PRESIDENT’S MESSAGE

It’s a Numbers Game: Gains and Losses

I want to acknowledge the tremendous loss that NAEVR/AEVr founder Stephen Ryan’s death has been for the vision community. I was fortunate to attend his funeral on May 3 with several Board members and the Alliances’ Executive Director James Jorkasky, immediately before we participated in ARVO’s 2013 Annual Meeting in Seattle, Washington. As sad as it was for me personally, it was also inspirational and testimony to the rich legacy that Steve has left behind, which we all need to nurture. I will be representing the Alliances at a Memorial Scientific Meeting and Celebration of Life, to be held July 19–20 in southern California.

As much as I prefer to mention what we have gained, I must also initially recognize another loss—the $40 million reduction in Fiscal Year (FY) 2013 National Eye Institute (NEI) funding to $662.15 million, primarily due to the sequester. As reported herein, the NEI has made every effort to minimize the cut’s impact on investigator-initiated research while maintaining support for clinician scientists and scientists-in-training. I commend NEI Director Paul Sieving, M.D., Ph.D. and his team for their leadership during these challenging times. I also want to thank Dr. Sieving for keeping NEI’s focus on the forward pace of vision science through the Audacious Goals Initiative. He has been very forthcoming in explaining the initiative, its primary goal and priorities, and an implementation plan at numerous recent venues, including ARVO, the June 13 National Advisory Eye Council (NAEC) meeting, and the June 18 Focus on Eye Health National Summit.

Regarding the latter, I want to recognize NAEVR member Prevent Blindness America (PBA) for underwriting the latest study on the cost of eye and vision disorders, estimated at $139 billion, which is more than double past estimates. What we have gained are very dramatic and powerful data that NAEVR and AEVR can use in advocacy and education. In fact, between PBA’s Eyes on Capitol Hill Advocacy Day and NAEVR’s distribution of top-line results to Congressional leaders and appropriators, we are making a strong case for Congress to improve on the President’s FY2014 budget request, which has no growth in the NEI budget. After speaking with Senate Labor, Health and Human Services, and Education (LHHS) Appropriations Subcommittee Chair Tom Harkin (D-IA),

I feel confident that the Senate wishes to adequately fund biomedical research to maintain its momentum and to ensure that it is not put into further jeopardy by additional sequester cuts.

The power of good cost data cannot be understated. With an investment of $10,000 in its 2012 Cost of Military Eye Injury and Blindness study, NAEVR got $10 million in FY2013 Vision Trauma Research Program (VTRP) funding for researchers, which is the highest funding level since this dedicated line in defense appropriations was established in FY2009. The study’s estimate of $25.1 billion in costs over the past decade was instrumental to NAEVR’s bipartisan supporters in the House and Senate ensuring that the line was funded—even in a Continuing Resolution. At this time, the House Appropriations Committee has approved an FY2014 bill with $10 million in VTRP funding, and NAEVR is working with its Senate champions to support it, irrespective of the legislative vehicle used to ultimately get this funding.

I wish to thank Colonel Donald Gagliano, M.D. for his past leadership of the joint Department of Defense (DOD)/Department of Veterans Affairs (VA) Vision Center of Excellence (VCE). Prior to his March 31 retirement, Colonel Gagliano tirelessly educated Congress and defense colleagues about the gaps in defense-related research funding, while also doing his “day job” of developing the first-ever Defense and Veterans Eye Injury and Vision Registry, which will ultimately inform future decisions about what research is still necessary.

As we approach the official celebration of the Alliances’ 20th anniversary on October 9, I dedicate this edition of the Report to Dr. Stephen Ryan, as it reflects his vision for what the Alliances can accomplish for the vision community. To NAEVR and AEVR members, I want to thank you for your commitment of time and financial support that nurture the Alliances.

Feel free to email me with any comments or observations.

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MARK YOUR CALENDAR

AEVR 20th Anniversary
Congressional Reception
October 9, 2013 5:30–7 pm Rayburn Foyer
Featuring NEI Director Paul Sieving, M.D., Ph.D.
Funding is the Talk of NAEVR Central

Due to its prominent location on the Skybridge between exhibit halls in the Washington State Convention Center, NAEVR Central was a convenient location for attendees to discuss funding—primarily final FY2013 NIH/NEI funding and that proposed for FY2014. The disappointing news that the post-sequester FY2013 NEI funding would be $662 million provided an incentive for researchers to contact their Members of Congress to request an improvement in the President’s proposed FY2014 budget, which plans no NEI budget growth—but replaces the sequester with other budget cuts and new revenue.

