

OSREF FELLOWSHIP TRAINING PROGRAM FOR EXCHANGE VISITORS

1. Objectives:

This **postdoctoral** fellowship training program is designed to provide research training to exchange scholars in the subspecialty of Ocular Surface and Tear Disorders, which is a newly developed subspecialty within the conventional subspecialty of “Corneal and External Diseases”. Scholars completing the fellowship training should gain special knowledge and skills in diagnosis and treatments of ocular surface diseases and develop independent thinking to conduct research in this area. After their return to their home country, they are expected to spread the increased knowledge to treat ocular surface diseases in their region so that the patients suffering from such can be benefited as a result. They are also expected to continue to participate in the activities offered by the international professional community of ocular surface subspecialists in the future.

2. Type of Programs & Duration:

OSREF is able to complete the objectives of the Exchange Visitor Program by offering qualified foreigners two program categories: **research scholar** and **short-term scholars**.

Research Scholar:

As participants in this program category, foreign research scholars engage in research, teaching, and lecturing with their American colleagues.

The duration of this fellowship requires one to five years of training. The starting time can be flexible and tailored to each individual's need. Under special circumstances, the duration of training can be shortened or lengthened. For those individuals who desire in-depth research training and completion of publishable research projects, the duration is advised to be longer than one year.

Short-term scholar:

A short-term scholar is a professor, research scholar, or person with similar education or accomplishments that comes to the United States on a short-term visit to lecture, observe, consult, train, or demonstrate special skills at a research institution.

3. Spirit:

The ultimate spirit of the fellowship program is to promote ever-lasting learning habits. OSREF is founded in the belief that there are no limits to what can be learned and this principle is embedded in all facets of this fellowship. The curriculum is tailored to each individual fellow's goals. If there is a certain skill or knowledge not available within OSREF, it is our intention to make it available through collaboration or outsourcing with other entities in the scientific or industrial communities.

4. Qualifications:

The fellowship is offered to individuals with a degree of M.D., Ph.D. or an equivalent degree from within the U.S.A. or abroad without discrimination for age, sex, ethnic, political and religious backgrounds. However, the position of fellowship is limited by the resources

available at OSREF. Therefore, the selection of prospective fellows is competitive and based on academic and intellectual merit.

5. Detailed Program Contents:

The activities of the program for the exchange visitors consist of:

A. A daily in-house conference:

In order to review the various concepts in ocular surface diseases, a specific topic in ocular surface diseases will be assigned to each scholar to be presented in the in-house conference held daily. The scholar is expected to acquire the most updated knowledge regarding the subject, learn how to present the information effectively, develop an ability of critical analysis, and furnish his/her collection of teaching slides upon completion for future use. Most of topics selected have not been well stated in the textbooks. The scholars have to review recently published literature or in house data collected in the past.

Examples of subjects include but not limited to:

- Important Concepts of Ocular Surface Health;
- Diagnostic strategies of Ocular Surface and Tear Disorders: An Integrated Approach;
- Disorders Related to Lacrimal Glands Leading to Aqueous Tear Deficiency;
- Disorders Related to Meibomian Glands Leading to Lipid Tear Deficiency;
- Differential Diagnosis of Aqueous and Lipid Tear Deficiency;
- Disorders Related to Ocular Sensitivity Leading to Neurotrophic Keratopathy;
- Disorders Related to Lid Blinking: Excessive or Insufficiency;
- Disorders Related to Tear Clearance;
- New Paradigm for Wound Healing of Ocular Surface;
- Inflammation and Immune Dysregulation;
- Regulation of Epithelial Stem Cells;
- Corneal Diseases with Limbal Stem Cell Deficiency;
- Therapeutic Strategies of Ocular Surface and Tear Disorders, especially with respect to non-specific ocular irritation;
- Pterygium: New Understanding of Pathogenesis and Surgical Techniques;
- Limbal Stem Cell Transplantation: Autografts and Allografts;
- Amniotic Membrane Transplantation for Ocular Surface Reconstruction;
- Ex vivo Expansion of Epithelial Stem Cells;
- Tissue Engineering.

