

Dr. Eugene R. Cochran, III

Senior Commercialization Manager

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PROFESSIONAL EXPERIENCE

[Oak Ridge National Laboratory](#), Oak Ridge, TN

Technical Staff Consultant/Sr. Commercialization Manager, [S&T Partnerships Directorate](#), 2014-Present

- Independently manage all aspects of developing, protecting, marketing and licensing a portfolio of ORNL technologies.
- Evaluate the intellectual property (IP) opportunity of 40-60 new inventions per year by working with ORNL inventors and patent agents and external law firms.
- Identify the commercial opportunities of the intellectual property portfolio by evaluating the commercial applications and markets, estimating market size, and comparing with competing technologies. Outline licensing plans based on these commercial opportunity evaluations and the patenting strategies.
- Independently select inventions for patenting (and copyrights for assertions) based on commercial upside.
- Execute a marketing strategy for her/his IP portfolio based on the licensing plan.
- Aggressively drive intellectual property business volume by identifying and engaging potential licensees.
- Successfully negotiate terms in license agreements and options, and using the companies' business plans, negotiate appropriate due diligence milestones.
- Work as a collaborative team member with inventors, sponsors, potential licensees and licensees.
- Propose, promote and/or negotiate solutions or agreements.
- Serve as the primary relationship manager between the ORNL S&T Partnerships Directorate and key research directorates.
- Manage the commercialization of large collaborative efforts such as the DOE Innovation Hubs.
- Assist the Technology Transfer Specialist and inventors with Material Transfer Agreements and Non-Disclosure Agreements.
- Represent ORNL in local, regional, national and international meetings and forums related to her/his technology portfolio or the interests of ORNL.
- Participate in national meetings of licensing associations as speaker, workshop leader, committee member, officer, etc.

[University of Arizona](#), Tucson, AZ

Sr. Licensing Associate and Sector Lead Physical Sciences, [Office of Technology Transfer](#), 2010-2014

- Led expanded licensing and placement opportunities for university intellectual property through effective business-to-business marketing, creative strategic business development or sound planning for new start-ups in the fields of biomedical devices, engineering, and physical sciences.
 - a. Worked as an integral part of the OTT licensing team;
 - i. Identifying clear market opportunities for specific technologies under OTT management where expanded team effort would lead to better technology placement outcomes;
 - ii. Defining simple, measurable, attainable, realistic time-based goals for the team in managing the technologies and the get-to-market opportunity; and
 - iii. Creating concise operations plans and associated business development strategies for taking advantage of the identified opportunities on the timeline required.
 - b. Implemented business development strategies defined in operations plans for team selected projects that add significant value or opportunity to OTT technologies including bundling technologies, sourcing capital or linking with new resources or partners.
 - c. Utilized broad and detailed knowledge of markets and players, aided other licensing professionals in licensing lead generation and opening substantive discussions for technology placement.
- Mentored and served as resource to Licensing Associates in the sector on complex intellectual property matters, technology transfer practice and licensing. Contributed strongly as member of the OTT team to improve OTT practice and systems. Supervised, at the request of the Director, interns and student workers functioning as part of the sector licensing team within the office.

- Served as a primary catalyst in creating new projects with researchers in the fields of biomedical devices, engineering, and physical sciences that, with OTT's involvement, have strong potential to lead to extraordinary technology transfer opportunities.
 - a. Working as an integral part of the OIT licensing team;
 - i. Identifying clear new market opportunities for specific research areas where expanded team outreach effort would lead to high potential opportunities; and
 - ii. Creating concise outreach strategies for taking advantage of the identified opportunities as well as simple, measurable, attainable, realistic time-based goals for the team that define outreach success.
 - b. Implemented new project development strategies that lead to viable additions to the sector licensing pipeline.
- In capacity as Sr. Licensing Associate managed select cases including:
 - a. Perfecting of intellectual property rights including activities surrounding rights consolidation and management, management of issues related to intellectual property perfection and on-going assessment of rights perfection against resource requirements and project goals
 - b. Licensing of intellectual property owned by ABOR and other transactions related to intellectual property management
 - c. Enablement, organization and management of complex intellectual property-based relations including start-ups, inter institutional interactions and industry-sponsored research agreements
- Maintain and enhance ability to engage senior private sector business development personnel through involvement in conferences, industry organizations, presentations and professional societies.
- Engage in other activities as assigned by the Director

