We believe every individual has vision, and that eyesight is not a requirement to achieving a dream.

Our goal is to restore function to the blind and visually impaired. To this end, we dedicate our research to investigating the functional implications of vision loss, early screening and access to treatments, optimizing rehabilitation therapies and developing accessibility technology.

FELLOWSHIP PROGRAM 2015

The purpose of the Envision Research Institute (ERI) is to carry out applied and innovative research in blindness and low vision, with the goal of removing functional barriers for these individuals.

Visual impairment can have a profound impact on an individual's ability to function in daily life. Impairment can range from mild to severe, including total blindness. Age-related diseases can cause vision loss later in life, leading to decreased independence, isolation and depression. Premature birth and genetic conditions can affect vision in the youngest children, presenting lifetime barriers to education and assimilation in the community.

For more than 80 years, Envision, Inc. has strived to improve the quality of life and provide inspiration for the blind and visually impaired, through employment programs, outreach, rehabilitation and education. Significant gaps exist, however, in our scientific understanding of vision loss and rehabilitation.

The National Eye Institute (NEI) has identified specific research needs in blindness and low vision:

- Understanding Visual Impairment
- Screening and Testing
- Assistive Device Technology
- Visual Prosthetics
- Rehabilitation and Improving Public Health

Envision is uniquely positioned to address these needs and gaps in scientific research given our longstanding and direct contact with blind and low vision populations. Research programs and projects are encouraged to collaborate and integrate with our programs that serve the blind and visually impaired.

Envision Childhood Development Center *http://www.envisionus.com/Pages/Services/ChildhoodDevelopment.aspx*
The ECDC provides comprehensive early intervention services for children birth through age 5. A state-of-the-art childcare facility and preschool, the ECDC offers a quality education with the goal of maximizing each child's potential. Each classroom is comprised of at least one-third typically developing students to provide appropriate age-related mentoring.

Envision Vision Rehabilitation Center *https://www.envisionus.com/Rehab/*
The mission of the EVRC is to enhance the independence and enrich the quality of life for people who are blind or low vision through the delivery of research-based vision rehabilitation. Our staff consists of licensed and certified specialists in ophthalmology, optometry, orientation and mobility, physical therapy and occupational therapy. We work directly with individuals and their families, building independence and inspiring hope.

Envision University *http://www.envisionuniversity.org/*
Envision university provides continuing education opportunities for vision rehabilitation providers and a forum for research dissemination through the annual Envision Conference and the publication Visibility.

Envision Industries *http://www.envisionus.com/Pages/Manufacturing/Industries.aspx*
Almost 50 percent of the 400 Envision employees are blind or vision impaired, making Envision the nation's second largest employer of individuals who are blind or vision impaired. Employees with vision impairments work in manufacturing, retail, print, customer service and administrative careers.

FUNDED PROJECTS

Enhancing Binocular PRL Training in Age-Related Maculopathy
In macular degeneration, patients begin to rely on remaining vision from their "good eye" while ignoring their "bad eye". Doing so disrupts their ability to perceive depth, which has consequences for both eye-hand coordination and navigation. Drawing on rehabilitation research from amblyopia, Dr. Tony Succar is developing a training regimen to help patients learn to use both eyes together and improve their overall quality of life.

Tactile Object Understanding and Characterization
Our brains are wired during development to recognize, remember and appreciate the beauty of objects in our world. Does this wiring depend on the senses feeding the brain? Through behavioral and brain imaging studies, Dr. Rezaul Karim is examining how the visual experience competes with tactile experience in shaping object perception. The results of his research will change how we create learning materials and assistive devices for those who are blind or visually impaired.

Lighting to Improve Functional Reading
A primary complaint for those with macular degeneration is difficulty reading. Good task lighting can make reading more comfortable, but can it actually make reading better? Print size and reading speed was measured in low vision patients with different light levels, including ambient lighting and their own preferred setting. Brighter light wasn't always better, but for each patient, their own optimal light level allowed them to read smaller print, faster. This result argues for including a lighting prescription as part of low vision rehabilitation service.