B. An assigned research project on specific topic:

For two-year research scholars, a specific research project will be selected by the Research Director. The subject may be chosen based on the clinical problems encountered, research questions raised, or some specific personal interests. The scholars are expected to publish the results at the end of the term. The short-term scholars do not have to participate in this program.

Examples of **Research Projects** available are:

1. Exploring the action mechanism of amniotic membrane transplantation with respect to its anti-scarring, anti-inflammatory, and anti-angiogenic effects;
2. Exploring the mechanism of corneal invasion of pterygium;
3. Exploring the mechanism of recurrence of pterygium;
4. Exploring the mechanism of connective tissue laxity in conjunctivochalasis;
5. Exploring the mechanism by which amniotic membrane supports and expand epithelial stem cells;
6. Exploring markers that can label epithelial stem cells;
7. Exploring the mechanism by which limbal stem cell deficiency develops;
8. Exploring new therapies to control conjunctival inflammation;
9. Exploring the role of epithelial-mesenchymal interactions in wound healing;
10. Learning Kinetic analysis of tear interference images to diagnose lipid tear deficiency;
11. Exploring new treatments of meibomian gland dysfunction;
12. Reviewing clinical data as to how amniotic membrane transplantation and kerato-limbal allograft help patients with limbal stem cell deficiency using a new immunosuppression therapies;
13. Reviewing surgical videos to see how various surgical procedures of ocular surface reconstruction are performed;
14. Learning Impression Cytology as a diagnostic tool for limbal stem cell deficiency, etc.

Please note that *foreign scholars (fellows) will mainly participate in data analysis or review of current data collected in clinical research. There shall not be any direct patient care without Dr. Tseng's supervision.*

C. Learning Scientific Principles/Methods of performing Research:

During the course of the program, it is expected that all scholars shall adhere to the following important principles of performing research at OSREF:

- **Firstly**, the ultimate purpose of performing sound research is to improve one's independent and effective thinking process, and not just pursuing publication.
- **Secondly**, a research is worth doing only when it meets the criteria of a sound testable hypothesis and a superior originality.
- **Thirdly**, no project will be started without a written protocol, which includes the key elements of Introduction, Hypothesis, Methods, and Expected Results. All commonly practiced methods shall be typed and stored in PC so that they can be cited accordingly.
- **Fourthly**, experimentation and data recording shall be conducted following the "Good Laboratory Practice" guidelines.
- **Fifthly**, results shall be analyzed timely and thoroughly before the start of next experiment.

D. Learning through Clinical Data Analysis and Publication:

By observing Dr. Tseng's clinic at the Ocular Surface Center, P.A. and surgeries performed at the hospitals, and reviewing collections of past surgical data and/or videotapes, the exchange scholars are provided an opportunity to learn new concepts and procedures in treating difficult ocular surface problems. Interesting cases will be summed up and discussed in weekly seminars, from which new research projects may be

generated. The scholars are expected to further analyze the collected data for publication purposes.

6. Application:

All prospective candidates need to submit their application, which includes **an essay**, describing personal desire for such a training, the career goal, future plan, **a curriculum vitae**, **three recommendation (reference) letters**, and **copies of the highest degree(s)**, and other relevant information.

The application materials shall be submitted by mail, fax, or e-mail to:

*Ocular Surface Research & Education Foundation
Fellowship Training Program
7000 SW 97th Avenue, Suite 212
Miami, FL 33173, USA*

Fax: 305-412-5509, **E-mail:** fellowship@osref.org

7. Offer:

Written response to all submitted applications is issued by the Responsible Officer or Alternate Responsible Officer after all application materials have been reviewed by the OSREF Review Committee. In the event of an offer, the letter will certify that the fellowship is officially granted.