University of Arizona, Tucson, AZ

Administrative Director, Center for Integrated Access Networks an NSF ERC, 2008-2010

- Assisted the Center Director in overall management of the Engineering Research Center
- Developed and recommended, and administered program policies and budgets
- Established policies, methods, procedures and work rules for Center administrative staff
- Interviewed and recommended selection of applicants, conducted training, assigned and schedule work, acted upon leave request, conducted annual performance evaluations, and recommended disciplinary actions.
- Assured that Center programs conform to institutional and departmental policies and regulations
- Overseer of the administrative and management functions of the Center including day-to-day management of grant totaling \$18.5 plus university cost share and industrial sponsorships
- Supervised professional staff while coordinating the efforts of numerous other professionals and staff employed by partner and participating universities
- Overseer of Education, Diversity, and IT functions
- Updated the Center's Strategic Plan as needed and ensured the plan is carried out effectively
- Serve as liaison with University departments, NSF and broad spectrum of Center partners
- Oversees and coordinated Center website development, internal database and communications
- Coordinated annual NSF site visit and other advisory board and oversight committee meetings
- Worked with Center's Education and Diversity Directors to ensure planned goals and programs are carried out according to established timetables
- Worked with Center's Industrial Collaboration and Innovation Director to ensure efficacy of IP Management Agreement and servicing of tech transfer needs within the Center
- Prepared annual report and contribute to proposal writing for external funding
- Led overall compliance with NSF Cooperative Agreement

Piezo Energy Technologies, Tucson, AZ

Vice President for Business Affairs, 9/2011 – 12/2012

Business Manager, 1/2010 – 6/2011

Consultant, 8/2004-12/2009

- Administrative support on National Institute of Biomedical Imaging and Bioengineering, NIH Grant

- Generated marketing report exploring the feasibility of energy harvesting products in the medical arena, such as improvements to the battery capability for pacemakers or other devices where batteries are implanted; and where high voltage, low current impulses might provide a beneficial effect
- DCN - SBIR/STTR Mentor on Company Commercialization Plan
- Prior art patent searches rendering patentability and freedom to operate opinions
- Generated financial and accounting reports
- Marketing and outreach activities, including Oil and Gas Innovation Showcase and BMES

[Research Corporation Technologies](#), Tucson, AZ

Director, Commercialization, 2000-2008

Senior Associate, Commercialization, 1998-2000

Associate, Technology Transfer, 1991-1998

- Managed business development projects involving a broad range of technologies
- Coordinated technical product development programs with P&L responsibilities
- Spearheaded venture investment fund which activities included identifying venture-gap investment-grade opportunities primarily in optics and photonics and funding their early development
- Contributing member of a medical device incubator which focused on incubating 510k medical device technologies in the areas of cardiac, spine, and gastro-intestinal disorders
- Created development and business strategies for commercialization of technology resulting from basic and applied research
- Director/manager of multiple early-stage companies
- Guided preparation and prosecution of patent applications, both US and foreign
- Prepared patentability and freedom to operate opinions
- Identified, solicited and cultivated potential licensees and/or venture partners for technology projects
- Marketed technology opportunities to investors and potential buyers
- Negotiated over 30 licensing agreements generating over \$30M in royalty revenues
- Extensive knowledge of due diligence efforts with respect to investment opportunities
- Financial and pro-forma modeling of investment opportunities
- Excellent working knowledge of discounted cash flow analysis for investment and project planning purposes

[WYKO Corporation](#), Tucson, AZ

Senior Optical Engineer, 1986-1991

- Product manager for optical wavefront analysis system
- Developed a long-scan optical surface profiling instrument
- Designed an automatic focusing system for an interference microscope
- Interfaced lens design and wavefront analysis software
- Assisted in the development of diverging and collimated reference sources
- Designed 12" beam expander and 1.75, 6, 12, 18" collimator lenses for Fizeau interferometer
- Generated specifications for optical components in real-time interferometer products
- Supported engineering and manufacturing
- Attended trade shows and assisting sales and marketing with regard to sales of real-time interferometer products

