

Optometry DistList
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- Workshop on Diabetic Retinopathy for Optometrists at Shillong
- Eyeglasses May One Day Treat Glaucoma - AAO

Date: 29 January 2018
From: Sridevi Sunderarajan (sridevi@vision2020india.org)
Subject: Inviting abstracts for Free Posters for the 14th Annual Conference at Guwahati – Vision 2020: The Right to Sight – India

Vision 2020: The right to sight India invites abstracts for poster presentation for the 14th annual conference held on 9 & 10 June, 2018 at Guwahati.

Category	Last Date for submission of abstract	Announce selected abstracts
Poster Presentation	15 March 2018	26 March 2018

The topics for Free Posters:

1. Eye care delivery to the unreached
2. Impact of advocacy
3. Improving patient outcomes in cataract surgery

Submission of an abstract constitutes a commitment by any one of the author to be present, if selected. This rule applies to paper, poster, course, and film presenters. All presenters participating in poster/paper presentation are required to register for the conference and pay all applicable fees in advance (Registration details will soon be available on the website: vision2020india.org).

For Guidelines and submission of abstracts, write to sridevi@vision2020india.org

Date: 29 January 2018
From: Sandhya Shekar (sandhya.shekar@indivisioninstitute.org)

Subject: Genes engineered from algae to treat Retinitis Pigmentosa – Optometry Today

A treatment that uses a genetic therapy engineered from algae to treat retinitis pigmentosa (RP) has received approval to progress to a clinical trial from the UK Medicines and Healthcare Regulatory Agency.

It is expected that the first UK patient will receive the therapy within the first quarter of 2018. The treatment will be assessed in end-stage non-syndromic RP patients with vision that allows them to count fingers from a distance of 50cm.

Dr Bernad Gilly, GenSight Biologics chief executive, explained that the gene used as part of the therapy, ChrimsonR, was engineered from algae, encodes a protein that is photosensitive to red light.

The genetic treatment will be trialled in combination with a “wearable optronic stimulation device.” Dr Gilly explained that the device is a pair of goggles with an integrated camera that captures surrounding visual information that is then treated and transformed by an algorithm to red-only light. The retina then receives the signal through a miniaturised digital micromirror – technology that is comparable to those used in standard projection systems.

For complete article: <https://www.aop.org.uk/ot/science-and-vision/research/2018/01/25/genes-engineered-from-algae-to-treat-rp>

Date: 1 February 2018

From: L V Prasad Eye Institute (lvpei.sy@gmail.com)

Subject: Stem cell miracle: L V Prasad develops mini eyes in test tube

LV Prasad Eye Institute has developed mini human eyes in test tube with stem cells. Though, it may take a few more years to develop the complete eye through stem cells that could readily be used for transplant, the present development in LV Prasad Eye Institute's research laboratory holds promise for the future.

The institute has been conducting research on stem cells to develop human eye for around 15 years. It now succeeded in developing complex 3D corneal organoids, which are miniature versions of a larger organ developed in a test tube. These organoids developed by the institute are capable of recapitulating steps of normal corneal development.

Results of stem cell research were presented at ongoing International Congress of Cell Biology ICCB - 2018) here by Dr Indumathi Mariappan, research scientist at Sudhakar and Sreekanth Ravi Stem Cell Biology Laboratory at LV Prasad Eye Institute (LVPEI).

Pluripotent stem cells to solve eye problems:

Researchers from the LV Prasad Eye Institute for the first time showed that complex 3D corneal organoids can be generated from pluripotent stem cells, cells that are capable of developing into

different cell types, and mini corneas undergo maturation in test tube (in vitro) and recapitulate steps of normal corneal development.

"Availability of such mini corneas at 10 weeks of maturation circumvents the need for complicated cell enrichment protocols and offers a simpler method of establishing enriched cultures of corneal epithelial cell sheets for basic research and for regenerative applications," Dr Indumathi said in her presentation.

"We generated three-dimensional retinal and corneal organoids from human pluripotent stem cells. Eye field primordial clusters that emerged from differentiating pluripotent stem cells developed into whole eye ball-like, self-organized, three-dimensional, miniature structures consisting of retinal primordia, corneal primordia, primitive eye lid-like outer covering and ciliary margin zone-like adnexal tissues in a step-wise maturation process within 15 weeks. These organoids recapitulate early developmental events in vitro and displayed similar anatomical features and marker expression profiles as that of adult tissues. They offer an alternative tissue source for regenerating different tissues of eye and eliminate the need for complicated cell enrichment procedures," researchers said.

Date: 5 March 2018

From: Sunny Mannava (mannavas@operationeyesight.com)

Subject: How artificial intelligence may transform optometry – Optometry Times

The search for cognitive solutions in health care is underway. Will optometry choose to utilize innovative technologies such as artificial intelligence (AI) to improve patients' outcomes, or will it remain fearful and reactive when it comes to meaningful change?

The potential for improving medical services through the use of machine learning has been well documented.¹ In November 2016, the online version of the Journal of the American Medical Association (JAMA) featured an article discussing an application of AI in the diagnosis of diabetic retinopathy (DR).² While the eye care world has been fixated on telemedicine and online eye exams, robots are set to impact our 21st century world.

For AI to succeed in eye care, it must be able to improve the current care we provide patients.