Vision Trauma Research is Funding Bright Spot

A capacity crowd attended NAEVR’s May 6 Defense-Related Vision Research Opportunities session, which focused on how researchers can be responsive to Department of Defense (DOD)-identified vision research gaps. This summer, the DOD’s Telemedicine and Advanced Technology Research Center (TATRC), which manages the Vision Trauma Research Program (VTRP) is expected to issue an announcement requesting grant submissions. In FY2013 Defense appropriations, the VTRP was funded at $10 million—the highest ever. Despite an eight percent sequester cut, it will yield at least $9.2 million in funding opportunities. Throughout the meeting, NAEVR added researchers to its “DOD interest List” to notify when TATRC issues the funding announcement. To be added to the list, email depstein@eye-research.org.

NEI Director Dr. Sieving Updates the Audacious Goals Initiative

On Sunday, May 5, NEI Director Paul Sieving, M.D., Ph.D. updated a capacity crowd on the NEI Challenge to Identify Audacious Goals in Vision Research and Blindness Rehabilitation, a unique effort conducted under the America COMPETES Reauthorization Act of 2010 (P.L. 111-358) that sought new and compelling scientific ideas to advance vision research from a wide and diverse audience of researchers, engineers, and “citizen scientists.” Based on the ten winning ideas, NEI has developed the primary AG: Regenerating Neurons and Neural Connections in the Eye and Visual Systems, and identified two priority research areas: Molecular Therapy for Eye Disease and Intersection of Aging and Biological Mechanisms of Eye Disease. At the June 13 National Advisory Eye Council (NAEC) meeting, NEI presented an action plan in which an initial AG Development Group composed of NAEC members would convene expert workshops to identify priority first steps, anticipate challenges and roadblocks, and consider successful outcomes measures. NEI also proposes to form an independent Scientific Leadership Committee (SLC) with broad vision community representation and rotating membership to advise long-term.

The Seattle Times Reports on ARVO’s Veterans Vision and TBI Session

NAEV assisted ARVO Trustee John Clark, Ph.D. (University of Washington) in planning ARVO’s first-ever Veterans Vision and Traumatic Brain Injury (TBI) session, held on Sunday, May 5. The session, which focused on research into the similarities between military blast TBI-related visual dysfunction and ocular pathology resulting from sports-related head injuries and age-related neurodegenerative diseases, was reported on by The Seattle Times.

Elaine Peskind, M.D. (University of Washington School of Medicine), a psychiatrist, noted that when she tested the vision of blast-exposed veterans, she noticed unusual movement patterns in their eyes. Dr. Kardon added that “trauma severe enough to damage the brain would also affect the eyes, so that vision/eye movement could be used as a means to diagnose brain damage.” Lee Goldstein, M.D., Ph.D. (Boston University School of Medicine) stated that “the lens is a very sensitive indicator for neurodegenerative diseases,” while Ann McKee, M.D. (Boston University School of Medicine), who has examined the brains from deceased veterans and athletes, stated that “there are few effective treatments for TBI, so eye scans could help change that by providing a way to tell whether a treatment or therapy is leading to improvements.”

NAEV member Blinded Veterans Association (BVA), which invited local members to attend, was represented by Robert Mower and Randy Builder. NAEVR invited Congressional offices to have district staff attend, which included Kelly Goetz from the office of Cong. Dave Reichert (R-WA) and Brad Forbes from the office of Cong. Derek Kilmer (D-WA), a member of the House Armed Services Committee.

ARVO has posted a video of the session at www.arvo.org.
**LEGISLATIVE SCORECARD ISSUE: FY2013 NIH/NEI FUNDING**

### Final FY2013 Spending Plans Issue, Include Sequester Cuts

On May 7, during the ARVO Annual meeting, the Office of Management and Budget (OMB) released federal agency spending plans, which had been required to be submitted within 30 days of the President signing into law on March 26 H.R. 933, the Consolidated and Further Continuing Appropriations Act of 2013 [P.L. 113-6], which finalized FY2013 spending through a second six-month Continuing Resolution (CR) and contained the sequester cuts.

