



HOWARD BAUM

Baum Scientific Consulting, LLC
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EDUCATION: BRANDEIS UNIVERSITY
Ph.D. in Biochemistry (Molecular Biology), February 1986. Thesis: A structural analysis of the α -tubulin gene family of Drosophila melanogaster: One of the four genes is different.

CORNELL UNIVERSITY
B.S. with Honors and Distinction in Biology, May 1979.
Honors Thesis: Feedback inhibition of homoserine kinase by the end products of the aspartate family biosynthetic pathway.

CERTIFICATION: American Society of Crime Laboratory Directors/ Laboratory Accrediation Board-
Legacy Laboratory Inspector and ISO 17025 Laboratory Assessor
FBI- DNA Auditor
Alcotest Operator, Trainer, and Maintenance Technician

PROFESSIONAL EXPERIENCE: BAUM SCIENTIFIC CONSULTING, LLC 10/91-present
Provide forensic case review, court testimony, laboratory audit/inspections and consultation services. Clients include attorneys, private individuals and biotechnology corporations. Consult in the areas of forensics including DNA, criminalistics, breath testing, toxicology, and drug analysis.

DIRECTOR OFFICE OF FORENSIC SCIENCES 3/08-5/17
New Jersey State Police
Manage a statewide ASCLD/LAB accredited laboratory system of 5 laboratories and over 165 personnel. Responsible for Quality Assurance, DNA (CODIS, mitochondrial and nuclear) STR and DNA Sequencing, serology, drug, toxicology, breath alcohol, criminalistics, anthropology including NAMUS, and for the State of New Jersey. Serve on the Command Staff of the New Jersey State Police. Designated state official responsible for awarding and administering Coverdell grants to all laboratories within the state.

DEPUTY DIRECTOR/TECHNICAL LEADER 5/07-3/08
ASSISTANT DIRECTOR/TECHNICAL LEADER 4/90-5/07
Office of Chief Medical Examiner, Forensic Biology Dept, New York City
Supervised 7 Assistant Directors and manage a group of over 150 individuals. Responsible for day-to-day operations of all aspects of the laboratory. Overall responsibility and Technical Leadership for outside vendor DNA testing, Quality Assurance, CODIS, Training, Low Copy Number DNA testing, High Copy Number DNA testing, Mitochondrial DNA Sequencing, World Trade Center DNA Identification, Missing Person Identification, and Blood Spatter and Crime Scene Reconstruction. Served as a Technical Reviewer. Testified in court. Proposed, directed and reviewed validation of new and modified techniques.

CLINICAL ASSISTANT PROFESSOR OF FORENSICS 9/90-6/08

New York University Medical Center, New York, N.Y.

Teach continuing medical education course in forensic DNA analysis. Serve as mentor for Graduate Students, Visiting Professors and Post-Doctoral Fellows.

ADJUNCT ASSISTANT PROFESSOR 5/87-5/04

N.Y. Medical College, Valhalla, N.Y.

Teach graduate level courses in human genetics and human molecular genetics.

RESEARCH SCIENTIST II 4/87-3/90; RESEARCH SCIENTIST I 8/85-4/87

Lifecodes Corp., Valhalla, N.Y.

Supervised one Ph.D. and four technicians. Cloned, sequenced, patented and developed for commercialization new genomic and synthetic RFLP DNA probes. Developed and commercialized a non-isotopic chemiluminescent DNA detection system. Developed a new genomic DNA amplification system. Participated in the commercialization, planning, marketing, and focus group presentation of new blood storage services. Transferred projects from the laboratory bench to production under GMP guidelines.

**PROFESSIONAL
AFFILIATIONS:**

New York State BIOTWG (Biological Technical Working Group)- Chairman, 2005-2007

SWGDM Missing Person's/ Mass Disaster Subcommittee- Vice Chairman, 2005-2007

NDIS Audit Review Panel- Chairman, 2006

New York State DNA Audit Tool Subcommittee Chairman, 2000

NDIS Board Member (National DNA database)- sponsored by the FBI, 2001-2007

FBI Laboratory Vulnerability Study Panel Member, 2004-2008

Kinship and Data Analysis Panel- sponsored by National Institute of Justice 2001-2006

Hurricane Victim DNA Identification Expert Group- sponsored by Louisiana 2005-2008

UN Special Committee on Peacekeeping Operations- Outside DNA Expert, 2007

American Society of Human Genetics

American Academy of Forensic Sciences

Northeastern Association of Forensic Scientists

New Jersey Association of Forensic Scientists 2008-2017

American Society of Crime Laboratory Directors (ASCLD)

ASCLD Forensic Research Committee- 2011-2013

NDIS Audit Review Panel Member- 2006-2017

Forensic Anthropology Foundation of Guatemala- Genetics Advisory Board- 2014-

NJ Opioid Core Working Group- 2015-2017

National District Attorneys Association DNA Committee- 2015-2018

ASCLD Rapid DNA Task Force Internal Subcommittee- 2017-2018

AAFS Standards Board DNA Consensus Body- Secretary, 2016-

Accreditation Council of the American Association for Laboratory Accreditation (A2LA)- 2018-