[GCA/Tropel](#), Fairport, NY

Optical Engineer, Summer 1985

- Developed and prototyped a radial-shearing phase modulated interferometer

[Perkin-Elmer Corporation](#), Wilton, CT

Optical Engineer, 1983-1984

- Applied phase measuring interferometer to the absolute calibration of flats and the mapping of infra red material homogeneity

[IBM Corporation](#), East Fishkill, NY

Pre-Professional, Summer 1982

- Developed a qualification plan for an image size measurement tool

OTHER EXPERIENCE

Director, [Extreme Photonix](#), 2001-2005

Director, [NP Photonic Technologies, LLC](#), 1998-2000

Advisor to the Board, [Micro Photonix Integration, Inc.](#), 1999-2002

Adjunct Professor of Optical Sciences, 2002-2010, 2016

[University of Arizona](#), Tucson, AZ

- Advise faculty in commercialization of optics and photonics inventions

Adjunct Professor of Electrical Engineering, 2016

University of Tennessee, Knoxville, TN

- Advise faculty in commercialization of power electronics and smart grid inventions
- Worked with Curent DOE/NSF ERC
- Interfaced with joint ORNL/UT faculty on commercialization of inventions

Member Board of Advisors, Arizona Center for Innovation, 2003-2012

[University of Arizona](#), Tucson, AZ

- Advisory committee member lending expertise to early stage startup companies
- Member of expert panel for providing management and strategic advice to incubator companies
- Mentor early stage companies on business development, market analysis, and product development

Consultant, 12/2008-1/2009

[REhnu](#), Tucson, AZ

- Prior art searches and intellectual property investigations
- Advised company founders on early stage company formation

Consultant, 9/2003-1/2006

[Breault Research Organization, Inc.](#), Tucson, AZ

- Independent review and audit of intellectual property assets generating report on most promising technologies and strategic plan for further development
- Market competition analysis for strategic direction in eLearning, physics toolbox, and light analysis projects

EDUCATION

[UNIVERSITY OF ARIZONA](#), Tucson, AZ

Doctor of Philosophy in Optical Sciences, August 1988

Ph.D. Dissertation Title: Extending the Measurement Range of an Optical Surface Profiler

Dissertation Advisor: [James C. Wyant](#), Dean, College of Optical Science, University of Arizona

[UNIVERSITY OF ARIZONA](#), Tucson, AZ

Master of Business Administration, December 1992

Concentrations in Accounting and Finance

[UNIVERSITY OF ARIZONA](#), Tucson, AZ

Master of Science in Optical Sciences May 1987

[UNIVERSITY OF ARIZONA](#), Tucson, AZ

Bachelor of Science in Biology, May 2015

[UNIVERSITY OF ROCHESTER](#), Rochester, NY

Bachelor of Science in Optical Engineering, May 1983

[PIMA COMMUNITY COLLEGE](#), Tucson, AZ

(Highest Honors, Phi Theta Kappa)

Certificate in Automotive Technology, May 2001

Associate of Science, May 2007
Associate of Liberal Arts, May 2007
AGEC-S Certification, May 2007

Graduate Course work included:

Electromagnetic Wave Theory, Fourier Optics, 1st Order Optical Design, Introduction to Lasers, Quantum Optics, Interference and Interferometry, Principles of Optical System Design, Statistical Optics, Solid State Optics, Optical Testing, Image Processing, Microcomputer Interfacing, Radiometry, Photoelectric Devices, Thin Films, Lens Design, Optical Communication, Fiber Optic Communication Systems.

MBA Course work included:

Financial Accounting Analysis, Organizational Theory and Behavior, Managerial Economics, Statistical Decision Making, Management Information Systems, Marketing Management, Managerial Finance, Informational and Financial Decision Making, Intermediate Tax Accounting, Environmental Scanning, Investment Analysis, Business Strategy and Policy Making, Advance Corporate Finance.

