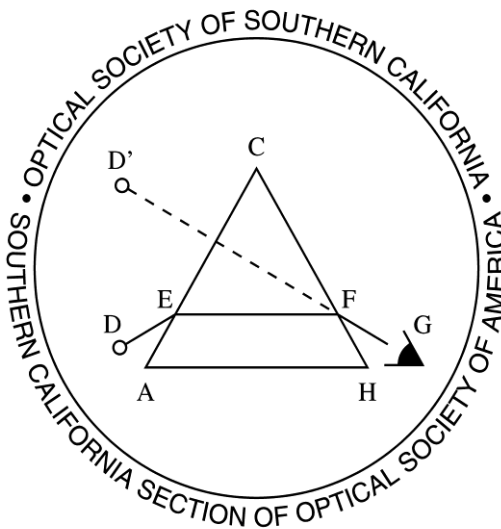


**Optical Society
of
Southern California**

**Lifetime Achievement
Award
June 15, 2016**



OPTICAL SOCIETY OF SOUTHERN CALIFORNIA
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2015 - 2016

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2016 OSSC LIFETIME ACHIEVEMENT AWARD

Thomas Erwin Godfrey

It is with great pleasure that the Optical Society of Southern California recognizes one of its most esteemed Fellows, THOMAS ERWIN “Tom” GODFREY, with this lifetime achievement award in gratitude for his decades of service to the Society.

As shown below in our by-laws, *The Board of Directors may from time to time recognize individuals who have performed outstanding service to the Society and to the optical industry of Southern California by electing them to the honorary title of Fellow.* Tom was inducted a Fellow in 1999.

This Lifetime Achievement Award goes well beyond that, and this is only the second time it has been awarded.

Mr. Godfrey has been a Member since the early 1960s. He was appointed Arrangements Chair in 1969, and was elected Treasurer, Secretary, Vice President, and then President in 1973. He served on the Nominating Committee for many years. In 1996 he was asked to find the living Past Presidents so the Society could present them with “gold” name badges to wear at meetings. In 1997, President Susan Raffensperger (now Rico) asked Tom to be Historian. Since then Tom served on Nominating and Programs Committees, and submitted newsletter columns on Society history, past officer biographies and “Optrics” fundamentals. Many excellent officers, speakers and programs resulted from Tom’s behind-the-scenes efforts to make the Society the outstanding organization it is today.

As described above and in his biography, Tom Godfrey gave a lifetime of *service to the Society and to the optical industry of Southern California*. He received strong approval to receive this award from the OSSC Board of Directors.

I am pleased to present OSSC Fellow **Tom Godfrey** this Lifetime Achievement Award on behalf of the Optical Society of Southern California.

Alex Small, Ph.D.
2015-2016 President
Optical Society of Southern California

Excerpt from the by-laws of the Optical Society of Southern California

VI. Fellows

Section 1.

The Board of Directors may from time to time recognize individuals who have performed outstanding service to the Society and to the optical industry of Southern California by electing them to the honorary title of Fellow.

Section 2.

Individuals so honored shall be nominated by a current member of the Board of Directors, usually the Fellows Chairman and ratified by the Board.

Section 3.

Fellows shall receive a special badge, a plaque and a lifetime subscription to the Newsletter and Meeting Notices.

Section 4.

The number of such living honorees shall not exceed ten percent of the current paid membership.

Lifetime Achievement Awards

1. 2012 - Dr Murty V. Mantravadi,
aka M.V.R.K. Murty
2. 2016 - Thomas Erwin “Tom” Godfrey

OSSC FELLOWS

Fellows are individuals of distinction who have performed outstanding service for the Optical Society of Southern California.

Living Fellows

Arnie Bazensky

Robert Cartland

Reddy Chirra

Lacy G. Cook

Valentina Doushkina

Robert E. Fischer

Charles Gaugh

Tom Godfrey

Thomas I. Harris

Alson E. Hatheway

Murty V. Mantravadi

Susan Rico

T. Scott Rowe

Donn Silberman

Deceased Fellows

Felix Bednarz (c, o)
(1912-1997)

Ira S. Bowen (o)
(1898-1973)

Howard Cary (c, o)
(1908-1991)

Wilfred Hansen
(1927-2007)

Vern E. Hamilton (c)
(1927-1991)

Roland C. Hawes
(1908-1999)

Armin J. Hill (c, o)
(1912-1988)

Herbert D. Korones
(1926-1986)

Milton Laikin
(1930-2014)

Reed C. Lawlor (o)
(1909-1990)

George H. Matter
(1920-2014)

Willard T. Perkins
(1908-1995)

Albert Shurkus
(1918-2007)

Warren J. Smith
(1922-2008)

M. E. Stickney (o)
(1915-1990)

Eugene K. Thorburn (c, o)
(1919-1994)

Walter Wallin (o)
(1913-1972)

W. Ewert Williams (o)
(1894-1966)

H. Don Wolpert
(1937-2013)

c Member of the 1951 OSSC organizing *committee*
o One of the original *officers* of the OSSC