American Association for Laboratory Accreditation (A2LA)- 2018-

NJ Institute of Technology Forensic Science Professional Advisory Board- 2019-

PATENTS

- Balazs, I., Loewy, Z.G., Neuweiler, J., Baum, H.J., and Ruvolo, V. Molecular genetic identification using probes that recognize polymorphic loci. U.S. Patent Number 5514547, May 7, 1996.
- Loewy, Z.G., Ip, N.Y., Baum, H.J., Leary, S.L., and Van de Stadt, I.L.M. Compositions and protocols applicable to genetic analysis. Canadian Patent Number 2,011,020, October 17, 1995. (Also EP0390518, AU5234690, AU646800, IL93902, and JP3004792.)
- Ip, N.Y., and Baum, H.J. Compositions and methods useful for genetic analysis. U.S. Patent Number 5206137, April 27, 1993.
- Loewy, Z.G., Ip, N.Y., Baum, H.J., Leary, S.L., and Van de Stadt, I.L.M. Compositions and protocols applicable for genetic analysis. U.S. Patent Number 5192658, March 9, 1993.
- Loewy, Z. G. and Baum H.J. Compositions and process for amplifying and detecting nucleic acid sequences. Patent Numbers EP0369775, AU4470789, CA2001110, and JP3043085, May 5, 1990.
- Ip, N.Y. and Baum, H.J. Probes for the detection of RFLP in eucaryotic genomes. Patent Numbers WO9002818, AU4222089, AU630888, and EO0433367. March 22, 1990.

PUBLICATIONS

- Weedn VW and Baum H, (2011) DNA identification in mass fatality incidents. *Am J of For Med & Path* 32(4), 387.
- Williams, T.M., Baum, H.J., Weedn, V.W., and Kamoun, M. (2011) Identity Assessment. In Tietz Textbook Of Clinical Chemistry & Molecular Diagnostics. 5th Edition Burtis C.A., Ashwood E.R., Bruns D.E. Eds. Elsevier, St. Louis, MO.
- Caragine, T., Mikulasovich, R. Tamariz, J. Bajda, E., Sebestyen, J. Baum, H., and Prinz, M. (2009) Validation of Testing and Interpretation Protocols for Low Template DNA Samples Using AmpFISTR Identifier. *Croatian Medical Journal* 50, 250
- Bailey-Wilson, J.E., Ballantyne, J., Baum, H. et. al (2006) Lessons Learned from 9/11: DNA Identifications in Mass Fatality Incidents. U.S.. Department of Justice, Office of Justice Programs. 143 pages.
- Prinz, M., Schiffner, L., Sebestyen, J.A., Bajda, E., Tamariz, J., Shaler, R.C., Baum, H., and Caragine, T. (2006) Maximization of STR DNA typing success for touched Objects. *International Congress Series* 1288, 651.
- Biesecker, L.G....., Baum, H.J. et al (2005) .DNA Identification of Victims from the September 11, 2001 World Trade Center Attack: Scientific Challenges and Policy Implications, *Science* 310, 1122.
- Prinz, M., Ishii, A., Coleman, A., Baum, H.J., and Shaler, R.C. (2001) Validation and casework application of a Y chromosome specific STR multiplex. *Forensic Science International* 120 177.

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- Prinz, M., Ishii, A., Sansone, M., Baum, H.J., and Shaler, R. (2000) Y chromosome specific STR testing and the US legal system. *Progress in Forensic Genetics* 8 591.
- Samples, M, Prinz, M., Baum, H., and Shaler, R. (2000) The rotation analyst- The NYC OCME casework system. *Progress in Forensic Genetics* 8 619.
- Chen, J., Kobilinski, L., Wolosin, D., Shaler, R., and Baum, H. (1998) A physical method for separating spermatazoa from epithelial cells in sexual assault evidence. *Journal of Forensic Sciences* 43 114.
- Toledano, T., Quarino, L, Leung, S., Buffolino, P., Baum, H., and Shaler, R.C. (1997) An assessment of DNA contamination risks in New York City Medical Examiner facilities. *Journal of Forensic Sciences* 42 721.
- Prinz, M., Boll, K., Baum, H., and Shaler, R, (1997) Multiplexing of Y chromosome specific STRs and performance for mixed samples. *Forensic Science International* 85 209
- Prinz, M., Schmitt, C., Staak, M., Baum, H. (1996). Resolution of Apo B repeat unit position variants on agarose, denaturing and native polyacrylamide gels. *Electrophoresis* 17 1190.
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- Quarino, L., Wilson, R., Ferrare, J., Baum, H., and Shaler, R. (1994) Quality assurance in a forensic biology laboratory. *Forensic Science International* 68, 17.
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