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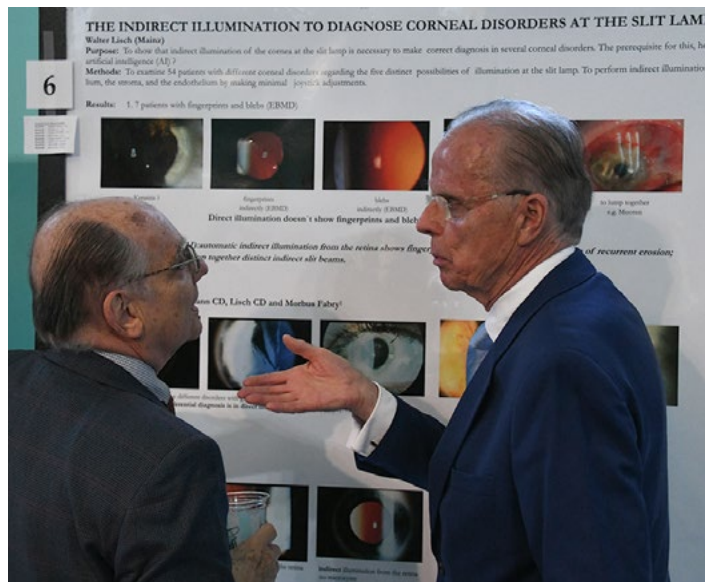
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 2016DR. ELIAS I. TRABOULSI
Zonules and Molecules: The Underlying Pathophysiology of Ectopia Lentis
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Retinal Ganglion Cell Rescue in Glaucoma



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Abbott, Richard (2003)	Eagle Jr., Ralph (1988)	Kaushal, Shalesh (2006)	Parver, Leonard (2000)
Adelman, Ron Afshari (2011)	Edward, Deepak Paul (2011)	Kempen, John (2019)	Pasquale, Louis R. (2013)
Akpek, Esen (2015)	Elman, Michael (1996)	Kerr, Natalie (2011)	Paysse, Evelyn (2004)
Alfonso, Eduardo (2008)	Elnor, Susan (2002)	Khan, Arif Omar (2015)	Pepose, Jay (2011)
Alio, Jorge L. (2019)	Elnor, Victor (2002)	Kikkawa, Don (2010)	Pulido, Jose (1996)
Archer, Steven (2007)	Erie, Jay (2003)	Kim, Ivana (2016)	Puro, Donald (2002)
Arevalo, J. Fernando (2019)	Esmaeli, Bita (2012)	Kim, Judy (2012)	Raab, Edward (1982)
Arnold, Anthony C. (2013)	Fawzi, Amani (2019)	Kinoshita, Shigeru (2012)	Rapuano, Christopher (2003)
Asbell, Penny (1999)	Ferris, Frederick (1996)	Kinyoun, James (2008)	Reynolds, James (2007)
Azar, Dmitri (2006)	Fingert, John (2016)	Koch, Douglas (1996)	Ritch, Robert (1994)
Bakri, Sophie J. (2013)	Fish, Gary (2008)	Kokame, Gregg (2014)	Rosen, Richard (2019)
Bartley, George (1994)	Flaxel, Christina J. (2013)	Krueger, Ronald (2012)	Sadun, Alfredo (1998)
Bateman, J. Bronwyn (1992)	Fountain, Tamara (2014)	Kuppermann, Baruch (2014)	Sarraf, David (2014)
Baudouin, Christophe (2012)	Francis, Peter (2011)	Lai, Timothy (2015)	Schaefer, Daniel (2007)
Bilyk, Jurij (2017)	Fraunfelder, Frederick W. (2008)	Lawrence, Mary (2004)	Schanzlin, David (1999)
Black, Bradley (2006)	Friedman, Alan (1984)	Levin, Alex (2014)	Schein, Oliver (2000)
Blomquist, Preston (2006)	Galor, Anat (2017)	Levin, Leonard (2007)	Schubert, Hermann (2005)
Bobrow, James (1998)	Gamm, David (2019)	Lim, Jennifer (2018)	Schuman, Joel (2008)
Brodsky, Michael (2007)	Gardner, Thomas (1995)	Lin, Shan (2016)	Schwab, Ivan (1999)
Brown, Gary (1999)	Garway-Heath, David (2017)	Lisch, Walter (2016)	Schwartz, Daniel (2003)
Browning, David (2010)	Gelender, Henry (2006)	Liu, Donald (2005)	Sears, Jonathan E. (2013)
Buckley, Edward (2007)	Goldbaum, Michael (2005)	Ludwig, Irene (1999)	Sebag, Jerry (2005)
Busin, Massimo (2014)	Goldberg, Robert (2011)	Lueder, Gregg (2012)	Seddon, Johanna (2019)
Budenz, Donald (2008)	Golnik, Karl C. (2013)	Macasai, Marion (2008)	Sen, Nida (2017)
Buys, Yvonne (2019)	Good, William (2001)	Manche, Edward (2011)	Sherwood, Mark (2006)
Cameron, J. Douglas (2014)	Gottsch, John (1996)	Mannis, Mark (2000)	Shields, Carol (2000)
Cantor, Louis (2001)	Gragoudas, Evangelos (1998)	Mansberger, Steven L. (2013)	Shields, Jerry (1981)
Caprioli, Joseph (1994)	Grand, M. Gilbert (2003)	McCannel, Colin (2017)	Shtein, Roni (2016)
Chan, Chi-Chao (2003)	Gross, Ronald (1999)	McCulley, James (1990)	Siatkowski, R. Michael (2011)
Chan, Clement (2014)	Grossniklaus, Hans (1998)	McCulley, Timothy J. (2013)	Siegfried, Carla (2019)
Chan, Paul (2015)	Gupta, Neeru (2019)	McDonald, Marguerite (2005)	Silkiss, Rona Z. (2016)
Char, Devron (1988)	Haller, Julia (1996)	McLeod, Stephen (2006)	Simon, John (2007)
Chen, Teresa (2009)	Han, Dennis (2004)	Merriam, John (1996)	Slakter, Jason (2015)
Chew, Emily (2005)	Hanneken, Anne (2017)	Mets, Marilyn (1999)	Small, Kent (1998)
Chiang, Michael F. (2013)	Harbour, James William (2019)	Mian, Shazhad (2015)	Smith, Justine (2018)
Chodosh, James (2006)	Harris, Gerald (1993)	Mieler, William (1997)	Spaeth, George (1975)
Chow, Alan (2010)	Hartnett, Mary (2010)	Miller, Joan (2008)	Spaide, Richard (2019)
Cioffi, George(Jack) (2005)	Hersh, Peter (2005)	Miller, Joseph (2010)	Spencer, Rand (2006)
Clark, Robert (2018)	Holland, Edward (1996)	Milman, Tatyana (2019)	Stager Jr., David R. (2013)
Clarkson, John (1992)	Holland, Gary (2007)	Mindel, Joel (1986)	Stamper, Robert (1984)
Coats, David (2005)	Horton, Jonathan (1997)	Mitchell, Paul (1998)	Stein, Joshua D. (2013)
Cohen, Elisabeth (2009)	Huang, Andrew (2007)	Morrison, John (2006)	Stewart, Michael (2019)
Coleman, Anne (2007)	Huang, David (2013)	Nelson, J. Daniel (1995)	Stone, Edwin (2003)
Collins, Mary (2019)	Humayun, Mark (2001)	Netland, Peter A. (2009)	Stout, Timothy (2006)
Correa, Zelia (2019)	Jabs, Douglas (1995)	Newman, Steven (2007)	Tan, Donald (2014)
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Danias, John (2015)	Jampel, Henry (2001)	Nischal, Kanwal (2016)	Thompson, John (2003)
Davis, Janet (2012)	Jeng, Bennie (2018)	Nork, T. Michael (2000)	Topouzis, Fotis (2019)
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Donahue, Sean (2005)	Jonas, Jost (2014)	O'Brien, Joan (2018)	Traverso, Carlo (2017)
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Dua, Harminder (2014)	Kaiser, Peter K. (2009)	Parke II, David (2007)	Tsang, Stephen (2014)
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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)
Wladis, Edward (2019)
Wong, Tien (2019)
Wright, Kenneth (1999)

Yannuzzi, Lawrence (1986)
Young, Terri (2004)
Zacks, David N. (2009)
Zarbin, Marco (2003)

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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)
Bullock, John (1983)
Burton, Thomas (1982)
Carr, Ronald (1974)
Caldwell, Delmar (1997)
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)
Feldon, Steven (2004)
Feman, Stephen (1994)
Flach, Allan (1998)
Flanagan, Joseph (1980)
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)
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Hyndiuk, Robert (1981)
Iloff, W. Jackson (1985)
Ing, Malcolm (1981)
Irvine, Alexander (1980)
Jaeger, Edward (1980)
Jakobiec, Frederick (1984)
Jampol, Lee (1987)
Jampolsky, Arthur (1970)
Jarrett, William (1981)
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)
Lakhanpal, 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)
Nirankari, Verinder (1992)
Okun, Edward (1972)
O'Neill, John (1998)
Owens, William (1953)
Payne, John (1980)
Pico, Guillermo (1957)
Pollard, Zane (1997)
Rao, Narsing (1990)
Ravin, James (2008)
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. Dobli (1982)
Stager Sr., David R. (1996)
Stark, Walter (1980)
Straatsma, Bradley (1968)
Sugar, Alan (1989)
Summers, C. Gail (1996)
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)
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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)
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Wood, Thomas (1984)
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MINUTES OF THE PROCEEDINGS

ONE HUNDRED AND FIFTY-FIFTH ANNUAL MEETING
MAY 16-19, 2019

The ONE HUNDRED AND FIFTY-FIFTH ANNUAL MEETING of the American Ophthalmological Society (AOS) was held at The Greenbrier, White Sulphur Springs, West Virginia.

On May 17, 2019, Friday, President **M. Edward Wilson, Jr., MD** called the opening session to order. The program began with the following Friday sessions.

