



**Transactions** *of the*  
**American Ophthalmological Society**

VOLUME CXVI

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2018

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AT THE 2018  
ANNUAL MEETING**

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Glencoe, Maryland  
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## PRESIDENTS OF THE SOCIETY

1864–1868	Edward Delafield, New York	1942	Allen Greenwood, Boston
1869–1873	Henry W. Williams, Boston	1943	Hunter H. Mcguire, Winchester, Virginia
1874–1878	C. R. Agnew, New York	1944	John Green, St Louis
1879–1884	Henry D. Noyes, New York	1945	S. Judd Beach, Portland, Maine
1885–1889	William F. Norris, Philadelphia	1946	Eugene M. Blake, New Haven
1890–1893	Hasket Derby, Boston	1947	John W. Burke, Washington, DC
1894–1898	George C. Harlan, Philadelphia	1948	Henry C. Haden, Houston
1899–1902	O. F. Wadsworth, Boston	1949	Bernard Samuels, New York
1903–1905	Charles S. Bull, New York	1950	Parker Heath, Boston
1906	Arthur Mathewson, Washington, DC	1951	John H. Dunnington, New York
1907	Charles J. Kipp, Newark	1952	Lawrence T. Post, St Louis
1908	Samuel D. Risley, Philadelphia	1953	Conrad Berens, New York
1909	S. B. St John, Hartford	1954	William L. Benedict, Rochester, Minnesota
1910	Samuel Theobald, Baltimore	1955	Everett L. Goar, Houston
1911	Emil Gruening, New York	1956	Alan C. Woods, Baltimore
1912	Edward Jackson, Denver	1957	Frederick C. Cordes, San Francisco
1913	Myles Standish, Boston	1958	Walter S. Atkinson, Watertown, New York
1914	Robert Sattler, Cincinnati	1959	Derrick Vail, Chicago
1915	M. H. Post, St Louis	1960	Algernon B. Reese, New York
1916	George E. De Schweinitz, Philadelphia	1961	Edwin B. Dunphy, Boston
1917	Peter A. Callan, New York	1962	Francis Heed Adler, Philadelphia
1918	William H. Wilder, Chicago	1963	Paul A. Chandler, Boston
1919	Lucien Howe, Buffalo	1964	Maynard C. Wheeler, New York
1920	Hiram Woods, Baltimore	1965	Frank B. Walsh, Baltimore
1921	John E. Weeks, New York	1966	Wilfred E. Fry, Philadelphia
1922	William M. Sweet, Philadelphia	1967	Phillip M. Lewis, Memphis
1923	William H. Wilmer, Washington, DC	1968	Gordon C. Bruce, New York
1924	Alexander Duane, New York	1969	James N. Greear, Reno
1925	Cassius D. Westcott, Chicago	1970	C. Wilbur Rucker, Rochester, Minnesota
1926	David Harrower, Worcester	1971	Dohrmann K. Pischel, San Francisco
1927	William Zentmayer, Philadelphia	1972	Trygve Gundersen, Boston
1928	Walter E. Lambert, New York	1973	Arthur Gerard Devoe, New York
1929	Walter R. Parker, Detroit	1974	William P. Mcguire, Winchester, Virginia
1930	William Campbell Posey, Philadelphia	1975	M. Elliott Randolph, Baltimore
1931	Arnold Knapp, New York	1976	Joseph A. C. Wadsworth, Durham
1932	Edward C. Ellett, Memphis	1977	David O. Harrington, San Francisco
1933	Thomas B. Holloway, Philadelphia	1978	Samuel D. Mcpherson, Jr., Durham
1934	W. Gordon M. Byers, Montreal	1979	F. Phinizy Calhoun, Jr., Atlanta
1935	Walter B. Lancaster, Boston	1980	John Woodworth Henderson, Ann Arbor
1936	Louis S. Greene, Washington, DC	1981	William F. Hughes, Chicago
1937	Harry Friedenwald, Baltimore	1982	Robert W. Hollenhorst, Rochester, Minnesota
1938	F. H. Verhoeff, Boston	1983	Clement Mcculloch, Toronto
1939	Frederick T. Tooke, Montreal	1984	Robert N. Shaffer, San Francisco
1940	E. V. L. Brown, Chicago	1985	Dupont Guerry III, Richmond
1941	F. Phinizy Calhoun, Atlanta	1986	A. Edward Maumenee, Baltimore

1987	Frank W. Newell, Chicago	2004	Froncie A. Gutman, Cleveland, Ohio
1988	Edward W. D. Norton, Miami	2005	J. Brooks Crawford, San Francisco, California
1989	David Shoch, Chicago	2006	Daniel M. Albert, Madison, Wisconsin
1990	Robert E. Kennedy, Rochester, New York	2007	John G. Clarkson, Miami, Florida
1991	Frederick C. Blodi, Iowa City	2008	Dan B. Jones, Houston, Texas
1992	Thomas P. Kearns, Rochester, Minnesota	2009	Susan H. Day, San Francisco, California
1993	Bradley R. Straatsma, Los Angeles	2010	Charles P. Wilkinson, Baltimore, Maryland
1994	Robert B. Welch, Annapolis, Maryland	2011	Lee M. Jampol, Chicago, Illinois
1995	Bruce E. Spivey, Chicago	2012	Douglas D. Koch, Houston, Texas
1996	Stanley Truhlsen, Omaha	2013	Richard K. Parrish, II, Miami, Florida
1997	William H. Spencer, San Francisco	2014	Hans E. Grossniklaus, Atlanta, Georgia
1998	W. Richard Green, Baltimore	2015	Richard P. Mills, Seattle, Washington
1999	William S. Tasman, Wyndmoor, Pennsylvania	2016	Marilyn B. Mets, Chicago, Illinois
2000	W. Banks Anderson, Jr., Durham	2017	George B. Bartley, Jacksonville, Florida
2001	Paul R. Lichter, Ann Arbor	2018	David J. Wilson, Portland, Oregon
2002	Robert C. Drews, Clayton, Missouri	2019	M. Edward Wilson, Jr., Mount Pleasant, South Carolina
2003	Marilyn T. Miller, Chicago, Illinois		



*AOS President David J. Wilson*

# AWARDS & LECTURES

## RECIPIENTS OF THE LUCIEN HOWE MEDAL

1922	Carl Koller, New York	1959	Ludwig Von Sallmann, Bethesda, Maryland
1923	Alexander Duane, New York	1960	Derrick T. Vail, Chicago
1924	Ernest Fuchs, Vienna, Austria	1961	Frederick C. Cordes, San Francisco
1925	No Award	1962	Frank B. Walsh, Baltimore
1926	Edward Jackson, Denver	1963	Edwin B. Dunphy, Boston
1927	Mr Priestly Smith, Birmingham, England	1964	William L. Benedict, Rochester, Minnesota
1928	No Award	1965	David G. Cogan, Boston
1929	Theodor Axenfeld, Freiburg, Germany	1966	Dohrmann K. Pischel, San Francisco
1930	No Award	1967	Paul A. Chandler, Boston
1931	No Award	1968	Walter Morton Grant, Boston
1932	F. H. Verhoeff, Boston	1969	A. Edward Maumenee, Baltimore
1933	No Award	1970	Peter C. Kronfeld, Chicago
1934	George E. De Schweinitz, Philadelphia	1971	C. Wilbur Rucker, Rochester, Minnesota
1935	No Award	1972	Walter S. Atkinson, Watertown, New York
1936	Sir John Herbert Parsons, London, England	1973	Gordon M. Bruce, Fort Lee, New Jersey
1937	Arnold Knapp, New York	1975	Michael J. Hogan, San Francisco
1938	No Award	1976	Edward W. D. Norton, Miami
1939	No Award	1977	Kenneth C. Swan, Portland, Oregon
1940	No Award	1978	S. Rodman Irvine, Newport Beach, California
1941	No Award	1979	Frank W. Newell, Chicago
1942	E. V. L. Brown, Chicago	1980	Frederick C. Blodi, Iowa City
1943	No Award	1981	David O. Harrington, San Francisco
1944	No Award	1982	Arthur Gerard Devoe, New York
1945	Walter B. Lancaster, Boston	1983	J. Donald M. Gass, Miami
1946	Sir Stewart Duke-Elder, London, England	1984	Harold G. Scheie, Philadelphia
1947	Lawrence T. Post, St Louis	1985	Robert N. Shaffer, San Francisco
1948	William Zentmayer, Philadelphia	1986	Robert W. Hollenhorst, Rochester, Minnesota
1949	Phillips Thygeson, San Jose, California	1987	Dupont Guerry Iii, Richmond, Virginia
1950	Algernon B. Reese, New York	1988	Thomas D. Duane, Philadelphia
1951	Jonas S. Friedenwald, Baltimore	1989	Marshall M. Parks, Washington, Dc
1952	Francis H. Adler, Philadelphia	1990	David Shoch, Chicago
1953	Alan C. Woods, Baltimore	1991	Arnall Patz, Baltimore
1954	John H. Dunnington, New York	1992	Bradley R. Straatsma, Los Angeles
1955	Arthur J. Bedell, Albany	1993	Bruce E. Spivey, San Francisco
1956	Bernard Samuels, New York	1994	Thomas P. Kearns, Rochester, Minnesota
1957	Georgiana Dvorak-Theobald, Oak Park, Illinois	1995	William H. Spencer, San Francisco
1958	Miss Ida Mann, Nedlands, Western Australia	1996	Robert Macheimer, Durham

1997	W. Richard Green, Baltimore
1998	Alan B. Scott, San Francisco
1999	Lorenz E. Zimmerman, Washington, Dc
2000	William S. Tasman, Philadelphia
2001	Stanley M. Truhlsen, Omaha
2002	Crowell Beard, San Jose, California
2003	Alfred Sommer, Baltimore, Maryland
2004	Arthur Jampolsky, Belvedere, California
2005	Stephen J. Ryan, Los Angeles, California
2006	Matthew D. Davis, Madison, Wisconsin
2007	Daniel M. Albert, Madison, Wisconsin

2008	Paul R. Lichter, Ann Arbor, Michigan
2009	Denis M. O'day, Nashville, Tennessee
2010	Marilyn T Miller, Chicago, Illinois
2011	Robert R. Waller, Memphis, Tennessee
2012	Hugh R. Taylor, Carlton, Australia
2013	Dan B. Jones, Bellaire, Texas
2014	Morton F. Goldberg, Baltimore, Maryland
2015	John G. Clarkson, Miami, Florida
2016	Susan H. Day, Chicago, Illinois
2017	George L. Spaeth, Philadelphia, Pennsylvania
2018	Joan Miller, Winchester, Massachusetts

### FREDERICK H. VERHOEFF LECTURERS

1961	Arthur J. Bedell
1964	Sir Stewart Duke-Edler
1969	David G. Cogan
1971	Lorenz E. Zimmerman
1973	Irving H. Leopold
1975	Arthur Gerard Devoe
1977	Professor Jules Francois
1979	Saiichi Mishima
1983	Richard W. Young
1989	Frederick C. Blodi
1992	Francis I. Collins
1993	Joram Piatigorsky

1997	Geoffrey Arden
2002	Paul Sieving <i>How Many Photoreceptors Do We Need for Vision?</i>
2003	Thaddeus P. Dryja <i>How Molecular Genetics is Lifting the Fog: The Etiology of Retinitis Pigmentosa</i>
2010	Adrian Glasser <i>Physiology of Accommodation and Pathogenesis of Presbyopia</i>
2013	Alfred Sommer <i>Preventing Blindness &amp; Child Mortality with Vitamin A: an AOS Odyssey</i>
2014	Timothy Stout <i>The Rocky Road to Successful Human Gene Therapy</i>

### FREDERICK BLODI LECTURERS

2015 (Inaugural)	Timothy W. Olsen <i>The Age-Related Macular Degeneration Complex: Linking Epidemiology and Histopathology using the Minnesota Grading System</i>
2016	Elias I. Traboulsi <i>Zonules and Molecules: The Underlying Pathophysiology of Ectopia Lentis</i>
2017	Joseph Caprioli <i>Retinal Ganglion Cell Rescue in Glaucoma</i>

