

**Professional Resume of
William J. Collins**

2000 to Present Co-Founder, Principal, Engineering Director, CEO Ocutronics LLC

- ❖ Co-founded Ocutronics with Robert E. Levine M.D., a prominent board certified Ophthalmologist, known worldwide for pioneering surgical procedures and methods. Clinical Professor of Ophthalmology at the University of Southern California School of Medicine
- ❖ Developed disruptive technology for a new retinal camera that uses optical polarization techniques unlike any current retinal cameras. Created Mueller matrix validated polarization models with Stokes vector illustrations for patent.
- ❖ Designed and developed 3 prototype cameras using AutoCAD for engineering drawings and documentation of all components, including all fabricated metal and optical components.
- ❖ Designed optical components using Zemax, a robust optical engineering software package. Created numerous computer generated optical performance models. Optimized design with outside engineering consultant using super-computer generated damped least squares algorithm.
- ❖ Interfaced with numerous vendors for prototype components.
- ❖ Created all patent drawings and wrote abstract and descriptive copy. Co-wrote patent claims with Dr. Levine.
- ❖ Developed biometric prototype of retinal camera for secure retinal identification.
- ❖ Completing final pre-production prototype of retinal camera.
- ❖ Spearheading the device regulatory process with Reglera LLC for FDA 510(k) submission and compliance.

U.S. Patent 7,290,882 Issued November 6, 2007, Foreign Patents in England, France and Germany and Canada. All patents link to US Patent and Trademark Office records.

[http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO2&Sect2=HITOFF&p=1&u=%2Fnetacgi%2FPTO%2Fsearch-adv.htm&r=5&f=G&l=50&d=PTXT&S1=%227,290,882%22&OS="7,290,882"&RS="7,290,882"](http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO2&Sect2=HITOFF&p=1&u=%2Fnetacgi%2FPTO%2Fsearch-adv.htm&r=5&f=G&l=50&d=PTXT&S1=%227,290,882%22&OS=)

1997 to Present Founder, Principal, CEO Collins Electro Optics

Collins Electro Optics website: <http://www.ceoptics.com/>

- ❖ Developed prototype Generation 3 image intensified optical system for use on telescopes, microscopes and other scientific instruments.
- ❖ Wrote patent copy and claims.
- ❖ Developed production methodology for the complete “I Cubed” image intensification system for use on telescopes and other optical systems.
- ❖ Designed and produced all advertising, copy and images for publication.
- ❖ I Cubed system voted one of “Top 25 New Products” for Sky & Telescope magazine in 1999.
- ❖ Received U.S. State Department Office of Defense Trade Controls export permit for I Cubed Generation 3 image intensified optical system.
- ❖ Worked with NASA to adapt the Intensified optical system for use on the 120” IRTF and Keck telescopes on Mauna Kea, Hawaii.

- ❖ Supplied instruments to: Fermilab, Institute Max Von Laue in France for neutron detection, Boeing, Walter Reed Army Hospital, and the Tokamak fusion project along with other prominent end users.

U.S. Patent: 6,326,604 Issued December 4, 2001

<http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO2&Sect2=HITOFF&p=1&u=%2Fnethtml%2FPTO%2Fsearch-bool.html&r=5&f=G&l=50&col=AND&d=PTXT&s1=6,326,604&OS=6,326,604&RS=6,326,604>

SPIE Co-authored paper February 2, 2003

http://spie.org/x648.html?product_id=450854&origin_id=x1636&Search_Results_URL=http://spie.org/x1636.xml&Search_Origin=ResearchSearch&category=ResearchPapers&isResearch=true&UseJavaScript=1&Please_Wait_URL=http://spie.org/x18503.xml&authors_editors=William%20J%20Collins&boolean_filter=All&month_from=1&year_from=2000&month_to=1&year_to=2006

1990 to 1997 Co-founder, Principal, President, Collins Lighting Systems Inc.

- ❖ Developed new series of compact architectural lighting products with precision beam control to greatly reduce light pollution in urban environments.
- ❖ Implemented full contract manufacturing program which eliminated the capital cost necessary for in house production.
- ❖ Worked with Underwriters Laboratories and Edison Testing Laboratories. Received safety certification for product line.
- ❖ Patented ER-2000 series UL listed as smallest 1-kilowatt luminaire.
- ❖ Contracted with Havis-Shields Equipment Company for production of ER-2000 series for use on emergency and military vehicles.
- ❖ Pioneered the use of precision 1 piece aluminum extrusions combined with die castings and high temperature stable components to produce very compact, high output luminaires.
- ❖ Developed a complete quality assurance program, incorporating statistical process control for production engineering.
- ❖ Redesigned and reengineered 205 large decorative luminaires for the Downtown Denver Business Improvement District, 16th Street pedestrian mall. Lights were originally designed by I.M. Pei.
- ❖ Replaced halogen design with optimized metal optic and H.I.D. lamp.
- ❖ Replaced filament decorative lamp design with cold mirror directed, optically coupled fiber optic output.
- ❖ The improvements to the luminaires saves the City of Denver thousands annually in electrical costs.