AI in optometry

At the 2017 ARVO meeting in Baltimore, surgeons demonstrated the first successful use of a remote-controlled robotic system during retinal surgery in the human eye. A randomized clinical trial recruited six patients who had surgery with the robotic system, and six patients had surgery by traditional methods. Retinal micro-hemorrhage complications were reduced in the robotic system assisted group.⁵

Additionally, a study out of the Harker School in San Jose, CA, and the Byers Eye Institute at Stanford University Medical School independently developed and evaluated a data-driven, deep-learning algorithm as a diagnostic tool to detect DR.⁶ Researchers concluded a fully data-driven AI-based grading algorithm has the potential to screen fundus photography in diabetic patients. The prudent use of AI could reduce the global loss of vision from DR.^{6,7}

In addition to the applications of AI in DR treatment, deep-learning algorithms are being assessed for its value to the treatment of glaucoma progression. Glaucoma progression analysis software is commonly used in optometric offices. Visulytix has developed a retinal AI platform called Pegasus that autonomously screens for glaucoma via assessment of the optic disc while simultaneously classifying the patient's stage of DR.⁸

AI is likely to become commonplace over the next few years helping optometrists and ophthalmologists with clinical decision-making and reducing medical errors and variability in patient care.⁹

Future of optometry and AI: As technology continues to influence optometry, AI will continue to make transformational changes. The real test for optometry is two-fold. First, we must embrace innovations such as AI. Second, we must be objective in assessing and adopting AI in order for optometry to mature as a profession.

For full article, click here:
<http://optometrytimes.modernmedicine.com/optometrytimes/news/how-artificial-intelligence-may-transform-optometry>

Date: 1 March 2018

From: Sheeba Swarna (sheeba.swarna@indiavisioninstitute.org)

Subject: Workshop on Diabetic Retinopathy for Optometrists at Shillong

IVI is pleased to announce a one day "Workshop on Diabetic Retinopathy for Optometrists". The workshop will introduce the concepts of Diabetic Retinopathy and its management to Optometry Practitioners, Educators and Students. It will also orient the participants to categorize cases in Diabetic Retinopathy, latest advancements in Diabetic Retinopathy and much more.

Facilitators:

Dr Padmaja Kumari Rani M.S, FRCS, FICO, FNB (Retina) – Vitreo-Retina Consultant, L V Prasad Eye Institute, Hyderabad.

Mr Hari Kumar- Consultant Optometrist,- Smt. Kanuri Santhamma Centre for Vitreo Retinal Diseases, L V Prasad Eye Institute, Hyderabad

Workshop Date and Time: Saturday, 24 March 2018, 09.00 AM to 5.00 PM

Workshop Venue: Bansara Eye care Centre, Shillong, Meghalaya

Registration fee: INR 400 per participant will be charged (**Only for Practitioners & Educators**)
Pay online followed by registration form.

For students the Registration is free on first come first served basis

Deadline for Registration: Friday, 16 March, 2018

“Funding for the Workshop on Diabetic Retinopathy was kindly provided by Optometry Giving Sight in association with ALCON Foundation”

To register, please click here: <https://www.indiavisioninstitute.org/upcoming-programs-view.php?id=10>

Date: 1 March 2018

From: M Chandrashekher (m.chandrashekher@indiavisioninstitute.org)

Subject: Eyeglasses May One Day Treat Glaucoma - AAO

New glasses developed by Bionode are currently being tested to treat glaucoma without eyedrops, according to researcher Dr. Ahmed, an ophthalmologist at the Prism Eye Institute in Toronto, who is involved in studies of the new device and is a consultant to and a clinical investigator for Bionode.

The new glasses contain a metal coil that produces a magnetic field and generates a current. The current flows through the ciliary muscles and electrically stimulates the area where fluid leaves the eye. The treatment allows the natural drainage pathway to work more efficiently. This decreases pressure in the eye.

The researchers also are testing the glasses paired with a contact lens that contains a trace of gold. The glasses transmit the electromagnetic current to the eye through the gold in the contact lens. Because older people are often uncomfortable wearing contact lenses, the researchers came up with glasses that could be used without contacts.

The researchers hope to develop a device that will look like regular eyeglass frames. The treatment coil would be in the frame surrounding the lens.

Animal studies showed Bionode lowered intraocular eye pressure quickly—within 10 to 15 minutes. Human studies are starting in the United States, Canada and Spain. Michael Greenwood, MD, an ophthalmologist in Fargo, North Dakota, was optimistic about the possibilities of this device. “If clinical trials prove this treatment to be safe and effective, it could change the lives of many patients. The thought of having a non-surgical and a non-pharmaceutical method to lower IOP (intraocular pressure) is extremely exciting. There is still much to learn, but it would certainly help a lot of people.”

For complete article: <https://www.aao.org/eye-health/news/eyeglasses-for-glaucoma-treatment>

India Vision Institute
Plot No 212, No 45, Palkalai Nagar,
7th Link Road, Palavakkam,
Chennai - 600041, TN, India
Tel. No. : +91 - 44 - 24515353
Email: ivi@indiavisioninstitute.org
Web: www.indiavisioninstitute.org

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IVI invites contributions including latest updates and new developments in Optometry, innovative ideas, optometry job vacancies, conferences, links to interesting articles and other latest happenings. All contributions need to be in word format (not more than two to three paragraphs including a title). Send in your contributions with your name and contact details to info@indiavisioninstitute.org

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