

Ian M. Dew
President

Woodbine Analytics, LLC
340 Hoods Mill Rd
Woodbine, MD 21797
240-608-5056

Experience

More than 30 years of experience as a computer programmer and program manager on research and development projects for industry and government. Experience in software development (analytical work, original research, algorithm design, programming, testing), data analysis, pattern recognition, computational molecular biology, technical writing, program management, and business development.

Employment

President, Senior Analyst

Woodbine Analytics, LLC 2022 – Present

- Testifying expert and consulting expert, focusing on federal matters involving False Claims Act allegations of various types against health care providers.

Vice President, Senior Analyst

Steck Consulting, LLC 2004 - Present

- Lead data analyst in over 60 healthcare and other fraud investigations for US DOJ Civil Division, State Offices of Attorneys General, and private clients.
 - Expert and summary witness in multiple cases.
 - Extensive experience analyzing Medicare and Medicaid claims datasets.
 - Extensive experience analyzing defendant transactional and claims data and third party datasets (e.g., First DataBank, IMS NDTI).
 - Led multi-terabyte data analysis effort involving more than 1 billion records in 50 data sets in partitioned relational databases.
- Performing IT planning and implementation, office automation, business development, management, budgeting, and client interaction.
- Consulted with The Institute for Genomic Research, the Venter Institute, and Gene Myers on genome assembly problems, and developing novel assembly analysis algorithms.
- Consulted with Arjuna Solutions, LLC and developed core algorithms to perform correlations and model personality traits.

Senior Scientist

Applera Corporation (Celera Genomics and Applied Biosystems) 1998 – 2004

- Member of Informatics Research Group that assembled human, mouse, mosquito, fruit fly and several microbial genomes.
- Contributed significantly to the design, development, testing, and operation of most modules of Celera's whole genome shotgun assembler.
- Developed Hidden Markov Model for comparative gene prediction.
- Enhanced GENSCAN gene prediction program to run faster, with less memory, and on longer sequences.
- Designed pre-assembly data pipeline.
- Designed and developed DNA repeat and contaminant screening program similar to BLAST with additional algorithmic features including blocking and counting/thresholding k-mer matches across neighboring edit graph diagonals.



Technical Manager and Senior Software Engineer
Pacific-Sierra Research Corporation 1994 – 1998

- Led up to 8 analysts, image scientists, and software engineers in pattern recognition project.
- Technical liaison with government and other contractors; designed, developed, and integrated clustering and pattern recognition algorithms, software infrastructure in UNIX and C/C++, user interface in X-Windows with Motif.
- Led staff of software engineers in information fusion software integration effort.
- Designed, developed, integrated, and tested software APIs in UNIX and C. Developed graph parsing algorithms for traversing road network and clustering vertices on a Thinking Machines CM-5 parallel supercomputer.

Program Manager and Senior Software Engineer
Science Applications International Corporation 1991 – 1994

- Led effort to develop a near-real-time NOAA satellite image processing and analysis system. Designed and developed image display software in UNIX with C in X-Windows and Motif, and programmed socket-based system for multi-platform, real-time data ingest, processing, and display. Also responsible for planning, budgeting, tasking, and program reviews.
- Key contributor to winning nearly \$2 million in new business.

Software Engineer
BDM Corporation 1988 – 1991

- Designed and developed information gathering program in DOS with Clipper for the Securities and Exchange Commission. Software was distributed and successfully used by nearly 1000 investment companies.
- Designed PERT/CPM capability for commercial project management software.
- Enhanced a multi-attribute utility theory-based decision analysis tool in DOS with Clipper.

Computer Skills

Systems: Several flavors of UNIX and MS Windows

Languages: Ruby, Stata, UNIX shell scripting, C/C++, SQL, Perl, C* (parallel C), Pascal, FORTRAN, LISP

Education

Graduate work	<u>Policy Studies, University of Maryland</u>	2003
	Completed coursework and examinations for doctoral degree	
M.S.	<u>Environmental Science, The Johns Hopkins University</u>	1997
	remote sensing, ecology (GPA: 4.0)	
M.E.	<u>Systems Engineering, University of Virginia</u>	1988
	operations research, decision theory (invited to stay for Ph.D.)	
B.A.	<u>Mathematics and Psychology, University of Virginia</u>	1986
	advanced calculus, cognition and perception (dean's list last 3 semesters)	

Patents

Co-inventor of US Patent 6,714,874 "Method and system for the assembly of a whole genome using a shot-gun data set." submitted March 15, 2000, issued March 30, 2004.