VERHOEFF LECTURE

A New Approach to VEGF Driven Retinal Vascular Leakage in Inherited and Acquired Retinal Vascular Disease
Michael Trese, MD

SYMPOSIUM: ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING

1. Introduction — **Marco Zarbin, MD, PhD**
2. AI: What is it? How does it work? Applications to Ornithology and Ophthalmology — *Pietro Perona, PhD*
3. Deepmind Project: Application of AI to Retinal Disease — **Pearse Keane, MD, FRCOphth**
4. Application of AI to Retinopathy of Prematurity — **Michael Chiang, MD**
5. Application of AI to Glaucoma — **Michael Goldbaum, MD**
6. Regulatory Issues Regarding AI Incorporation into Clinical Practice — **Malvina Eydelman, MD**
7. Other Applications of AI in Medicine and Ophthalmology — **Dimitri Azar, MD**

SCIENTIFIC PAPER SESSION: FRIDAY, MAY 17, 2019

- PA-01. Prospective Comparison of Resident Surgical Outcomes of Femtosecond Laser Assisted Cataract Surgery versus Conventional Phacoemulsification Surgery — **James McCulley, Preston Blomquist, Brock Hansen**
- PA-02. Aravind Pseudoexfoliation Study: Five Year Postoperative Results — *Aravind Haripriya, Chandrasekaran Shivakumar, Madhu Shekhar, Kalpana Narendran, Rengaraj Venkatesh, Ravilla Ravindran, Alan Robin*
- PA-03. Machine Learning for Prediction of Appointment Length and for Scheduling Optimization in Ophthalmology — **Michael Chiang, Wei-Chun Lin, Isaac Goldstein, Michelle Hribar**
- PA-04. Prospective Study of Non-Melanoma Skin Cancer and the Risk of Exfoliation Glaucoma — **Louis Pasquale, Jae Hee Kang, Robert Ritch, Janey Wiggs**
- PA-05. Ranibizumab for the Treatment of Retinopathy of Prematurity (ROP): 24-Week Results from the Randomized, Multi-Center, Open-Label Rainbow Study — **James Reynolds**

LUNCH LECTURE

Artificial Intelligence and Robotics: Research, Business Applications, Ethics — Neil Jacobstein, spouse of **Rona Silkiss**

EXECUTIVE SESSION: SATURDAY, MAY 18, 2019

KNAPP SYMPOSIUM

OCULAR INFLAMMATION: PUTTING OUT FIRE

1. Introduction — **Preston H. Blomquist, MD**
2. Advanced Ocular Imaging in The Management of Uveitis — **Quan Dong Nguyen, MD, MSc**
3. Evidence-Based Treatment for Noninfectious Uveitis — **Douglas A. Jabs, MD, MBA**
4. New Directions for Treatment of Ocular Inflammation — **Janet L. Davis, MD**
5. The Gut Microbiome and its Relation to Ocular Inflammation — *Jerry Niederkorn, PhD*

SCIENTIFIC PAPER SESSION: SATURDAY, MAY 18, 2019

- PA-06. Are Risk Factors for Growth of Choroidal Nevi Associated with Malignant Transformation? Assessment with a Validated Genomic Biomarker) — **J. William Harbour**
- PA-07. Invisible Intraocular Tumors: Detection with Multimodal Imaging — **Jerry Shields, Carol Shields**
- PA-08. Validated Prediction Models for Macular Degeneration Progression and Predictors of Visual Acuity Loss Identify High Risk Individual — **Johanna Seddon, Bernard Rosner**
- PA-09. Determination of Brushfield Spots and Wölfflin Iris Nodules using Near Infrared Light — **Cameron Parsa, Lavinia Postolache**
- PA-010. Small Choroidal Melanoma Managed by Plaque Radiotherapy in 1780 Cases: Visual Outcome and Millimeter Incremental Risk for Metastasis — **Carol Shields, Kareem Sioufi, Archana Srinivasan, Maura DiNicola, Emil Say, Jerry Shields**

GALA BANQUET: SATURDAY, MAY 18, 2019

SCIENTIFIC PAPER SESSION: SUNDAY, MAY 19, 2019

- PA-011. Visual Impairment in Patients with Giant Cell Arteritis Treated with Tocilizumab in Real-World Clinical Practice — **Timothy McCulley, Jinglan Pei, Páris Sidiropoulos, Christine Birchwood, Jennie Best, John Stone, Sebastian Unizony**
- PA-012. Case for Ganglion Cell Segmentation — **Steven Newman**
- PA-013. Sustained Drug Delivery System for Anti-Vascular Endothelial Growth Factor (Anti-Vegf) Agents — *Jennifer J. Kang-Mieler, Soohyun Kim, Zhe Wang, Wenqiang Liu, Glenn Yiu, William F. Mieler, Sara M. Thomasy*
- PA-014. The Effects of Prostaglandin Analog Agents on Human Meibomian Gland Epithelial Cells — *Ahmad A. Aref, Medi Eslani, Alex Pleet, William F. Mieler, Ali Djalilian*
- PA-015. Postoperative Complications Observed After Xen Gel Implantation for Glaucoma — **Carlo E. Traverso, Carlo A. Cutolo, Michele Lester**
- PA-016. Non-Tangent Extraocular Muscle Insertions and Telescoping Lever Arms: Redefining Force Transfer at The Globe-Tendon Interface — **Robert Clark, Joseph Demer**
- PA-017. Novel Use of Fibrin Glue Added to Hang-Back Recession and Outcome Comparison to Standard Fixed Suture Recession for the Treatment of Horizontal Strabismus — **Kenneth Wright, Majd Arow, Yi Ning Strube**

REPORTS

REPORT FROM THE EXECUTIVE VICE PRESIDENT

HANS E. GROSSNIKLAUS, MD

The AOS is in sound financial position. As of February 28, the balance of our accounts was \$9,391,422 compared to \$9,566,009 a year ago. Our membership is steady. We have 220 active members and 143 emeritus members. There are many candidates for membership. There were 9 candidates in 2016, 18 in 2017, and 13 in 2018. Notably, 16 theses were recently accepted or asked for minor revisions. The membership is the lifeblood of our organization and we encourage members to nominate candidates for membership.

The AOS supports several outreach projects. These include the Heed Retreat, which was held October 8-9, 2018, 11 travel grants, and the Blodi and Verhoeff Lectures. We also support non-AOS symposium speakers.

Our infrastructure has improved over the past several years. Our website www.aosonline.org works well. It enables online abstract submission and an online membership nomination process. We now have rolling acceptance of theses and the theses are published in The American Journal of Ophthalmology. Michael Chiang, MD chairs our Communications Committee

and we are increasing our social media presence.

The AOS/ABO symposium at the AAO continues to be very well received. The symposium is entitled "What You Need to Know from the Past Year's Literature". Drs. George Bartley and myself are organizers of the course; the 2017 speakers were Drs. Eduardo Alfonso, Anthony Arnold, Deepak Edward, Julia Haller, Donald Kikkawa, and Russell Van Gelder; the 2018 speakers were Drs. Emily Chew, Michael Chiang, Ralph Eagle Jr., Tamara Fountain, Karl Golnik, Gary Holland, Steven McLeod, and Richard Parrish; the 2019 speakers will be Drs. Edward Buckley, Janet Davis, Martine Jager, Andreas Lauer, Joel Schuman, Roni Shtein, Nicholas Volpe and David Tse. I wish to thank all the speakers for making this a very successful symposium.

Finally, Dr. Susan Day has asked to step down from being the organizer of the Artistic Soiree at our annual meeting. I wish to thank Dr. Day for leading this for the past several years; this has been a great addition to our annual meeting. Dr. Bradley Black has kindly agreed to take over organizing this event.

REPORT FROM THE COUNCIL CHAIR

MARCO ZARBIN, MD, PHD

It was an honor and a privilege to serve as Chairman of the AOS Council 2018-2019. We welcomed new council member Bill Mieler for the 2018-2019 year. Tim Olsen succeeds me as council chair for 2018-2019, and we welcome Preston Blomquist as new member of the AOS Council 2019-2020. Ed Wilson served with distinction as our President, and Emily Chew will serve as President during 2019-2020. Hans Grossniklaus continues to provide outstanding leadership as our

Executive Vice President. The fall Council meeting was held in Manhattan from October 4-7, 2018 at the Wagner Hotel. Members of the Council at that time included: Hans Grossniklaus, Ed Wilson, Emily Chew, Tim Olsen, Ed Buckley, Bill Mieler, Julia Haller, and me. The meeting was productive and as usual involved review of prospective members, AOS finances, and final planning for the presentations at the Annual Meeting. During a break, we visited the 911 World Trade

Center Museum. It was, for me, a particularly moving experience, as it recalled memories of events that I had witnessed 17 years ago.

The 155th Annual AOS Meeting was held at the Greenbrier in White Sulphur Springs, WV, May 16-19, 2018. We welcomed 23 (!) new members into the organization, including USA-based and international members, and a new member spotlight presentation highlighted the personality and accomplishments of each one before the formal receiving line reception on Thursday night. The Committee on Programs (Preston Blomquist, Ivan Schwab, Jane Weiss, and Peter Netland) oversaw the organization of an outstanding program. On Friday morning, Dr. Michael Trese gave the Frederick H Verhoeff Lecture (A New Approach to VEGF Driven Retinal Vascular Leakage in Inherited and Acquired Retinal Vascular Disease), which was fascinating with implications for management of pediatric retinal vasculopathies as well as related conditions. The lecture was followed by a symposium entitled, "The Artificial Intelligence and Machine Learning Symposium", which was led by distinguished speakers, including Prof. Pietro Perona (California Institute of Technology), Dr. Pearse Keane (Moorfields Eye Hospital), Dr. Michael Chiang (Casey Eye Institute), Dr. Michael Goldbaum (University of California, San Diego), Dr. Malvina Eydelman (US FDA), and Dr. Dimitri Azar (University of Illinois, Chicago, College of Medicine). The methodology, applications in ophthalmology, and implications for the practice of medicine in the future were considered. I would like to thank Dr. Lawrence Yannuzzi and the Macula Foundation for their support of the symposium. The Knapp Symposium, held on Saturday, was focused on Ocular Inflammation and its current management. The speakers, all outstanding, included Dr. Quan Nguyen (Byers Eye Institute, Stanford University), Janet Davis (Bascom Palmer Eye Institute), Douglas Jabs (Mount Sinai School of Medicine), and Prof. Jerry Niederkorn (University of Texas, Southwestern). The papers and posters presented at the General Sessions on Friday, Saturday, and Sunday were excellent as is to be expected with such an august membership. Please consult the AOS web site for additional details of these

presentations. We received notice of the deaths of the following members during 2018-19 and acknowledged their many contributions with gratitude and respect at the business meeting: R. Rand Allingham, MD Richard F. Brubaker, MD Andrew Ferry, MD, John T. Flynn, MD, and David A. Johnson, MD, PhD.

Susan Day organized another enchanting musical soiree, which complimented the excellent athletic events including golf, tennis, skeet shooting, and hiking.

The annual Saturday evening banquet was highlighted by the presentation of the Howe Medal to Jerry Shields (Wills Eye Institute, Philadelphia). Jerry's large (!) family was present for the event, which was a truly special occasion honoring his many outstanding contributions to the care of patients with ophthalmic tumors. Dinner was followed by dancing and music.

Next year, the 156th AOS Annual meeting will be held at the Lodge at Torrey Pines in La Jolla, California on May 14–17, 2020. It is a lovely venue, relatively easy to access, with breath taking views of the Pacific Ocean and outstanding athletic facilities. Dr. Ivan Schwab, Chair of the Committee on Programs, and Dr. Timothy Olsen, Council Chair, have been hard at work preparing an exciting program. Friday morning will start with a Verhoeff Lecture by Dr. Christine Curcio entitled "The Cellular Aspects of Aging" and will be followed by a symposium entitled, "The Aging Eye". Saturday features the AOS-Knapp Symposium and will focus on Opsin Ecology. I look forward to seeing everyone in May; it will be an outstanding meeting!



*Neil Jacobstein; Francesca Mattone-Volpe;
Nicholas Volpe, MD; and Rona Silkiss, MD, FACS*

REPORT FROM THE COMMITTEE ON THESES

JANET L. DAVIS, MD

The year was productive and most candidates who submitted revisions indicated that the review was helpful. The AJO website offered the advantage of archiving the reviews in a secure manner and was helpful to candidates when submitting materials. Some innovations were considered. A provision was made for a non-committee reviewer, who would be an AOS member with expertise relevant to the thesis.