SAMPLE PROJECTS

Scotoma awareness training
Evaluate functional benefit of specific scotoma awareness training in addition to eccentric viewing techniques. Outcome measures may include eye movement patterns, search efficiency, improvements in reading, etc.

Outcome measures for vision rehabilitation evaluation
Acuity has long been a measure of visual function outcome in FDA trials. It has long been understood that this measure alone is sorely inadequate in describing visual function. Other measures such as contrast sensitivity and visual field may be more important for function. Which outcome measures are most indicative of improvement of visual function after rehabilitation versus function without vision?

Vision rehabilitation service delivery model evaluation
Human factors as a discipline can be used to evaluate and isolate factors in medical delivery systems to isolate areas of inefficiency or those that are prone to "human error". This project could model the delivery system of ophthalmologic referral to low vision rehab, optometric and OT services provided in the clinic or patient's home.

Usability testing of a smartphone app for grocery product identification
Product barcodes linked to a database can provide important product information to blind and low vision users, including project identity, volume, nutritional values and pricing. Locating the barcode for scanning can prove difficult. This smartphone app uses auditory cues to aid barcode localization and imaging for product information retrieval. Usability testing on appropriate senior and visually impaired populations is needed to identify needed design improvements and effectiveness.

ENVISION FELLOWSHIP PROGRAM

Envision Fellows are smart, innovative and out to change the world. They take their diverse educational backgrounds and apply them creatively to improve the quality of life and provide inspiration for the blind and visually impaired through their research endeavors. Partnering with mentors at Envision and around the world at renowned educational, research and medical institutions, Envision fellows are on the fast track to independent and impactful research careers.

Training and Education Objectives

Envision Fellowships are 2 years in duration, with the second year contingent on sufficient progress in the first. The main focus of the fellow is to develop and carry out a research project with their mentor(s) that extends their skills and fulfills the mission of Envision, while taking specific advantage of the unique combination of environment and resources available through the Envision Research Institute (ERI). The research and training plan is to be written by the fellow, and may incorporate up to 6 months of off-site training per year at an external university or research institution under a mentor who agrees to be an affiliate scientist with ERI.

Specific training objectives include:

- Ethical Conduct of Research
- Human Subjects Training
- Scientific Writing
- Grant Writing
- Oral Presentation
- Project Management
- Fundamentals of Low Vision and Blindness Rehabilitation
- Clinical Management of Low Vision and Blindness
- Scientific advances in Low Vision and Blindness Research
- Advances in fellows' topical area of expertise

Specific training objectives can be received at both the external mentor's institution and at ERI, with approval of the final training plan by the ERI Executive Director. Fellows are expected to attend and present at relevant scientific meetings each year, as well as the annual Envision Conference each fall. Staying current in relevant topics will include attendance at various symposia and journal clubs, as well as attendance at Envision Grand Rounds. Fellows are expected to develop their grant writing skills by applying for external funds at the beginning of their second year.

ERI Resources

Envision houses an early childhood development center, vision clinic, rehabilitation facility and research institute in a single building. This unique environment fosters communication and collaboration, allowing us to quickly translate our research results into applications that can directly impact the blind and visually impaired. In the other direction, researchers gain inspiration and valuable insight into impactful and meaningful research questions by interacting with clinicians, rehabilitation professionals and their clients.

Eligibility

A fellow must have received, at the start of their fellowship, a PhD, MD, OD, OTD or equivalent doctoral degree at an accredited institution. Low vision and blindness research is multi- and interdisciplinary, thus the topic of the doctoral degree is less important than the proposed education, training and research to be carried out.

Selection Process

Letters of Intent

ERI will put out a call for letters of intent to apply. The applicant will submit a letter that contains a brief description of the following:

- Description of the candidate and his/her background
- Brief description of the intended research project and how it addresses the mission of Envision
- Proposed external mentor(s) and what new training they would support for the fellow
- List of topical areas relevant to the research (for guiding appointment of selection committee)
- Applicant's CV

Letters should not be more than 2 pages in length. After internal review, top candidates will be invited to submit a full application. Initial review criteria are focused on the relevance to Envision's mission.