# MEMBERS

## ACTIVE MEMBERS

Abbott, Richard (2003)	Cioffi, George(Jack) (2005)	Golnik, Karl C. (2013)	Kuppermann, Baruch (2014)	O'Brien, Joan (2018)
Adelman, Ron Afshari (2011)	Clark, Robert (2018)	Good, William (2001)	Lai, Timothy (2015)	Olsen, Timothy (2008)
Akpek, Esen (2015)	Clarkson, John (1992)	Gottsch, John (1996)	Lawrence, Mary (2004)	Parke II, David (2007)
Alfonso, Eduardo (2008)	Coats, David (2005)	Gragoudas, Evangelos (1998)	Levin, Alex (2014)	Parrish II, Richard (1996)
Archer, Steven (2007)	Cohen, Elisabeth (2009)	Grand, M. Gilbert (2003)	Levin, Leonard (2007)	Parsa, Cameron F. (2013)
Arnold, Anthony C. (2013)	Coleman, Anne (2007)	Gross, Ronald (1999)	Lim, Jennifer (2018)	Parver, Leonard (2000)
Asbell, Penny (1999)	Dana, Reza (2007)	Grossniklaus, Hans (1998)	Lin, Shan (2016)	Pasquale, Louis R. (2013)
Azar, Dmitri (2006)	Danias, John (2015)	Haller, Julia (1996)	Lisch, Walter (2016)	Paysse, Evelyn (2004)
Bakri, Sophie J. (2013)	Davis, Janet (2012)	Han, Dennis (2004)	Liu, Donald (2005)	Pepose, Jay (2011)
Bartley, George (1994)	Day, Susan (1995)	Hanneken, Anne (2017)	Ludwig, Irene (1999)	Pulido, Jose (1996)
Bateman, J. Bronwyn (1992)	Donahue, Sean (2005)	Harris, Gerald (1993)	Lueder, Gregg (2012)	Puro, Donald (2002)
Baudouin, Christophe (2012)	Douglas, Raymond (2014)	Hartnett, Mary (2010)	Macasai, Marion (2008)	Raab, Edward (1982)
Bilyk, Jurij (2017)	Dua, Harminder (2014)	Hersh, Peter (2005)	Manche, Edward (2011)	Rapuano, Christopher (2003)
Black, Bradley (2006)	Dupps Jr., William (2016)	Holland, Edward (1996)	Mannis, Mark (2000)	Ravin, James (2008)
Blomquist, Preston (2006)	Durrie, Daniel (2006)	Holland, Gary (2007)	Mansberger, Steven L. (2013)	Reynolds, James (2007)
Bobrow, James (1998)	Eagle Jr., Ralph (1988)	Horton, Jonathan (1997)	McCannel, Colin (2017)	Ritch, Robert (1994)
Brodsky, Michael (2007)	Edward, Deepak Paul (2011)	Huang, Andrew (2007)	McCulley, James (1990)	Sadun, Alfredo (1998)
Brown, Gary (1999)	Elman, Michael (1996)	Huang, David (2013)	McCulley, Timothy J. (2013)	Sarraf, David (2014)
Browning, David (2010)	Elner, Susan (2002)	Humayun, Mark (2001)	McDonald, Marguerite (2005)	Schaefer, Daniel (2007)
Buckley, Edward (2007)	Elner, Victor (2002)	Jabs, Douglas (1995)	McLeod, Stephen (2006)	Schanzlin, David (1999)
Busin, Massimo (2014)	Erie, Jay (2003)	Jager, Martine (2016)	Merriam, John (1996)	Schein, Oliver (2000)
Budenz, Donald (2008)	Esmaeli, Bitia (2012)	Jampel, Henry (2001)	Mets, Marilyn (1999)	Schubert, Hermann (2005)
Cameron, J. Douglas (2014)	Feldon, Steven (2004)	Jeng, Bennie (2018)	Mian, Shazhad (2015)	Schuman, Joel (2008)
Cantor, Louis (2001)	Ferris, Frederick (1996)	Johnson, Mark (2005)	Mieler, William (1997)	Schwab, Ivan (1999)
Caprioli, Joseph (1994)	Fingert, John (2016)	Jonas, Jost (2014)	Miller, Joan (2008)	Schwartz, Daniel (2003)
Chan, Chi-Chao (2003)	Fish, Gary (2008)	Kaiser, Peter K. (2009)	Miller, Joseph (2010)	Sears, Jonathan E. (2013)
Chan, Clement (2014)	Flaxel, Christina J. (2013)	Katz, L. Jay (2013)	Mindel, Joel (1986)	Sebag, Jerry (2005)
Chan, Paul (2015)	Fountain, Tamara (2014)	Kaushal, Shalesh (2006)	Mitchell, Paul (1998)	Sen, Nida (2017)
Char, Devron (1988)	Francis, Peter (2011)	Kerr, Natalie (2011)	Morrison, John (2006)	Sherwood, Mark (2006)
Chen, Teresa (2009)	Fraunfelder, Frederick W. (2008)	Khan, Arif Omar (2015)	Nelson, J. Daniel (1995)	Shields, Carol (2000)
Chew, Emily (2005)	Friedman, Alan (1984)	Kikkawa, Don (2010)	Netland, Peter A. (2009)	Shields, Jerry (1981)
Chiang, Michael F. (2013)	Galor, Anat (2017)	Kim, Ivana (2016)	Newman, Steven (2007)	Shtein, Roni (2016)
Chodosh, James (2006)	Gardner, Thomas (1995)	Kim, Judy (2012)	Nguyen, Quan Dong (2016)	Siatkowski, R. Michael (2011)
Chow, Alan (2010)	Garway-Heath, David (2017)	Kinoshita, Shigeru (2012)	Nirankari, Verinder (1992)	Silkiss, Rona Z. (2016)
	Gelender, Henry (2006)	Kinyoun, James (2008)	Nischal, Kanwal (2016)	Simon, John (2007)
	Goldbaum, Michael (2005)	Koch, Douglas (1996)	Nork, T. Michael (2000)	Slakter, Jason (2015)
	Goldberg, Robert (2011)	Kokame, Gregg (2014)		Small, Kent (1998)
		Krueger, Ronald (2012)		Smith, Justine (2018)

Spaeth, George (1975)  
 Spencer, Rand (2006)  
 Stager Jr., David R. (2013)  
 Stamper, Robert (1984)  
 Stein, Joshua D. (2013)  
 Stone, Edwin (2003)  
 Stout, Timothy (2006)  
 Summers, C. Gail (1996)  
 Tan, Donald (2014)  
 Terry, Mark (2007)  
 Thompson, John (2003)  
 Traboulsi, Elias (2004)  
 Traverso, Carlo (2017)  
 Tsai, James (2008)  
 Tsang, Stephen (2014)  
 Tse, David (2005)  
 Tyschen, R. Lawrence (2007)  
 Van Kuijk, Fredericus (2017)  
 Van Meter, Woodford (1996)  
 Volpe, Nicholas (2015)  
 Wallace, David (2007)  
 Walton, David (1979)  
 Weakley Jr., David (1999)  
 Weinreb, Robert (2001)  
 Weiss, Jayne (2007)  
 Wiggs, Janey (2014)  
 Wilensky, Jacob (1991)  
 Wilson, David (2002)  
 Wilson, M. Roy (2002)  
 Wilson, Steven (2002)  
 Wilson Jr., M. Edward (2004)  
 Wright, Kenneth (1999)  
 Yannuzzi, Lawrence (1986)  
 Yeatts, R. Patrick (2005)  
 Young, Terri (2004)  
 Zacks, David N. (2009)  
 Zarbin, Marco (2003)

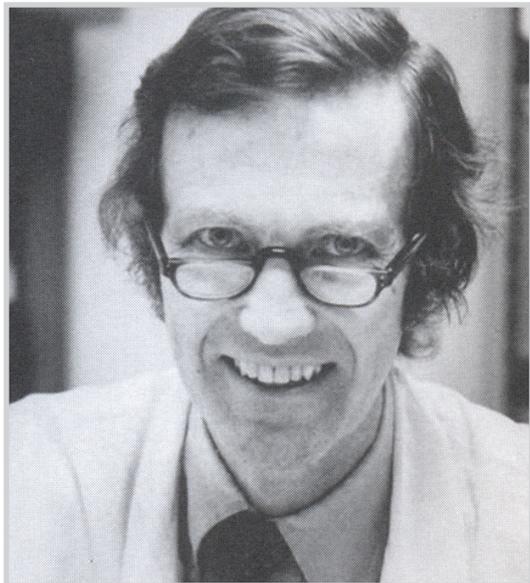
**EMERITUS  
MEMBERS**

Aaberg, Thomas (1986)  
 Albert, Daniel (1979)  
 Anderson, Douglas (1981)  
 Anderson Jr., W. Banks (1968)  
 Asbury, Taylor (1966)  
 Augsburger, James (1988)  
 Baum, Jules (1982)  
 Berler, David (1989)  
 Biglan, Albert (1990)  
 Blair, Norman (2000)  
 Blankenship, George (1986)  
 Bourne, William (1983)  
 Bronson, Nathaniel (1972)  
 Brubaker, Richard (1982)  
 Bullock, John (1983)  
 Burton, Thomas (1982)  
 Carr, Ronald (1974)  
 Caldwell, Delmar (1997)  
 Cibis, Gerhard (1994)  
 Coleman, D. Jackson (1986)  
 Cooper, William (1985)  
 Crawford, J. Brooks (1980)  
 Darrell, Richard (1981)  
 Dayton, Glenn (1977)  
 Donshik, Peter (1994)  
 Ellis, Phillip (1971)  
 Farris, R. Linsy (1985)  
 Federman, Jay (1982)  
 Feman, Stephen (1994)  
 Ferry, Andrew (1973)  
 Flach, Allan (1998)  
 Flanagan, Joseph (1980)  
 Flynn, John (1983)  
 Forbes, Max (1974)  
 Forster, Richard (1992)

Foster, C. Stephen (1986)  
 France, Thomas (1984)  
 Frank, Robert (1998)  
 Fraunfelder, Frederick (1976)  
 Gaasterland, Douglas (1986)  
 Glew, William (1979)  
 Godfrey, William (1987)  
 Goldberg, Morton (1978)  
 Gutman, Froncie (1979)  
 Guyton, David (1986)  
 Hagler, William (1980)  
 Hamilton, Ralph (1966)  
 Heckenlively, John (1987)  
 Helveston, Eugene (1980)  
 Hiatt, Roger (1973)  
 Hull, David (1990)  
 Hyndiuk, Robert (1981)  
 Iliff, W. Jackson (1985)  
 Ing, Malcolm (1981)  
 Irvine, Alexander (1980)  
 Jaeger, Edward (1980)  
 Jakobiec, Frederick (1984)  
 Jampol, Lee (1987)  
 Jampolsky, Arthur (1970)  
 Jarrett, William (1981)  
 Johnson, David (2006)  
 Jones, Dan (1980)  
 Kass, Michael (1989)  
 Kaufman, Paul (1990)  
 Kelley, James (1983)  
 Kenyon, Kenneth (1985)  
 Klein, Barbara (1993)  
 Klein, Ronald (1992)  
 Knox, David (1973)  
 Kolker, Allan (1977)  
 Kreiger, Allan (1991)  
 Laibson, Peter (1976)  
 Lakhapal, Vinod (1993)  
 Landers III, Maurice (1978)

Laties, Alan (1974)  
 Lawwill, Theodore (1982)  
 Lemp, Michael (1989)  
 L'Esperance Jr., Francis (1968)  
 Lewis, Richard Alan (1989)  
 Lichter, Paul (1976)  
 Liesegang, Thomas (1988)  
 Lindstrom, Richard (1990)  
 Little, Hunter (1976)  
 Luxenberg, Malcolm (1979)  
 Manchester, Jr., P. Thomas (1970)  
 Maumenee Hussels, Irene (1981)  
 Mazow, Malcolm (1987)  
 McMeel, J. Wallace (1971)  
 Meredith, Travis (1993)  
 Metz, Henry (1983)  
 Meyer, Roger (1986)  
 Meyers, Sanford (1994)  
 Miller, Marilyn (1991)  
 Mills, Richard (1998)  
 Minckler, Donald (1986)  
 Miranda, Manuel (1979)  
 Okun, Edward (1972)  
 O'Neill, John (1998)  
 Owens, William (1953)  
 Payne, John (1980)  
 Pico, Guillermo (1957)  
 Pollard, Zane (1997)  
 Rao, Narsing (1990)  
 Regan, Ellen (1957)  
 Rich, Larry (1999)  
 Richards, Richard (1966)  
 Robb, Richard (1974)  
 Robertson, Dennis (1978)  
 Robin, Alan (1989)  
 Rogers, Gary (2003)  
 Runge, Paul (2000)  
 Schocket, Stanley (1986)

Schultz, Richard (1971)  
 Scott, Alan (1981)  
 Sears, Marvin (1973)  
 Sergott, Robert (1991)  
 Shields, M. Bruce (1983)  
 Sieving, Paul (1993)  
 Sommer, Alfred (1983)  
 Spivey, Bruce (1976)  
 Srinivasan, B. Dibli (1982)  
 Stager Sr., David R. (1996)  
 Stark, Walter (1980)  
 Straatsma, Bradley (1968)  
 Sugar, Alan (1989)  
 Taylor, Daniel (1972)  
 Taylor, Hugh (1989)  
 Thompson, H. Stanley (1977)  
 Tornambe, Paul (1997)  
 Townsend, William (1991)  
 Truhlsen, Stanley (1965)  
 Tso, Mark (1987)  
 Van Buskirk, E. Michael (1988)  
 Van Newkirk, Mylan (1997)  
 Veronneau-Troutman, Suzanne (1978)  
 Vine, Andrew (2000)  
 Waller, Robert (1982)  
 Waltman, Stephen (1984)  
 Watzke, Robert (1968)  
 Welch, Robert (1970)  
 Wilhelmus, Kirk (2000)  
 Wilkinson, CP (1981)  
 Wilson, R. Sloan (1983)  
 Wong, Vernon (1972)  
 Wood, Thomas (1984)  
 Woog, John (2007)  
 Yanoff, Myron (1975)  
 Younger, Brian (1984)



## MATTHEW DAVIS, MD

BY FREDERICK L. FERRIS, III AND EMILY CHEW

Matthew Dinsdale (Dinny) Davis passed away comfortably at home in the company of his family on March 5, 2018. The world lost a gentle man on that day; a man who was also extremely accomplished as recognized by receiving the Howe Medal from the American Ophthalmological Society and the Laureate Award from the American Academy of Ophthalmology.