Dispositions were made for 29 theses during the last year

1. Eight theses for which the review process began before May 2018
 - a. Two accepted after a revision requested in 2018.
 - b. Six accepted after a revision with instructions for additional revisions to be made at the time of a final upload to the AJO site without re-review.
2. 21 theses for which the review process began after May 2018
 - a. One rejected based on methodology and expert review.
 - b. Thirteen asked to make minor revisions before final upload to the AJO site without further review.
 - c. Seven asked to make major revisions for issues such as: organization, language, request for amplification, excessive length, question of primary authorship, methodology, or statistical issues. These were upgraded to "major revision with re-review" after the final consideration by the committee. The re-review process will be conducted by the Executive Director with the discretion to remand the thesis to the committee for further review.
3. Four thesis proposals reviewed. Comments made on 3 of 4 proposals, which were revised according to the recommendations. One proposal accepted without comment.
4. One thesis extension granted.
5. Six abstract proposals pending from 2018 with no submission as yet. For two abstracts, there was concern for sufficient patient numbers.

REPORT FROM THE EDITOR

HANS E. GROSSNIKLAUS, MD

Theses are now submitted and published in the American Journal of Ophthalmology. This enables real-time review, acceptance, publication, and ePub ahead of print with monthly issues and an annual supplement. The AJO has an impact factor. The Thesis Committee Chair is an editor, and the committee members are on the Thesis Editorial Board. Issues to be worked out are related to the Thesis Committee Chair assigning a review to himself or herself and members seeing all reviews.

The TAOS will exist as an online publication as part of the AOS website. This required no bylaws change. The Executive Vice President (EVP) now serves as the editor of the TAOS, and Amber Mendez will assist with publishing the TAOS on the website. I wish to thank Rich Parrish, M.D., Emily Chew, M.D., and Amber Mendez for enabling this to happen.

There have been seven published theses in the AJO thus far, and there are ten in process. The process of becoming a member of the AOS is now nomination, which occurs yearround, the Council approving the nominees in the Spring Meeting, the nominee then submits an application, and the Council approves the application in the Fall Council Meeting. The accepted nominee is now a candidate, and the list of candidates are published for comments by the membership. Theses are now submitted and accepted yearround, and the candidate with a thesis accepted had been voted on for membership in the Spring Meeting. We approved a bylaws change to accept the candidate when the thesis is accepted.

These changes are designed to address the consensus of the membership that the thesis should remain, although it would be better to be published in a journal with an impact factor. The TAOS also remains as part of the website.

REPORT FROM THE COMMITTEE ON PROGRAMS

PRESTON H. BLOMQUIST, MD

COMMITTEE

P. Blomquist, I. Schwab, J. Weiss, P. Netland

2019 AOS KNAPP SYMPOSIUM

Ocular Inflammation: Putting Out Fire

- Advanced Ocular Imaging in the Management of Uveitis (Quan Dong Nguyen)
- Evidenced-Based Treatment for Noninfectious Uveitis (Douglas Jabs)
- New Directions for Treatment of Ocular Inflammation (Janet Davis)
- The Gut Microbiome and its Relation to Ocular Inflammation (Jerry Niederkorn)

The intent of the symposium was to examine the current state of knowledge and future direction for the diagnosis and treatment of ocular inflammation.

VERHOEFF LECTURE

- A New Approach to VEGF Driven Retinal Vascular Leakage in Inherited and Acquired Retinal Vascular Disease (Michael Trese)



Edward Wladis, MD

2019 AOS FRIDAY SYMPOSIUM

Artificial Intelligence and Machine Learning

- AI: What Is It? How Does It Work? Applications to Ornithology and Ophthalmology (Pietro Perona)
- DeepMind Project: Application of AI to Retinal Disease (Pearse Keane)
- Application of AI to Retinopathy of Prematurity (Michael Chiang)
- Application of AI to Glaucoma (Michael Goldbaum)
- Regulatory Issues Regarding AI Incorporation into Clinical Practice (Malvina Eydelman)
- Other Applications of AI in Medicine and Ophthalmology (Dimitri Azar)

GENERAL PROGRAM

- 30 abstracts were submitted by the extended deadline (down from 40 last year)
- 2 abstracts were disqualified for not having an AOS member as an author
- 17 abstracts were accepted as podium presentations
- 11 abstracts were invited for poster presentations (8 accepted the invitation)
- Per the Council, 2019 podium presenters were allowed 7 minutes for the presentation, 3 minutes for the discussant, 9 minutes for audience questions, and 1 minute for turnover

ADDITIONAL INFORMATION

- Per ACCME guidelines, only the presenting author is required to disclose financial interests with commercial companies in medicine that are relevant to the presentation.
- 12 CME hours were offered this year
- This is the fourth year CME is also being offered for the guided poster sessions
- Invited presenters and abstract presenters were instructed to the use AOS slide template for presentations

REPORT FROM THE COMMITTEE ON MEMBERSHIP

R. MICHAEL SIATKOWSKI, MD

The Committee on Membership unanimously recommended that 13 outstanding candidates be invited to prepare a thesis for membership. The list of candidates furthers the goal of increasing diversity in the AOS by including six women and three international physicians, ranging in age from the late 30s to the mid-60s. All boast significant accomplishments in innovative scholarly activity, education, and organizational leadership; they will have much to contribute to the Society in future years.

The committee appreciated new increased functionality of the website, which facilitated the review process. Suggestions for further improvement included maximizing the downloading time, and modifying the documentation of the certification process, either by including a screenshot from the ABO database, or, for individuals not trained in the US or Canada, attaching documentation of certification by an equivalent body.

REPORT FROM THE ARCHIVIST PHOTOGRAPHER

RALPH C. EAGLE, JR., MD

I took hundreds of high-resolution digital photographs (including many duplicates) at the One Hundred Fifty-Fourth Annual Meeting of the American Ophthalmological Society that was held at the Monarch Beach Resort in Dana Point, California on May 17-20, 2018. The photos were taken using a Nikon D850 digital camera. Ten photos were included as color illustrations in the frontmatter of the 2018 on-line volume CXVI of the TRANSACTIONS OF THE AMERICAN OPHTHALMOLOGICAL SOCIETY. These include photos of 2018 AOS President David J. Wilson, MD (with Dr. Emily Chew), President Wilson & his wife Nancy Green, 2018 Lucien Howe Medalist Joan Miller, MD a group photo of the 2018 AOS Council and a group photo of eight of the new members who attended the meeting. Two other photos show Drs. Susan Day, George Bartley and David Paton participating in the 2918 Friday Symposium on Global Outreach. Subjects of other photos include AOS Executive Vice President Hans E. Grossniklaus with AOS Transactions Editor Emily Chew, AOS Council member Woodford Van Meter, MD with former Council member Anne Coleman, MD and a group photo of participants in the Artistic Soiree. A photo show comprising selected

digital images from the 2018 meeting in PDF format can be view or downloaded from the Meeting Photos section of the Members Only Area of the AOS website. The 2018 photoshow joins 22 other downloadable photoshows that begin with the 1996 AOS meeting at the Grove Park Inn in Asheville, North Carolina. The digital archives of the AOS comprise. You may view Dr. Ralph Eagle's Annual Meeting photos on the AOS website here: <https://www.aosonline.org/member-area/meeting-photos/>



Jerry Shields, MD; Ralph Eagle, Jr, MD; and Carol Shields, MD

REPORT FROM THE 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 Spring Room.

All Emeritus members, both old and new, and their guests, are invited!

We have invited the Greenbrier Historian, Dr. Robert Conte, to speak on the topic of "Notable Personalities: Famous People who have Visited the Greenbrier."

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

- R. Rand Allingham, MD, Durham, NC
Member since 2008
- Andrew Ferry, MD, Richmond, VA
Member since 1973
- David A. Johnson, MD, PhD, Wilmington, NC
Member since 2006
- Richard F. Brubaker, MD, Rochester, MN
Member since 1982
- John T. Flynn, MD, New York, NY
Member since 1983

COUNCIL APPOINTMENTS

2019-2020

AOS Council — **Preston H. Blomquist**

AOS President — **Emily Y. Chew**

Executive Vice President — **Hans E. Grossniklaus** to cont.

Editor — **Hans E. Grossniklaus** to cont.

Member, Committee on Theses — **Elias I. Traboulsi** and **Martine J. Jager** to join **Ivana K. Kim**, Chair

Member, Committee on Programs — **Sean P. Donahue** to join **Ivan R. Schwab**, Chair, **Jayne S. Weiss**, **Peter A. Netland**

Member, Committee on Membership — **Judy E. Kim** to join **Christopher J. Rapuano**, Chair, **Anthony C. Arnold**, **Natalie C. Kerr**

Members, Committee on Communications — to cont. **Michael F. Chiang**, Chair, **Tamara R. Fountain**, RV **Paul Chan**, **Anne L. Coleman**

Chair, Committee on New Members — **David K. Wallace** to cont.

Member, Committee on Prizes — **George L. Spaeth** to join **Alfred Sommer**, Chair, **Hugh R. Taylor**

Chair, Committee on Emeriti — **Thomas D. France** to cont.

Committee on Athletics — **Frederick W. Fraunfelder** to cont.

Chair, Audit Committee — **Woodford S. Van Meter**, Chair and **Hans E. Grossniklaus**, **Marco A. Zarbin**

Investment Committee — **Emily Y. Chew**, **Timothy W. Olsen**, and **Hans E. Grossniklaus**

Archivist/Photographer — **Ralph C. Eagle, Jr.** to cont.

Representative to AAO Council — **Sophie J. Bakri**, **Teresa C. Chen** alt. to cont.

Representative to the International Council of Ophthalmology — **Karl C. Golnik** to join

Representative to the American College of Surgeons — **Robert A. Goldberg**; **George L. Spaeth** alt. to cont.

Representative to the Pan American Association of Ophthalmology — **Eduardo C. Alfonso** to cont.

Representatives to the American Orthoptic Council — **Steven M. Archer**, **James D. Reynolds**, **Kanwal Nischal** to cont.

