Chapman and Hall.
105. "Support Vector Machines without Tears". A. Statnikov, D. Hardin, **C. F. Aliferis**, I. Guyon. AMIA Fall Symposium 2008.
106. "A Gentle Introduction to Support Vector Machines in Biomedicine" A. Statnikov, D. Hardin, **C.F. Aliferis**, I. Guyon. AMIA Fall Symposium 2009.
107. "Causal Explorer: A Matlab Library of Algorithms for Causal Discovery and Variable Selection for Classification" A. Statnikov, I. Tsamardinos, L.E. Brown, **C.F. Aliferis**. In: Challenges in Causality Volume I: Causation and Prediction Challenge. I. Guyon, **C.F. Aliferis**, G.F. Cooper, A. Elisseeff, J.P. Pellet, P. Spirtes and A. Statnikov (eds.). In press, *Microtome Publishing*, 2009.
108. "Causality Workbench". I. Guyon, C. F. Aliferis, G.F. Cooper, A. Elisseeff, J.P. Pellet, P. Spirtes, A. **Statnikov**. In Causality in the Sciences. Illari PM, Russo F and Williamson J. (eds.) In press, *Oxford University Press*, 2010.

D. Invited Reviews/Editorials (Selected):

109. "Synopsis of Decision Support Systems". **C. Aliferis**, in "Yearbook of Medical Informatics 1997", J.H.van Bommel, A.T. McCray eds., Schattauer, 1997.
110. "Biomarker Selection from High-Dimensionality Data", S. Levy, A. Statnikov, **C.F. Aliferis**. *Microarray Technology*, September 2005.
111. "Editorial for special topic on causality" (invited editorial to appear in *Journal of Machine Learning Research* with Peter Spirtes, Isabelle Guyon, Greg Cooper and Andre Elisseeff).

E. Selected Technical Reports, and Education-Related Documents Not Published in Peer-Reviewed Forums:

109. "Proposal For A Program Of Study Leading To The Master Of Science And Doctor Of Philosophy Degrees In Biomedical Informatics", October 2000.
110. "Scaling-Up Bayesian Network Learning to Thousands of Variables Using Local Learning Technique" I. Tsamardinos, **C. F. Aliferis**, A. Statnikov, L. E. Brown. DSL TR-03-02, 2003
111. "Algorithms For Large-Scale Local Causal Discovery And Feature Selection In The Presence Of Limited Sample Or Large Causal Neighborhoods" **C. F. Aliferis**, I. Tsamardinos Technical Report DSL-02-08
112. "Using Local Causal Induction To Improve Global Causal Discovery: Enhancing The Sparse Candidate Set" **C. F. Aliferis**, I. Tsamardinos. Technical Report DSL-02-04
113. "Large-Scale Feature Selection Using Markov Blanket Induction For The Prediction Of Protein-Drug Binding". **C. F. Aliferis**, I. Tsamardinos Technical Report DSL-02-06

F. Software Packages, (Selected)

114. **Causal Explorer:** A comprehensive software package for Bayesian network Induction, Feature/Biomarker Selection and Causal Structure Discovery. Available from: http://discover.mc.vanderbilt.edu/discover/public/causal_explorer/index.html
115. **GEMS (Gene Expression Model Selector)** available from: <http://www.gems-system.org/>
116. **FAST_AIMS (Fully Automated Software Tool for Artificial Intelligence in Mass Spectrometry)** available from: <http://www.dsl-lab.org/FAST-AIMS/>
117. **EBM Search.**

G. Software Patents (Selected)

118. **Content and Quality Assessment Method and Apparatus for Biomedical Information Retrieval.** Yindalon Aphinyanaphongs and **C.F. Aliferis** (US patent application number: 60/570,879. Update of 12-2-2008: the patent has been approved and a US patent number will be granted shortly).
119. **Method, System, And Apparatus for Causal Discovery and Variable Selection For Classification, C.F. Aliferis** and Ioannis Tsamardinos (US patent 10/439,374)
120. **Method And System For Automated Supervised Data Analysis. C.F. Aliferis, A. Statnikov, N. Fananapazir, I. Tsamardinos** (US patent application number: 11510847).
121. **A Method for determining All Markov Boundaries and its Application for Discovering Multiple Optimally Predictive and Non-redundant Molecular Signatures.** A. Statnikov and **C. F. Aliferis.** PTO/SB/16 (10-08)
122. **Content and Quality Assessment Method and Apparatus for Quality Searching.** Yindalon Aphinyanaphongs and **C.F. Aliferis** (US patent application number: 12/195,062).
123. **Method for Predicting Citation Counts.** L. Fu and **C.F. Aliferis** (US patent application number: 12/289,970)
124. **A Computer Implemented Method for the Automatic Classification of Instrumental Citations.** L. Fu and **C.F. Aliferis** (US patent application number: 61/112,553).