Undergraduate Course work included:

Anatomy (I,II), Advance General Chemistry (I,II), Organic Chemistry (I,II), Biology (I,II), Biochemistry, Bioethics, Cell Biology, Microbiology, Genetics, Evolution, Population Genetics, Nutrition, Vertebrate Physiology, Plant Physiology, Physics (Mechanics, EM, and Modern), Mathematics (Integral, Differential, Differential Equations, Multidimensional, Boundary Value Problems, Applied Complex Analysis), Programming (Visual Basic, Data Structures), Optics (Physical, Geometrical, Opto-Electronics (I,II), Colorimetry, Interference Coatings, Optics Laboratory, Electro-Optics Systems), Digital Circuits, Psychology, Cognition, Ethics, History, Economics, English, Anthropology, Political Science.

MEMBERSHIPS

- Association of University Technology Managers ([AUTM](#))
- Biomedical Engineering Society ([BMES](#))
- Institute of Electrical and Electronics Engineers ([IEEE](#))
- Licensing Executive Society ([LES](#))
- Optical Society of America ([OSA](#))
- Society of Photo-Optical Instrumentation Engineers ([SPIE](#))

PATENTS

E. Cochran, D. Cohen, and J. Ayres, "Apparatus and Method for Automatically Focusing an Interference Microscope," US patent no. [4,931,630](#).

E. Cochran, D. Cohen, and J. Ayres, "Apparatus and Method for Automatically Focusing an Interference Microscope," US patent no. [5,122,648](#).

HONORS

- GCA/Tropel Graduate Fellowship
- Graduate Research Assistantship University of Arizona Optical Sciences Center
- 1994 R&D 100 Award - [RAINBOW High Displacement Actuator](#) - Technology Transfer Liaison
- Phi Theta Kappa
- Phi Kappa Phi
- Larry Dickens Award 2015 (Negotiator of ORNL's Most Significant Technology Transfer)

RELEVANT EXPERIENCE AND QUALIFICATIONS

- Negotiation of Master Agreements, Inter-Institution Agreements, Option and Licensing Agreements, CDAs and BMTAs
- Management of Patent Prosecution US and Foreign
- Ability to manage large multi-institution research grants
- Experience with UA accounting and information systems such as UAccess, UIS, PSOS, ISW

- Expert user: Inteum, IPManager, iBridge, Delphion, PatSnap, BCC, Hoovers, Venture Source, Thompson Innovation
- Experience with NSF Fastlane, ERCWeb, Grants.gov, and NIH PMS systems
- Administrative experience with large NSF Engineering Research Center
- Project and business management for high tech companies
- Excellent business, communication and technical management skills
- Ability to present technical information in concise and professional manner to a variety of individuals
- Ability to respond to priority matters in timely fashion and to manage multiple projects simultaneously
- Adept at creating business strategies for emerging technology
- Ability to negotiate multi-million dollar licensing contracts
- Ability to sell technology concepts and products
- Ability to raise venture capital for early-stage, start-up companies, over \$35 million raised
- Broad technology exposure, both physical and life sciences
- Strong engineering and science background
- Excellent understanding of intellectual property prosecution and litigation
- Lens design, geometrical analysis, optical specification, and optical fabrication and test expert
- Interferometer design, specification and manufacture
- Design and use of computer controlled optical test equipment
- Modeling work with Code-V, Super-Oslo, and ASAP
- Experienced with MathCAD, MatLab, Mathematica, MathLab, AutoCAD, and Spreadsheets
- Software development using Visual BASIC, C, FORTRAN, and PASCAL
- Expert user of Microsoft Excel, Word, Power Point, Access, and Outlook
- Understanding of optoelectronics, fiber optics, and telecom components
- Understanding of medical devices especially in cardiac, spine and GI indications
- Understanding of medical device reimbursement and regulatory issues

PUBLICATIONS/PRESENTATIONS

E. Cochran, "Overview of Oak Ridge National Laboratory," Kiwanis Club, Tennessee Wesleyan College, Athens, TN (Jan. 2016).

E. Cochran, "The Role of Technology Transfer at Universities and National Labs," University of Tennessee Department of Electrical Engineering and Computer Sciences, University of Tennessee, Knoxville, TN (Nov. 13, 2015).