Per the plan, the National Institutes of Health (NIH) will have an operating budget of $29.15 billion, which is $1.7 billion or a 5.7 percent decrease below the FY2012 level of $30.6 billion. NEI will have an operating budget of $662.15 million, which is $39.9 million or a 5.7 percent decrease below the FY2012 level of $702.1 million—inclusive of a $35.3 million sequester cut plus program transfers.

**NEI—By The Numbers**

NEI’s funding falls to that of the FY2005 level in terms of constant dollars, and its purchasing power is 30 percent less than it had in FY2003. The projected FY2013 Success Rate is 26%, which is 5% percent in FY2013 compared to FY2012.

**FY2013 NEI Budget Breakdown:**

- Extramural: $569 M (86%)
- Intramural: $70 M (11%)
- Research Management: $23 M (3%)

**Percent Cuts to NEI Programs Due to Sequester:**

- Extramural: 6%
- Research and Development Contracts: 5%
- Intramural: 4% (net 13% cut for “science”)
- Research Management: 5%

**Grants Impact:**

- Research Project Grants (RPGs) at 1,068, a decrease of 28 compared to FY2012. The 5.7% sequester cut could have reduced RPGs by 60 grants, but NEI minimized the decrease to 28 grants by:
  - Funding non-competing grants at the 95% level
  - Eliminating out-year inflation
  - Maintaining RPG funding cap at FY2012 level of $404,000

At the June 13 NAEC meeting, NEI stated that it has protected clinician scientists, as the career development awards provided by NEI are highest in numbers at NIH by a wide margin. Extramural Director Lore Anne McNicol, Ph.D., stated that “Dr. Sieving is dedicated to training new scientists,” noting a 75 percent award rate for K awards.

### House Democrats Issue Report on Sequester Impact

On May 15, the House Appropriations Committee Democrats, led by Ranking Member Nita Lowey (D-NY), released a report on the sequester and efforts to mitigate its impacts. The report includes examples of sequestration’s impact on NIH’s budget, research projects, and jobs. The report states that sequestration’s reduction to the NIH budget in FY2013 results in the lowest level of funding since FY2007 in actual dollar terms, and the lowest level since FY2000 when adjusted for inflation. Other findings include:

- NIH’s budget will support 1357 fewer RPGs in FY2013 than FY2012, and that the FY2013 grant total would be the lowest since FY2001.
- Within the total above, the number of competing grants (new grants or existing grants up for re-competition) is expected to decrease by 703, or 7.8 percent, to the lowest level since FY1998.
- NIH estimates that support for research centers will be reduced by 9.6 percent in FY2013 compared to FY2012.
- The number of research training positions supported is expected to decrease by 468, to the lowest total since FY2000.

The report states, “The end result of these reductions will be less progress toward understanding basic mechanisms of living organisms and diseases, and toward developing better drugs, vaccines, diagnostics, and procedures.” As the report was being released, the Senate LHHS Appropriations Subcommittee was holding a hearing (see next page) at which NIH Director Francis Collins, M.D., Ph.D. cited several of the statistics presented above.

### NIH Releases Fact Sheet on Sequester Impact

On June 3, the NIH posted on its Web site a fact sheet on the sequester’s impact. It contains useful links to the detailed mechanism tables for the NIH overall and the Institutes and Centers (I/C) budgets. It provides statistics about the impact on grants and describes the potential delays in medical progress as well as the risk to the scientific workforce.

#### Senator Barbara Mikulski: “Sequester Endangers America”

The May 31 edition of The Washington Post featured an opinion piece by Senate Appropriations Committee Chair Barbara Mikulski (D-MD) in which she stated, “We are sacrificing our current and future economic growth since the sequester does nothing to fix the problem it was created to address—the nation’s long-term fiscal debt.” An LHHS and Defense appropriator, she asks the question, “If we know that patients with dementia will consume an even-larger share of our healthcare costs, is this the time to cut back on medical research?”

