Eliot Jacobson, Ph.D.

RETIRED – October, 2017

CONTACT

- Phone: 805.637.6962
- Email: eliot@ijmp.org

EDUCATION

- **Ph.D., Mathematics, 1983,** University of Arizona, Tucson, Arizona
- **M.S., Mathematics, 1981,** University of Arizona, Tucson, Arizona
- **B.A., Mathematics, 1979,** Humboldt State University, Arcata, California (Cum Laude)

GAMING

PROFESSIONAL POSITIONS:

- **Owner/Consultant**, Jacobson Gaming, LLC, 2006 – 2017
- **Owner/Consultant**, Certified Fair Gambling, 2006 – 2013
- **Consultant,** Raving Consulting, Reno, 2009 – 2013
- **Consultant,** CDC Consulting, Las Vegas, 2004 – 2009, 2014 – 2017

CONSULTING AREAS OF EXPERTISE:

- Analysis of casino games, bingo, and slot machines to determine house edge.
- Auditing online Internet casinos for fairness.
- Development of online Internet casino software for specific games.
- Analysis of casino games for vulnerability to advantage play and cheating
- Advantage play against blackjack, baccarat, proprietary games and side bets.
- Secret shopping and market analysis for casino clients.
- Table game operations and yield management for casino clients.
- Development of security software for automatic real time analysis of casino play.
- Development and analysis of casino promotions.
- Open training to casino professionals: *Advanced Advantage Play*
- On-site training, focusing on advantage play and the mathematics of casino table games

BOOKS:

- Eliot Jacobson, *"Advanced Advantage Play,"* ISBN 978-1883423391, 490 pages, Blue Point Books, April, 2015.
- Eliot Jacobson, *"Contemporary Casino Table Game Design,"* ISBN 978-1-883423-17-9, 242 pages, Blue Point Books, May, 2010.

- Eliot Jacobson, *"The Blackjack Zone,"* ISBN 1-883423-10-4, 188 pages, Blue Point Books, January, 2005.

WEBSITES:

- www.advancedadvantageplay.com (with associated YouTube channel)
- Blog APHeat.net sold to 888Casino.com in 2016

CONFERENCE KEYNOTES AND PRESENTATIONS (January, 2012 to Retirement):

- *Dr. Eliot's Cures for all That Ails You,* Indian Gaming National Marketing Conference," February 1, 2012, Agua Caliente Casino, Palm Springs, CA
- *The Perils and Pitfalls of Proprietary Games,* World Game Protection Conference, February 28, 2012, M Casino, Las Vegas, NV
- *Untitled,* International Association of Casino Security, May 3, 2012, Naga World Casino, Phnom Penh, Cambodia
- *Untitled,* Casino Chip and Gaming Token Collectors Club, June 20, 2012, South Point Casino, Las Vegas, NV
- *We're Not in the Gambling Business, We're in the Mathematics Business,* Raving's Host Development Conference, July 24, 2012, Paris Casino, Las Vegas, NV
- *Is Free Play Really Free?,* BNP Media's Casino Marketing Conference, July 25, 2012, Paris Casino, Las Vegas, NV
- *Tips for Table Game Health,* Raving's Cutting Edge Table Games Conference, December 3, 2012, Paris Casino, Las Vegas, NV
- *Protecting Specialty Games,* Raving's Cutting Edge Table Games Conference, December 4, 2012, Paris Casino, Las Vegas, NV
- *Card Sorts Panel Discussion,* World Game Protection Conference, February 26, 2013, M Casino, Las Vegas, NV
- *The Year's Top 5 "Beatable" Side Bets,* World Game Protection Conference, February 27, 2013, M Casino, Las Vegas, NV
- *Yield Management for Table Games,* Washington Indian Gaming Association, July 16, 2013, Tulalip Casino and Resorts, Shelton, WA
- *The True Value of a Player,* BNP Player Development Conference, July 23, 2013, Paris Casino, Las Vegas
- *Getting the Money,* Raving's Cutting Edge Table Games Conference, November 29, 2013, Paris Casino, Las Vegas, NV
- *Top Five Ways to Win More and Lose Less, ,* Cutting Edge Table Games Conference, November 30, 2013, Paris Casino, Las Vegas, NV
- *The Year's Most Beatable Baccarat Side Bets ,* World Game Protection Conference, February 24, 2014, M Casino, Las Vegas, NV
- *The Table Games Profitability Talk,* Cutting Edge Table Games Conference, November 10, 2015, Paris Casino, Las Vegas.