Dinny was born on October 25, 1926, in Madison Wisconsin, the son of Dr. Frederick and Edith Davis. He left home for his high school education at The Lawrenceville School in New Jersey, but returned home for his undergraduate degree at the University of Wisconsin-Madison. He received his medical degree from the University of Pennsylvania and returned home again to complete his ophthalmology residency at the University of Wisconsin Hospital, although that was interrupted for two years of active duty in the US Naval Reserve. After completing his residency, Dinny was one of Dr. Charles Schepens' first retina fellows at the Massachusetts Eye and Ear Infirmary. Once again, Dinny returned to his home town where

he practiced as a retinal specialist. He joined the faculty at the University of Wisconsin, where he eventually became Chairman of the newly formed Department of Ophthalmology and where he continued to work throughout the rest of his life.

Dinny and his wife, Barbara Archer raised their five children in the family home in Madison. After their separation in 1974, Barbara eventually moved to San Diego. Dinny married Nancy Laine in 1981, and their loving relationship extended over the next four decades. Nancy and Dinny had the remarkable ability to understand each other's lifetime passions, which gave Dinny the ability to make his remarkable accomplishments in Ophthalmology, while preserving time to enjoy their lives together.

Dinny's accomplishments are extraordinary. He is certainly one of the "fathers" of clinical trials in ophthalmology. A confluence of events in the early 1970s led to Dinny becoming the chairman of the first large multicenter randomized clinical trial in ophthalmology. The newly formed National Eye Institute of the National Institutes of Health provided the support and funding for clinical research in diabetic retinopathy. Dinny's interest in both understanding and treating diabetic retinopathy, including the development of methods to classify the severity of diabetic retinopathy, provided the clinical expertise to develop a clinical trial. Along with Fred Ederer from the National Eye Institute and Genell Knatterud of the University of Maryland, they developed the detailed research protocol for the Diabetic Retinopathy Study (DRS). Although commonplace today, following a study protocol was new to the investigators of the time. Dinny's ability to listen to everyone was critical in orchestrating the compromises necessary to develop a consensus on how to standardize all the varied clinical and methodologic procedures necessary for a well-designed randomized multicenter clinical trial. The success of the DRS, not only helped promote the use of scatter photocoagulation for proliferative diabetic retinopathy, which dramatically reduced the risk of blindness by as much as 95% worldwide, but served as a model for the hundreds of clinical trials in ophthalmology that followed.

Developing a model for future clinical trials in ophthalmology was a major advance, but there were ongoing trials in other fields, so the DRS was not unique. However, a unique contribution to the field of ophthalmology was both the ability to classify the severity of diabetic retinopathy and the methodology to standardize the classification through the use of fundus photographs and trained graders. The standardized classification system has been accepted by the FDA as a validated outcome variable and has been utilized to demonstrate the efficacy of other treatments, as well as to clinically assess the severity of diabetic retinopathy. Dinny extended this methodology to standardized classifications systems for lens opacities and for age-related macular degeneration. Imaging is particularly useful in documenting eye health and disease, and many others have utilized the methodology developed by Dinny to standardly assess disease progression to other images ranging from the cornea to the optic nerve.

There can be no doubt that Dinny's brilliance allowed him to develop the advances in clinical trial methodology. However, it is his ability to work with others that also was critical to the success of the DRS and other trials that he participated in. Dinny always listened carefully to all opinions. He was particularly adept to finding the common ground and developing a compromise that could be accepted by all. This feeling of collaboration and contribution by all the study investigators was also a critical part of the success of the DRS. This was not Dinny Davis' trial, it was the study group trial. He did the work of writing study papers, but was adamant that the authorship should be attributed to the study group not an individual, because the study was a group effort that no individual could have accomplished. His kindness and consideration for others, made coinvestigators want to work with him. His example of careful listening and consideration for others, has evolved to become a common denominator that has led to the success of the Diabetic Retinopathy Clinical Research Network and its many clinical trials.

He is survived by wife Nancy, daughter Ann (Santiago), son Peter (Teresa), daughter Amelia (Galo), daughter Lisa (Greg) and grandchildren Allison (Paul) and Joshua. Other surviving family include Nancy's children: Kristen (Jim), Rik (Susan), Peter (Constance), and Christopher (Ulli); and grandchildren Kimberly (Tyler); Michael; Kelen; Forrest; Will; Ursula; Virgil; River; and great grandchild Victoria. Dinny will be missed terribly by all of us but his legacy will continue to live through the future clinical researchers who will benefit from the fruits of his brilliance and his immense humanity towards all those who worked with him.

### NECROLOGY IN MEMORIAM

MATTHEW DAVIS, MD  
ELECTED 1973\*

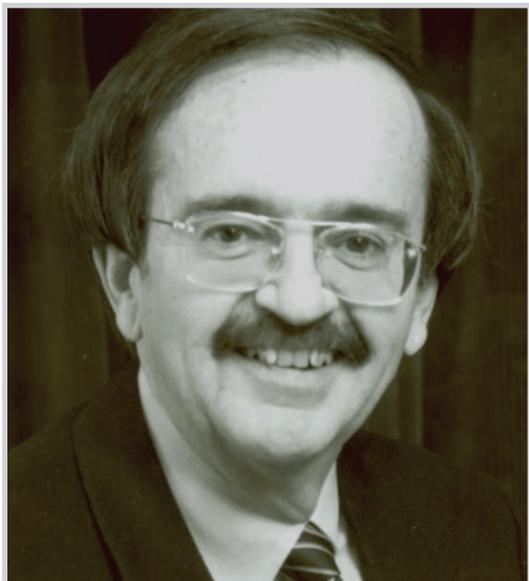
M. MACKENZIE  
FREEMAN, MD,  
ELECTED 1978\*

WILLIAM SPENCER, MD  
ELECTED 1972

ROGER STEINART, MD  
ELECTED 1997

STEWART WOLFF, MD  
ELECTED 1972\*

*\*obituary unavailable*



## HAL MACKENZIE FREEMAN, MD

BY JOAN W. MILLER, MD

Hal Mackenzie Freeman, MD, a pioneer in giant retinal tear repair and vitreoretinal surgery, died on March 14, 2018 at the age of 88. Born on March 25th, 1929, and raised in Edmonton, Alberta, Canada, Hal conducted his undergraduate studies and earned his medical degree at the University of Alberta and the University of British Columbia. He completed his ophthalmology residency at the Illinois Eye and Ear Infirmary in Chicago, IL, before spending six years in a clinical research and a vitreoretinal fellowship with Charles Schepens, MD, at Massachusetts Eye and Ear/Harvard Medical School and the Retina Foundation (now Schepens Eye Research Institute of Mass. Eye and Ear).

Dr. Freeman's career at Mass. Eye and Ear/Harvard Medical School spanned over 5 decades, where he rose through the ranks to Associate Clinical Professor of Ophthalmology at Harvard Medical School, Surgeon in Ophthalmology at Mass. Eye and Ear, and Clinical Senior Scientist at the Schepens Eye

Research Institute. An astute clinician scientist, one of Dr. Freeman's early research projects was to search for naturally occurring retinal detachments—leading to the discovery of a collie dog breed with retinal detachments caused by giant retinal tears. He developed this model, maintaining a colony of collies that he used to study the pathogenesis of giant retinal tears, and to investigate innovative approaches to surgical repair. Dr. Freeman moved his laboratory findings to clinical application in patients, and repairing giant retinal tears became his life's work.

In 1965, Dr. Freeman published a paper with Dr. Schepens on the giant retinal tear operating table. This table suspended patients face down above the surgeon and assistants, and allowed for gravity to unfold the giant retinal tear, thus making it operable for the surgeon. Observers commented that operating in this fashion with the arms above the head was like painting a ceiling, to which Dr. Freeman remarked that his arms became just as tired. The prototype of the giant retinal tear operating table is now at the Smithsonian Institute in Washington.

Dr. Freeman was sought out for care by patients across the US, Canada, and around the globe, including members of the Royal Family of Saudi Arabia. During one follow-up examination, Dr. Freeman mentioned to King Khaled the need for an eye hospital in the Middle East. Within four months, Dr. Freeman was appointed as the Chief Medical Planner of the King Khaled Eye Specialist Hospital in Riyadh, Saudi Arabia. The resulting state of the art hospital and training complex included residency and fellowship programs for the training of ophthalmologists.

Dr. Freeman was creative and energetic, an incisive leader, but with a quiet, soft-spoken modesty. He authored and co-authored 120 original scientific reports, 49 book chapters, and six books—including the Atlas of Vitreoretinal Surgery, which was translated into 5 different languages. Serving in numerous leadership positions in professional organizations, Dr. Freeman was the past president of the Retina Society, the Schepens International Society, and the New England Ophthalmological Society (NEOS); for the American Academy of Ophthalmology (AAO), he was the past associate secretary of governmental affairs and the first associate secretary for subspecialty day.

A superb teacher, Dr. Freeman trained 175 retinal fellows and lectured around the world as a highly sought, invited speaker. His presentations were known for their crisp, lucid style and characterized by excellent graphics and limited text. Rehearsing his presentations for major meetings and renowned for his philosophy of "no more than 5 lines of text on a slide", Dr. Freeman became known as an expert presenter, and was responsible for the development of teaching materials on speaking and slide presentation for both AAO and NEOS.

Persistent and tenacious, Dr. Freeman's first thesis submission to the American Ophthalmological Society (AOS) was rejected—upon revision it was accepted, and he became an AOS member. He later was elected to the AOS board, where he spearheaded the revision of thesis guidelines in order to make them clearer for applicants—seeking to fix the problems that he himself had encountered.

Dr. Freeman worked hard and played just as intensely. In his free time, Dr. Freeman loved to cruise off his island home in Cohasset. Growing up as a downhill skier, Dr. Freeman could also be found carving the black diamond slopes or skiing the backcountry of the Bugaboo Mountains in the Canadian Rockies in British Columbia, Canada.

Dr. Freeman was also a happy, generous, and playful man who liked to share his cheerfulness. During the Christmas season, he would play Santa Claus at Mass. Eye and Ear, dressing up as Santa and delivering presents to the children on the inpatient floors. Intellectually curious and energetic, Dr. Freeman sought ways to improve how we do things, from retina surgery, to organizing tasks and schedules, to making sides and presentations. Dr. Freeman was a true innovator, a talented clinician and surgeon, and a warm and generous teacher.

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## WILLIAM H. SPENCER, MD

**BY DANIEL M. ALBERT, MD, MS AND  
J. BROOKS CRAWFORD, MD**

William H. Spencer died on September 24, 2017 at the age of 92. With his passing, ophthalmology has lost a true Renaissance man. Bill was a gifted ophthalmologist with unquenchable curiosity, innovative imagination, and outstanding ability. He leaves behind a legacy of excellence as a clinician, ophthalmic pathologist, educator, historian, director, and scholar.

Bill was born in New York City. His education and training included the Bronx High School of Science, the University of California Berkley (Optometry), University of California San Francisco (UCSF-Medical School and Residency), and a Heed Fellowship at the Armed Forces Institute of Pathology (AFIP).

Following his completion of high school, Bill had served in the Army's 87th Infantry. As his unit moved toward the Battle of the Bulge, the final major German offensive on the Western Front, Bill was hit by shrapnel. He was unable to move and

spent the night in a foxhole in the mud. Although the situation seemed hopeless at first, he was found and evacuated to England, and awarded a Purple Heart. After he recovered and was discharged from the hospital, he was assigned to the staff headquarters in Grosvenor Square, London. There he was involved in the shipping of supplies to Eisenhower's headquarters, including, as he liked to say, obtaining cognac for General Eisenhower. On those frequent trips to Paris, Bill's warmth and curiosity led him to befriend a local policeman with whom he enjoyed biking, an activity he continued to pursue throughout his life.

Bill's mentor at the AFIP was Dr. Lorenz Zimmerman, who remained a close friend and came to state he had the same confidence in Bill's pathologic diagnoses as he had in his own. Following his AFIP fellowship in 1959, Bill was recruited to UCSF by Dr. Michael Hogan, himself a pioneer in eye pathology. Bill developed a great love for San Francisco and its environs, especially Yosemite National Park. Bill enjoyed taking his many fellows and guests from abroad to this awe-inspiring park. He did this so often that he was considered by friends and colleagues as an unofficial guide to the area.

Bill served at UCSF until 1972, when he was appointed medical director at the Doheny Eye Clinic. Living in Los Angeles at this time, Bill liked to recall how when marching through France in the infantry, he would pass signs left by GIs from the LA area saying "Leaving Los Angeles City Limits," the significance of which he could now fully appreciate. In 1975, Bill returned to his beloved San Francisco as the Gellert Professor of Ophthalmology and director of the pathology laboratory at the Pacific Medical Center.

In addition, he served as Executive Director of the American Board of Ophthalmology from 1974 to 1981. He oversaw the introduction of time-limited certification and the adoption of the Patient Management Problem (PMP) question format of the Oral Examination. The ABO Directors serving under Bill remember during this time a dramatic demonstration of his dedication to his work and his conscientiousness: Shortly after Bill had a sternum splitting, open-heart surgery procedure, there was a scheduled oral examination session. Although the Board Directors begged Bill not to come to the exam, but to rest and recover at home, he insisted that as Executive Director it was his duty to be present. The wires that sutured his sternum were still in place and the pain was no doubt severe, but Bill carried on supervising the examination as usual, with just an occasional break to rest.