Representative to JCAHPO — **William F. Mieler** to cont.
Parliamentarian — **Peter A. Netland**



Ivan Schwab, MD

REPORT FROM THE COMMITTEE ON NEW MEMBERS

DAVID K. WALLACE, MD, MPH

THE NEW MEMBERS COMMITTEE WELCOMED NEW MEMBERS AT THE 155TH ANNUAL MEETING OF THE AMERICAN OPHTHALMOLOGICAL SOCIETY

Jorge L. Alio, MD, PhD, FEBO

- Universidad Miguel Hernandez de Elche, Visum-Instituto Oftalmologico de Alicante
- Cornea, Cataract and Refractive Surgery
- Thesis: *Regenerative Surgery of the Corneal Stroma for Advanced Keratoconus: One Year Outcomes*

Robert Clark, MD

- Family Eye Medical Groups
- Pediatric Ophthalmology and Strabismus
- Thesis: *Non-Tangent Extraocular Muscle Insertions and Telescoping Lever Arms: Redefining Force Transfer at the Globe-Tendon Interface*

Zelia Correa, MD, PhD

- Johns Hopkins University, Wilmer Eye Institutes
- Ocular Oncology
- Thesis: *Indications for Fine Needle Aspiration Biopsy of Posterior Segment Intraocular Tumors*

David Garway-Heath, MBBS, MD(res), FRCOphth

- UCL Institute of Ophthalmology/ Moorfields Eye Hospital
- Glaucoma
- Thesis: *Evaluation of Visual Field and Imaging Outcomes for Glaucoma Clinical Trial*

J. William Harbour, MD

- University of Miami Miller School of Medicine, Bascom Palmer Eye Institute
- Ocular Oncology
- Thesis: *Do Risk Factors for Growth of Choroidal Nevi Really Signify Malignant Transformation? Reassessment with a Validated Molecular Biomarker*

Bennie Jeng, MD, MS

- University of Maryland School of Medicine, Department of Ophthalmology and Visual Sciences
- Cornea and External Diseases
- Thesis: *Precut Post-Laser In Situ Keratomileusis/ Photorefractive Keratectomy Donor Corneas for Use in Endothelial Keratoplasty: Potential Impact of Postcut Morphology on Visual Outcomes*

Colin McCannel, MD

- Stein Eye Institute, UCLA
- Retina
- Thesis: *Continuous Curvilinear Capsulorhexis Training and Non-Rhexis Related Vitreous Loss: The Specificity of Virtual Reality Simulator Surgical Training*



New Members of the AOS

REPORT FROM THE COMMITTEE ON ATHLETICS

WOODFORD S. VAN METER, MD AND FREDERICK W. FRAUNFELDER, MD

The 155th AOS Annual Meeting returned to the luxurious Greenbrier Resort in White Sulphur Springs, WV in May, 2019 after a 10 year absence. The AOS last met there in 2010. To refresh your memory on 2010, Barack Obama had been in office a little over a year, Marilyn Miller received the Howe Medal, Pat Wilkinson was President, we mourned the loss of Bartley Frueh, Robert Machmer, Arnold Patz, and Stephen Podos, and welcomed in new members Terese Chen, Elizabeth Cohen, Eric Holz, Peter Kaiser, Peter Netland and David Zacks. Why is this significant? Well, Peter Netland returned from 2 hours up the road in Charlottesville to the cradle of his AOS induction and won the Mishima-Michels Golf Trophy! It was a fantastic weekend with great weather, a perfect place to reunite with friends and colleagues and visit with family and guests in the many activity venues that the Greenbrier had to offer. As per AOS tradition, golf, tennis, skeet shooting and the Golden Voice awards were enthusiastically sought and coveted by many, won by a disputed few, and enjoyed by all. The scorched egos, recruiting violations, bad calls, coaching lapses, performance enhancing drug scandals and profanity were all forgotten by the time the Saturday night banquet rolled around, leaving participants little to do but question the winners this year and plan for their own resurgence next year at Torrey Pines.

TROPHIES IN GOLF

Men

- Mishima-Michels Trophy – Low Gross: Peter Netland
- Canada-McCullough Cup – Low Net: Woody Van Meter
- Truhlsen Trophy – Senior Low Gross: Woody Van Meter
- Knapp Trophies – Random Draw Team: James Bobrow, Peter Frances



*Frederick W. Fraunfelder, MD; Julie Patten;
Yvonne Fraunfelder; and Frederick T. Fraunfelder, MD*

Women

- Ellsworth Trophy – Low Gross: Martine Jager
- Homestead-Callaway Cup – Low Net: Johanna Jager

Dubious Awards from the Athletics Director

- Long Drive – Men: Woody Van Meter
- Closest to the Pin – Men: Peter Netland
- Long Drive – Senior Men: Mike Nork
- Long drive – Ladies: Martine Jager
- Closest to the Pin – Ladies: Johanna Jager

TROPHIES IN TENNIS

Men

- EVLBrown Bowl – Doubles Winners: Rick Fraunfelder, Woody Van Meter
- Brown-Wilson Tray – Doubles Runners-up: Don Budenz, Peter Frances
- Michels-Wilkinson Trophy – Most games won-Senior: Steve Klyce

Ladies

- Perera Bowl – Doubles Winners: Sue Budenz, Dorothy Van Meter
- Hughes Bowl – Doubles Runners-up: Deena Laties, Marguerite McDonald

Mixed Doubles

Wong McDonald Bowl – Mixed Doubles Winners: Peter Frances, Deena Laties

Wilson Trophy – Mixed Doubles Runners-up: Dorothy Van Meter, Woody Van Meter

DUBIOUS AWARDS FROM THE ATHLETICS DIRECTOR

- AOS Sportsmanship Award: Steve Klyce, Marguerite McDonald

SKEET SHOOTING

- Beetham-Bullock Trophy: James Reynolds
- Close second on technicality - Ed Wilson

FLY FISHING

- McCaslin-Fralick-Kimura Bowl – no winner

GREENBRIER MUSIC SOIREE

Susan Day Group Sing

- Golden Voice Award: The AOS singers



Susan Day, MD

Dubious Awards from the Athletics Director

- Innovative thinking and spontaneity: Preston Blomquist

2020 MEETING AT TORREY PINES, SAN DIEGO, CA

The AOS 156th Annual Meeting will be held at the Lodge at Torrey Pines, atop the cliffs overlooking the Pacific Ocean just north of San Diego, CA. Torrey Pines is named for the Torrey Pine, a rare tree that grows in the wild only along this local stretch of coastline in San Diego County. The Lodge has rough hewn wooden beams, a heated pool, full service spa, large fireplaces, comfortable leather chairs and breath-taking views of the Pacific Coast. Torrey Pines features two 18 hole championship golf courses with spectacular ocean vistas, the site of the 2008 US Open, where Tiger Woods beat Rocco Mediate in an 18 hole playoff on Monday, and the site of the Farmers Insurance Open PGA tour event for the last 50 years. Both Torrey Pines golf courses are municipal courses owned by the city of San Diego, so tee times are readily available and the greens fees are reasonable. Tennis will be contested at the nearby La Jolla Tennis Club, a beautiful tennis facility with full service pro shop. Because of the population density of San Diego, skeet shooting and fly fishing are not available, but interested participants will have opportunity to try hang gliding off the Pacific palisades over ocean near the hotel, sans fly rod and shotgun, of course. Looking forward to seeing all of you there for another opportunity of comradery and friendly competition.



Preston Blomquist, MD

REPORT FROM THE COMMITTEE ON PRIZES

SUSAN H. DAY, MD

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 2019 Committee was comprised of Susan H. Day, M.D., Chair, Alfred Sommer, M.D., and Hugh R Taylor, MD. The Lucien Howe Medal is awarded to recognize one or 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.

E-mail communications were sent to AOS membership on 13 September, 4 October, and 2 November 2018 requesting nominations for the Howe Medal. Nine nominations were submitted by fourteen members; two individuals were nominated by more than one member. In preparation for its first meeting, the committee members reviewed all member nominations as well as reviewed the entire membership roster for consideration. The committee held its initial conference call on November 23, 2018. This conference call resulted in an initial short list of four potential candidates for the Award. The committee re-convened by conference call on November 23, 2018. It unanimously selected Jerry Shields, MD to receive the Howe Medal at the 2019 annual meeting.

Born and raised in Kentucky, Dr Shields has spent the majority of his life in Michigan and Pennsylvania. His initial interest in business administration faded as others recognized his innate intellect and curiosity. After graduating from Murray State, he then launched a career in medicine at the University of Michigan Medical School. Distinguished service in Vietnam as a Marine postponed his pursuit of ophthalmology until completion of service to his country.

Dr Shields found a home during residency at Wills Eye Hospital. Opportunity was in large part responsible for his selection for further study in retina, pathology, and eventually the natural progression to ocular oncology. A myriad of influential mentors at both Wills and the



2019 Howe Medalist, Jerry Shields, MD

Armed Forces Institute of Pathology provided external support for his career, though clearly it was the internal drive which resulted in his unique contributions.

Dr Shields has more than earned the informal title, “father of ocular oncology.” Sentinel in his many contributions are a taxonomy approach to tumors, a studied approach to the management of melanomas and retinoblastomas, and identification of masquerade conditions. With approximately 2000 publications, 13 textbooks, mentorship of over 100 fellows representing over 30 countries, accumulation of awards has been inevitable. These include the AAO Laureate, Castle Connely Top Doctor, and Founder of the International Society of Ocular Oncology.

Dr Shields is married to Dr Carol Lally Shields who truly deserves much credit for the extraordinary contributions he has made. Parents of seven accomplished children, many of whom are pursuing careers in medicine, it is the example set by the Shields who provide a bright future to so many.

The Lucien Howe Medal was presented to Dr. Shields at the Annual Meeting banquet at the Greenbrier on Saturday, May 18, 2019. He is the 86th recipient of the Award. To the delight of all, his children surprised the proud parents at this celebration.

REPORT FROM THE COMMITTEE ON AUDITS

ANNE L. COLEMAN, MD

WELCOME AND CALL TO ORDER

Dr. Anne Coleman, AOS Audit Committee Chair, called the meeting to order at 3:34 p.m. PDT on Wednesday, July 17, 2019. The following Committee members, staff and guests were present:

COMMITTEE

Anne Coleman, MD — Audit Committee Chair

Woodford Van Meter, MD — Audit Committee Member

Hans E. Grossniklaus, MD — Executive Vice President

STAFF

Amber J. Mendez – AOS, Client Services Manager

Timothy Losch – Director, SF AMS

Alice Paw – Finance Manager, American Academy of Ophthalmology

AUDIT PARTNERS

Rianne Suico – Senior Manager, Moss Adams

REVIEW OF FISCAL YEAR 2018 AUDITED FINANCIAL STATEMENTS

Ms. Alice Paw provided an overview of the 2018 fiscal year end audited financial statements. 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 decreased by \$806,486 due to fluctuations in market values and interest/dividends. She confirmed that liabilities were similar to the previous year.

Ms. Paw reported a total net asset decrease of \$801,271.

ACTION:

The Committee accepted Ms. Paw's report as presented.

AUDIT PRESENTATION

Ms. Rianne Suico of Moss Adams presented the Report of Independent Auditors, which stated the opinion that the consolidated financial statements were fairly presented in accordance with generally accepted accounting principles. She shared that no issues were discussed prior to their retention as auditors for the AOS, and that they had no disagreements with AOS management during the process.

ACTION:

The Committee accepted the auditor's report as presented.

EXECUTIVE SESSION

Dr. Coleman 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 any irregularities. Dr. Coleman confirmed that processes did not warrant further investigation and that a separate audit on internal controls was not necessary. Dr. Coleman stated that the committee was in favor of retaining the same audit company for five years since Moss Adams uses a different audit process every year and also has an independent quality control check.

ADJOURNMENT

Dr. Coleman adjourned the meeting of the Audit Committee at 4:00 p.m. PDT on Wednesday, July 17, 2019.



Carol Shields, MD and William Mieler, MD

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

SOPHIE J. BAKRI, MD

SEMI-ANNUAL REPORT, SEPTEMBER 2019

ORGANIZATION NAME:

American Ophthalmological Society (AOS)

COUNCILOR(S):

Sophie Bakri MD, Teresa Chen MD (alternate)

1. GOVERNMENTAL ACTIVITIES

The AOS was established in 1864 for the “advancement of ophthalmic science and art” with an emphasis on academic enlightenment in a collegial atmosphere. Candidates are invited by present members to join and must write an entry thesis. The AOS bylaws prohibit governmental, socioeconomic or advocacy activities. There are presently 217 active members and 144 emeritus members, including a few international members.

2. SOCIOECONOMIC ACTIVITIES

None. Please see above.

3. PUBLIC SERVICE ACTIVITIES AND EYECARE AMERICA ACTIVITIES

None.

