

## ACMG Foundation "Next Generation" Medical Genetics Training Award Opportunities

### Medical Biochemical Genetics Clinical Genetics Residency Training Clinical Laboratory Biochemical Genetics Fellowship Awards Program

#### REQUEST FOR APPLICATIONS

##### Summary

The "Next Generation" Awards are generously funded by Takeda Pharmaceutical, Pfizer, and Sanofi Genzyme. The purpose of the "Next Generation" ACMG Foundation Medical Genetics Training Awards are to:

1. Advance education, research and standards of practice in medical genetics.
2. Develop and expand clinical and laboratory expertise in medical genetics in the United States.
3. Initiate and develop a broad-based infrastructure for industry funding of high-quality projects in the fields of medical genetics.

##### Background

Newborn screening programs are rapidly expanding in the United States. However, there is a deficit of physicians specifically trained in the diagnosis, management and treatment of individuals with the metabolic diseases identified in the programs. It is expected that these programs will continue to expand as more conditions such as the lysosomal storage diseases are added into newborn screening. Clinical Geneticists, of whom there is a subset who focus on biochemical genetic disorders, are often the physicians involved in the coordination of care of these patients. The ability of medical genetics to adapt to the evolution of therapeutic approaches to genetic diseases will be critical to its sustained success. Takeda Pharmaceutical and the ACMG Foundation for Genetic and Genomic Medicine seek to support a robust national fellowship program to promote and encourage the recruitment and training of clinicians for this purpose.

The residency and fellowship training award program will include three types of training:

- Two-year training awards in *Clinical Genetics or Laboratory Biochemical Genetics* field of study
- One-year training award in the *Medical Biochemical Genetics Subspecialty* field of study

Training will ensure broad exposure to clinical biochemical genetics broadly, in light of the fact that: (1) there are approximately 40 genetic disorders resulting from the inadequate intralysosomal degradation of cellular substrates, and (2) the proliferation of therapies for lysosomal storage diseases (LSDs) and other metabolic diseases has resulted in the need for an increase in the number of clinical geneticists professionals with the interest and training to care for patients with these disorders. It is expected that institutions and its trainees who apply for support are working in the third year of training in clinical genetics, or in the case of the one-year Medical Biochemical Genetics subspecialty, will ensure a significant exposure to LSDs.

## TYPES OF TRAINING SUPPORT AVAILABLE THROUGH THIS PROGRAM

**Clinical Laboratory Fellowships** are for clinical biochemical laboratory geneticists who develop and implement new tests, provide ongoing assurance of the quality of routine tests, interpret test results and communicate these results to healthcare providers. Training involves an additional 2-year (24-month) fellowship following the completion of a PhD degree or a medical genetics residency for single specialty certification, and one additional year for each additional laboratory specialty.

Fellowship activities focus on the development, application and interpretation of genetic and genomic laboratory tests while also learning about the administrative requirements necessary to meet national laboratory compliance standards, leading to the ability of the awardee to direct a clinical laboratory by the end of his/her training. Awardees also design a clinical laboratory research project to be conducted over the course of the Fellowship, which may be translational in nature and applicable to advancing clinical genetic and genomic testing. The ACMGF will provide the Awardees a platform for the dissemination (presentation and/or publication) of the awardees' work at the appropriate time during or after the Fellowship.

**Clinical Genetics Residencies** are available to medical students who wish to pursue a two year in medical genetics residency in addition to at least one year of initial residency training in some other Accreditation Council for Graduate Medical Education. Clinical genetics residencies are either categorical (i.e., only trained in medical genetics) or can be combined training with dual board training in pediatrics, maternal fetal medicine, or internal medicine. Clinical responsibilities of medical genetics residents include providing patient care in dysmorphology and pediatric metabolic and genetics clinics, prenatal diagnosis clinics, and adult genetic disease clinics/genomics, such as cancer risk genetics.