Bill brought to every undertaking a level of energy and enthusiasm which was contagious. This was seen in his training of eye pathology fellows; his pioneering work on the scanning electron microscopy of the eye; in his role in the design and construction of the Doheny Eye Clinic; in his establishment of the Academy Foundation's oral history program; and in his editing of the now classic third edition of "Ophthalmic Pathology: An Atlas and Textbook" which appeared in 1985.

Bill was a voracious reader, staying current in the journals in his field, but also keeping abreast of medicine and science in general. He was well-read in literature, including the classics. He also was a Francophile, with a particular fondness for Provence, and he impressed his French friends by reading French novels in their native language. Bill was an accomplished skier, who advised companions to make as many turns as possible "because this will make you a better skier." He remained a devoted biker throughout his life, on one occasion biking with a friend from Seattle to Portland in the rain.

Bill had a sense of curiosity about everything regarding science and nature, particularly enjoying bird-watching with his wife Anne, who is a fine naturalist. Despite his accomplishments and professional stature, he was a modest man who retained his humility. He was an extremely kind person. Those close to Bill found him to be a great "comforter," always reassuring his friends and patients, and giving them a positive perspective. Bill is survived by his wife Anne, his son Jonathan, his daughter Jamie, and his grandchildren Tom, Sophie and Evelyn.

Bill is much missed, but his influence and contributions will impact ophthalmology for many years to come.

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## ROGER STEINERT, MD

BY DOUGLAS D. KOCH, MD

Roger Steinert died on June 6, 2017, after a courageous 2 ½ year battle with glioblastoma. Roger was a remarkable pioneer and contributor to cataract, refractive, and corneal surgery, with a career fostered by his remarkable creativity, intellect, hard work, and integrity.

Roger spent the first 53 years of his life in Massachusetts. He grew up in Andover, Massachusetts, attended nearby Phillips Academy, Andover, and graduated summa cum laude from Harvard College in 1973 and Alpha Omega Alpha from Harvard Medical School in 1977. After completing his residency in ophthalmology at Massachusetts Eye and Ear Infirmary in 1981, he joined the cornea section of the faculty at Harvard Medical School. In 1992, he moved his practice to Ophthalmic Consultants of Boston, where he had a large referral practice, tackling complex cataract, corneal, and refractive surgical cases.

To the great surprise of many, in 2004, Roger left his beloved Bay State, and with his wife April and her 3 children, moved to southern California, where Roger joined the faculty of

University of California Irvine as Vice Chair of Ophthalmology. He was named Chairmen in 2008, and in 2014 was appointed Interim Dean of the School of Medicine, University of California, Irvine. He was in the process of seeking the permanent position when he became ill.

Roger was a true quadruple threat, excelling in research, teaching, clinical practice, and administration. Roger's research interests, like his clinical practice, were diverse and typically involved new, cutting-edge topics in need of evaluation and refinement. He published major papers on subjects that included laser technology (Nd:YAG—21 papers on this alone—and excimer), IOL suturing techniques, penetrating keratoplasty, intracorneal lenses, and new IOL technology. His papers in these areas were often the first in the peer-reviewed literature.

Roger loved to teach: to lecture, share his often award-winning videos, and debate and banter with colleagues inside or outside the meeting venue. He gave 21 named lectures, had 18 visiting professorships, authored 116 book chapters, and created and edited the major text *Cataract Surgery*, which has been the definitive text in the field for 23 years.

In moving to Irvine, Roger sought new opportunities for research in laser technology and a return to academic medicine: both areas he had embraced earlier in his career. His rise at the U Cal Irvine was meteoric, ascending to interim dean in just 10 years. His culminating achievement was the construction of the Gavin Herbert Eye Institute: a spectacular facility that serves the clinical, research, and educational needs of the superb department that Roger built.

Roger also served our professional organizations in a variety of ways. A partial list includes: President of the American Society of Cataract and Refractive Surgery (ASCRS) in 2005-2006, Annual Meeting Chair for the ASCRS annual meeting from 2005 to 2013, Associate Editor of *Ophthalmology*, and a member of the Board of Trustees of the Association of University Professors in Ophthalmology in 2014-2016. In 2017, recognizing Roger's contributions and achievements, ASCRS established the Steinert Lecture in Refractive Surgery. It is only the society's third named lecture, accompanying those named for Cornelius Binkhorst and Charles Kelman.

Roger was fun-loving, outgoing, emanating a spirited love of life that incorporated his work, patients, friends and colleagues, students, and, most of all, his family. He was a deeply devoted father to his 3 children--Adam, Kristin, and Matt—and 6 grandchildren, and to April's 3 children: Jeffrey, Monica, and Gregory.

Roger's passion for life was on full display in the evenings, as he sat with friends and family, discussing, arguing, and joking about topics that ranged from any aspect of our profession to his Red Sox. Roger's friends even named a drink for him: the Steinert martini—half gin, half vodka, garnished with blue-cheese stuffed olives.

The story of Roger's illness was shared with family and friends by April's extraordinary posts on Caring Bridge. Together they faced his illness with fierce determination and remarkable courage and grace. Roger and I met as class members in medical school in 1973, and from then until I last saw him shortly before his death, he emanated the same desire to accomplish important things, serve our patients and our field, share himself with his family and friends, and enjoy his life. His personal and professional life is an inspiration to all of us fortunate enough to have known him.

### NECROLOGY IN MEMORIAM

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# MINUTES

## OF THE PROCEEDINGS

### ONE HUNDRED AND FIFTY-FOURTH ANNUAL MEETING · MAY 17-20, 2018

The ONE HUNDRED AND FIFTY-FOURTH ANNUAL MEETING of the American Ophthalmological Society (AOS) was held at the Monarch Beach Resort, Dana Point, California.

On May 18, 2017, Friday, President **David Wilson, MD** called the opening session to order. The program began with the following Friday Symposium.



*Susan Day and David Paton*

#### SYMPOSIUM: GLOBAL OUTREACH

1. Introduction – **Woodford Van Meter, MD**
2. The Origin of ORBIS – **David Paton, MD**
3. Global Organizations – **Hugh Taylor, AC, MD, FRACS**
4. Global Outreach – **Martine Jager, MD, PhD**
5. Global Accreditation – **Susan Day, MD**
6. Global Certification – **George Bartley, MD**

#### SCIENTIFIC PAPER SESSION, FRIDAY, MAY 18, 2018

- PA-01 Peripapillary Retinoschisis is Associated with OCT Signs of Mueller Cell Activation and Progressive Glaucoma – **Brad Fortune, Kelly Ma, Shaban Demiral, Stuart Gardiner, Steven Mansberger**
- PA-02 A Sophisticated Algorithm to Search Electronic Health Records to Identify Persons with Ocular Diseases – **Joshua Stein, Moshiru Rahman, Shivani Kamat, Manjool Shah, Joshua Ehrlich, Erin Boese, Jeff Cowall, Chris Andrews, David Hanauer**
- PA-03 CRISPR-based Genome Surgery for the Treatment of Autosomal Dominant Retinitis Pigmentosa – **Stephen Tsang**

PA-04 Expected Effect of Contralateral Medial Rectus Muscle Recession for Esotropic Duane Syndrome – **Steven Archer**

PA-05 Clinical Ophthalmology Documentation Using Electronic Health Records: How Much Text is New, and Who is Writing It? – **Michael Chiang, Brad Henriksen, Abigail Huang, Isaac Goldstein, Michelle Hribar**

#### SOCIAL MEDIA LUNCH WORKSHOP

**Michael Chiang, MD, Tamara Fountain, MD, R.V. Paul Chan, Anne Coleman, MD**

#### EXECUTIVE SESSION, SATURDAY, MAY 19, 2018



*President David J. Wilson and his wife Nancy Green*

#### KNAPP SYMPOSIUM: WOUND HEALING AND THE CORNEA

1. Introduction – **Woodford Van Meter, MD**
2. The Regenerated – **Cornea May Griffith, PhD**
3. Corneal Nerve Regeneration – **Mark Rosenblatt, MD, PhD, MBA**
4. Conjunctival Repair (Pterygium) – **Lawrence Hirst, MBBS(Hons), DO, MPH, MD, DSc, FRANZCO, FRACS**
5. Epithelial Repair (Limbal Transplant) – **Edward Holland, MD**
6. Stromal Remodeling (Cross-Linking) – **Peter Hersh, MD**
7. Endothelial Cell Repair – **Shigeru Kinoshita, MD**

**SCIENTIFIC PAPER SESSION, SATURDAY, MAY 19, 2018**

- PA-06 Corneal Endothelial Injury Triggers Posterior Stromal Keratocyte Apoptosis and Posterior Corneal Fibrosis (haze) – **Steven Wilson**, Gustavo Marino, Carla Medeiros, Paramananda Saikia, Luciana Lassance
- PA-07 The Relationship Between Ocular Itch, Ocular Pain, and Dry Eye Symptoms – **Anat Galor**, Leslie Small, William Feuer, Roy Levitt, Constantine Sarantopoulos, Gil Yosipovitch
- PA-08 The Effects of YAG Laser on Vitreous and Vision – **J. Sebag**, Justin Nguyen, Kenneth Yee, Jeannie Nguyen-Cuu
- PA-09 Descemet Membrane Endothelial Keratoplasty (DMEK): Early Clinical Results when Using Pre-stained, Pre-trephinated and Pre-loaded Donor Tissue – **Mark Terry**
- PA-10 Descemet Endothelial Thickness Comparison Trial: A Randomized Controlled Double Masked Trial Comparing DMEK to Ultrathin DSAEK – **Winston Chamberlain**, David Wilson, Jennifer Rose-Nussbaumer, Charles Lin, Ariana Austin, Matthew Duggan

**SATURDAY EVENING BANQUET, MAY 19, 2018****SCIENTIFIC PAPER SESSION, SUNDAY, MAY 20, 2018**

- PA-11 Determining the Prevalence of PCV in Anti-VEGF Resistant Eyes and the Sensitivity and Specificity of Detecting PCV with En-Face OCT and OCTA – **Gregg Kokame**, Talisa de Carlo, Kyle Kaneko, Rebecca Lian, James Lai, Raymond Wee
- PA-12 Optical Coherence Tomography Angiography of Collateral Vessel Formation in Eyes with Retinal Vein Occlusion Supports Venous Outflow Origin in the Deep Vascular Complex – **David Sarraf**, K. Bailey Freund, Belinda Long, Sean Garrity, Kiran Vupparaboina, Kunal Dansingani
- PA-13 Assessment of Contrast Sensitivity by Spaeth/Richman Contrast Sensitivity test (SPARCS) in Patients with Different Stages of Glaucoma; Comparison with Pelli-Robson Chart Test – **Parul Ichhpujani**, Sahil Thakur, Suresh Kumar, **George Spaeth**
- PA-14 Tocilizumab for the Treatment of Giant Cell Arteritis: Ophthalmic Subset Analysis of a Phase 3 Randomized Controlled Trial – **Timothy McCulley**, Katie Tuckwell, Sophie Dimonaco, Micki Klearman, Neil Collinson, John Stone
- PA-15 Complete Lensectomy for Ectopia Lentis in Children: Outcomes and Complications using an Anterior Segment Approach – **M. Edward Wilson**, Sarah Logan, Rupal Trivedi
- PA-16 Prophylactic Ranibizumab for Exudative Age-related Macular Degeneration (AMD) in Vulnerable Eyes with Non-exudative AMD Trial (PREVENT): A Prospective Controlled Clinical Trial – **Clement Chan**, Maziar Lalezary, Prema Abraham, **Michael Elman**, Steven Lin, Rahul Khurana, Alok Bansal, Mark Wieland, James Palmer, Louis Chang, Glenn Yiu, Brandon Lujan

**EXECUTIVE VICE PRESIDENT REPORT****Hans E. Grossniklaus, MD**

The American Ophthalmological Society (AOS) continues to be financially

strong. Our balance as of February 28, 2018, is \$9,556,009 compared with \$8,993,132 one year ago. This continues to put us in a strong financial position. The AOS underwrites the annual meeting for approximately \$150,000.

There are 237 active members in the AOS, compared with 225 in 2017, and 134 Emeritus members, compared with 145 in 2017. This indicates positive growth in the active membership of the AOS. Please remember to nominate potential AOS candidates via the AOS website.

The education/outreach projects of the AOS includes helping to subsidize the annual Heed retreat for ophthalmology residents, 8 Council/Knapp and 3 CES travel grants, the Blodi and Verhoeff lectureships, and non-AOS symposium speakers.

We have accomplished several improvements in our infrastructure over the past three years; these include a new AOS website that continues to function well. Abstract submission for the annual meeting and membership nomination are both done online through our website. We have eliminated the Committee on Publications and created the Committee on Communications through bylaws changes. The Committee on Communications, headed by Michael Chiang MD, presented a successful and informative social media workshop during a special luncheon yesterday. Thanks Michael!

Finally, and most importantly, we have now instituted submitting and publishing theses through the American Academy of Ophthalmology with Elsevier as the publisher; this enables real time review of the theses, publication of the theses as an epub ahead of print, publishing theses with monthly issues of the AJO as the theses are accepted, and an annual supplement with the theses. The AJO has an impact factor, which the TAOS did not have. The thesis committee chair is a guest editor and thesis members serve on the editorial board for theses. The front matter and necrology of the TAOS will remain as part of the AOS website, and the executive vice president will serve as the editor of this. A big thank you to Richard Parrish MD and Emily Chew MD for helping with this process.