Application

Upon invitation, the applicant will develop a training, education and research proposal and secure a support agreement from proposed external mentors. The applications are reviewed by ERI's Scientific Advisory Panel as well as external ad-hoc reviewers with expertise in the relevant topical areas. The review criteria are as follows:

- Applicant: Qualifications of applicant and potential for a research career
- Scientific Merit: Significance of proposed research, feasibility of methods and approach
- Career Development: Training plan and support of applicant's future goals
- Institutional Benefit: Potential impact and alignment with Envision mission

External mentor(s) will agree to support the fellow in the following:

- Support fellow in writing an Individual Development Plan (IDP)
- Day-to-day interaction to design and carry out research project
- Fellow access to resources in mentor's laboratory
- Allow opportunities for project management experience
- Promote training in oral and written presentation of research
- Ensure fellow integration and participation in research community activities
- Acknowledgement of ERI affiliation and support when disseminating fellow's research

Period of Support

Fellowship awards are limited to a maximum of two years duration. The initial award is for 12 months. Subsequent periods of approved fellowship training and education are contingent on scientific progress, efforts to apply for external funding, and availability of funds. Requests for additional time or a break in time must be

strongly justified. Such events include sudden loss of an external mentor's services, accident, illness, or other personal situations which prevent the fellow from pursuing research training and education in an effective manner for a significant period of time.

Terms and Conditions: All awards are made with the proviso that the second year of continued support is contingent upon appropriate progress, including efforts to apply for external funds.

1. In the unlikely event of a difficulty that may arise during the Fellowship period, the matter should be promptly discussed with the Mentor. If the problem involves the Mentor the matter should be discussed with the Executive Director of ERI or the Chair of the Scientific Advisory Panel.

2. Outside employment, during regular Fellowship hours, must be approved by the Mentor and Executive Director of ERI.

3. Publications and presentation of scientific discoveries by awardees are governed by the same policies that apply to employees of ERI. Fellows are required to sign ERI's annual Conflict of Interest statement.

4. Fellows are required to sign ERI's Intellectual Property Agreement.

Program Administration

Mentor: The mentor is the individual with whom the fellow interacts with on a day-to-day basis to design and carry out the research project. A fellow may have multiple mentors if it benefits their training and a collaboration plan is articulated. If issues or concerns arise with a mentor, the fellow may direct concerns to the Chair of the Scientific Advisory Panel and to ERI's Executive Director.

Scientific Advisory Panel: The ERI Scientific Advisory Panel is composed of internal and external scientists and clinicians who review the Fellowship Program and all applications for admission, and assure that the program is consistent with helping the fellows achieve their maximum development during their training and education experience and ensure that research being conducted is consistent with ERI's goals and functions. The program is constantly under review and the Panel welcomes any input from current fellows on how to improve the program.

Individual Development Plan (IDP): Upon entry into the program, the fellow will develop an IDP for tracking progress throughout the training program. The IDP addresses professional development needs in light of career objectives. The IDP is reviewed quarterly and adjusted as needed. The fellow will work with the mentor(s) and the Executive Director of ERI to write this plan.

Financials/Benefits

Stipend: Fellows receive a stipend as a subsistence allowance for individual fellows to defray the living expenses during the training and education experience. Stipend levels are set to match congressionally decided rates each year (e.g. NIH NRSA stipend levels).

Equipment/Travel: Fellows receive a travel and supply allowance each year. Major research equipment needed for the project will be provided by the mentor's laboratory and/or by ERI.

Housing: Fellows may spend up to 6 months/year offsite to receive training and develop their research program. ERI will reimburse the fellow up to $3,000 to offset housing costs (e.g. dual housing, early lease termination).

Health Insurance: A health insurance stipend is provided to allow the fellow to purchase insurance.

Other Benefits: As the fellow is not an employee, they are not eligible to participate in Envision's retirement plan. They also do not accrue vacation or sick leave, but may be allowed time off at the discretion of their mentor and the Executive Director of ERI.