**Medical Biochemical Genetics Subspecialty Fellowships** are available to clinical geneticists who are completing or have completed their Clinical Genetics residency. This is a one-year training program that focuses on training in the diagnosis and management of patients at risk for or with metabolic genetic diseases.

### ***Objective***

To provide an in-depth clinical or laboratory experience at a premier medical center with expertise and significant clinical and laboratory volume in the area of biochemical genetics, including lysosomal storage diseases, as well as in therapeutics and clinical trials involving patients with these and other metabolic diseases and, thereby, to increase the number of medical geneticists with interest, knowledge, and expertise in this field.

### ***Program***

The Award Program is designed to support the sustainable development of clinically interested and qualified Clinical and Laboratory Geneticists with expertise in biochemical genetics.

### **Who Should Apply?**

- Institutions with accredited Medical Genetics training programs (Institutional Applicants). Institutional training program representatives will submit the application.
- Individuals and institutions to which a trainee has been accepted, pending availability of funds to support their training (Institutional/Individual Applicants). Each trainee-applicant and his/her sponsoring institution will submit a joint application to the ACMG Foundation committee for the sponsorship of the trainee through the Award Program to focus the trainee-applicant's first year of fellowship following his/her residency in a genetics fellowship on biochemical genetic diseases.

### **Criteria and Qualifications**

#### *Institutional Criteria*

The Clinical Genetics program at the applicant Institution must be currently and fully accredited by the Accreditation Council for Graduate Medical Education ("ACGME") and must be able to provide the Awardee with appropriate clinical supervision and mentorship. The applicant-institution must have a multidisciplinary team that is established and trained to manage the multiple aspects of care required by individuals with biochemical genetic diseases. The applicant institution is expected to provide the Awardees significant exposure to patients with LSDs. The applicant-institution should serve a large patient population and have the diagnostic and research capabilities to properly diagnose patients and provide comprehensive management.

#### *Individual Trainee-applicant Criteria*

Each MD trainee-applicant for training in the Clinical Genetics Specialty or Medical Biochemical Genetics Subspecialty and MD or PhD for training in Laboratory Biochemical Genetics training will enroll in an ACGME-approved Program ("Genetics Program") in the United States. Domestic (US) and international applicants are eligible for the Takeda Pharmaceutical/ACMG Foundation Clinical Genetics Residency and Laboratory Geneticist Fellowship Awards Program. Training will be in programs accredited by the American Board of Medical Genetics and Genomics (ABMGG). For the two-year training programs, applications will be made to institutions accredited to train individuals in Medical Genetics. The specific individuals in those programs whose training is to be supported will be agreed on between the institutions and ACMG prior to their being named the Takeda Pharmaceutical/ACMG Foundation Awardee. International applicants are strongly encouraged to have their credentials reviewed by ABMGG prior to applying for training so their eligibility to sit for board exams after training is clear.

### **Activities**

Fellowship activities of the Awardees will focus on significant clinical care of patients with biochemical genetic disorders. The Awardees will design a research project to be conducted over the course of the Fellowship Year, which will be clinical in nature, and may relate to any area of current or future therapy for metabolic diseases. This Research Project may include work with registries, clinical trials, investigator initiated work, or other areas of clinical investigation. The ACMG Foundation will provide the award recipients a platform for the presentation of the Awardees' work at the appropriate time during the Fellowship Year. Each Awardee must provide to the ACMG Foundation a progress report regarding the Research Project at six months following the commencement of the Fellowship Year and a final report regarding the Research Project at twelve months from the commencement of the Fellowship Year.

### **Performance Period**

The Fellowship Year will commence on July 1st and end on June 30th of the award year. Second-year funding is contingent on the successful completion of the first year of training.

### **Award Process**

Trainee-applicants and institution-applicants will submit their joint applications at the beginning of the trainee-applicant's second year of residency, with selection occurring thru September, notification of the Awardees in October, and announcement of the award recipient at the ACMG Annual Clinical Genetics Meeting, which will be held in March or April. The Fellowship Year will commence on July 1st.