This editorial is now published in the AJO regarding these changes. Also, a big thank you to Amber Mendez, who helped facilitate this. This will address the AOS membership's wishes to retain the thesis and have theses published in a respected journal with an impact factor.



2018 AOS Council (left: Hans Grossniklaus, Marco Zarbin, David J. Wilson, Timothy Olsen, Emily Chew, Woodford Van Meter, Edward Buckley, & Julia Haller (inset)

**REPORT FROM THE COUNCIL CHAIR****Woodford S. Van Meter, MD**

It was an honor and a privilege to serve as Chairman of the AOS Council 2017-2018. In the fall of 2017, the fourth annual AOS Council Lecture Series was held at the University of Kentucky in Lexington on Friday, October 6. The Fall Council Meeting was held Saturday, October 7th in Lexington, when we finalized the program for Dana Point and started plans for future programs in

Torrey Pines in 2020 and Naples, Florida in 2021. We welcomed new council member **Julia Haller** for the 2017-2018 year. **Marco Zarbin** will succeed me as council chair for 2018-2019, and we welcome **Bill Mieler** as new member of the AOS Council 2018-2019.

The 2018 AOS Annual Meeting is now in the books. The 154th Annual Meeting was held at the Monarch Beach Resort at Dana Point, CA, May 17-20, 2018. We welcomed thirteen new members into the organization, and a new member spotlight presentation highlighted the personality and accomplishments of each one before the formal receiving line reception on Thursday night. **Eddie Alfonso** helped organize a spectacular program. On Friday morning, the Symposium on **Global Outreach** was kicked off by David Paton, who spoke about his efforts to start Project ORBIS (now ORBIS International) in 1975. Subsequent distinguished speakers, many from the AOS, spoke on global ophthalmology and how the AOS can help advance ophthalmology and patient care outside the United States. Saturday's symposium on **Wound Healing and the Cornea** spotlighted regeneration studies on different layers of the cornea. This talented group of speakers spoke about the future of corneal wound repair and how manipulation of different layers of corneal tissues can improve vision.

The social side of the meeting was no less entertaining. **Susan Day** organized another rousing talent display, this time embracing southern California culture, with her artistic soirée. A pool of dubious judges awarded the western talent pool top honor after the performance (under protest from the two other groups). The golf and tennis tournaments were held in sunny Southern California weather, and we had a record number of golfers on the Dana Point Golf Links.

The annual Saturday evening banquet was highlighted by the presentation of the Howe Medal to **Joan Miller** from Boston. Dinner was followed by dancing with music by the High Tide.

Next year, the 155th AOS Annual meeting will be held at the Greenbrier Resort in White Sulphur Springs, West Virginia, May 16-19, 2019. The Greenbrier Resort has undergone an extensive renovation by new owner and Governor of West Virginia, Jim Justice. Since the AOS was last there in 2010, the large underground chamber that was at one point the presumptive emergency repository for the government in Washington in the event of a nuclear attack has been embellished and the casino has been refurbished. In addition to superb hotel amenities, the Greenbrier has new tennis courts, and golf will be held on the Old White Course, the site of the Greenbrier Classic Tournament on the PGA tour in July. I look forward to seeing everyone in the mountains of West Virginia in May; it should be an outstanding meeting!

## REPORT OF THE AOS AUDIT COMMITTEE

### M. Edward Wilson, MD

Dr. Wilson is the Chair of the AOS Audit Committee this year with additional members Anne L. Coleman, MD, and Hans E. Grossniklaus (EVP). The Audit Committee met on Monday, July 16, 2018 with additional guests including Rianne Suico of Moss Adams Accountant Firm, Alice Paw as Finance Manager, AAO, and Michael Roll as Director of Finance, AAO. Attending SF AMS Management staff included Timothy Losch and Amber J. Mendes, AOS, Client Services Manager. The Committee reviewed the Fiscal Year 2017 Audited Financial Statements. Ms. Paw provided an overview and noted some changes to the presentation of audited financials in order to align with reporting standards. She reported that the consolidated statement of financial position and activities were presented at a summarized level, and that detailed statements were included as supplemental schedules in the back of the report. Ms. Paw explained that since the financials are reported on a comparative basis, footnotes where amounts were reported included current and prior year balances.

Ms. Paw reported that the total assets increased by \$984,875 due to the timing of transfers from the investment accounts offset by an increase in expenses during the year. She stated that the investments increased by \$1,233,116 due to the timing of the transfers from investments, as well as an increase in market values and interest/dividend income.

Ms. Paw confirmed that there was an increase in liabilities of approximately \$9,500 due to the timing of reimbursement payments to SF AMS, and an

increase in EVP and management fees. Ms. Paw reported a total net asset increase of \$975,327.

Dr. Wilson excused SF AMS staff and the American Academy of Ophthalmology Finance staff and the Committee met in an executive session with the representative from Moss Adams. The Committee did not identify anything that would be considered unusual or warrant further investigation. The audit representative indicated that the audit team had complete cooperation from the SF AMS staff during their audit of the AOS financial statements. The Committee accepted the auditor's report as presented and Dr. Wilson adjourned the meeting of the Audit Committee without any having determined any irregularities.

## REPORT OF THE COMMITTEE ON THESES

**Henry D. Jampel, MD**, Chair and reporting member  
Committee Members: **Janet Davis, MD** and **Doug Cameron, MD**

The logistics of the review process were modified in 2017. Theses were received on a rolling basis rather than en masse in January. These were submitted through Karger. This system was inefficient, so going forward the theses will be managed through the Elsevier American Journal of Ophthalmology website.

Ten theses were reviewed, but eight were judged as needing major revision. The committee thought that clearer guidelines for thesis format might improve the quality of the submissions. Instances of self-plagiarism were noted, pointing to a need for clearer instructions on the need for originality.



*Executive Vice President Hans E. Grossniklaus and  
AOS Transactions Editor Emily Chew*

## EDITOR'S REPORT

### Emily Y. Chew, MD

It is with great pleasure that this editor of the *Transactions of the American Ophthalmological Society (TAOS)* completes her duties with this report. Thanks to the generosity of Dr. Richard K. Parrish, II, the former *TAOS* editor and the current editor of the *American Journal of Ophthalmology (AJO)*, the theses that are vital to the membership of the American Ophthalmological Society (AOS), will now be published by the *AJO*. All accepted AOS theses will be published in a timely manner online once it is accepted by the theses committee in the *AJO*. Once a year, the theses will be published in print in one volume as a supplement by *AJO*. This will ensure the AOS members will publish their important scientific discoveries in a journal with an excellent impact factor and thus attracting some of the brightest and best candidates in ophthalmology. The *TAOS* will continue to exist to publish online the minutes of the annual meeting and executive session, abstracts of the papers and poster presentations at each of the annual meetings, and the Howe medal

presentation. The necrologies of the members will also continue to appear in *TAOS*. Dr. Hans Grossniklaus will be the next editor of the *TAOS*.

I would like to thank the AOS executive committee and the AOS membership for the opportunity to serve as the editor of the *TAOS*. I enjoyed this experience tremendously as it provided me the ability to learn about each of our new candidate's passion and their important work. Thanks once again for the opportunity to serve this great society.

## COMMITTEE ON PROGRAMS REPORT

**Eduardo Alfonso, MD**

Committee: E. Alfonso, P. Blomquist, I. Schwab, J. Weiss

### 2018 AOS KNAPP SYMPOSIUM – WOUND HEALING AND THE CORNEA:

- The Regenerated Cornea / May Griffith
- Corneal Nerve Regeneration / Mark Rosenblatt
- Conjunctival Repair (Pterygium) / Lawrence Hirst
- Epithelial Repair (Limbal Transplant) / Edward Holland
- Stromal Remodeling (Cross-Linking) / Peter Hersh
- Endothelial Cell Repair / Shigeru Kinoshita

The intent of this symposium is to examine corneal regeneration, including pathology and repair/rejuvenation of different cell lines of the anterior segment.

### 2018 AOS FRIDAY SYMPOSIUM – GLOBAL OUTREACH:

- The Origin of ORBIS / David Paton
- Global Organizations / Hugh Taylor
- Global Research / Martine Jager
- Global Accreditation / Susan Day
- Global Certification / George Bartley

### GENERAL PROGRAM:

- 40 abstracts were submitted by the extended deadline
- 1 abstract was disqualified for not submitting a financial disclosure
- 18 abstracts were accepted as podium presentations
- 21 abstracts were invited for poster presentations / 19 accepted invitation
- 2 podium presentations withdrew

### ADDITIONAL INFORMATION:

- CME is being offered for both guided poster sessions
- Per ACGME guidelines, only the presenting author is required to disclose financial interests with commercial companies in medicine that are relevant to the presentation
- There is 1 new member presenting an oral abstract
- There are 3 new members presenting a poster
- 11.75 CME hours are being offered this year
- This is the third year CME is being offered for poster sessions
- Invited presenters and abstract presenters were asked to use the AOS slide template for their presentations

## REPORT OF THE COMMITTEE ON MEMBERSHIP

**Mary Elizabeth Hartnett, MD**

This is an exciting time in ophthalmology with great advances in science, clinical care, diagnostic through imaging and translation. The Committee on Membership and the AOS has been actively encouraging members to nominate colleagues for membership, and this year the AOS invited 18 of 22 applicants to write a thesis for membership. This was one of the highest number reviewed and all candidates were outstanding. The candidates have a diverse set of skills, to name a few: leadership, science, translation of science, clinical care, ethics, policy, education, national and international outreach, service and interpreting big data that crosses several of these areas. The criteria considered in determining who would be invited to write a thesis were those of previous years, such as peer-reviewed publications, academic achievement, and sponsor statements, as in previous years, but also grants, presentations within the last 5 years, professionalism, teaching responsibilities with clarification at what level, scholarship and ethics.

The committee had several suggestions for new criteria for members, and to include additional information into the application of grants, website, educational scholarship, leadership roles, ethics that include issues affecting recertification or research integrity, and professional demeanor.



*Global Outreach Symposium participants David Paton and George Bartley*

## REPORT OF THE ARCHIVIST PHOTOGRAPHER

**Ralph C. Eagle, Jr., MD**

I took more than more than 1000 high resolution digital photographs (including many duplicates) at the One Hundred Fifty-Third Annual Meeting of the American Ophthalmological Society held at the Omni Homestead in Hot Springs, Virginia on May 18-21, 2017. The photos were taken using a Nikon D810 digital camera. Eight photos were included as color illustrations in the frontmatter of the 2017 on-line volume CXV (v.115) of the *TRANSACTIONS OF THE AMERICAN OPHTHALMOLOGICAL SOCIETY*. These included photos of 2017 AOS President George B. Bartley, MD, President Bartley & his wife Lynn Bartley and group photos of The 2017 AOS Council and eight new members who attended the meeting. 2017 Lucien Howe Medalist George L. Spaeth, MD and 2017 Frederick C. Blodi Lecturer Joseph Caprioli, MD were shown in additional figures. A photo of new member Martine Jager signing the AOS Membership Book and a group photo of the participants in the Knapp Symposium on Optic Nerve Regeneration And Reconnection also were included. A photo show comprising selected digital images in PDF format from the 2017 meeting can be downloaded from the meeting photos section of the Members-Only section of the AOS website. The digital archives of the AOS now comprise more than 12000 high-resolution digital photographs and 1400 digital images prepared from scanned transparencies. Additional slides

will be scanned in the future. The images are stored on redundant digital hard drives and flash drives and on CD's and DVD's in some instances. A backup hard drive containing all the images will be stored in the AOS office in San Francisco.

### COMMITTEE ON EMERITI

#### Thomas D. France, MD

- The Annual Emeritus luncheon will be held today from 12:30 p.m. to 2:00 p.m. in the Aegean Room.
- All Emeritus members, old and new, and their guests, are invited!
- We have invited a speaker from the Dana Point Historical Society to entertain and educate us about the life of Robert Henry Dana, Jr.