Biography – Thomas Erwin Godfrey



Tom Godfrey was OSSC President in 1973-74, having started as Arrangements Chairman in 1969 at the request of then-President Don Nicholson, and subsequently serving as Treasurer, Secretary and Vice-President. He has been a member since 1960. During 1995-96, President David Kramer asked Mr. Godfrey to find out which OSSC Fellows were alive, so that they might be honored at the June meeting that year. The next President, Susan Raffensperger (now Rico) asked Tom to become the Society's first Historian, a position he continues to hold. The Board of Directors elected Tom Godfrey as the Society's 18th Fellow at the June, 1999 board meeting, and presented him with a commemorative plaque at the Society's first 1999-2000 meeting on October 6th, 1999 at the Wyndham Gardens Hotel in Monrovia.

In addition to his duties as Historian, Tom has played a key role on the Society's Nominating Committee for several years. He proposed putting officer candidate's photos and biographies on the ballots, which has given members more information on whom to elect. Mr. Godfrey also suggested that these bios and photos be posted on the website, along with the list of past Officers. Many of the excellent officers, speakers and programs at OSSC meetings were the result of Tom's efforts behind the scenes, helping to make the Society the outstanding organization it is today. In recognition of his lifetime of service to the Society, the Board of Directors has voted to give Mr. Thomas Erwin Godfrey this Lifetime Achievement Award at the June 15, 2016 Annual Business Meeting.

Thomas Erwin Godfrey was born in Morris, Illinois on November 9, 1938 (the same day as "Crystal Nacht" in

Germany, the start of the Holocaust) to Erwin, a lawyer, and Lois, a teacher. He won recognition for math and science in high school, and graduated with a BS in Engineering Physics from the University of Illinois in 1960. Without realizing it, his career in optics began during college when a Physics professor hired him to do first-order 2x2 matrix paraxial ray tracing of nuclear particles through magnetic lenses of a particle accelerator. He also set up a periscope to allow safe viewing of the target materials being bombarded.

After graduation, Tom married Karen Bergstrom, whom he first met in 5th grade, moved to California, and Tom began his career as an engineer and manager in optics and electro-optics at Northrop Corporation. He took Walter Wallin's beginning and advanced optics classes, and courses in servomechanisms and matrix mathematics at UCLA Extension (night) school. Tom and his manager, Paul Halderman, took Milt Laikin's UCLA Extension class on how to design optics with David Grey's Optics Optimization Computer Program, which he says "made me an optics designer"! Apparently Milt was impressed, because he hired Tom as a design consultant to help him design a camera periscope and image de-rotation prism for a deep-water submersible vehicle.

Other EO systems that Tom designed optics for included: Target Identification System Electro-Optical (TISEO) for the Air Force F-4; Television Camera Set (TCS) for the Navy F-14; Tracking Adjunct System (TAS) for the Hawk Radar / Missile defense system; the TV, FLIR, and Bore-sighting modules for the Scout Helicopter Mast Mounted Sight (MMS); and the Consolidated Automated Sensor System (CASS) and its Advanced Telescope Optical Sub-System (ATOSS) for automated testing of Navy electro-optical systems on ships at sea.

Tom helped design, fabricate, test, and demonstrate many one-of-a-kind electro-optical systems, including: UV lenses and all-reflective telescopes and steering mirrors for multi-band and infra-red imaging and photometry for the Air Force X-15 Rocket plane and the NASA Convair 990 Airborne IR Observatory; the Airborne Light-weight Optical Telescope System (ALOTS) for the Air Force KC-135 missile launch and reentry monitoring cameras; the 8 or so Northrop Competitive Phase Target Acquisition / Designation Systems (TADS) and Pilot Night Vision Systems (TADS / PNVS) for the Army AAH-64 Attack Helicopters; the Laser Electro-Optical System (LEOS) Active TV system test-flown at Edwards AFB on an F-4. In addition, Tom designed optics and systems for numerous proposed systems.

Tom Godfrey holds several patents for precision boresighting of aiming FLIRs, TV and Direct-View Sights to laser designator and guidance beams, as well as for testing of electro-optical sensors and laser designator systems for sensor performance and boresight accuracy. He is on "The Honor Roll of Northrop Inventors" in recognition of his contributions to the science and technology of Laser Target Designator Bore-sighting and Testing.

In 1994 Northrop Grumman was formed. Tom took an early retirement January 1, 1995, but was back by May 1995 as a contract-labor optical designer, which he continued to do part-time (mostly at Northrop Grumman) until 2009. He is Special Programs Chair for the Anaheim Chapter of the Northrop Grumman Retirement Club, and continues to enjoy golf with his church friends and family.