U.S. Patent: 5,154,507 Issued October 13,1992

<http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO2&Sect2=HITOFF&p=1&u=%2Fnethtml%2FPTO%2Fsearch-bool.html&r=14&f=G&l=50&col=AND&d=PTXT&s1=5,154,507&OS=5,154,507&RS=5,154,507>

U.S. Patent D344,812 Issued March 3, 1994

<http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO2&Sect2=HITOFF&p=1&u=%2Fnethtml%2FPTO%2Fsearch-adv.htm&r=7&f=G&l=50&d=PTXT&S1=%22Collins%3B+William+J%22&OS=%22Collins;+William+J%22&RS=%22Collins;+William+J%22>

1988 To 1990 **Co-founder, Principal, Engineering Director, Star Laser Inc.**

- ❖ Developed 4 kilowatt xenon arc lighting system from concept to completion of prototype in 1 year, without electronic drafting (AutoCAD)
- ❖ Designed large (24') metal optics for (2) 2-kilowatt Optical Radiation Corporation xenon arc lamps.
- ❖ Designed user adjustable 2 axis motion control system for rapid lamp movement.
- ❖ Designed lightweight high velocity axial flow cooling system for lamps.
- ❖ Designed high switching frequency dc to dc MOSFET transistor power supply for high speed (18,000 rpm) cooling fans.
- ❖ Designed complete 4.5 kilowatt current limited, filtered power supply for Xe lamps.
- ❖ Designed 30-kilovolt series igniter circuit for Xe lamps.
- ❖ Designed motion control system to lift lamp assemblies from transport trailer before operation.
- ❖ Developed complete in-house manufacturing program.
- ❖ Developed quality assurance program, linked with vendors.

U.S. Patent 4,935,853 Issued June 19, 1990

<http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO2&Sect2=HITOFF&p=1&u=%2Fnetahtml%2FPTO%2Fsearch-bool.html&r=18&f=G&l=50&co1=AND&d=PTXT&s1=4,935,853&OS=4,935,853&RS=4,935,853>

1988 To 2005 **Founder, President, Collins Engineering**

- ❖ Contract engineering concept and development of a Peltier effect cooling system for determining freezing point of roadway surface.

U.S. Patent 5,745,051 Issued April 28, 1998

<http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO2&Sect2=HITOFF&p=1&u=%2Fnetahtml%2FPTO%2Fsearch-adv.htm&r=5&f=G&l=50&d=PTXT&S1=%22Collins%3B+William+J%22&OS=%22Collins;+William+J%22&RS=%22Collins;+William+J%22>

U.S. Patent 5,619,193 Issued April 8, 1997

<http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO2&Sect2=HITOFF&p=1&u=%2Fnetahtml%2FPTO%2Fsearch-bool.html&r=23&f=G&l=50&co1=AND&d=PTXT&s1=5,619,193&OS=5,619,193&RS=5,619,193>

Contract engineering concept and development of a fiber optic light engine for Supervision International.

U.S. Patent 5,528,714 Issued June 18, 1996

<http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO2&Sect2=HITOFF&p=1&u=%2Fnetahtml%2FPTO%2Fsearch-bool.html&r=26&f=G&l=50&co1=AND&d=PTXT&s1=5,528,714&OS=5,528,714&RS=5,528,714>

U.S. Patent 4,586,117 Issued April 29, 1986

<http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO2&Sect2=HITOFF&p=1&u=%2Fnetahtml%2FPTO%2Fsearch-bool.html&r=15&f=G&l=50&co1=AND&d=PTXT&s1=4,586,117&OS=4,586,117&RS=4,586,117>

U.S. Patent 4,502,103 Issued February 26, 1985

<http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO2&Sect2=HITOFF&p=1&u=%2Fnetahtml%2FPTO%2Fsearch-bool.html&r=8&f=G&l=50&co1=AND&d=PTXT&s1=4,502,103&OS=4,502,103&RS=4,502,103>