I regret to inform you of the passing of the following AOS members since our last Annual Meeting:

- **Matthew D. Davis, MD**  
Madison, WI  
Member since 1973
- **H. MacKenzie Freeman, MD**  
New York, NY  
Member since 1978
- **William H. Spencer, MD**  
Alameda, CA  
Member since 1972
- **Roger F. Steinert, MD**  
Irvine, CA  
Member since 1997
- **Stewart Wolff, MD**  
Baltimore, MD  
Member since 1972

### COUNCIL APPOINTMENTS FOR 2018-2019

- AOS Council – **William F. Mieler**
- AOS President – **M. Edward Wilson**
- Executive Vice President – **Hans E. Grossniklaus** to continue
- Editor – **Hans E. Grossniklaus**
- Member, Committee on Theses – **Ivana K. Kim** to join Janet L. Davis, Chair, and J. Douglas Cameron
- Member, Committee on Programs – **Peter A. Netland** to join Preston Blomquist, Chair, Ivan R. Schwab, and Jayne S. Weiss
- Member, Committee on Membership – **Natalie C. Kerr** to join R. Michael Siatkowski, Chair, Christopher J. Rapuano, and Anthony C. Arnold
- Chairs, Committee on New Members – **David K. Wallace**
- Member, Committee on Prizes – **Hugh R. Taylor** to join Susan Day, Chair, and Alfred Sommer
- Chair, Committee on Emeriti – **Thomas D. France** to continue
- Committee on Athletics – **Frederick W. Fraunfelder** to continue
- Chair, Audit Committee – **Woodford S. Van Meter** to join Anne L. Coleman, Chair and Hans E. Grossniklaus
- Investment Committee – **M. Edward Wilson, Jr., Marco A. Zarbin,** and **Hans E. Grossniklaus**
- Archivist/Photographer – **Ralph C. Eagle, Jr.** to continue

- Representative to AAO Council – **Sophie J. Bakri**, alternate **Anne C. Coleman**
- Representative to the International Council of Ophthalmology – **Marilyn T. Miller** to continue
- Representative to the American College of Surgeons – **Robert A. Goldberg**, alternate George L. Spaeth to continue
- Representative to the Pan American Association of Ophthalmology – **Eduardo C. Alfonso** to continue
- Representatives to the American Orthoptic Council – **Steven Archer, James D. Reynolds,** and **Marilyn B. Mets** to continue
- Representative to JCAHPO – **William F. Mieler** to continue
- Parliamentarian – **George B. Bartley**

### REPORT FROM THE REPRESENTATIVE TO THE COUNCIL OF THE AMERICAN ACADEMY OF OPHTHALMOLOGY

Anne L. Coleman, MD, PhD

#### 7 SESSIONS AT THE MID-YEAR FORUM 2018

1. Changing the Role of the Veterans Health Administration and Its Impact on Eye Care Services
  - a. The Academy addressed the eye care services within the Veterans Health Administration (VHA), which have recently changed. The session examined how Academy members can work to ensure veterans receive high quality eye care and how the changing VHA could shape the training of future ophthalmologists.
    - i. Academy President Keith Carter, MD, FACS, and the Vice President of the Association of Veterans Affairs Ophthalmologists, David Vollman, MD, MBA, and 6 expert panelists moderated the session.
  - b. At present, the VA employs 1,252 ophthalmologists. Session attendees were polled and roughly, 90 percent of attendees were trained at the VA. The importance of VA training was highlighted.
  - c. The VA is currently working to improve patient engagement and focus on “The Three Cs”, capacity, capability, and consistency. VA efforts are dedicated to providing care as quickly and efficiently as possible.
  - d. High priority objectives of this panel included: continuation to educate the Academy membership about ophthalmology activities at the VA, and continue the Academy’s engagement with Congress on challenges and new proposals related to health care are the VA.
2. Drugs in 2018: Access, Pricing and Payment
  - a. The Academy addressed the on-going issue of drug access for patients. The hearing looked at ways in which the government and other payers seek to lower the cost of drugs to patients and to improve access and treatment outcomes. Topics included proposed reforms of Part B drug payments.
    - i. The session included perspectives of government policy makers, industry and ophthalmology leadership. Moderated by Cindie Mattox, MD.
  - b. Access problems for patients are due to problems with formularies/coverage, reimbursement, etc.
    - i. Consumer drug costs are ballooning because drug companies can charge what they want; insurance companies are charging more old drugs being reformulated to extend patents; development of new expensive “specialty” drugs; generic drug shortages trigger massive price increases.

- ii. Ophthalmology shortages have affected phenylephrine, pilocarpine, homatropine, dorzolamide, timolol, fluorescein strips, atropine and generic latanoprost.
  - iii. Suggestions made to fix issues include: compounders can step in when drugs appear on the FDA shortage list; regulatory changes; change Part D regulations, currently only FDA-approved drugs can be on formulary (new drugs take 6-12 months to get on formulary); remove the prohibition against negotiating prices.
  - c. For ophthalmology practices, management of the product is a big cost. Other challenges include access issues – prior authorization, limited plan networks and step therapy (the Academy supports access to all proven therapies); delivery issues; 340B Program – CMS cut drug payments to hospitals 22 percent in 2018, cut saves patients money but hospitals are calling for relief.
  - d. The audience-expressed frustration regarding a wide range of issues and problems, including that rising prices seem directly linked to government regulations and or FDA “coziness” with the pharmaceutical industry.
  - e. High priority objectives included: provide landscape on the issues affecting drug shortages and increasing costs; delve into the problems facing both Part D and Part B drugs; highlight a current effort to price innovative drugs through value-based pricing; explore what actions Congress or the administration have taken and or are considering in order to alleviate the problems of access and cost.
3. IRIS Registry: Scientific Advances and Practice Insights
- a. IRIS Registry contains data on almost 50 million patients and 200 million patient visits. Session covered how the newest findings provide insight into current day practices and patient outcomes and how you can get opportunities to apply for research funding to do your own IRIS Registry research.
    - i. Moderator David W. Parke II, MD – CEO, AAO
  - b. Primary purpose for creating the IRIS Registry was to improve quality, with quality reporting as a secondary goal.
    - i. Currently there are new insights in retina and strabismus surgery based on the IRIS Registry.
  - c. Data from the Pyott Glaucoma Center was discussed. The center aims to provide freely available instruction to clinicians; integrate elements of the IRIS Registry to foster data-driven decisions for more effective care. Participants were shown summary data from the IRIS Registry on the Center.
  - d. High priority objectives include continuing to advance knowledge discovery through big data analyses of the IRIS Registry, and work with foundations, federal agencies and other organizations to evaluate findings in the IRIS Registry and to help guide and recruit sites for clinical trials.
4. Private Equity and Other Equity Transfers: What’s Right for You?
- a. More practices within ophthalmology and health care in general are seeking to consolidate. Private equity companies and large multispecialty groups have shown increasing interest in the purchase of ophthalmology practices.
  - b. Medicine’s business model is rapidly changing, larger health systems traditionally have not had an interest in ophthalmology but this is changing.
  - c. Mergers and affiliations represent other opportunities for practices that wish to maintain some level of autonomy but want the benefit of a larger network for patient access.
5. Drinking from a Firehose: How Not to Drown in the Era of Information Overload
- a. Information overload challenges practitioners at all levels of training and throughout their careers. The session examined tips and practices that could benefit practitioners with this challenge.
    - i. Multiple speakers presented including Louis B. Cantor, MD, Robert F. Melendez, MD, MBA, Stephen D. McLeod, MD, Ann M. Hulett, CMPE, and Rick Palmon, MD.
  - b. Dr. Melendez discussed managing electronic information. He recommended removing ads from web pages to read faster. He discussed the possibility of a ONE Network app to include organized medical media.
  - c. Dr. McLeod discussed tips on the overwhelming number of journals in ophthalmology. In order to keep up one needs to establish goals for reading journals and prioritize which journals to read.
6. L.E.A.P. Forward for Advocacy Ambassadors
- a. The session discussed the Academy’s Advocacy Ambassador Program that is a partnership with state, subspecialty/specialized interest societies and training programs.
    - i. Goals of the program are to, engage and educate Members in Training, help Members in Training understand the importance of membership and active involvement in their respective state ophthalmology and subspecialty societies, and expose Members in Training to some of the critical issues in medicine being discussed by leaders in ophthalmology.
  - b. The L.E.A.P. Forward concept was first introduced at the Mid-Forum 2015 with success.
  - c. High priority objectives included: continuation of engaging and inspiring Advocacy Ambassadors to be involves not only in Academy but locally; encourage state and subspecialty societies to be inclusive and offer YOs an opportunity to be involved; ensure Advocacy Ambassadors fulfill the requirement to present their Mid-Year Forum experiences to their colleagues during Grand Rounds or other presentation opportunities.
7. The Future of Artificial Intelligence in Ophthalmology
- a. The next transformation in ophthalmology is the application of artificial intelligence in diagnosing and treating disease in clinical practice. The session explored what artificial intelligence means for practicing ophthalmologists.
  - b. High priority objectives were to keep current with different artificial intelligence activities, including deep learning, machine learning, and provide ophthalmological input and guidance; to provide an understanding about how artificial intelligence activities can augment; and to improve ophthalmologists’ tools to diagnose and manage patients and integrate these tools in their clinical practice.

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## 9 COUNCIL ADVISORY RECOMMENDATIONS (CAR)

1. Improving Accuracy of Classification Categories for Board Certification
  - a. Problem Statement – The current classification system by the American Board of Ophthalmology (ABO) for Board Certification does not accurately reflect the accomplishments of the candidate. The flaws in this system have a negative impact on ophthalmologists’ ability to care for patients.
  - b. Academy Proposal – Through its collaboration with the ABO, the AAO believes that the CAR is well aligned with efforts that the ABO is undertaking to clarify the certification listings of its diplomats.
2. Patient Advocacy via the AAO
  - a. Problem Statement – The Academy’s mission involves advocacy for patients. However, to our knowledge, the Academy does not have an entity (point person or body) whose designated role is patient advocacy.

- b. Academy Proposal – The Academy could broaden its footprint in patient-centered quality eye care led by ophthalmologists but it might take additional resources to launch the effort.
3. Resident/fellow Involvement in CAR submissions
    - a. Problem Statement – In the current climate of wide ranging U.S. health care reform and optometric scope expansion, it is critical that the Academy promote greater involvement by members-in-training (MIT) in life-long membership, advocacy and financial support of PACs. To that end, the Advocacy Ambassador Program (AAP) can be expanded to offer an opportunity for ambassadors to engage in council proceedings and specifically, Council Advisory Recommendations (CARs).
    - b. Academy Proposal – The Council Chair and Senior Secretary for Advocacy look forward to implementing ways to increase AAP participants' awareness of the Council and its role as a policy advisory body to the Academy's Board of Trustees.
  4. State Government Affairs Funding
    - a. Problem Statement – The Council was concerned with inadequate funding for the State Government Affairs (SGA) and ask that there be a renewed effort to increase the money and resources for the SGA.
    - b. Academy Proposal – The State Affairs Secretariat believes that independent funding sources such as the SSF and an independent public entity could become a major funding source for additional revenue in the states' battle for patient safety and preservation of surgical standards.
  5. The Gatekeeper Role of Ophthalmology
    - a. Problem Statement – The eye health gatekeeper role will become increasingly important.
    - b. Academy Proposal – The Academy's State Affairs Secretariat is committed to work with state ophthalmic societies to derail any legislative/regulatory action, which would restrict or eliminate ophthalmology's role as the recognized eye care gatekeeper.
  6. Federal Designation of Convergence Insufficiency as a "Visual Impairment"
    - a. Problem Statement – To avoid misappropriation of resources for visually impaired children to children with convergence insufficiency, and to aid the local school vision teachers, this CAR requests that the AAO Federal Affairs office address this issue with the Office of Special Education Programs (OSEP) and attempt to have the designation of convergence insufficiency as a visual impairment reversed.
    - b. Academy Proposal – To support our position with evidence before the United States Department of Education (USDOE), the Academy would like to work with state societies to identify difficulties encountered in their states to comply with this ruling and provide evidence of problems when scarce resources are taken away from children with visual impairments or blindness and directed towards those suffering from convergence insufficiency.
  7. Protecting Technician Performance of Routine Tasks Problem
    - a. Problem Statement – The need for ophthalmologists to see more patients has increased the importance of efficiency and the ability to delegate tasks, or the shifting of essential tasks that are not required to be performed by ophthalmologists to certified Allied Ophthalmic Personnel (AOP) or technicians who are highly qualified and have the skills to perform them.
    - b. Academy Proposal – For these reasons, the Secretary for State Affairs supports the creation of a task force highlighted in CAR 18-07. The State Affairs Secretariat looks forward to working with IJCAHPO leadership to organize the task force and bring it forward as a working advocacy tool for ophthalmology patient care.
  8. AAO Policy on Sexual Harassment
    - a. Problem Statement – Sexual harassment is not specifically addressed in the current American Academy of Ophthalmology code of ethics, in spite of a growing awareness of its prevalence and impact in our profession and among our trainees. Better defined mechanisms are needed to educate Academy members regarding prevention of sexual harassment and to enforce a zero tolerance policy.
    - b. Academy Proposal – All Academy members agree to comply with the Code of Ethics, which includes a principle of exemplary conduct as the provision of ophthalmological services with compassion, respect, for human dignity, honesty, and integrity, as a condition of continued Academy membership. The Academy will investigate other mechanisms to inform and educate members on this important topic.
  9. Combining Invoices of AAO National and State Society Dues with Advocacy Donations
    - a. Problem Statement – The Academy and State Ophthalmology Societies have combined mailings, but create separate invoice sections for professional dues and advocacy donations. This is confusing and inhibits full funding. We need to intentionally combine the dues and donation invoices to enhance funding and support Academy initiatives.
    - b. Academy Proposal – The Academy is currently collaborating with 26 of the 52 state societies in the AAO/State Society combined dues mailing program. For each of the 26 state society program partners, the Academy develops a unique state society membership invoice with the society's respective logo, tax deductibility statement and leader letter detailing member benefits. 13 societies' list optional contributions to PACs in their dues invoice while 13 do not. Tax deductibility for state dues also vary from 0% to 93%.

### REPORT FROM THE REPRESENTATIVE TO THE AMERICAN COLLEGE OF SURGEONS

#### Robert A Goldberg, MD

The American College of Surgeons is dedicated to improving the care of the surgical patient and to safeguarding standards of care in an optimal and ethical practice environment. The College carries out its mission through a wide scope of activities, including physician education, public education, development of safety and quality programs, and advocacy.