Senator Mikulski has stated her desire to proceed with “regular order” bills in the FY2014 appropriations process. In that regard, on June 17 NAEC’s Maryland-based members—ARVO, Association of Schools and Colleges of Optometry (ASCO), BrightFocus Foundation, and Foundation Fighting Blindness (FFB)—joined the Alliance in co-signing a letter to the Senator requesting that the Senate improve on NEI funding proposed in the President’s FY2014 budget (see next page).
President Proposes No Growth in FY2014 NEI Budget

On April 10, President Obama sent to Congress a $3.77 trillion FY2014 spending plan that proposes to replace the sequester’s $1.2 trillion in mandatory budget cuts over ten years with $1.8 trillion in alternative spending cuts and new revenue. The proposal increases NIH funding by $471 million, or 1.5 percent over the FY2012 level of $30.6 billion to $31 billion. Since the budget proposes to eliminate the sequester moving forward, it would restore the FY2013 sequester cut.

In addressing research priorities, NIH plans to spend $40 million on research collaborations with academic institutions, the private sector, and other government agencies through the new Brain Research through Application of Innovative Neurotechnologies (BRAIN) Initiative; $80 million additional funding for Alzheimer’s disease research within the National Institute on Aging (NIA), bringing total funding to $562 million; $40 million more than FY2012 for the Cures Acceleration Network (CAN), bringing total funding for this National Center for Advancing Translational Sciences (NCATS) program to $50 million; and focusing on ways to improve NIH’s ability to visualize, manipulate, and mine many of the large and complex digital datasets of information, known as “Big Data.”

Although the proposal also restores NEI’s FY2013 sequester cut, it would reduce NEI’s budget by $2.1 million or 0.3 percent from the FY2012 level to $699.2 million. The loss is primarily driven by an $8.9 million reduction due to the conclusion of the NEI-sponsored clinical trials known as the Studies of the Ocular Complications of AIDS (SOCA) studies, meaning that the NIH Office of AIDS Research will no longer contribute. Per NEI’s Congressional Justification, RPGs, which represent $450 million or 64 percent of the NEI budget, will total 1,081, a net decrease of 15 from the FY2012 level, driven by 35 fewer competing grants.

Chairman Harkin and Dr. Collins: “Perilous and Pivotal Moment for NIH”

On May 15, the Senate LHHS Appropriations Subcommittee held a hearing entitled NIH: Exceptional Opportunities in 2014 with Dr. Collins and several I/C Directors. Chairman Tom Harkin (D-IA) said that it is currently a “perilous” moment for NIH and the U.S. biomedical research leadership due to final FY2013 funding with sequester cuts. He stated, “Although I want to do everything I can to boost NIH funding, the House leadership still supports the sequester and its deep cuts to nondefense discretionary spending, which includes the NIH. As a result, I am concerned about pitting NIH against other worthwhile programs in the LHHS bill, such as the CDC, which I will not do.”

In his opening statement, Ranking Member Senator Jerry Moran (R-KS) said that now is not the time for Congress to waiver on its commitment to the NIH, especially since China has pledged a 26 percent increase in its biomedical research spending. “The NIH is the catalyst behind Americans living longer and having healthy lives,” he said, adding that “one of the NIH’s most significant contributions is reducing the cost of disease, especially for the aging population.”

In his testimony, Dr. Collins acknowledged that NIH has lost 22 percent of its purchasing power over the past ten years and could lose up to $19 billion over the next ten years if sequester cuts continue. He described recent developments in cancer research, embryonic stem cells, and the BRAIN Initiative as providing a “pivotal” moment in biomedical research, but lamented the paradox that this time of great scientific leadership is concurrent with a “dwindling” of funding support. As in past testimony, he cited the projected double-digit growth in biomedical research funding planned in China, India, South Korea, Japan and even budget-challenged Germany, noting that only the U.S. and France projected reductions in research funding. He ended his formal comments by reading an email from a young investigator that he trained stating that “I can’t erase the fear that this [difficulty in getting funded] is my future.”

Previously, on April 29, NAEVR submitted written comments to the Subcommittee requesting that it improve on the President’s FY2014 budget proposal, which had no NEI budget growth.

NAEVR to Congress: Improve On the President’s Budget for NEI

“NAEVR applauds the President’s continued support for biomedical research through an FY2014 budget proposal that restores sequester cuts and grows the NIH budget. However, the proposal does not grow the NEI budget at such a pivotal time for eye and vision research, especially after the devastating impact of the sequester cut in FY2013. The NEI budget cut is especially alarming since the first wave of the 78 million Baby Boomers has started turning age 65 and is at greatest risk from aging eye disease. This will have a direct impact on healthcare costs, productivity, independence, and quality of life.