Taxes: Since fellowships are considered awards for training and education, stipends are not subject to Social Security, Medicare deductions, nor can IRA or other tax-related deductions be taken.

Section 117 of the Internal Revenue Code applies to the tax treatment of scholarships and fellowships. Non-degree candidates are required to report as gross income any monies paid on their behalf for stipends or any course tuition and fees required for attendance. The taxability of stipends in no way alters the relationship between fellows and Envision. Stipends are not considered salaries. In addition, recipients of individual fellowships are not considered to be in an employee-employer relationship with Envision solely as a result of the fellowship award. The interpretation and implementation of the tax laws are the domain of the IRS and the courts. Envision takes no position on what the status may be for a particular taxpayer, and it does not have the authority to dispense tax advice. Individuals should consult their local IRS office about the applicability of the law to their situation and for information on their tax obligations.

Although stipends are not considered salaries, this income is still subject to Federal and, sometimes, State income tax. Envision is not required to issue a Form 1099, but does provide an annual letter of documentation of stipend received. This will function as a reminder to the fellow that some tax liability may exist. Fellows are reminded that, even though Envision does not issue a Form 1099, they still are required to report stipends as income.

ENVISION RESEARCH INSTITUTE

ADMINISTRATIVE USE ONLY
SAP RECOMMENDATION:
TOTAL AMOUNT:
APPROVED BY / DATE:

FELLOWSHIP APPLICATION

Applicant Name: **Citizenship:**

Mailing Address:

Current Affiliation:

Mentor:

Affiliation:

Title of Project:

Dates of Fellowship: From: _____ To: _____

Total Amount Requested:

Space Requirements and Availability

ERI:

Mentor's Laboratory:

Will human subjects be involved in this project?

Will vertebrate animals be involved in this project?

_____

APPLICANT SIGNATURE **DATE**

_____

MENTOR SIGNATURE **DATE**

OPTIONAL:

RACE:
- ☐ American Indian / Alaska Native
- ☐ Asian
- ☐ Native Hawaiian or Other Pacific Islander
- ☐ Black or African American
- ☐ White

ETHNICITY:
- ☐ Hispanic or Latino
- ☐ Not Hispanic or Latino

Research Proposal (5 pages)

The proposal should outline the research question to be answered, relevant background, design and methods, and anticipated scientific impact. Specifically address how the proposed research supports Envision's mission. Include a collaboration section that outlines a plan for interacting with the mentor(s).

Training & Education Plan (2 pages)

Describe which research methodologies the fellow will receive training in. Include non-project activities as relevant (coursework, symposia, conferences, etc). Refer to program guidelines for training objectives, and address how each will be accomplished. If awarded, the training plan will be translated into an individual development plan (IDP) for the fellow.

Budget Justification (1 page)

The fellowship includes the applicant's stipend and a modest equipment and travel allowance. It is expected that ERI and the mentor will provide the necessary materials to conduct the proposed research. Justify any additional or unusual costs required to conduct the proposed research.

Career Development Statement (1 page)

Describe your research background and career goals. Address how the skills and training acquired through this fellowship will advance your career.

Supporting Documentation

- Applicant Curriculum Vitae
    - Include validation of doctoral degree date (required to set stipend level).
    - Reprints of up to 2 relevant publications.
- Mentor Curriculum Vitae
    - Highlight projects/publications relevant to the proposed research and training plan.
- Support Statement
    - List fellowship or grant applications that have been submitted or that you plan to submit. Include funding agency, title of project, amount and dates of support.
    - List current and/or previous fellowship or grant support. Include funding agency, title of project, amount and dates of support.
    - List equipment/resources available in the mentor's laboratory/institution.
    - List equipment/resources required to conduct research at ERI.
- Letters of Support
    - Include 2-3 letters of support for the applicant. Highlight potential for research career.
    - Include a letter of support from the Mentor's Institution.

Email applications and queries to:
research@envisionus.com
Subject: Fellowships