4. MEMBERSHIP ACTIVITIES

The AOS publishes a semi-annual Newsletter highlighting the activities of the Council and the Society. The AOS publishes an annual Transactions of the American Ophthalmological Society (continuously since 1864) available open access at PubMed Central that features the proceedings of the meeting, the full-length theses, and Abstracts of papers and posters presented at the meeting.

5. ANNUAL MEETING AND EDUCATIONAL ACTIVITIES

The 155th Meeting of the AOS was held at the Greenbrier, West Sulphur Springs, West Virginia, May 16-19, 2019. The topic of the 2019 Knapp Symposium was “Ocular Inflammation: Putting Out Fire”. The Friday Symposium was “Artificial Intelligence and Machine

Learning”. Members also submitted papers and posters for lively discussion. There was a robust athletic and social program.

The 156th Meeting of the AOS will be held at The Lodge, Torrey Pines, La Jolla, California, May 14-17, 2020.

Abstract submissions will be accepted for the meeting, and there will also be symposia scheduled.

6. OTHER ACTIVITIES (NOT MENTIONED ELSEWHERE)

None.

7. MAJOR INITIATIVES FOR THE YEAR

AOS annual meeting as above (#5)

8. RECOMMENDED ISSUES FOR DISCUSSION AT THE UPCOMING FALL COUNCIL MEETING:

Optometric scope of practice



Carla Siegfried, MD

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. Activities include education (we submitted several course ideas for next year's meeting in Chicago), advocacy (the ACS stands by Ophthalmology in the

Surgery by Surgeons scope of practice issue, as well as appropriate valuation of surgical global fee), quality (we participated in the Red Book *Optimal Resources for Surgical Quality and Safety* with a chapter on the Ophthalmic Operating Room) and physician health.

Although Ophthalmologists comprise only 2% of the ACS membership, our voice and our input are important. We initiated a record 39 Ophthalmologists this year. ACS participation fosters our connection to the greater House of Surgery and optimizes the opportunities to achieve our common goals.

REPORT FROM THE REPRESENTATIVE TO THE AMERICAN ORTHOPTIC COUNCIL

JAMES D. REYNOLDS, MD

The 2018-2019 year has been eventful for the AOC.

I. AOS REPRESENTATION ON THE AOC

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

- American Association for Pediatric Ophthalmology and Strabismus (AAPOS)
- American Ophthalmological Society (AOS)
- American Academy of Ophthalmology (AAO)
- American Academy of Pediatrics Section of Ophthalmology (AAP)
- American Association of Certified Orthoptists (AACO)
- Canadian Orthoptic Council (COC)
- The Canadian Orthoptic Society (TCOS)

CURRENT AOS REPRESENTATIVES TO THE AOC INCLUDE:

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

The input of these members is greatly appreciated as they have provided valuable input and leadership to the organization. We continue to value the AOS as a sponsoring organization.

II. 2019 NEWLY CERTIFIED ORTHOPTISTS

On Saturday, September 21, 2019, a total of 16 candidates became certified orthoptists following successfully passing the AOC Oral Examinations held in Minneapolis. AOS representatives participated in these exams.

III. ORTHOPTIC FELLOWSHIP PROGRAMS

There are currently thirteen orthoptic training programs in the U.S. (see attached list).

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. 2019 AAO/AOC/AACO SUNDAY SYMPOSIUM

This was well attended as always

Title: TBI in Children

Chairs: Geoff Bradford, MD; Shelley Klein, CO

Date: Sunday, October 13, 2019, from 3:45-5:15pm

Location: Moscone Center

VI. 2020 AAPOS WORKSHOP – JOINT SUBMISSION BY THE AOC AND AACO

March 25-29, 2020. Austin, TX

Chairs: James D. Reynolds, MD; David Hodgetts, CO.

This workshop has been accepted (details attached).

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-OFP) 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-OFP”.
- The CoA-OFP will eventually become a separately operated and self-standing entity that is part of CAAHEP, not the AOC.
- The CoA-OFP requires sponsoring institutions:
 - The AOC is the first sponsoring entity.



Diane Schubert and Hermann Schubert, MD

- The American Academy of Pediatrics has become the second sponsoring organization and will send a representative to the CoA-OFP.
- Sponsoring institutions are involved in dictating the accreditation standards for orthop members to the CoA-OFP.
- Individuals selected to serve on the CoA-OFP do not have to be members of the sponsoring entities.
- Sponsorship requires a yearly payment to CAAHEP (\$3,000). There also may be an additional yearly financial support request from CoA-OFP, but this is up to their board and is currently being evaluated and yet to be determined.
- Each sponsoring institution will have a representative Commissioner on CAAHEP. Alex Christoff, CO, and the President Elect of the AACO will be serving as the first AOC CAAHEP Commissioners.
- Each orthoptic training program will become accredited by CAAHEP as their accreditation with the AOC expires. Once we fully transition to the new third party accreditation of programs through CAAHEP, each program will be required to do a self-study evaluation and have a site visit to obtain accreditation.

- David Wheeler, MD, has been the chair of the AOC Accreditation committee and has been named as the first chair of the CoA-OPF. He rotated off Council at the end of the meeting in September.

VIII. CORE COMPETENCY DOCUMENT

The AOC has finalized 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 from the home office.

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 THE REPRESENTATIVE TO THE INTERNATIONAL JOINT COMMISSION ON ALLIED HEALTH PERSONNEL IN OPHTHALMOLOGY

WILLIAM F. MIELER, MD

1. GOVERNANCE INITIATIVES

- IJCAHPO celebrates its *50th Anniversary* this year, commemorating the organization’s accomplishments. We honored our Founders and Honorary Councilors at our Annual Meeting.
- Elected and installed new Officers for IJCAHPO Board of Directors for 2019-20:
 - President: Neil Choplin, MD
 - President-Elect: James Tsai, MD, MBA
 - Treasurer: Michael Stewart, MD
- Welcomed new Councilor, April Maa, MD, representing Association of Veterans Affairs Ophthalmologists (AVAO).
- Awarded the Distinguished Person of the Decade Award to William Astle, MD, FRCSC, ABO Dipl.

2. MAJOR INITIATIVES FOR THE YEAR

- Presented AAO CAR: *AOP Apprenticeship Training — Workforce Shortage Solution*. IJCAHPO, along with 13 co-sponsors, achieved full AAO Council support to foster partnerships and endorse IJCAHPO’s development of an Allied Ophthalmic Personnel (AOP) Apprenticeship model to meet ophthalmology’s workforce needs. We recommended the following strategies:

- Establish a partnership with IJCAHPO to set up a task force representing AAO, IJCAHPO, state and specialty eye societies to endorse an AOP recruitment and training plan using an Apprenticeship model.
- Support the nationally and internationally accepted Standards of tasks performed by ophthalmic technicians to unify training and competencies.
- Promote education and participation of practices on Apprenticeship program benefits.
- Produce a White Paper on AOP job training in ophthalmology practices, emphasizing the benefits of the Apprenticeship program in standardizing and enhancing training AOP.
- Identifying and securing federal funding to support an Apprenticeship program.
- Expand awareness of the ophthalmic assisting profession to increase potential workforce.
 - Presented on the Ophthalmic Assisting career at the national Health Occupations Students of America (HOSA) to build awareness to 200 students interested in health careers.
 - Increased orientation education and training opportunities for new hires.



Edward Raab, MD and Rosanne Raab

3. GOVERNMENTAL AND PUBLIC AFFAIRS INITIATIVES

- Promoted monthly national eye care initiatives to ophthalmic technicians as recommended by AAO.
- There is increased frequency in state legislation requiring Surgical Assistants to be graduates of a specific Surgical Assisting Program and be certified by the same program. To date, 25 states have passed or introduced legislation to define surgical assistant/technologist eligibility requirements, sometimes specifying a particular credential, that results in excluding ophthalmic designations. We are alerting state societies and providing proposed language to present to state legislatures.

In April, IJCAHPO worked with the Texas Ophthalmological Society to oppose legislation, introduced in the Texas State Legislature, which could affect the safety of patients in need of ocular surgery. This legislation included language that would exclude practicing ophthalmologists, physicians, and surgeons the ability to properly delegate tasks to qualified, trained, and certified ophthalmic medical personnel which could limit the access of well-trained Certified Ophthalmic Surgical Assistants (OSA/ST). IJCAHPO Public Affairs argued that the success in ophthalmic surgery depends on the appropriate utilization of technology and staff who are well trained in ophthalmology and the technologies that enhance it. This legislation failed to advance prior to the Texas Legislature adjourning, meaning that it did not pass. However, we believe there is a chance it will be re-introduced when the Texas Legislature convenes in 2021.

- IJCAHPO joined the New York State Ophthalmological Society to support bills introduced in the New York State Legislature to amend the education law on the delegation of certain professional responsibilities for instilling eye drops into patients. The bills allowed for the training and authorization of AOP to instill eye drops under on-site supervision and delegation of licensed professionals without the risk of such delegation being accused of professional misconduct or improper delegation. Additionally, the bills promoted efficiency while still delivering high-quality eye care, and public protection. The bills were passed in both legislative Houses without opposition and have been sent to the Governor for signing into law. Once signed, the regulations are published for public comment prior to the law taking effect and the State Education Department will have up to 18 months to implement. This outcome greatly affirms the scope of AOP.

4. EDUCATION & E-LEARNING INITIATIVES

- Conducted the 47th Annual Continuing Education Program held on October 11-13, 2019 in San Francisco. The opening day included a Capstone Lecture Series: Innovations in Ophthalmology with 13 leaders in ophthalmology presenting a series of leading-edge topics.
- *Jean Bennett, MD, PhD and Albert M. Maguire, MD*, professors at the University of Pennsylvania Perelman School of Medicine, and recipients of the Smithsonian Ingenuity Award, were this year's Harold A. Stein Lecture speakers.
- Conducted Continuing Education Programs: fourteen (14) Regional; monthly CE Webinars – four per month; 375 online courses for the *entire eye care team*.
- Conducted Allied Ophthalmic Personnel Programs with ASCRS and COS.
- Conducted two free Continuing Education Webinars on Women's Eye Health on diabetic retinopathy.

5. CERTIFICATION INITIATIVES

- Certified a total number of certificants – 26,824 worldwide.

- Initiated three new certifications on: Certified Refractionist, Registered Contact Lens Fitter, Certified Contact Lens Practitioner.
- Upgraded and transitioned the certification of Ophthalmic Surgical Assistant (OSA) to include OSA-ST (Surgical Technician) and content for non-ophthalmic surgical technicians.
- Developed new Ophthalmic Surgical Processor certification and training.

6. FOUNDATION INITIATIVES

- Awarded over 176 Training Program Scholarships for more than \$24,000 to support ophthalmic technicians with their academic education and nine orthoptists scholarships.
- Awarded 14 certification and continuing education grants for more than \$3,800.
- Awarded three recipients the Harold A. Stein Scientific Paper \$2,000 prize.



Maria Lopez and Jorge Alio, MD, PhD



James William Harbour, MD and Zelia M. Correa, MD, PhD

7. INTERNATIONAL INITIATIVES

- IJCAHPO, Operation Eyesight and Calgary Retina co-hosted “Dinner and a Conversation” with Dr. GN Rao, LV Prasad Eye Institute (LVPEI), Hyderabad, India on May 2, in Calgary, Alberta.
- Presented on the education, training, and certification of AOP at 2019 Congresses in:
 - APAO Bangkok
 - PAAO Cancun
 - OSWI Trinidad
- supported the International Council of Accreditation’s new accreditation standards for AOP training programs; a total of 37 programs accredited worldwide.