### **Award Support**

Takeda Pharmaceutical/ACMG Foundation will fund the Award in the amount of \$75,000 per year, which shall be designated to pay for all direct costs (stipend, fringe benefits, other training costs) and indirect costs (capped at 8% as with NIH training grants) associated with the Awardees' Fellowship Year. The ACMG Foundation shall pay such funds directly to the institution sponsoring the Awardees in four quarterly installments, which institution shall agree in writing, prior to the disbursement of any such funds, to use such funds in accordance with the terms of the Agreement.

### **Submitting Your Application**

Award information for both *Institutional Awards* and *Joint Individual/ Institutional Applications* are below. The application will include an outline of the trainee-applicant's proposal and affirmation of the criteria and qualifications. For information about the awards ACMGF offers, please click [here](#).

Below are the applications available in the Training Awards and Fellowship categories:

- One-year Next Generation Medical Biochemical Genetics Fellowship Application  
Description: [About the Medical Biochemical Subspecialty Fellowship Award](#)  
How to Apply: [One-Year Medical Biochemical Subspecialty Fellowship Application](#)
- Two-year Clinical Genetics Residency Training Program Application  
Description: [About the Clinical Genetics Residency Training Award](#)  
How to Apply: [Two-Year Clinical Genetics Residency Training Award](#)
- Two-year Clinical Laboratory Biochemical Genetics Fellowships  
Description: [About the Laboratory and Medical Biochemical Genetics & Genomics Residency](#)  
How to Apply: [Two-Year Laboratory and Medical Biochemical Genetics and Genomics Residency](#)

### **Considerations**

- The application will include an agreement by the trainee-applicant, if selected as an Awardee, to comply with the terms of the Award Program.
- The Institution that sponsors the trainee-applicant also will be required to complete part of the application, including acceptance of the terms and conditions under which the Award Program will be made.
- Officers, directors, or employees of the ACMG Foundation, Takeda Pharmaceutical or members of the Award Committee, and their family members (including spouses, children and their spouses, and siblings and their spouses), will not be eligible to apply to participate in the Award Program.
- Application limited to five pages plus references.

## Evaluation Criteria

Each of three types of awards will be competed on overlapping, but unique criteria.

- Support of training in Clinical Genetics will be open to either institutions or joint institution/individual. However, the criteria by which their application will be assessed will largely be institutional. Aspects of institutional training programs that will inform this will include information on the patient populations seen by the program, the depth and diversity of experience available in metabolic disease patients, including patients with lysosomal storage diseases, genetic and metabolic disease clinical trial activity at the institution, staff involved in training, and the availability of associated services such as metabolic disease dieticians.
- Support of training in Laboratory Biochemical Genetics will include the criteria described above plus the breadth of technologies used by the institution's laboratory.
- For Medical Biochemical Genetics Subspecialty Fellowship training, please see the attached description of the award program.

## Review Process

The ACMG Foundation has established a committee of individuals to serve as peer reviewers of applications. Each individual reviewer will be asked to score and submit comments for each application; followed by a group discussion. The final recommendations will be compiled and awarded based on merit

## Receipt and Review Schedule

Applications for this program will be considered in one round, based on the following schedule:

- I. Clinical Genetics or Laboratory Biochemical Genetics (2 year)
  - Application Submission Deadline: August 24, 2020
  - Award Notification by: August/ September 2020
  - Formal Announcement of winners during March 2020 ACMG Annual Clinical Genetics Meeting
- II. Medical Biochemical Genetics Subspecialty (1 year)
  - Application Submission Deadline: October 16, 2020
  - Award Notification by: November/ December 2020
- III. Formal Announcement of winners during March 2021 ACMG Annual Clinical Genetics Meeting
  - Note: It is required by the Federal Government that industry support of fellowship training (not clinical residencies) are subject to reporting in the Open Payment System.

Where to e-mail or phone inquiries:

ACMG Foundation for Genetic and Genomic Medicine

Please note in subject line: **"Next Generation" Awards**  
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