Through its Audacious Goals Initiative, the NEI has identified new and compelling scientific ideas to advance research to save and restore vision that could be jeopardized due to inadequate funding. This is especially frustrating for the vision community, as NIH Director Dr. Collins has acknowledged publically the NEI’s long tradition of leadership in the biomedical research arena. That leadership, and the concomitant promise it holds for the sight of all Americans, is at risk.”

NAEVR Commends Senate LHHS Allocations

On June 20, the Senate Appropriations Committee approved its 302(b) allocations for the twelve FY2014 appropriations bills. The Senate’s allocations are based on the $1.058 trillion discretionary spending cap mandated by the Budget Control Act of 2011 and adopted in the Senate-passed FY2014 budget resolution. This is significantly higher than the $967 billion cap passed by the House, meaning a difference of approximately $90 billion between the two chambers in making its allocations. The Committee defeated a substitute offered by Ranking Member Richard Shelby (R-AL) that would have capped spending at the House’s level.

The Senate allocates $164.33 billion for the LHHS appropriations bill, which funds NIH. The House Appropriations Committee approved its allocations on May 21 with a significantly lower $121.8 billion level for the LHHS bill, which translates to an estimated 18.6 percent cut below the FY2013 post-sequester level. The actual program levels for the NIH will not be determined until the markups by the LHHS Subcommittees and full Appropriations Committees of the House and Senate, respectively, the latter of which is expected in mid-July.
### NAEVR Rallies for Medical Research

On April 8, NAEVR participated in the Rally for Medical Research, in which researchers and advocates across the United States called on Congress to stop cuts to medical research funding at NIH. Although the event was held in Washington, D.C., in conjunction with the annual meeting of the American Association for Cancer Research (AACR) and drew thousands of attendees, many more at academic institutions across the country watched the event, emailed letters to Congress, and used social media to spread awareness of the impact of funding cuts. NAEVR was one of 200 partner organizations reflecting a variety of disease conditions that participated in hosting the D.C.-based event, at which Members of Congress, patients, and advocates spoke. Between speakers, the crowd chanted the event’s theme, “More Progress, More Hope, More Life.”

### NIH Asks SMRB To Examine its Review and Award Process

At the June 4 meeting of the NIH’s Scientific Management Review Board (SMRB)—which was created by the NIH Reform Act of 2006 to make recommendations on NIH structure and management—Principal Deputy Director Lawrence Tabak, D.D.S., Ph.D. presented a new charge to the group: examine the NIH review and award process. In noting that the NIH two-tier system [scientific peer review and I/C programmatic review] is the foundation on which the agency’s funding of extramural research is based, and since the majority of the NIH budget goes to extramural research grants, NIH believes it is vital that it continues to innovate and optimize the process by which grant applications are submitted, reviewed, processed, and awarded. NIH has asked the SMRB to consider how it can:

- Streamline the grant-making process and shorten the length of time from application to allocation of funds.
- Address the administrative burden on applicants and their institutions, scientific reviewers, Advisory Council members, and NIH staff while maintaining a high quality review process.

### Departments Contact Congress

- **On June 6, Emory University Department of Ophthalmology Professor and Director of Vision Research P. Michael Iuvone, Ph.D., sent a letter to Cong. Jack Kingston (R-GA), Chair of the House LHHS Appropriations Subcommittee, describing the impact of the sequester and requesting increased NEI funding.**
- **On June 7, University of Alabama at Birmingham Optometry School Dean Rodney Nowakowski, O.D., Ph.D. and Department of Ophthalmology Chair Christopher Girkin, M.D., M.S.P.H, co-signed a letter to Senate Appropriations Ranking Member Richard Shelby (R-AL) requesting growth in the NEI’s FY2014 budget.**

### PBA: $139 Billion Cost for Eye and Vision Disorders

On June 18, NAEVR member Prevent Blindness America (PBA) released a new report entitled Cost of Vision Problems: The Economic Burden of Vision Loss and Eye Disorders in the United States which estimates the annual cost at $139 billion—based on 2011 U.S. population data and in 2013 dollars—which is more than double PBA’s prior estimate of $51.4 billion for adult vision disorders and NEI’s prior estimate of $68 billion for all vision disorders. The report, commissioned by PBA from researchers at the University of Chicago’s National Opinion Research Center (NORC), emphasizes that the financial burden will continue to grow due to increasing healthcare costs and an aging population. The $139 billion total annual cost consists of the following components:

- $72.2 billion, reflecting the cost of vision problems outside direct healthcare expenses, including lost productivity and long-term care costs.
- $47.4 billion, reflecting the costs to government and taxpayers, including direct medical costs and long-term care.
- $20.8 billion, reflecting the cost to private health care companies.