Invited Talks and Research-related Presentations & Seminars (Selected)

125. "Using Machine Learning and Statistical Methods to Predict Dire Outcomes of Patients with Community Acquired Pneumonia", **National Center for Biotechnology Information (NCBI)**, October 2000.
126. "Statistical Genomics: Making Sense Of All the Data: Bayesian Networks", **Vanderbilt University Statistical Genomics Seminar**, May 22, 2001.
127. "Public Health Informatics, Special Panel: Issues & Opportunities" (Plenary panel speaker) **AMIA 2001, Spring Congress**, 2001.
128. "Complex Data Modeling Using Machine Learning", Seminar to **Bristol-Myers Squibb** Company, Vanderbilt University, March 13, 2002 and March 14, 2002.
129. "Machine Learning Models For Lung Cancer Classification Using Array Comparative Genomic Hybridization", D. Hardin and C.F. Aliferis **Vanderbilt Biomathematical Study Group**, May 4, 2002.
130. "Machine Learning For Bioinformatics: Feature Selection Methods", Seminar to **Bristol-Myers Squibb** Company, Vanderbilt University, November 17, 2002.
131. "Large-Scale Variable Selection with Causal Interpretation", School of Health Information Sciences, **University of Texas at Houston**, March 24, 2004.

132. "Feature Selection and Discovery Using Local Structure Induction: Algorithms, Applications, and Challenges", **Stanford Medical Informatics Colloquium**, April 8, 2004.
133. "Feature Selection and Causal Discovery Using Local Structure Induction", Research Seminar, **Department of Biomedical Informatics, Columbia University**, April 23, 2004.
134. "Biomedical Informatics methods and Systems In Support of Basic and Clinical Research", Research Seminar, **Beth Israel Deaconess Medical Center, Harvard University**, November 22, 2004.
135. "Experiments in Diagnosis, Survival Prediction and Biomarker Discovery with Array Gene Expression and Mass Spectrometry Data Using a Novel Markov Blanket Induction Algorithm", Informatics program Research Seminar, **Children's Hospital Boston, Harvard University**, November 23, 2004.
136. "Clinical Bioinformatics: Experiments in Diagnosis, Survival Prediction and Biomarker Discovery with Array Gene Expression and Mass Spectrometry Data Using A Novel Markov Blanket Induction Algorithm". **Siemens Corporate Research**, January 21, 2005.
137. "Bayesian Network-Based Data Analysis: Algorithms and Experiments" **Vanderbilt University, Biostatistics Seminar Series**, June 8, 2005.
138. "The Rashomon Effect in discovery of biomarkers from mass-throughput cancer data: what it is and how it affects biological interpretability". Invited talk in **5th Annual joint retreat of Host-Tumor Interaction Program of the Vanderbilt-Ingram Cancer Center and the Dept. of Cancer Biology**, November 18-19th 2005.
139. "Discovery Systems Laboratory Research in Machine Learning for Discovery and Decision Support". **Annual NLM Training Meeting**, Vanderbilt University, June 27, 2006.
140. "Pathway Induction And High-fidelity Simulation For Molecular Signature And Biomarker Discovery In Lung Cancer Using Microarray Gene Expression Data". **American Physiological Society Conference on Physiological Genomics and Proteomics of Lung Disease**, November 2-5, 2006.
141. "Omics"-Based Next-Generation Decision Support Tools". **McKesson – Vanderbilt Retreat** November 21, 2006.
142. "Methodological rigor of "omics" data analysis: efficiency, stability, guidelines, and sensationalism". **Penn Bioinformatics Forum, University of Pennsylvania**, March 14, 2007.
143. "Challenges and Recent Advances in Computational Data Analysis for Molecular Signature Development". **New York University**, May 16, 2008
144. "Connecting Complex Molecular Information to Clinically Relevant Decisions with Molecular Signatures: Opportunities and Computational Data Analytic Developments" **Nelson Institute of Environmental Medicine, New York University School of Medicine**, August 2009.