The Ophthalmology Advisory Council meets annually and participates in education (Dr. Edwards' submission on telemedicine was accepted for next year's ACS Congress), training (Dr. Don Kikkawa serves as the ABO liaison to the ACS), physician health (Dr. \_\_\_ Grassi and the Resident and Associate Society are addressing surgical burnout and education/wellness balance), and patient safety (ACS Resources to Address Surgical Patient Opioid Use).

Although Ophthalmologists comprise only 2% of the ACS membership, our voice and our input are important. ACS participation fosters our connection to the greater House of Surgery and optimizes power to achieve our common goals.

### REPORT FROM THE REPRESENTATIVE TO THE AMERICAN ORTHOPTIC COUNCIL

#### James D. Reynolds, MD

The 2017-2018 year has been extremely eventful for the AOC while the coming year promises that also. The biggest changes are characterized below, but the creation of a new journal and the pursuit of outside accreditation top the list.

#### I. AOS Representation on the AOC

The American Orthoptic Council is an organization supported by 7 entities:

- American Association for Pediatric Ophthalmology and Strabismus
- American Ophthalmological Society
- American Academy of Ophthalmology
- American Academy of Pediatrics Section of Ophthalmology
- American Association of Certified Orthoptists
- Canadian Orthoptic Council
- The Canadian Orthoptic Society

Current AOS representatives to the AOC include:

- James Reynolds, MD
- Steve Archer, MD
- Kanwal Nischal, MD

The support of these members is greatly appreciated as they have provided valuable input and leadership to the organization.

## II. 2018 Newly Certified Orthoptists

On Saturday, September 22, 2018, a total of 9 candidates became certified orthoptists following successfully passing the AOC Oral Examinations at Houston Eye Associates in The Woodlands, Texas.

## III. New Orthoptic Fellowship Programs

Applications have been submitted for the creation of two new orthoptic fellowship programs:

- The Boston Orthoptic Fellowship Program (Tufts and Boston Children's)
- Children's Hospital of Philadelphia

After successful site visits and review, these programs will join the current 11 accredited Orthoptic Fellowship Programs to increase the number of orthoptists within the profession.

## IV. Journal of Binocular Vision and Ocular Motility (BVOM)

AOJ, Inc, has successfully transitioned to the new publisher, Taylor & Francis. The BVOM will be published online 4 times a year with one yearly print version encompassing all 4 online publications. The journal was successful in maintaining the Medline status obtained by the AOJ and subscribers will have access to all AOJ back-issues. The founding co-editors guiding this publication are Kyle Arnoldi, CO, and Burt Kushner, MD. AAPOS members will have access to a substantially discounted subscription rate of \$55 (Regular) or \$100 (Supporter). The normal full price subscription rate for online with print is \$250. We hope that members will appreciate the discount and be encouraged to subscribe.

## V. 2018 AAO/AOC/AACO Sunday Symposium

Title: Don't Miss This! Red Flags in the Pediatric Eye Examination

Chairs: Stephen P Christiansen, MD, and Shelley Klein, CO

Date: Sunday, October 28, 2018, from 3:45-5:15pm

Location: E350 – McCormick Place Lakeside Level 3

Synopsis: Although the pediatric eye examination can be made more challenging by inattention, poor cooperation, sleep, or just the wiggles, these should never be a justification for an inadequate assessment of the child. In fact, a challenging patient should make the examiner ever more careful to get a good history and to look carefully for potential red flags that should be examined in greater detail. Missing a history of diplopia or not noticing an abnormal pupil, or blurred disc margins, to name a few, may delay the diagnosis and treatment of potentially life-threatening entities. In this symposium, red flags in the pediatric eye examination will be reviewed in depth, with emphasis on diagnosis, testing, and referral.

## VI. 2019 AAPOS Workshop – Joint submission by the AOC and AACO

## VII. Accreditation

The AOC application to the Commission on Accreditation of Allied Health Education Programs (CAAHEP) for the creation of the Committee on Accreditation of Orthoptic Fellowship Programs (CoA-OFPP) was formally accepted in April of 2018. Through external accreditation and a formal process of continuous quality review by CAAHEP, the quality and reputation of the orthoptic profession will become stronger.

To summarize:

- The AOC will begin the transition of the accreditation of orthoptic fellowship programs to the newly formed “CoA-OFPP”.
- The CoA-OFPP will eventually become a separately operated and self-standing entity that is part of CAAHEP, not the AOC.
- The CoA-OFPP requires sponsoring institutions:
  - The AOC is the first sponsoring entity.
  - Sponsoring institutions are involved in dictating the accreditation standards for orthoptic programs through the appointment of members to the CoA-OFPP.
  - Individuals selected to serve on the CoA-OFPP do not have to be members of the sponsoring entities.
  - Sponsorship requires a yearly payment to CAAHEP (\$3000). There also may be an additional yearly financial support request from CoA-OFPP, but this is up to their board and is currently being evaluated and yet to be determined.
  - AAPOS will be one of the first organizations approached to join the AOC in sponsorship of CoA-OFPP.
  - Each sponsoring institution will have a representative Commissioner on CAAHEP. Alex Christoff, CO, will be serving as the first AOC CAAHEP Commissioner.
- Each orthoptic training program will become accredited by CAAHEP as their accreditation with the AOC expires.
- As current chair of the AOC Accreditation Committee, David Wheeler will be first Chair of CoA-OFPP.

## VIII. Core Competency Document

The AOC is finalizing a core competency document, outlining the clinical skill expectations for orthoptists. This will be used for training programs to better guide and set standards for the education of their students. This will also be available for international applicants requesting certification by the AOC. This document will be made available for a nominal fee online and can be provided to the AAPOS Board upon request for free.

## IX. Trademark

The AOC is moving forward and working with an attorney to trademark the use of “CO” to ensure this term is properly used by orthoptists within the United States and to promote the ongoing emphasis on transparency of healthcare provider credentials. In addition to this, the use of “AOC” and the AOC's logo will be trademarked.

## REPORT FROM REPRESENTATIVE TO INTERNATIONAL COUNCIL OF OPHTHALMOLOGY

### Marilyn T. Miller, MD

The ICO is a large international body that represents over 150 national, regional and subspecialty societies of ophthalmologists and works with other organizations such as NGOs and WHO. Its primary target activities are in the educational realm. One very successful endeavor is The ICO Fellowships Program, which has assisted over 1000 ophthalmologists, primarily from low-income countries, to receive additional training in their area interest.

Another activity is the ICO examination. More than 30,000 ophthalmologists have taken them. In the 2017 Program update of the ICO, they noted that these

exams have been given in 80 countries at 122 exam centers. The fees are small. The ICO Center for Ophthalmic Education is another resource for both online and formal courses.

A highlight of the ICO education programs is the World Ophthalmology Congress (WOC) held every two years in different regions of the world. Barcelona, Spain was the location of the last Congress. The AOS (Mets/Oison/Taylor) offered a symposium on “Hot Economic Issues in Global Ophthalmology.” The next Congress is planned for Cape Town, South Africa, in 2020.

I attended the Barcelona venue and was very impressed with the size, quality and scope of educational offerings. The AOS has organized and presented excellent symposiums at these Congresses and I would recommend continuing that practice.

It has been an honor to represent the AOS in the ICO but I feel it is time to turn over this task to someone younger.

**Recommendation:** The AOS continue its support and membership in the ICO and replace me as its representative.

## REPORT FROM THE REPRESENTATIVE TO THE PAN-AMERICAN ASSOCIATION OF OPHTHALMOLOGY

Eduardo Alfonso, MD

### 1. Pan-American Council of University Professors (PACUPO)

Eduardo Mayorga MD (Argentina) chairs **PACUPO**. The purpose of this program is to unite and standardize university training programs throughout Latin American through exchange programs and other means. Towards this end, Dr. Mayorga, as Chair of the PAAO eLearning Committee, created “Campus PAAO” to offer PAAO webinars and over the years many PACUPO members have given more than 150 educational courses free of charge. Dr. Mayorga has also created asynchronous courses students to take for a modest fee. The complete list of archived webinars and the schedule of upcoming webinars and asynchronous courses are available on the PAAO’s website [www.paa.org](http://www.paa.org).

### 2. Fellowships Committee

Lihteh Wu MD (Costa Rica) chairs the **Fellowships Committee**. Scholarships are funded from a variety of sources. In 2017 \$100,000 in scholarships and other awards were given. In addition to using its Pan-American Foundation unrestricted resources, funding for these programs is provided by personal donations to the Pan-American Foundation, from donations from industry partners and private or family foundations, such as the Retina Research Foundation, the Tim & Judith Sear Foundation and the David E.I. Pyott Foundation.

### 3. Visiting Professors Committee

José Antonio Roca MD (Peru) chairs the **Visiting Professors Committee**. The Visiting Professors Program sends Visiting Professors to present the “Pan-American Lecture” at national ophthalmological meetings in the Americas. In 2017 Over \$16,000 in travel awards were given out to seven national society meetings.

### 4. 2018 Meetings & Educational Activities

Continuing education and prevention of blindness programs are the primary mission for the PAAO. Dr. Mayorga launched a series of very successful free webinars in English, Spanish and Portuguese that has generated much interest in a variety of subspecialties. Approximately two webinars are presented per month. Our face-to-face educational activities include:

- **15th Leadership Development Course “Curso de Liderazgo”**  
Jointly with the American Academy of Ophthalmology (AAO)  
January 12-14, 2018 · San Francisco, California

- **25th Pan-American Regional Courses of Ophthalmology**  
February 9-11, 2018 · Cartagena, Colombia
- **16th Pan-American Research Day (one day before the ARVO meeting)**  
April 28, 2018 · Honolulu, Hawaii
- **32nd Mejor de la AAO en Español**  
October 31, 2018 · Chicago, Illinois



New members attending meeting. (from left) Anat Galor, Shen Lin, Fredericus van Kuijk, Bertil Damato, Jennifer Lim, Joan O’Brien, Anne Marie Hanneken & Jurij Bilyk

## REPORT FROM THE COMMITTEE FOR NEW MEMBERS

David Wallace, MD: The New Members Committee welcomed 8 new members at the 154th annual meeting of the American Ophthalmological Society. The new members are Jurij Bilyk, MD, FACS; Bertil Damato, MD, PhD, FRCO; Anat Galor, MD, MSPH; Anne Hanneken, MD; Jennifer Lim, MD; Shan Lin, MD; Joan O’Brien, MD; and Fredericus (Erik) van Kuijk, MD, PhD.

A brief background summary of the background of each new member follows.

Jurij Bilyk, MD, FACS

- Professor of Ophthalmology, Thomas Jefferson University Hospital, Philadelphia
- Oculoplastic and Orbital Surgery
- Thesis: *The Utility of Color Duplex Ultrasonography in the Diagnosis of Giant Cell Arteritis: A Prospective, Masked Study*

Bertil Damato, MD, PhD, FRCO

- Professor of Ophthalmology and Radiation Oncology, University of California San Francisco
- Ocular Oncology
- Thesis: *Quality of Life after Treatment of Choroidal Melanoma: a Comparison of Enucleation vs Radiotherapy in 1596 Patients*

Anat Galor, MD, MSPH

- Associate Professor of Clinical Ophthalmology, University of Miami
- Corneal and Uveitis
- Thesis: *The Relationship Between Ocular Itch, Ocular Pain, and Dry Eye Symptoms*

Anne Hanneken, MD

- Associate Professor, Department of Molecular and Experimental Medicine, The Scripps Research Institute, La Jolla, CA

- Medical and Surgical Retina
- Thesis: *Biochemical Measurements of Free Opsin in Macular Degeneration Eyes: Examining the 11-cis Retinal Deficiency Hypothesis of Delayed Dark Adaptation*

Jennifer Lim, MD

- Marion H. Schenk Esq. Chair and Professor of Ophthalmology, University of Illinois at Chicago
- Medical and Surgical Retina
- Thesis: *Analysis of Retinal Thinning Using SDOCT Imaging of Sickie Cell Retinopathy Eyes Compared to Age- and Race-Matched Control Eyes*

Shan Lin, MD

- University of California, San Francisco Department of Ophthalmology
- Glaucoma
- Thesis: *Predictors of Intraocular Pressure After Phacoemulsification in Primary Open-Angle Glaucoma Eyes with Wide Versus Narrower Angles*

Joan O'Brien, MD

- Chairman, Department of Ophthalmology; Director, Scheie Eye Institute; William F. Norris and George E. deSchweinitz, Professor
- Ocular Oncology
- Thesis: *Family History in the Primary Open-Angle African American Glaucoma Genetics Study Cohort*

Fredericus (Erik) van Kuijk, MD, PhD

- Professor and Chair, University of Minnesota Medical School
- Medical Retina
- Thesis: *Enhanced Detection of Sub-Retinal Pigment Epithelial Cell Layer Deposits in Human and Murine Tissue: Imaging Zinc as a Biomarker for Age-Related Macular Degeneration*

## REPORT OF THE COMMITTEE ON ATHLETICS

The 154th AOS Annual Meeting was held at the luxurious St. Regis Monarch Beach Resort in Dana Point, CA, after a seven year hiatus. It was a fantastic reunion, and a perfect place to share all that California has to offer with friends and colleagues. As per tradition, golf, tennis skeet shooting and the Golden Voice awards were vied for and coveted by all, but won by the few.