MEDIA APPEARANCES (January, 2012 to Retirement):

- Audio: Gambling with an Edge, March 1, 2012
- Audio: Gambling with an Edge, December 6, 2012
- Audio: Casino Enterprise Management Audio Edge, July 19, 2013
- Video: CBS This Morning, April 14, 2014
- Audio: Bluff.com, April 17, 2014
- Audio: House of Cards Radio, June 14, 2014
- Audio: House of Cards Radio, October 14, 2014
- Audio: Podcast from the Gambler's General Store, April 28, 2015
- Audio: House of Cards Radio, July 22, 2015
- Audio: House of Cards Radio, February 1, 2016

MAGAZINE and E-Zine ARTICLES (January, 2012 to Retirement) PUBLISHED IN:

- Casino Journal
- Casino-Ology
- Raving Consulting Flash
- Raving Consulting Solutions Magazine
- CDC Gaming Reports

MATHEMATICS

PROFESSIONAL POSITIONS:

- **Assistant/Associate Professor,** Department of Mathematics, Ohio University, Athens, Ohio, 1983 – 1998.

PRIMARY RESEARCH AREAS IN MATHEMATICS:

- Algebraic Number Theory
- Elementary Number Theory
- Computational Number Theory.

PROFESSIONAL RESEARCH PUBLICATIONS IN MATHEMATICS:

1. Eliot Jacobson, Walter Carlip, Lawrence Somer "*Pseudoprimes, perfect numbers, and a problem of Lehmer.*" Fibonacci Quarterly **36** (1998), pp. 361 – 371.
2. Eliot Jacobson, Walter Carlip, *"A criterion for stability of two-term recurrence sequences modulo odd primes."* Applications of Fibonacci numbers, Vol. 7 (Graz, 1996), pp. 49 – 60.
3. Eliot Jacobson, Walter Carlip, "*Stability of two-term recurrence sequences with even parameter.*" Finite Fields and their Applications **3** (1997), pp. 70 – 83.Eliot Jacobson, Walter Carlip, *"A criterion for stability of two-term recurrence sequences modulo 2^k ."* Finite Fields and their Applications **2** (1996), pp. 369 – 406.
4. Eliot Jacobson, Walter Carlip, *"On the stability of certain Lucas sequences modulo 2^k ."* Fibonacci Quarterly **34** (1996), pp. 298 – 305.
5. Eliot Jacobson, Walter Carlip, *"Unbounded stability of two-term recurrence sequences modulo 2^k "* Acta Arithmetica **74** (1996), pp. 329 – 346.

6. Eliot Jacobson, Dana Carroll, Lawrence Somer, *"Distribution of two-term recurrence sequences mod p^e ."* Fibonacci Quarterly **32** (1994), pp. 260 – 265.
7. Eliot Jacobson, *"Distribution of the Fibonacci numbers mod 2^k ."* Fibonacci Quarterly **30** (1992), pp. 211 – 215.
8. Eliot Jacobson, William Velez, "*Fields arithmetically equivalent to a radical extension of the rationals."* Journal of Number Theory **35** (1990), pp. 227 – 246.
9. Eliot Jacobson, William Velez, *"The Galois group of a radical extension of the rationals."* Manuscripta Mathematica **67** (1990), pp. 271 – 284.
10. Eliot Jacobson, *"The distribution of residues of two-term recurrence sequences."* Fibonacci Quarterly **28** (1990), pp 227 – 229.
11. Eliot Jacobson, *"A brief survey on distribution questions for second order linear recurrences."* Proceedings of the First Conference of the Canadian Number Theory Association, Ed. Richard A. Molin. Published by de Gruyter (1990), pp 249 – 254.
12. Eliot Jacobson, William Velez, *"Uniform and f-uniform distribution of recurrence sequences over Dedekind domains."* Sichuan Daxue Xuebao, **26** (1989), pp 98 – 103.
13. Eliot Jacobson, *"Almost uniform distribution of the Fibonacci Sequence."* Fibonacci Quarterly **27** (1989), pp. 335 – 337.
14. Eliot Jacobson, *"The permutation index of p-defect zero characters."* Illinois Journal of Mathematics, **32** (1988), pp. 164 – 169.
15. Eliot Jacobson, Alan Parks, *"Infinite branches of the Phi-tree."* The American Mathematical Monthly, **93** (1986), pp. 552 –554.
16. Eliot Jacobson, *"The Brauer ring of a field."* Illinois Journal of Mathematics, **30** (1986), pp. 479 – 510.
17. Eliot Jacobson, *"The Burnside ring modulo a prime."* Journal of Algebra, **99** (1986), pp. 58 – 71.
18. Eliot Jacobson, William Velez, *"On the adele rings of radical extensions of the rationals."* Archiv der Mathematik, **45** (1985), pp. 12 – 20.

OTHER PUBLICATIONS IN MATHEMATICS:

1. *"Elementary Problem FQE."* Fibonacci Quarterly, **33** (1995), pg. 85.
2. *"Letters on Opportunities for Undergraduate Mathematics Majors,"* published electronically.
3. *"Elementary Problem 3089."* The American Mathematical Monthly, **92** (1985), pg. 359.
4. *"Advanced Problem 6489."* The American Mathematical Monthly, **92** (1985), pg. 148.
5. *"Advanced Problem 6383."* The American Mathematical Monthly, **89** (1982), pg. 278.