Papers

Ian M. Dew, Brian Walenz, Granger Sutton, *A Tool for Analyzing Mate Pairs in Assemblies (TAMPA)*, Journal of Computational Biology. 2005 June; 12 (5):497-513.

Liliana Florea, *et al.*, *Gene and alternative splicing with AIR*, Genome Research. 2005 January; 15:54-66.

Sorin Istrail, *et al.*, *Whole genome shotgun assembly and comparison of human genome assemblies*, Proc. Natl. Acad. Sciences. 2004 Feb 17; 101(7):1916-1921.

Robert A. Holt, *et al.*, *The genome sequence of the malaria mosquito Anopheles gambiae*, Science. 2002 Oct 4, 298 (5591):129-149.

Dan Fasulo, Aaron Halpern, Ian Dew, Clark Mobarry, *Efficiently detecting polymorphisms during the fragment assembly process*, Bioinformatics. 2002 August; 18 Suppl:294-302.

Richard J. Mural, *et al.*, *A comparison of whole-genome shotgun-derived mouse chromosome 16 and the human genome*, Science. 2002 May 31; 296 (5573):1661-1671.

Ian M. Dew, *Theoretical model of a new fishery under a simple quota management system*, Ecological Modelling. 2001 Sept 1; 143:59-70.

Daniel H. Huson, *et al.*, *Design of a compartmentalized shotgun assembler for the human genome*, Bioinformatics. 2001 June; 17 Suppl:132-139.

J. Craig Venter, *et al.*, *The sequence of the human genome*, Science. 2001 February 16; 291(5507):1304-1351.

Mark D. Adams, *et al.*, *The genome sequence of Drosophila melanogaster*, Science. 2000 March 24; 287(5461):2185-2195.

Eugene W. Myers, *et al.*, *A whole-genome assembly of Drosophila*, Science. 2000 March 24; 287(5461):2196-2204.

Book Chapters

Granger Sutton, Ian M. Dew, *Shotgun Fragment Assembly*, in *Systems Biology Volume 1: Genomics*. (Isidore Rigoutsos and Gregory Stephanopoulos, eds.), Oxford University Press. 2006.

Testifying Engagements

Expert witness for plaintiff in U.S., *et al.*, *ex rel.* Thomas P. Fischer v. Community Health Network, Inc., *et al.* No. 14-1215, 2023-2024 (client: Joseph, Greenwald & Laake, PA).

Expert witness for plaintiff in U.S. *ex rel.* Trilochan Singh v. Paksn, Inc., *et al.* No. 15-09064, 2022-2023 (client: United States).

Expert witness for plaintiff in U.S. *et al.*, *ex rel.* Edwin Gvavech v. Kroger Specialty Pharmacy, *et al.* No. 17-02141, 2022-2023 (client: Lous J. Cohen, A Prof. Corp.). Deposition Feb. 7, 2023.

Expert witness for plaintiff in U.S. v. Teva Pharmaceuticals, Inc., *et al.* No. 20-11548, 2020-Present (client: United States). Deposition Jan. 17, 2023.

Expert witness for plaintiff in U.S. *ex rel.* Ronald Sherman v. Christiana Care Health Services, *et al.* No. 17-419-RGA, 2022-2023 (client: Walden Macht & Haran LLP). Deposition Dec 16, 2022.

Expert witness for plaintiff in U.S. v. Regeneron Pharmaceuticals, Inc. No. 20-11217, 2020-Present (client: United States). Depositions Jul. 20 and Nov. 16, 2022

Expert witness for plaintiff in U.S. v. Reliance Medical Systems, LLC, *et al.* No. 14-cv-6979-DDP-JCx, 2015-2022 (client: United States).

Expert witness for plaintiff in U.S. *ex rel.* J. William Bookwalter, III, *et al.*, v. UPMC, *et al.* No. 2:12-cv-00145, 2020-2023 (client: Morgan Verkamp, LLC). Deposition Aug. 25, 2021.