The $139 billion total reflects direct costs of $68.8 billion (48 percent), which includes medical costs for diagnosed disorders, medical costs attributable to low vision, medical vision aids, vision assistive devices and adaptations, and direct services including special education and assistance programs. Indirect costs constitute 52 percent or $72.2 billion of the total costs and capture the burden of consequences of low vision, including productivity losses, long-term care, informal care, and the costs of transfer and entitlement programs.

The study estimates the costs of treating blindness and low vision in the U.S. at $6,680 per-person, per-year. By contrast, the FY 2013 NEI budget of $662 million means that the U.S. is only spending $2.12 per-person for research into sight-saving and restoring vision research.

### NAEVR to Hill: New Cost Study Necessitates NEI Budget Growth

NAEVR’s James Jorkasky attended the June 17 Congressional Briefing at which NORC Research Scientist John Wittenborn provided top-line results, as well as the June 18 Focus on Eye Health National Summit at which full results were presented. On July 1, NAEVR delivered letters to Congressional leaders and appropriators emphasizing that the new cost data “requires necessary funding for the NEI to address the challenge of saving and restoring vision.”

### Case Western Reserve University Informs Cong. Joyce of Research Benefits

On May 28, Case Western Reserve University (CWRU) School of Medicine hosted Congressman David Joyce (R-OH), a freshman House member whose district includes Cleveland’s eastern suburbs. Elected in 2012 to fill the seat of the recently-retired Cong. Steve LaTourette, Cong. Joyce is a member of House LHHS Appropriations Subcommittee and currently serves as co-chair of the Congressional Nursing Caucus. CWRU Department of Ophthalmology and Visual Sciences Chair and Director of the University Hospitals Eye Institute, Jonathan Lass, M.D., organized the visit after an introduction by NAEVR, which worked closely with Dr. Lass and provided key talking points.

CWRU Medical School Dean Pamela Davis, M.D., Ph.D., Ophthalmology Department Vice Chairman Suber Huang, M.D., M.B.A., Pharmacology Chair Krzysztof Palczewski, Ph.D., and Dr. Lass discussed with Cong. Joyce the tremendous potential presented by federally-funded basic and applied science, highlighting the regional, state, and national benefits of translating cutting edge research from bench to bedside. Cong. Joyce further spoke at length with CWRU’s researchers and leadership on the benefits of attracting corporate support for research and creating start-up companies to commercialize new medical products and devices. Cong. Joyce also toured the Department of Pharmacology laboratories with Dr. Palczewski, who will be presented with the Friedenwald Award at the 2014 ARVO Annual Meeting in Orlando, Florida.
DEFENSE-RELATED VISION RESEARCH

DECADE OF VISION 2010-2020

an initiative of the Alliance for Eye and Vision Research

House Approves FY2014 Defense Bill with $10 Million for Vision Trauma

On June 12, the House Appropriations Committee approved an FY2014 Defense Appropriations bill that includes VTRP funding at $10 million—the second year of funding at this level. The House has yet to announce full floor action on the bill. Although the Senate Appropriations Committee has not yet taken action on a bill, it is unlikely to have a VTRP line, as the Senate has traditionally included vision in a pool of funds within Defense Health Programs.

Although NAEVR has bipartisan support for the VTRP, four Democratic members of the House Defense Appropriations Subcommittee joined in urging VTRP funding at $10 million. In an April 14 letter, Congs. Jim Moran (D-VA), Marcy Kaptur (D-OH), Betty McCollum (D-MN) and Bill Owens (D-NY) urged Subcommittee Chair Cong. Bill Young (R-FL) and Ranking Democrat Cong. Peter Viscosky (D-IN) to support this funding level, using several talking points from NAEVR’s position paper. VTRP funding is not part of “core” DOD funding requested by the President and must be added each year by Congressional appropriators. Cong. Moran has served as the program’s champion since he first requested dedicated funding in FY2009 Defense appropriations.