REGISTERED MEMBERS

Esen Akpek Active Member
 Eduardo Alfonso Active Member
 Jorge Alio Active Member
 Ahmad Aref Professional Guest
 Anthony Arnold Active Member
 Penny Asbell Active Member
 James Augsburg Emeritus Member
 Dimitri Azar Active Member
 J. Bronwyn Bateman Active Member
 Bradley Black Active Member
 Preston Blomquist Active Member
 James Bobrow Active Member
 Gary Brown Active Member
 Edward Buckley Active Member
 Donald Budenz Active Member
 Clement Kar-Man Chan Active Member
 Teresa Chen Active Member
 Michael Chiang Active Member
 Robert Clark Active Member
 Elisabeth Cohen Active Member
 Zelia Correa Active Member
 Reza Dana Active Member
 John Danias Active Member
 Janet Davis Active Member
 Susan Day Active Member
 Sean Parnell Donahue Active Member
 Ralph Eagle Jr Active Member
 Deepak Edward Active Member
 Malvina Eydelman Professional Guest
 Frederick Ferris Active Member
 John Fingert Active Member
 Gary Edd Fish Active Member
 Thomas France Emeritus Member
 Peter Francis Active Member

Frederick T. Fraunfelder Emeritus Member
 Frederick W. Fraunfelder Active Member
 Thomas Gardner MD Active Member
 David Garway-Heath Active Member
 William Godfrey MD Emeritus Member
 Michael Goldbaum Active Member
 Hans Grossniklaus Active Member
 Julia Haller Active Member
 Naama Hammel Professional Guest
 James William Harbour Active Member
 Jonathan Horton Active Member
 Douglas Jabs Active Member
 Martine Jager Active Member
 Bennie Hau Jeng Active Member
 Jennifer Kang-Mieler Professional Guest
 Shalesh Kaushal Active Member
 Pearse Keane Professional Guest
 Natalie Kerr Active Member
 Judy Kim Active Member
 Timothy Lai Active Member
 Peter Laibson Emeritus Member
 Alan Laties Emeritus Member
 Walter Lisch Active Member
 Don Liu Active Member
 Irene Ludwig Active Member
 Marian Macsai Active Member
 Irene Maumenee Emeritus Member
 Malcolm Mazow Emeritus Member
 Colin McCannel Active Member
 James McCulley Active Member
 Timothy McCulley Active Member
 Marguerite McDonald Active Member
 Marilyn Mets Active Member
 Shahzad Mian Active Member

William Mieler Active Member
 Richard Mills Emeritus Member
 Paul Mitchell Active Member
 Peter Andreas Netland Active Member
 Steve Newman Active Member
 Quan Dong Nguyen Active Member
 Jerry Niederkorn Professional Guest
 T. Michael Nork Active Member
 Timothy Olsen Active Member
 Cameron Parsa Active Member
 Leonard Parver Active Member
 Louis Pasquale Active Member
 Evelyn Paysse Active Member
 Pietro Perona Professional Guest
 Donald Puro Active Member
 Edward Raab Active Member
 James Ravin Emeritus Member
 James Reynolds Active Member
 Robert Ritch Active Member
 Alan Robin Emeritus Member
 Richard Rosen Active Member
 Oliver Schein Active Member
 Hermann Schubert Active Member
 Ivan Schwab Active Member
 Johanna Seddon Active Member
 Nida Sen Active Member
 Mark Sherwood Active Member
 Jerry Shields Active Member
 Carol Shields Active Member
 R. Michael Siatkowski Active Member
 Carla Siegfried Active Member
 Rona Silkiss Active Member
 John Simon Active Member
 Alfred Sommer Emeritus Member
 Bruce Spivey Emeritus Member
 Robert Stamper Active Member
 Joshua Stein Active Member
 Yi Ning Strube Professional Guest

Carlo Traverso Active Member
 Michael Trese Professional Guest
 James Tsai Active Member
 Lawrence Tychsen Active Member
 Woodford Van Meter Active Member
 Nicholas Volpe Active Member
 David Wallace Active Member
 Jayne Weiss Active Member
 Janey Wiggs Active Member
 Jacob Wilensky Active Member
 Charles Wilkinson Emeritus Member
 R. Sloan Wilson Emeritus Member
 Steven Wilson Active Member
 M Edward Wilson Jr. Active Member
 Edward Wladis Active Member
 Kenneth Wright Active Member
 David Zacks Active Member
 Marco Zarbin Active Member



Johanna Seddon, MD, ScM

NECROLOGY IN MEMORIUM

R. RAND ALLINGHAM, MD



On behalf of The American Ophthalmological Society, we are profoundly saddened by the passing of R. Rand Allingham, an esteemed, productive, and important member of the AOS. Rand attended University of Cincinnati

for medical school and after finishing an ophthalmology residency at Eastern Virginia Medical School, he went on to complete a glaucoma fellowship at Massachusetts Eye and Ear Infirmary. Dr. David Epstein recruited Rand to Duke University in 1993 where he had exemplary career and quickly rose through the ranks to become the Richard and Kit Barkhouser Professor of Ophthalmology and Director of the Glaucoma Service at the Duke University Eye Center.

Rand was the consummate physician scientist who was always on the cutting edge of discovery, whether it was exploring the role of intracranial pressure levels in glaucomatous optic neuropathy or searching for new genes associated with exfoliation glaucoma. He was always up for the greater challenge. It was not good enough to find genes for primary open angle glaucoma, he sought to understand how newly discovered genes for primary open angle glaucoma contributed to optic nerve degeneration.

His passing is far too soon as he was just starting to make major strides in his career. The citations of his work in PubMed were escalating yearly. His induction into the exclusive Glaucoma Research Society (GRS) in 2014 was a highlight of his career, as this was the year the meeting took place in Jackson Hole, Wyoming. Jackson Hole held a special place in Rand's life as he loved fly-fishing on the Snake River and the back drop of the majestic Grand Teton Mountain Range. For Rand, fly-fishing was akin to a religious experience and he enjoyed trying to outwit

the elusive trout as much as he enjoyed trying to unlock glaucoma's mysteries. Rand would be quick to point out that fish are the result of millions of years of evolution and are not easily fooled. In 2017, Rand gave the American Glaucoma Society Clinician Scientists lecture entitled Out of Africa: Human Migration, Glaucoma Genes and Some Unusual Paths to a Cure. Rand forged many relations with colleagues in Africa, as he was keen on finding genes associated with primary open angle glaucoma in African derived people. In 2018, in conjunction with his dear colleague Dr. Barbara Wirostko, he published a highly innovative analytical epidemiological study demonstrating that exfoliation syndrome patients were prone to pelvic organ prolapse. Rand leveraged the fact that dysregulated extracellular matrix metabolism existed in exfoliation syndrome to make this seemingly disparate connection.

For Rand, his life and his career was like a National Geographic adventure. We are particularly captivated by his 2008 AOS thesis. Rand decided to study the ophthalmic features of an Aetian hunter-gather tribe on the Island of Luzon in the Philippines. Of course, this seemingly straightforward ophthalmic survey was complicated by the fact that the Aetian people did not follow a calendar, thus they did not know their chronological age and their short stature required that slit lamp exams were often performed with subjects standing up. This work highlighted Rand's humanitarian nature as he was keenly interested in how natural forces like the eruption of Mt. Pinatubo impacted the delivery of medical care in this nomadic population. Overall, Rand felt it was his calling to scour the globe in search of knowledge and he went as far as one could go in seeking it out.

We will greatly miss Rand's insightful nature, his perceptive contributions to the art and science of ophthalmology, his cutting edge presentations and keen commentaries. We have lost a great thinker, mentor, educator, humanitarian, clinician and scientist. He will be sorely missed.

LOUIS R. PASQUALE, MD
Boston, MA

RICHARD FRETWELL BRUBAKER, MD



Richard Fretwell Brubaker died October 23, 2018, in Rochester, Minnesota, from pancreatic cancer, 9 weeks after diagnosis. He was born February 13, 1937, in Macon, Georgia and attended Davidson College in North Carolina.

Richard Brubaker

distinguished himself in many ways during his training at Harvard Medical School and the Massachusetts Eye and Ear Infirmary where he completed his residency training in Ophthalmology. While still a resident in his Ophthalmology training program, he and one of his fellow residents invented a simple cryo instrument to assist in the extraction of cataracts using liquid nitrogen and a plastic syringe with a silver tip. The instrument was inexpensive, clever, effective, and so simple, it was brilliant. Before he finished his training, he had published over a dozen scientific articles. After his residency, Bru pursued postgraduate interests at the Howe Laboratory and served 2 years in the United States Public Health Service at the NIH in Bethesda, Maryland.

We in the department of Ophthalmology at the Mayo Clinic in Rochester, MN, were hopeful we could recruit Richard to join our staff. The fact that his talented and lovely wife, Nancy Brubaker, grew up in Rochester, gave us an advantage over other recruiters. Bru joined the Mayo Clinic staff in July 1970.

At Mayo, he balanced a career in clinical/surgical ophthalmology with research investigations published in more than 200 articles that led to his being recognized as the foremost glaucoma researcher in the field. He received many honors and awards, including the Friedenwald Award from the Association for Research in Vision and Ophthalmology (ARVO) and the Ludvig von Sallmann Prize from the International Society for Eye Research (ISER). He was an inventor, and in his research, he developed a variety of ingenious instruments to help measure and understand the mechanisms of the flow of aqueous humor in the eye, and the influence and mechanisms of various antiglaucoma agents.

During his career at the Mayo Clinic, he served several years in leadership positions including Chair of the

Department of Ophthalmology and Medical Director of Mayo Ventures. His leadership skills lead to him being elected for a one-year term as President of the Mayo Clinic staff.

Not everyone knows he was also President of his class at Harvard Medical School. Bru was fond of telling the story how he was elected to the presidency at Harvard. Someone asked him what distinguished him from the other candidates. He said, "Well, I am the only person among the candidates who can whistle simultaneously from both sides of his mouth". On the stage, he proceeded to demonstrate how he could simultaneously whistle tunes from both sides of his mouth in harmony. He won that election by a landslide.

Richard Brubaker had an unbridled enthusiasm for life. He was almost always smiling and upbeat. He liked to talk about doing things with GUSTO. He was extremely talented, and he shared generously and unselfishly both his talents and time. He used to say when he was at Mayo, that he came to work to play. Bru also had a singular talent with people. He made you feel special.

Bru was gentle in his demeanor, but not so gentle that he wasn't competitive. Behind that gentle face there was tremendous energy. Bru was well coordinated and pretty athletic. He played a fair game of tennis, and he ran marathons, including the Boston marathon in just over 3 hours. In his 50's and 60's he learned to play hockey and snowboard, unusual achievements for a man who grew up in Georgia.

Bru loved music and he was a good musician. The memory of his enthusiasm, excitement and animation while singing in our barbershop quartet called the "Eyesores Four" continues to bring a smile. This same quartet performed at several American Ophthalmological Society (AOS) functions.

While in his 70's, Bru worked earnestly at learning to play the saxophone; he learned to play every song recorded by a Dixieland band called "The Turkey River All-Stars".