PROFESSIONAL GRANTS AND AWARDS IN MATHEMATICS:

1. Faculty Fellowship Leave (Sabbatical), Winter 1996.
2. House-bill grant to upgrade NeXTstation, 1995. ($2,000).
3. *"Stability of two-term recurrence sequences,"* from the Baker Award Committee, 1995. ($8,170).
4. House-bill grant for a new computer lab, 1992. ($32,000).
5. *"The relative permutation index of characters in finite groups,"* from the Ohio University Research Committee, 1985. ($1,100).
6. *"CAYLEY,"* from the Ohio University Regents, 1985. ($2,000).
7. Academic Fellowship, University of Arizona, 1979 – 1980.

RESEARCH SEMINARS:

- Von Neuman Regular Rings, The Burnside Ring, Profinite Burnside Rings, Galois Theory of Commutative Rings, Sheaf Theory, Linear Algebraic Groups, Algebraic Geometry, Lie Algebras, Uniform Distribution, Local Representation Theory, Algebraic Number Theory.

COURSES TAUGHT AT OHIO UNIVERSITY:

- **Graduate:** Modern Algebra, Algebraic Number Theory, Algebraic Topology.
- **Senior Level:** Matrix Theory, Linear Algebra, Vector Analysis, Abstract Algebra, Partial Differential Equations, Number Theory, Complex Variables.
- **Junior Level:** Foundations, Geometry, Elementary Abstract Algebra, Elementary Number Theory, Differential Equations.
- **Lower Division:** College Algebra, Trigonometry, Statistics, Finite Math, Business Calculus, Calculus, Mathematics for Elementary School

COMPUTER SCIENCE

PROFESSIONAL POSITIONS:

- **Visiting Professor, Lecturer,** Department of Computer Science, UCSB, 1998 – 2009.
- **Lecturer,** Department of Electrical Engineering, UCSB, 2000 - 2005.
- **Adjunct Professor,** Department of Computer Science, Ohio University, Athens, Ohio, Summer, 1996.
- **Intern,** Frognet, inc. (www.frognet.net, Internet Service Provider), Athens, Ohio, Winter/Spring, 1996.

COMPUTER SCIENCE EXPERIENCE:

- **Operating Systems:** DOS, Windows, UNIX, LINUX, VMS, and others.
- **Programming Languages:** VBA**,** C, C++, JAVA, Fortran, Pascal, Basic, and others.
- **Software:** Most standard Windows, UNIX, and Internet applications.
- **Systems Administration:** UNIX systems administration experience, specializing in Solaris.
- **World Wide Web:** Webmaster, web developer.

COMPUTER PROGRAMMING SPECIALTIES:

- Casino game statistical simulations, edge analysis, strategy analysis, and fairness auditing.
- Specialty areas for casino game analysis include: Blackjack, Poker, Video Poker, Pai Gow Tiles, Baccarat, Craps and Roulette.
- Plagiarism detection software for computer programs written in C, C++, and Java.

COURSES TAUGHT IN COMPUTER SCIENCE AT UNIVERSITY OF CALIFORNIA, SANTA BARBARA:

- Introduction to Computer Programming and Organization (JAVA, C/UNIX, and Fortran).
- Introduction to Computer Programming. Programming in C.
- Data Structures in JAVA.
- Discrete Structures.
- C, C++ and UNIX
- Introduction to Algorithms and Data Structures in C

POST RETIREMENT

WEBSITES:

- www.advancedadvantageplay.com (casino gambling)
- www.climatecasino.net (climate change)
- www.ijmp.org (personal)

YOUTUBE:

- @advancedadvantageplay – featuring videos explaining methods to beat casino games
- @climatecasino – climate change and related topics

SOCIAL MEDIA:

- X (Twitter): @eliotjacobson (74,000 followers)
- BlueSky: @climatecasino.net (20,000 followers)

BOOKS:

- Eliot Jacobson, *"Totally Disconnected,"* ISBN 978-1-955746-01-4, 80 pages, Rosalind Press, December, 2022

CONFERENCE KEYNOTES AND PRESENTATIONS:
- *Advanced Advantage Play,* 3-hour core training at World Game Protection Conference, Tropicana, Las Vegas, February, 2023
- *Advanced Advantage Play,* 3-hour core training at World Game Protection Conference, Tropicana, Las Vegas, February, 2024
- *Advanced Advantage Play,* 3-hour core training at World Game Protection Conference, Rio, Las Vegas, February, 2025

AWARDS:

- Lifetime Achievement Award, World Game Protection Conference, 2022

VOLUNTEER:

- Citizens' Climate Lobby, 2025 –
- Docent, Santa Barbara Zoo, 2017 – 2020
- Planned Parenthood Book Sale, 2022 – 2024
- Santa Barbara Public Health, 2021 – 2023
- TVSB (Community Television), 2018 – 2020
- Volunteers in Police, 2019 – 2021
- Wildlife Care Network, 2022