Blinded Veterans Association Honors Cong. Jim Moran

On April 16, BVA presented to Cong. Jim Moran its Congressional Recognition Award in “grateful appreciation and recognition of your commitment to our nation’s blinded veterans and their families, for constant leadership on the defense Vision Trauma Research Program.”

On March 19, AEVR’s Decade of Vision 2010-2020 Initiative hosted a Congressional briefing entitled Computational Model of the Eye for Primary Blast Injury featuring T. Vicky Nguyen, Ph.D. from the Department of Mechanical Engineering at Johns Hopkins University. Dr. Nguyen’s research is funded by the VTRP and addresses several DOD-identified vision research gaps—the immediate impact of blast injuries on ocular structures; the potential long-term impact on visual processing, such as visual dysfunction associated with Traumatic Brain Injury (TBI); and the need for better protective gear.

Dr. Nguyen explained that deployment-related military eye trauma is very different from the trauma associated with falls, vehicle accidents, and blunt force trauma. As a result, to adequately protect the eye in combat situations, the source of the trauma must be understood, which is the focus of her work. She stated that, unlike past conflicts where ocular injuries resulted from exploding munitions, more than 70 percent of blast injuries in the conflicts in Iraq and Afghanistan have resulted from Improvised Explosive Devices (IEDs). Blasts are characterized as primary (shock wave), secondary (propelled fragments that cause corneal laceration, eye globe penetration and perforation), tertiary (blunt force trauma that causes closed globe injuries such as retinal detachment and optic nerve damage and orbital fractures), and quaternary (burns, toxins, radiological and biological contamination). Although many of these result in ocular damage that is immediately recognized, the distortion of ocular structures can result in the long-term development of optical dysfunction that may not be diagnosed until many years later.

Dr. Nguyen has developed an experimentally validated computational model of the human eye globe to investigate injury mechanisms of the primary blast wave. This includes determining the stresses and deformations of the eye-wall (the cornea, the lens at the front of the eye, and sclera) and internal ocular structures (such as the retina, the light-sensitive back of the eye, and the optic nerve), as well as investigating the interaction of orbital structures with the blast wave and the potential mitigating impact of standard eye armor.

In the computational model, blasts are directed head-on and from various angles sideways and upwards at a rigid face with all anatomical features, which can be varied to reflect gender or ethnicity. When blasts are directed head-on, the eye is a “hot spot” in that the brow and nose act as a deflector to move pressure onto the eye. The pressure is also asymmetric, focusing off-center toward the nose, raising the possibility of damage to the ocular muscles and even bone. Sideways blasts ranging in angles from 40 to 80 degrees result in similar injuries, while blasts directed upwards from the ground are less severe due to the protective nature of the chin and nose.

When the model is revised to reflect eye armor, the head-on blast initially focuses on the eye, then funnels around the armor toward the temple, not the nasal region. There is still a pressure increase on the eye, although less than without armor. This can occur especially when the armor is not properly fitted, enabling a gap at the bottom for “underwash” to affect the eye. “Although eye armor provides some degree of protection from the blast wave, it is not as effective as we think it is,” said Dr. Nguyen.

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DOD-Funded Researcher Studies Impact of Primary Blast Injuries

Featured speaker T. Vicky Nguyen, Ph.D. (Johns Hopkins University)

BVA and NAEVR Honor Colonel Don Gagliano

On March 31, Colonel Donald Gagliano, M.D. retired as Director of the joint DOD/VA Vision Center of Excellence (VCE) after almost five years serving in that capacity. VCE Deputy Director Mary Lawrence, M.D., M.P.H. is currently serving as Acting Director.

In April, BVA honored Colonel Gagliano for his service. On May 5, the NAEVR Board of Directors adopted a resolution commending Colonel Gagliano’s service to the VCE, as well as his past concurrent service as co-Chair of the TATRC Program Committee that oversees the VTRP program and as a member of NEI’s National Advisory Eye Council.

Congressman Jim Moran (D-VA), center, receiving BVA’s Congressional Recognition Award. Also pictured from left is NAEVR’s James Jorkasky, blinded Iraq veteran Steve Baskis, BVA’s Tom Zampieri, Ph.D., and retired Army Col. Bedford Boyston, M.D., a cardiac surgeon who served three tours in Iraq and suffered visible field loss due to his military service.