Bru crafted a computerized harpsichord that he made from scratch even to the extent that he went into the woods to select and harvest a specific walnut tree; he supervised the felling, cutting, and curing of the wood, and eventually made a beautiful harpsichord. It was sophisticated and had a good sound. Bru then computerized the harpsichord. What was played on it could be recorded and played back in any key. This

was done back in the seventies when computerization techniques were still embryonic. He called the instrument “Brutronics Eclectochord”.

Another illustration of Bru’s ingenuity and high-tech talent was revealed when the department’s new argon green laser photocoagulator became disabled. When technical experts from the manufacturer arrived and investigated, they determined that the internal motherboard was malfunctioning, damaged beyond repair, and needed to be replaced. Bru took the motherboard home, returned it the next morning and said, “Here, it’s fixed”.

While on staff, Bru and his daughter, Jill, wrote 2 adventure books for young adults. These adventure stories were punctuated with science; it was one of his ways he wanted to try to stimulate young adults to become interested in science.

In addition to some of the inventions mentioned earlier, Bru invented several iterations of a paddle wheel bike-boat using a bicycle, a canoe, and surf boards. He also invented and patented a reusable holder for plastic yard bags called, “Bag Tamer”, available at ACE Hardware.

Bru was a skilled woodworker and advised us when he retired that he planned to do a lot of woodwork and “make sawdust”. During retirement he further developed his artistic skills with metal. Working with metal wasn’t an

entirely new interest because during his undergraduate years, he worked part-time as a machinist making custom camera parts. In his retirement, he created more than 200 metal sculptures, some of which are located on Rochester bike trails, some in private homes, and some in public buildings.

One special sculpture/art-piece created by Bru is located in the lobby of the Jacobson Building on the Mayo Clinic campus. The 2 and ½ foot high sculpture is entitled “Unbridled Gratitude”. It was inspired by his appreciation of the relationships he had with patients, colleagues and benefactors of the Mayo Clinic.

Richard Fretwell Brubaker was an exemplary role model as a husband, father, family man, friend, and colleague. In addition to his wife, Nancy, he is survived by his three children, three grandchildren, and a sister and brother. All of us who have known Bru, feel touched by his singular personality and his unbridled enthusiasm, and we all feel a special sense of gratitude for his friendship.

DENNIS M. ROBERTSON, MD

Rochester, MN

ROBERT R. WALLER, MD

Memphis, TN

WILLIAM M. BOURNE, MD

Rochester, MN

GERHARD W. CIBIS, MD



After a life well-lived, Gerhard W. Cibis, M.D., 76 passed away at his home in Kansas City, Missouri from complications of lung cancer on September 1, 2019.

Gerhard was born on November 5, 1942 in

Heidelberg, Germany to Lisa and Paul Cibis, M.D. When he was 7 years old, his family immigrated to the United States, settling in New Braunfels, TX. Later they moved to St. Louis where he graduated with a degree in Art History. After traveling throughout Europe for a year, he returned attend medical school at Washington University. He served an internship at Baylor School of Medicine in Houston, TX

followed by a residency in ophthalmology at the University of Iowa and a fellowship in pediatric ophthalmology at the University of Miami, Bascom Palmer Eye Institute.

Gerhard proudly served in the U.S. Navy in Little Creek, VA from 1970-1972. He always was proud and honored to be an American.

As a pediatric ophthalmologist, he was engaged in private practice for more that 45 years during which he also served for many years as Chief of Ophthalmology at Children’s Mercy Hospital. He was a Clinical Professor of Ophthalmology at the University of Kansas and the University of Missouri-Kansas City.

As an outstanding ophthalmologist, he participated in training more that 200 residents, authored more that 125 peer-reviewed publications, performed thousands of surgical procedures and was involved in many research

projects. He was a member of the prestigious American Ophthalmological Society as well as numerous other professional medical organizations. His community service included serving as a board member of Children's Mercy Hospital, Truman Medical Center and the Children's Center for Visually Impaired.

Gerhard had many passions some of which included traveling with Dorene, their Wine and Food group and being on the tennis courts with his long-time friends.

Gerhard was knowledgeable in many areas of ocular medicine. A man who committed energy and his life to many deserving areas and enjoyed life to the fullest with every step of the journey. He will be missed dearly by all of

us, but his memory will live on in our hearts and the results of his constant successful quest to selflessly help his patient to a better life.

Gerhard is survived by his life partner, Dorene Shipley; daughter, Ilah of Worcester, MA; son, Paul (Angie) of Los Angeles, CA; sister, Andrea (Tom) Tongue of Portland, OR; niece, Kathryn (Andrew) Watts and children, Claire and Alex of Seattle, WA; nephew, Tom (Amy) Tongue and their children, Jason and Ryan of Portland, OR and Dorene's entire family.

WILLIAM A. GODFREY, MD
Prairie Village, KS

ANDREW PETER FERRY, MD



On April 27, 2018, MCV lost a former Chairman, Virginia lost an outstanding ophthalmologist, ocular pathology lost a contributing member, and the New York Ophthalmological Society and the AOS lost a longstanding member with the death of Andy Peter Ferry.

Dr. Ferry was born in New York City on June 15, 1929. He attended a Roman Catholic high school and then received his BS degree from Manhattan College. He subsequently attended Georgetown University School of Medicine obtaining an MD degree and completed his internship in Internal Medicine at Duke University and a one year residency in medicine at the University of Michigan before deciding on a career in Ophthalmology. He completed ophthalmology training at Cornell Medical Center. He studied at the Armed Forces Institute of Pathology and National Institute for Neurological Diseases and Blindness. He served as a Captain flight surgeon in the Air Force and spent time as Director of corneal surgery service at St. John's Ophthalmic Hospital in Jerusalem, for which he was awarded the order of Hospital of St. Johns. Following his ophthalmology training at the AFIP he joined Mt Saini School of Medicine staff, rising to the rank Professor.

In 1977, Dr. Ferry moved to at the Medical College of Virginia as Professor and Chairman, serving until 1994. He continued to perform significant research in ocular pathology, his primary field of interest and even after stepping down he taught residents pathology at the microscope. He was a member of the AOA, AOS (since 1973) AAO, American Association of Ophthalmic Pathologists, American College of Surgeons, AUPO, International Congress of Ophthalmology, International Society of Ophthalmic Pathology, New York Academy of Medicine, New York Society for Clinical Ophthalmology, Pan American Association for Ophthalmology, Verhoeff-Zimmerman Society, and Society for Research to Prevent Blindness. He was particularly proud of his association with the New York Ophthalmological Society which he liked to point out was truly the oldest medical subspecialty society founded six months before the AOS. He also was one of the founders of the American Ophthalmic History Society with David Cogan, Fred Blodi, and Dan Albert and presented 15 talks. This was highlighted by his Snyder Lecture on Dr. Isaac Thompson and his celebrated eye water, but was also notable for his first presentation about the Blow family of Virginia and their slave Dred Scott. He also enjoyed talking about nonacademic ophthalmology, including the use of eye cups, battery for curing ocular disease, and Dr. Charles Terrell's sight restorer.

He was a devoted husband, and his first wife, Mercedes, accompanied him to all meetings. He remarried Lynn

Montemarano and is survived by Lynn Montemarano-Ferry and her children.

He played an active role at the AAO (author and chairman of Section IV of the BCSC). He also served the ABO as Associate examiner, the Armed Forces Institute of Pathology as a course instructor. He taught at the Lancaster Basic Science Course from 1967-1976, and at the University of Texas Basic Science Course from 1971-1977. He served as an editorial board member of Documenta Ophthalmologia and Ophthalmology, as well as a Referee for the AJO, Archives of Ophthalmology, Pakistan Journal of Ophthalmology, Survey of Ophthalmology, and Virginia Medical.

He won the Honor and Senior Honor Award from the AAO, the Zimmerman Gold Medal awarded from the American

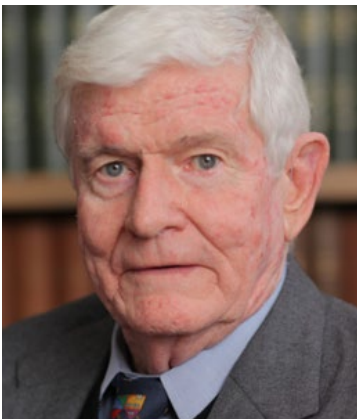
Association of Pathologists. He was cited in Who's Who in America. He served as President of the American Society for Clinical Ophthalmology, President of the American Association of Ophthalmic Pathologists, Guest of Honor of the Japanese Ophthalmic Pathology Society and keynote speaker on the occasion of its 1,000th Meeting of the New York Ophthalmologic Society.

For those of us who knew him personally his clinical insight, his knowledge of pathology, his interest in education, and the future of the profession will be sorely missed.

STEVEN NEWMAN, MD

Charlottesville, VA

JOHN T. FLYNN, MD



Our profession lost one of its greatest lights with the passing of John T. Flynn, MD on March 18, 2019, due to complications from malignant melanoma. John was a graduate of Notre Dame University and received his MD from

Northwestern University. He served his residency at Cornell University, where he first met Dr. Ed Norton, who eventually recruited him to Miami. In 1965, following training with Dr. Cuppers and others in Europe, John joined Drs. Norton, Victor Curtin, Don Gass, and J. Lawton Smith as the fifth of the Founding Five of the Bascom Palmer Eye Institute (BPEI).

Dr. Flynn's 35-year tenure at BPEI was marked by huge successes in clinical care, education and research. He established the "muscle clinic" and developed an amblyopia treatment program for South Florida. He delivered extremely thoughtful, stimulating didactic lectures, sprinkled with his trademark "Take attention,

boys and girls, and consider this,..." prodding his students to think outside the box and challenge existing dogma. John was an amazing clinician and an astute examiner. He would first play with the child for a bit, quietly studying the patient and family, and by the time he had started the history, he already had a differential that included the right diagnosis. He was also a wonderful surgical teacher. By the time I finished my fellowship, I thought that I was a pretty decent surgeon. When my first case as a faculty member did not transpire as smoothly as I had expected, I immediately realized that I was not really a great surgeon, but had done well in training solely because of John's prowess as an assistant!

Dr. Flynn was one of the world's strongest contributors of new scientific knowledge during his time at BPEI. He confirmed the central nervous system pathology in amblyopia, studied various methods of occlusion as treatment, and effectively ended the practice of pleoptics through his extensive research in the area. It was in retinopathy of prematurity (ROP), however, that he made his greatest mark. He and Burt Kushner performed the first in vivo fluorescein angiograms of affected infants, demonstrating that the pathology in severe active disease was a high-velocity vascular shunt. Without Dr. Flynn,

ROP research would never have made the leaps and bounds that it did in the last portion of the 20th century. He convened experts to develop the first nomenclature, classification, and staging of the disease, allowing research to blossom after everyone was finally speaking the same language. He was instrumental in organizing the CRYO-ROP study (the first ROP research funded by the NEI), but modestly declined to be its lead investigator. John was also very active in many other ROP trials, and continued work on various pharmacologic agents into the late 2000s. As would be expected, Dr. Flynn accumulated many accolades during his career. He was a prolific author and an invited speaker at more than 300 venues around the world. He was a Director of the American Board of Ophthalmology, and Associate Examiners will remember the hilarious video of John demonstrating how NOT to administer the Oral Examination. He served as President of AAOPOS in 1991-92, and was also very active in Research to Prevent Blindness, Inc., as well as several vision and neuro-science venues in South Florida.