Tom and Karen Godfrey live in Orange County, California and have two grown sons, Grant of Huntington Beach and Jim (an OSSC Member) of Orange, and 3 grand-kids, Oto, Mona and Tommy. Tom and Karen are active in the leadership of their church, and Karen was recently named “Woman of the Year” by her Women Connected group! Tom is an Emeritous Member of the OSA, a Retired Member of the SPIE, the USGA, and the University of Illinois Alumni Association. Tom has Zemax Optical Design and Optomization Computer Program and is available for Optical Design, Electro-Optical Engineering Consulting, and Contract work.

**Contact: TomGodfrey1@gmail.com
1350 E. Chapman Avenue, Box 6363
Fullerton, CA 92834-6363
+1-714.343-3866 (m)
+1-714.637-7938 (h)**

PS: Tom Godfrey says “I worked with many outstanding people at Northrop during the nearly 50 years I was there, many of whom were Members and Officers of OSSC”. Namely:

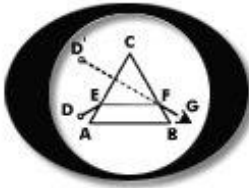
Paul Halderman – was my first manager when I came to Northrop Nortronics Plant 2 in Hawthorne in 1960. He signed me up for a Fortran programming class; I wrote a ray-trace program and never ray-traced by hand again, as there was an IBM 1620 computer just steps away from my desk. Paul was my boss 3 times! The 2nd time was in 1968 at Nortronics Research Park in Palos Verdes. He signed us both up for Laikin’s class in computer optimization of optics. I designed a super-compact, super-chromatic, athermal all-quartz catadioptric star-tracker telescope for AMSA. The 3rd time was for 2-weeks before he retired in 1986 at Northrop EMD in Anaheim, California.

Ed Hagerott – work at the desk next to mine in 1960, and took Walter Wallin’s optics class with me. He soon went to work for Marcel Gawartin and Hank Frels at Hughes Aircraft in Culver City because they paid his way to get his MS in Optics at the Institute of Optics at U. of Rochester in New York. When I was OSSC President, he was my OSSC Programs Chairman, and became President in 1977-78.

Walter M. Clark (“senior”) – helped me set up a star-tracker pinhole inspection tester based on the principles of a solar occultation (artificial eclipse) telescope. He designed, built and flew a sky brightness photometer making measurements needed for the design of the Skybolt missile star-tracker guidance system. That has evolved into the B-2 Bomber Star Tracker alternate guidance system if GPS is not working or disabled. Walter came out of retirement to help develop and calibrate the TADS Optical Boresighting Subsystem (OBS), which was invented by me and Vere Moesser and patented by the Army. His son, Walter D. Clark (“Jr”) was OSSC President in 1990-91.

James S. “Jimmy” Fassero – worked with me at Northrop Space Labs. He was the chief designer of the 200-inch Mt. Palomar telescope working at Cal Tech for Ira S. Bowen (one of the OSSC Founding Officers) in Pasadena. Discovered the causes and solutions to air-launched torpedo and depth charge problems with Egerton flash-lamp stop-action photography. Wrote booklet “The Giants of Mt. Palomar” illustrated by cut-away drawings of the telescope mechanisms by Dr. Russell W. Porter.

Susan Raffensperger Rico – was hired by Dr. Vas Kumar in the Optics Department at Northrop, Anaheim in 1986. She is a top optical designer, now at N2 Imaging Systems in Irvine. Susan was President in 1996-97.



OPTICAL SOCIETY OF SOUTHERN CALIFORNIA

OSSC Corporate Members

These companies support the Optical Society of Southern California with financial resources, time and talent. We are grateful for their generous support.

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Rochester Precision Optics
Ross Optical Industries
Schott North America
Second Sight
Silicon Lightwave Technology
SOFIA Science Center
Spectrum Scientific
Supply Chain Optics
Synopsis

The Optical Society of Southern California was founded in 1951 to increase and disseminate the knowledge of optics and closely allied sciences and to promote the mutual interests of investigators, organizations, teachers and students in these fields.

The Society's membership at the end of 2016 consists of over 300 Members with more than 250 Individual Members, 39 Corporate Members, 14 living Fellows and two new Fellow inductees. More than 140 different companies, consulting firms, research centers and educational institutions are represented. We truly comprise the Southern California Optics community. In addition, about 10% of our members represent states outside of California. Most of our members are engineers or scientists including several chief scientists, program and department managers; other members are sales and marketing professionals, students, educators attorneys and politicians; several are retired from the some of the above professions. About 10% of our members are Corporate Presidents, Chief Executive Officers or Vice Presidents.

The Society has been affiliated with the Optical Society of America as a local section since 1952 and meets typically on the second Wednesday of each month from October through June. We also support several educational outreach events each year. Those interested in promoting our goals are urged to apply for either Individual or Corporate Membership.

To find out more about OSSC meetings and membership, visit www.osscc.org.



We gratefully acknowledge the support of the following Individuals and Corporations who each sponsored a table at the June 2016 OSSC Annual Business Meeting:

Harvey Spencer

TH Consulting & Recruiting
Thi Hagenbuechle