E. Cochran, "Additive Manufacturing Licensing Strategy," ORNL Partnerships, Oak Ridge National Lab, Oak Ridge, TN (Oct. 2015).

E. Cochran, "Manufacturing Opportunities at ORNL," RAMP Conference, Knoxville, TN (Oct. 2015).

E. Cochran, "Doing Business with National Laboratories," Department of Energy Vehicle Transportation Office Meeting on Electric Vehicles, Oak Ridge National Lab MDF, Knoxville, TN (Sept. 2015).

E. Cochran, "Intellectual Property Benefits and Basics," ORNL Electrical and Electronics Systems Research Division, Oak Ridge National Lab, Oak Ridge, TN (2015).

E. Cochran, "Partnerships – Navigating Intellectual Property Disclosure, Prosecution, and Commercialization Efforts," ORNL Reactor and Nuclear Systems Division, Oak Ridge National Lab, Oak Ridge, TN (2015).

E. Cochran, "Partnerships – Navigating Intellectual Property Disclosure, Prosecution, and Commercialization Efforts," ORNL Electrical and Electronics Systems Research, Oak Ridge National Lab, Oak Ridge, TN (2015).

E. Cochran, "Partnerships – Navigating Intellectual Property Disclosure, Prosecution, and Commercialization Efforts," ORNL Nuclear Security and Isotope Technology Meeting, Oak Ridge National Lab, Oak Ridge, TN (2015).

E. Cochran, "Biometric Eye Model and Ray Tracing for Improved Iris Recognition," SPARK 2015, Oak Ridge, TN (2015).

E. Cochran, "University of Arizona's Proof of Concept Funding Process," CLEO, San Jose (2013).

E. Cochran, "UA's Technology Transfer Methodologies for Licensing the Optics, Photonics, and Laser Industry," CLEO, San Jose (2012).

Leon Radziemski and Eugene Cochran, "Wireless Energy and Power Transmission Using Ultrasound" Oil and Gas Innovation Showcase, Houston, TX (2010).

E. Cochran, "Introduction to the Office of Technology Transfer," Biomedical Engineering Department, Outreach Presentation, University of Arizona (2010).

E. Cochran, N. Peyghambarian, S. Fainman, S. Sukumar, "CIAN Management Structure," CIAN 2st Annual NSF Site Review, La Jolla, CA (2010).

R. Norwood, J. Wissinger, E. Cochran "CIAN's Industrial Partner and Innovation Program," CIAN 2st Annual NSF Site Review, La Jolla, CA (2010).

E. Cochran, N. Peyghambarian, S. Fainman, CIAN NSF Annual Reports FY2009, Vol. 1 & 2, NSF Engineering Research Center – Center for Integrated Access Networks (2010).

Leon Radziemski, Arthur Denison, Steve Bell, Floyd Dunn, and Eugene Cochran, "In-Vitro Tests of a Rapid, Stable-Temperature, Ultrasound-Based Recharging System for Implantable Batteries," Proceedings of the 2010 Design of Medical Devices Conference, DMD2010, Minneapolis, MN, USA, Paper 2010-3872, April 13-15, 2010.

E. Cochran, N. Peyghambarian, S. Fainman, CIAN NSF Annual Reports FY2008, Vol. 1 & 2, NSF Engineering Research Center – Center for Integrated Access Networks (2009).

E. Cochran, N. Peyghambarian, S. Fainman, "CIAN NSF Engineering Research Center: Administrative Management Overview," CIAN 1st Annual NSF Site Review, Tucson, Arizona (2009).

E. Cochran, R. Norwood, "Industrial Collaboration and Innovation," CIAN 1st Annual NSF Site Review, Tucson, Arizona (2009).

E. Cochran, "Searching for Compelling Early Stage Investment Opportunities," Interview for Optics Reports, www.opticsreport.com, published by BRO Research, Inc., Tucson, Arizona (2003).

E. Cochran, "Challenges in Technology Transfer," Industrial Colloquium Series, Presented to the University of Arizona Professional Masters Degree Program in Applied Science and Business, Tucson, Arizona (2003).