Expert witness for plaintiff in U.S. *ex rel.* J. Douglas Strauser, *et al.*, v. Stephen L. LaFrance Holdings, Inc., *et al.* No. 4:18-cv-00673-GKF-FHM, 2019-Present (client: Vogel, Slade, & Goldstein, LLP). Deposition Jun. 8, 2021.

Expert witness for plaintiff in U.S. *ex rel.* Amy Sanchez, v. Smart Pharmacy, Inc., *et al.* No. 3:14-cv-1453-J-39JBT and No. 3:16-cv-387-39JBT, 2020-2023 (client: United States). Deposition Apr. 19, 2022.

Rebuttal expert witness for plaintiff in U.S. *ex rel.* Jessica Penelow and Christine Brancaccio v. Janssen Products, LP, No.12-cv-07758, 2018-Present (client: Berger & Montague, P.C.) motion to exclude my testimony was denied). Deposition Mar. 3, 2020. Trial testimony May 31, 2024.

Expert witness for plaintiff in U.S. *ex rel.* Kipp Fesenmaier v. The Cameron-Ehlen Group, Inc. *et al.* No.13-cv-3003, 2019-Present (client: Morgan Verkamp, LLC) (motion to exclude my testimony was denied). Depositions Oct. 8, 2019 and Mar. 24, 2020. Trial testimony Jan. 26, 2023.

Expert witness for plaintiff in U.S. *ex rel.* Thomas Proctor v. Safeway Inc. No.11-cv-03406 (C.D. III), 2017-Present (client: Aschemann Keller, LLC). Deposition Oct. 29, 2018.

Expert witness for plaintiff in U.S. *ex rel.* Tracy Schutte and Michael Yarberry v. SuperValu, Inc, *et al.* No.11-cv-03290 (C.D. III), 2016-Present (client: Aschemann Keller, LLC) (motion to exclude my testimony was denied). Depositions Mar. 7, 2018 and Feb 9, 2024.

Expert witness for defendant in Bio-Medical Applications of Aquadilla, Inc., *et al.* v. U.S. Case No. 14-187 C, 2016-2017 (client: United States).

Expert witness for defendant in DaVita Healthcare Partners Inc. *et al.* v. U.S. Case No. 11-297 C, 2014-2017 (client: United States). Deposition Aug. 9, 2016.

Expert witness for plaintiff in U.S. *ex rel.* Donald Galmines v. Novartis Pharmaceuticals Corp. No. 06-cv-3213, 2015 (client: Morgan Verkamp, LLC).

Expert witness for plaintiff in U.S. *ex rel.* Meredith Monohan Deane v. Dynasplint Systems Inc., *et al.* No. 10-cv-2085, Section "N," Mag. 2. 2015 (client: United States).

Expert witness for plaintiff in U.S. *ex rel.* Bernard Lisitza, *et al.* v. Par Pharmaceutical Companies, Inc. No. 06-C-6131, 2014. (clients: United States and Behn & Wyetzner, Chartered). Depositions Jul. 28, 2014 and Jan. 13, 2015.

Expert witness for plaintiff in U.S. *ex rel.* Christian M. Heesch v. Diagnostic Physicians Group, P.C., *et al.* No. 11-cv-364-KD-B. 2014. (client: United States). Depositions May 8 and Jun. 23, 2014.

Summary witness for plaintiffs in Polyurethane Foam Antitrust Litigation, MDL Docket No. 2196. Index No. 10-MD-2196(JZ). 2014. (clients: Kenny Nachwalter, PA and Williams, Montgomery & John, Ltd.).

Summary witness for plaintiff in U.S. *ex rel.* Donald Gale v. Omnicare, Inc. Civ. Act. No: 1:10-cv-00127-CAB. 2013. (client: Morgan Verkamp, LLC). Deposition Sep. 30, 2013.

Expert witness for plaintiff in U.S. *ex rel.* Baklid-Kunz v. Halifax Hosp. Med Ctr., *et al.* No. 6:09-cv-1002-ORL-31-DAB. 2012-2014. (client: United States) (motion to exclude my testimony was denied). Deposition Jan. 31, 2013.

Associations

Senior Member, Institute of Electrical and Electronics Engineers (IEEE).

Member, Institute for Operations Research and the Management Sciences (INFORMS).