In 2000, John left Miami to return to New York, where he became the first Anne S. Cohen Professor of Ophthalmology at Columbia University as well as Vice Chair of the Department. He continued his ROP research and began morning rounds with the residents to discuss cases seen overnight. One Columbia resident stated that he and his colleagues “lived for” those morning rounds due not only to the incredible amount of material they learned, but also for the chance to know Dr. Flynn as a person.

Dr. Flynn was inducted into the AOS in 1983. His thesis “Acute Proliferative Retrolental Fibroplasia: Multivariate Risk Analysis” clearly established that birth weight was the primary risk factor for ROP, and duration of mechanical ventilation was an important secondary risk factor in higher birth weight infants. Throughout his career, John loved the AOS and made every effort to always attend the annual meeting. As his fellow, I was privileged to come as his guest to the Homestead in 1993. During the drive from the Roanoke airport, he educated me on the history of the organization and discussed the accomplishments of many Howe medalists. As luck would have it, there was a glitch in the reservations and he and I had to share a room. John was a light sleeper and an early rise, so we spent many late night hours discussing medicine, history, politics, and

philosophy; they were some of the most stimulating hours of conversation I have ever had.

Despite his many professional accomplishments, John's most powerful legacy is with the people whose lives he touched. He was greatly intrigued by neuro-ophthalmology and good friends with Joel Glaser (whom he called a “teasipper”). Former fellow Ed Buckley fondly recalls weekly Friday lunches with them, where they discussed current events, “with John far to the left of everyone else.” His longtime and dear friend Marilyn Miller agrees and wishes she could have John's take on current Chicago politics, stating “he would have some colorful reaction...with a sting in its tail.” Both Burt Kushner and Steve Christiansen recall his love for his baby blue VW beetle. Steve actually broke the passenger seat, causing great consternation, and Burt recalls that when John finally had to get rid of the car, he “mourned like most people only mourn a spouse or beloved pet's passing.” John was a wonderful mentor to hundreds of residents and fellows. Steve Christiansen rightly states that John's “greatest gift to his fellows was the early and undeserved trust and respect he gave us that allowed us to flourish when we felt at greatest risk of foundering.” His former Columbia colleague Michael Chiang “marveled at the range of his knowledge” and how John was “so enthusiastic about learning new skills even at age 72.” One of his favorite BPEI residents recalled that John might seem intimidating at first but was “really a big teddy bear” when you got to know him.

For seven years I had the wonderful honor and pleasure of working alongside John Flynn. He was one of the most gifted, thoughtful, creative, and caring men I have ever met. Despite his amazing contributions and international prominence, he was unfailingly humble and incredibly generous to his students and younger colleagues. John is survived by his wife Roseanne, children Tom (also an ophthalmologist) and Ellen (a primary care physician), and numerous grandchildren. They, as well as his ophthalmologic family, shall miss him deeply, and will be forever grateful for the blessing of having him in our lives.

R. MICHAEL SIATKOWSKI, MD

Charlottesville, VA

DAVID A. JOHNSON, MD



On December 9, 2018, the Wilmington, North Carolina community and the ophthalmology family lost a dear friend when David A. Johnson, MD, PhD died at the age of 66 after a battle with leukemia. David was always intellectually curious, quietly insightful, and

amazingly compassionate. He loved his family and his community and many of his passions involved the outdoors. He loved caring for kids and related to them in a natural way that appeared effortless.

Dr. Johnson was born in Philadelphia on June 13, 1952. His high school years were spent in Haddon Township in New Jersey. He was an outstanding student at the College of William and Mary in Williamsburg, Virginia and went on to earn a PhD in Neurophysiology from the University of Connecticut in Storrs, CT.

Medicine was his calling, so he continued his education by obtaining a Doctor of Medicine degree from Washington University School of Medicine in St. Louis. After an internship, he completed his ophthalmology residency at the University of Michigan's Kellogg Eye Center. His decision to pursue a pediatric ophthalmology fellowship was no surprise to many who knew him in residency. It was a perfect fit and a path that he frequently said he was so glad he followed. He moved to Washington, DC for fellowship and Marshall M. Parks became his mentor. They enjoyed a warm and collegial relationship for many years after training. David and his wife Patricia "Pat" Johnson were also very active members of the Costenbader Alumni Society, a group made up of former

fellows of Dr. Parks. When I ask about David and Pat, every Costenbader Society member I talked to said they were like family and they rarely missed a meeting. David was always polite and supportive to those who were presenting but he never shied away from a rigorous scientific debate. When he had something to say, people listened because we all knew that it would be important and well thought out.

Dr. Johnson had an academic career in the 1990s as an Assistant Professor of Ophthalmology and Pediatrics and Director of Pediatric Ophthalmology at Vanderbilt Children's Hospital. He left academia for private practice, first in Wichita, Kansas and then from 2005-2016 in Wilmington, North Carolina. He continued his scientific work while in private practice, participating in studies sponsored by the Pediatric Eye Disease Investigator Group, and finishing his American Ophthalmological Society thesis in 2006. His thesis conclusions were ahead of his time, discovering that the ocular effects of amblyopia were not strictly limited to the amblyopic eye.

David's passion for the outdoors continued throughout his life. He was an avid long-distance cyclist and spent countless hours along the coast of the Carolinas fishing, crabbing and bird-watching. In addition to spending time with his family, he was also an avid supporter and active participant in the Cape Fear Council of the Boy Scouts of America. He was beloved and we will be missed by all, especially his wife of 36 years, Pat, and his daughters Emily and Caroline, and his son Bradley.

M. EDWARD WILSON, JR., MD

Charleston, SC

RONALD KLEIN, MD, MPH



Ronald and Barbara Klein were pioneers in providing much of our present knowledge of the epidemiology of major chronic ocular diseases and particularly those involving the retina. This husband and wife collaboration

showed much of the same passion, commitment, complementary strength and outstanding productivity that brought Pierre and Marie Curie to world notice a century earlier. Sadly, the Kleins' collaboration ended on August 31, 2019 with the death of Ronald Klein.

Ron was born in the borough of Queens in New York City in 1943. He attended Brooklyn College where he was elected to Phi Beta Kappa and was graduated summa cum laude. He attended New York University School of Medicine on scholarship. In 2013 NYU School of Medicine presented him and Barbara with Alumni Achievement Awards in Health Sciences. Ron interned at Bellevue Medical Center and served in the U.S. Public Health Service at the National Institute of Environmental Health Sciences from 1970 to 1973. He received his M.P.H. degree from the University of North Carolina in 1973. At about this time, Ron developed a major interest in the pathology and cellular biology of methyl mercury intoxication and between 1971 and 1975 published 17 papers constituting an exhaustive study of the subject.

Following his discharge from the Public Health Service, Ron took a residency in ophthalmology at the Bascom Palmer Eye Institute followed by two years of postdoctoral training at the University of Wisconsin Medical School.

In 1972, Ron and Barbara were the lead authors on a paper in the Archives of Internal Medicine entitled "Serum uric acid and its relationship to coronary heart disease risk factors and cardiovascular disease, Evans County Georgia." This initial collaborative publication was a preview of things to come in the next five decades.

In 1978, Ron joined the clinical faculty at the University of Wisconsin as an assistant professor and over the next eight years advanced to tenured professor. He held appointments in the Biostatistics Center and the Department of Biohealth Sciences. Also in 1978, the United States National Diabetes Advisory Board met in Reston, Virginia and listed among their highest priorities the need for data on the prevalence and incidence of diabetic retinopathy and visual impairment due to retinopathy in order to identify risk factors for the development and progression of retinopathy. Such data were required in developing counseling, projecting treatment and rehabilitative services and estimating costs. The Kleins and colleagues from the University of Wisconsin were in the forefront of meeting this challenge. Supported by the National Eye Institute, in July 1979, 452 of the 457 physicians who provided primary care to diabetic patients in an 11-county area in southern Wisconsin were recruited to participate in the study. Medical records of 9841 patients were reviewed. This landmark study was named the Wisconsin Epidemiologic Study of Diabetic Retinopathy (WESDR).

WESDR yielded a treasure trove of valuable epidemiologic data on diabetes, but also was a proving ground for developing techniques in record keeping, standardized eye examinations, fundus photography and grading and epidemiologic analysis the Kleins applied in their next momentous study: The Beaver Dam Eye Study (BDES), which has been called the ophthalmologic counterpart of the Framingham Heart Study.

The Framingham Heart Study is an on-going multigenerational cardio-vascular cohort study of residents of the city of Framingham, Massachusetts, begun in 1948 with 5209 adult subjects, and is now in its fourth generation of participants. The BDES, initially funded by the National Eye Institute in 1987, is designed to collect information on the prevalence and incidence of age-related cataract, macular degeneration, and diabetic retinopathy, common eye diseases causing loss of vision in an aging population. The city and township of Beaver Dam, Wisconsin have approximately 6000 people aged 43 through 84. Of these approximately 5000 participated in the baseline examination carried out between 1988 and 1990. Subsequent follow-up studies have been carried out at 5-year intervals since that

time. The study has produced nearly 400 publications describing the prevalence and incidence of visual loss, age-related macular degeneration and associated risk factors such as cigarette smoking, retinal drusen and increased and decreased retinal pigment. The imaging systems and standard scale developed by the BDES have been adapted by other epidemiologic studies of these eye diseases including the Blue Mountains Eye Study in Australia, the Rotterdam Study in the Netherlands and the Los Angeles Latino Eye Study. These studies also use protocols developed by the BDES for grading.

Areas of research on which Ron focused early in his career and which he maintained until the end of his life are:

- Epidemiology of cardiovascular disease
- Epidemiology of hypertensive retinopathy
- Epidemiology of diabetes and diabetic complications
- Epidemiology of age-related ocular diseases

Other areas of interest that he contributed to are:

- Retinal collateral vessel formation
- Methyl mercury intoxication
- Development of a model of serous retinal detachment in dogs
- Blood ocular barriers in diabetes

When the papers presently in press, submitted or close to submission finally appear, Ron will be an author on approximately 1200 publications. A senior faculty member who began her career with the Kleins' group described Ron as "the hardest working person I have observed."

Ron was an excellent and important teacher during his professional career and was research preceptor or advisor to more than 20 post-graduate, doctoral or postdoctoral students, a number of whom have had productive careers. Throughout his career he was a sought-after speaker. He received numerous awards and served on the editorial boards of the leading journal in ophthalmology and epidemiology. Ron co-authored several useful books and contributed numerous chapters.

Despite his academic achievements, Ron had numerous outside interests including photography, sailing, traveling, reading. Ron and Barbara were great hikers and could be seen on lunch hour breaks or weekends walking along the shores of Lake Mendota regardless of the weather. Although Ron had the neighborly interest in people and the curiosity that mid-westerner's display, he retained his classical mellifluous New York accent and remained a rabid life-long Yankee fan. The section he and Barbara administered was a Chair's delight: well-run, cohesive, fiscally responsible. He participated in departmental affairs and was listened to and respected for his achievements and good judgement. "He was a giant in our field," a colleague told me "and yet so humble, simple spoken and wise." Ron is absent, but he leaves behind a great legacy in his many contributions, particularly the monumental Beaver Dam Study.

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