E. Cochran, "Assessing Venture Opportunities," Taiwan International Technology Fair 2002, Industrial Technology Research Institute (ITRI), Taipei, Taiwan (2002).

E. Cochran, "Angel and Venture Capital Investments," Idea Funding 2002, The Fifth Annual Tucson Entrepreneur's Finance Forum, Greater Tucson Economic Council (GTEC), Tucson, AZ (2002).

E. Cochran, "Creating Shareholder Value in New Ventures," Opto Canada, CA09-503, SPIE (2002).

E. Cochran, "Bootstrapping Early Stage Photonics Ventures," Opto Southwest, SW03, SPIE (2001).

E. Cochran, "Case Study of the Venture-gap Model Applied to a Technology-based Start-up Company: NP Photonics," Opto Northeast and Imaging 2001, NE 06-16, SPIE (2001).

E. Cochran, "Bridging the Venture Gap," OptoSW SPIE's Regional Meeting on Optoelectronics, Photonics, and Imaging, SW05-08, SPIE (2000).

E. Cochran, "University Patent Licensing: A Business Approach," ASAE Annual International Meeting 1996, Paper No. 965039, ASAE, 2950 Niles Road, St. Joseph, MI 49085-9659 USA.

E. Cochran, "Photoemissive Polymers for LEDs," SPIE Technology Transfer Poster (1994).

E. Cochran, "GaN Semiconductor Devices," SPIE Technology Transfer Poster (1994).

E. Cochran, "Methodology of the World's Premier Independent Technology Transfer Company," Journal of Technology Transfer, Vol. 18, No. 3 & 4, 53-58 (1993).

E. Cochran, "Blue Semiconductor Lasers, Blue LEDs, and Multicolor LEDs," SPIE Technology Transfer Poster (1993).

E. Cochran, "Electrically Active Ceramics - RAINBOWs," SPIE Technology Transfer Poster (1993).

E. Cochran, "Limitations of Phase-Measuring Interferometry for Surface Characterization and Testing: A Review," Proc. SPIE 1776, 151-157 (1992).

E. Cochran and C. Ai, "Interferometric Birefringence Measurement," Applied Optics 31, 6702-6706 (1992).

E. Cochran, "Interferometric Radius of Curvature Measurement," Opt. Fabrication and Testing Workshop, (OSA, San Jose, CA, 1991).

E. Cochran, "The Design and Evaluation of Laser Sources with High Quality Wavefronts," Applied Optics 30, 5037-5048 (1991).

E. Cochran, "Current State-of-the Art Interferometer Systems," Electro Optics and Laser International, (Reed Exhibition Companies Ltd., Birmingham, UK, 1990).

E. Cochran, "Testing Methods for Evaluating the Quality of a General-Purpose Collimated Laser Source," Opt. Fab. and Testing Workshop, (OSA, Orlando, FL, 1989).

D. K. Cohen, E. R. Cochran, and J. D. Ayres, "Development of an Automatic Focusing Mechanism for an Interference Microscope," Proc. SPIE 1164, 128-133 (1989).

E. Cochran, "Extending the Measurement Range of an Optical Surface Profiler," Ph.D. Dissertation, Optical Sciences Center, University of Arizona, Tucson, Arizona (1988).

E. Cochran, "Guide to the Accuracy, Repeatability, and Resolution of WYKO Profilers," WYKO Application Note 88-001 (1988).

E. Cochran and K. Creath, "Combining Multiple Subaperture and Two-Wavelength Techniques to Extend the Measurement Limits of an Optical Surface Profiler," Applied Optics 27 1960-1966 (1988).

E. R. Cochran and K. Creath, "A Method for Extending the Measurement Range of a Two-Dimensional Surface Profiling Instrument," Proc. SPIE 818, 353-362 (1987).

E. Cochran and K. Creath, "Extending the Measurement Limits of an Optical Surface Profiler: Combining Subaperture and Two-Wavelength Techniques," Opt. Fab. and Testing Workshop, (OSA, Rochester, NY, 1987).

E. Cochran and J. Wyant, "Longscan Surface Profile Measurements Using a Phase Modulated Mirau Interferometer," Proc. SPIE 680, 112-117 (1986).