Woodford Van Meter and Anne Coleman

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## TROPHIES IN GOLF

Men

- Mishima-Michels Trophy – Low Gross: David Wallace
- Canada-McCullough Cup – Low Net: Ed Wilson
- Truhlsen Trophy – Senior Low Net: Jim Bobrow
- Knapp Trophies – Random Draw Team: Jay Erie, Woody Van Meter

Women

- Ellsworth Trophy – Low Gross: Tamara Fountain
- Homestead-Callaway Cup – Low Net: Johnna Jager

Dubious Awards from the Athletics Director

- Long Drive – Men: David Wallace
- Closest to the Pin – Men: Larry Tychesen
- Long Drive – Senior Men: Mark Terry
- Closest to the Pin – Senior Men: Larry Tychesen
- Closest to the Pin – Ladies #1: Tamara Fountain
- Worst Sand Shot Ever: Peter Netland

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## TROPHIES IN TENNIS

Men

- EVLBrown Bowl – Doubles Winners: Woody Van Meter, Jim Tsai
- Brown-Wilson Tray – Doubles Runners-up: Rick Fraunfelder, Sloan Wilson
- Michels-Wilkinson Trophy – Most games won- Senior: Sloan Wilson

Ladies

- Perera Bowl – Doubles Winners: Deena Laties, Tamara Fountain
- Hughes Bowl – Doubles Runners-up: Tamara Fountain, Alice Wilkinson

Mixed Doubles

- Wong McDonald Bowl – Mixed Doubles Winners: Alfredo Sadun, Tamara Fountain
- Wilson Trophy – Mixed Doubles Runners-up: No Winner\*

Dubious Awards from the Athletics Director

- AOS Sportsmanship Award Tennis – Men: Bob Weisenthal
- AOS Sportsmanship Award Tennis – Ladies: Alice Wilkinson
- AOS – Athletic Director who invited you to sit at his table but didn't save you a spot and worst shorts award: Woody Van Meter

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## SKEET SHOOTING

- Beetham-Bullock Trophy: Tim Stout, Ken Wright

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## FLY FISHING

- McCaslin-Fralick-Kimura Bowl – no winner

*Artistic Soirée*

## ARTISTIC SOIRÉE

- Golden Voice Award: The Athletes

## 2019 MEETING AT THE GREENBRIER, WHITE SULPHUR SPRINGS, VIRGINIA

The AOS 155th Annual Meeting will be held at The Greenbrier at White Sulphur Springs. The Greenbrier, a National Historic Landmark, and known since 1778 for the restorative nature of the natural spring waters, has been host to 27 United States presidents, as well as royalty, celebrities and business leaders who come to experience the extravagant resort. The Greenbrier has been synonymous with world class golf for more than a century. The Old White House TPC Course was originally designed in 1914, and renovated in 2017, it is now the host to the Greenbrier Classic, the annual PGA Tour Fed Ex Cup. The Meadows Course was also restored in 2017, and reopened in August 2018. The Ashford Short Course is a 9-hole walking course. Golfing legends Sam Snead, Tom Watson and Lee Trevino earned the title of Golf Professional Emeritus. Arnold Palmer won his first professional money in the Same Snead Festival in 1955. Fishing will be at Howard's Creek Trophy Trout Reserve. Tennis will be offered, as well as Skeet and Trap shooting, a popular sport at The Greenbrier offering four combination strap and skeet fields and a 10-station sporting clays course. Looking forward to seeing all of you for another opportunity of comradery and competition.

## REPORT OF THE COMMITTEE ON PRIZES

### Dan B. Jones, MD, Chair

The Committee on Prizes is charged with selecting the Awardee of the Lucien Howe Medal and presenting the Award at the Annual Meeting banquet. The 2018 Committee comprised Dan Jones, MD, Chair, Susan Day, MD and Alfred Sommer, MD. The Lucien Howe Medal is awarded to recognize one of more of the following accomplishments: a discovery or innovation that suddenly advances the progress of ophthalmology in all parts of the world; outstanding original investigations in ophthalmology; significant contributions as an ophthalmic educator; or meritorious and remarkable service to ophthalmology.

The Committee held a planning conference call on August 1, 2017. Each Committee member subsequently reviewed the roster of active and emeritus members and developed an initial short list of five to seven potential candidates for the Award. The call for 2018 Howe Medal nominations was sent to the American Ophthalmological Society membership by eBlast on August 23, 2017, with a deadline for submission of October 30, 2017. After review of the new nominees from the membership, the Committee members constructed revised short lists of nominees which were discussed by several conference calls and emails. A final discussion and vote were held by conference call on

November 20, 2017, and the Committee unanimously selected Joan W. Miller, MD as the Awardee.

Dr. Miller was born in Toronto, Canada, and attended Bishop Strachan School. She is a graduate of the Massachusetts Institute of Technology and Harvard Medical School. She completed an internship in medicine at Newton Wellesley Hospital and an ophthalmology residency and vitreoretinal fellowship at Massachusetts Eye and Ear Infirmary.

Dr. Miller has excelled in all four requisites of the Award. She and her colleagues at the Massachusetts Eye and Ear Infirmary developed photodynamic therapy with verteporfin (Visudyne®), the first pharmacological therapy for retinal diseases which was approved by the Food and Drug Administration in 2000. The group also discovered the role of vascular endothelial growth factor (VEGF) in ocular neovascularization in 1994. Dr. Miller demonstrated the therapeutic potential for anti-VEGF agents in preventing ocular neovascularization and developed effective agents targeting VEGF. These and other efforts resulted in more than 165 publications in peer-reviewed scientific journals, of which she was first or senior author in 75 publications, and acquisition of six United States patents. She achieved international preeminence as an expert on retinal disorders, retinal degenerations and diabetic retinopathy.

Dr. Miller was promoted to Professor of Ophthalmology at Harvard Medical School in 2002, appointed Chair of Ophthalmology at Harvard Medical School on 2003, Chief of Ophthalmology at Massachusetts Eye and Ear Infirmary in 2003 and Chief of Ophthalmology at Massachusetts General Hospital in 2009. She is the first woman to hold these four positions. Dr. Miller has mentored countless residents, fellows and young vision scientists throughout her career.

*Howe Medalist Joan Miller*

Among Dr. Miller's numerous awards and honors are the Jules Gonin Lecturer of the Retinal Research Foundation, Club Jules Gonin in 2002; J. Donald Gass Medal for Outstanding Contributions in the Study of Macular Diseases from the Macula Society in 2009; LXIX Edward Jackson Memorial Lecture, American Academy of Ophthalmology in 2012; Antonio Champalimaud Vision Award from the Champalimaud Foundation in 2014; and Mildred Weisenfeld Award for Excellence in Ophthalmology from the Association for Research in Vision and Ophthalmology in 2015. Dr. Miller was elected member of National Academy of Medicine in 2015.

Dr. Miller is married to Dr. John B. Miller, a prominent practicing construction attorney in Boston. They have three children: John, a member of the Faculty of the Department of Ophthalmology at Harvard Medical School and vitreoretinal surgeon at the Massachusetts Eye and Ear Infirmary; Doug, vice president of a construction company in Boston and Mary, a practicing attorney in Washington, DC.

The Lucien Howe Medal was presented to Dr. Miller at the Annual Meeting banquet at Dana Point, California on Saturday, May 19, 2019. She is the 85th recipient of the Award.

## MEMBERS REGISTERED FOR AOS 2018

Ron Adelman	Active Member
Steven Archer	Active Member
Anthony Arnold	Active Member
George Bartley	Active Member
J. Bronwyn Bateman	Active Member
Christophe Baudouin	Active Member
Jurij Bilyk	Active Member
Bradley Black	Active Member
Preston Blomquist	Active Member
James Bobrow	Active Member
Michael Brodsky	Active Member
Edward Buckley	Active Member
John Bullock	Emeritus Member
J. Douglas Cameron	Active Member
Louis Cantor	Active Member
Chi-Chao Chan	Active Member
RV Paul Chan	Active Member
Clement Chan	Active Member
Teresa Chen	Active Member
Emily Chew	Active Member
Michael Chiang	Active Member
Alan Chow	Active Member
Gerhard Cibis	Emeritus Member
John Clarkson	Active Member
Anne Coleman	Active Member
Bertil Damato	Active Member
Janet Davis	Active Member
Susan Day	Active Member
Raymond Douglas	Active Member
Harminder Dua	Active Member
Ralph Eagle	Active Member
Victor Elner	Active Member
Susan Elner	Active Member
Jay Erie	Active Member
Bitá Esmaeli	Active Member
Steven Feldon	Active Member
Allan Flach	Emeritus Member
Tamara Fountain	Active Member
Thomas France	Emeritus Member
Frederick T. Fraunfelder	Emeritus Member
Frederick W. Fraunfelder	Active Member
Anat Galor	Active Member
Henry Gelender	Active Member
Michael Goldbaum	Active Member

Robert Goldberg	Active Member
Karl Golnik	Active Member
Evangelos Gragoudas	Active Member
M. Gilbert Grand	Active Member
Ronald Gross	Active Member
Hans Grossniklaus	Active Member
Julia Haller	Active Member
Anne Hanneken	Active Member
Peter Hersh	Active Member
Edward Holland	Active Member
Gary Holland	Active Member
Andrew Huang	Active Member
David Huang	Active Member
Mark Humayun	Active Member
Malcolm Ing	Active Member
Martine Jager	Active Member
Henry Jampel	Active Member
Mark Johnson	Active Member
Dan Jones	Emeritus Member
Peter Kaiser	Active Member
L. Jay Katz	Active Member
Natalie Kerr	Active Member
Don Kikkawa	Active Member
Ivana Kim	Active Member
Shigeru Kinoshita	Active Member
Gregg Kokame	Active Member
Ronald Krueger	Active Member
Baruch Kuppermann	Active Member
Alan Laties	Emeritus Member
Mary Lawrence	Active Member
Leonard Levin	Active Member
Alex Levin	Active Member
Jennifer Lim	Active Member
Shan Lin	Active Member
Walter Lisch	Active Member
Don Liu	Active Member
Gregg Lueder	Active Member
Edward Manche	Active Member
Mark Mannis	Active Member
Steven Mansberger	Active Member
Irene Maumenee	Active Member
Timothy McCulley	Active Member
Stephen McLeod	Active Member
Marilyn Mets	Active Member
William Mieler	Active Member
Marilyn Miller	Emeritus Member

Joan Miller	Active Member
Joseph Miller	Active Member
Richard Mills	Emeritus Member
Paul Mitchell	Active Member
John Morrison	Active Member
Peter Netland	Active Member
Steve Newman	Active Member
Kanwal Nischal	Active Member
T. Michael Nork	Active Member
Joan O'Brien	Active Member
Timothy Olsen	Active Member
Cameron Parsa	Active Member
Louis Pasquale	Active Member
Jay Pepose	Active Member
Robert Ritch	Active Member
Alfredo Sadun	Active Member
David Sarraf	Active Member
David Schanzlin	Active Member
Joel Schuman	Active Member
Ivan Schwab	Active Member
Daniel Schwartz	Active Member
Jerry Sebag	Active Member
Rona Silkiss	Active Member
John Simon	Active Member
Jason Slakter	Active Member
Kent Small	Active Member
George Spaeth	Active Member
Bruce Spivey	Emeritus Member
Robert Stamper	Active Member
Joshua Stein	Active Member
Bradley Straatsma	Emeritus Member

C. Gail Summers	Active Member
Hugh Taylor	Emeritus Member
Mark Terry	Active Member
John Thompson	Active Member
James Tsai	Active Member
Stephen Tsang	Active Member
Lawrence Tychsen	Active Member
Fredericus van Kuijk	Active Member
Woodford Van Meter	Active Member
David Wallace	Active Member
David Weakley	Active Member
Robert Weinreb	Active Member
Jayne Weiss	Active Member
R. Sloan Wilson	Emeritus Member
David Wilson	Active Member
M. Edward Wilson	Active Member
Steven Wilson	Active Member
Terri Young	Active Member
Marco Zarbin	Active Member
Winston Chamberlain	Professional Guest
May Griffith	Professional Guest
Lawrence Hirst	Professional Guest
Ivonne Lollett	Professional Guest
Fukutaro Mano	Professional Guest
Mohammad Pakravan	Professional Guest
Ravi Parikh	Professional Guest
David Paton	Professional Guest
Suzann Pershing	Professional Guest
Mark Rosenblatt	Professional Guest
Jeremiah Tao	Professional Guest
Robert Weisenthal	Professional Guest

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**Joshua Stein\***, Moshir Rahman, Shivani Kamat, Manjool Shah, Joshua Ehrlich, Erin Boese, Jeff Cowall, Chris Andrews, David Hanauer

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**Michael Chiang\*\***, Brad Henriksen, Abigail Huang, Isaac Goldstein, Michelle Hribar

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# THESES

## PUBLISHED IN THE AJO

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**Joan M. O'Brien, MD**

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[PRECUT POST-LASER IN SITU KERATOMILEUSIS / PHOTOREFRACTIVE KERATECTOMY DONOR CORNEAS FOR USE IN ENDOTHELIAL KERATOPLASTY: POTENTIAL IMPACT OF POSTCUT MORPHOLOGY ON VISUAL OUTCOMES](#)