**New Application: Laboratory Genetics and Genomics**

**Review Committee for Medical Genetics and Genomics**

**ACGME**

**Sponsoring Institution**

1. Will the Sponsoring Institution also sponsor ACGME-accredited programs in the following specialties? [PR.I.B.1.a)]
2. Medical genetics and genomics  YES  NO

If no, please explain:

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1. Medical biochemical genetics  YES  NO
2. Clinical biochemical genetics  YES  NO

**Program Personnel and Resources**

**Resources**

1. Provide the data requested below, including the number of cases for each cytogenetics laboratory that will contribute significantly to the education of post-doctoral fellows. Do not include research and test data. Duplicate table as needed. [PR I.D.1.]

|  |  |  |
| --- | --- | --- |
| 12-Month Period Covered by Statistics | From: | To: |

|  |  |
| --- | --- |
| Name of Laboratory: |  |
| Address: |  |
| Name of Laboratory Director: |  |
| **Category** | **Number of Cases** |
| Bloods (peripheral, percutaneous umbilical cord sampling, cord) | |
| Karyotype | # |
| FISH | # |
| Microarray | # |
| Tissues/POC | |
| Karyotype | # |
| FISH | # |
| Microarray | # |
| Amniotic Fluids | |
| Karyotype | # |
| FISH | # |
| Microarray | # |
| Chorionic Villi | |
| Karyotype | # |
| FISH | # |
| Microarray | # |
| Bone Marrows/Leukemic Bloods | |
| Karyotype | # |
| FISH | # |
| Microarray | # |
| Solid Tumors | |
| Karyotype | # |
| FISH | # |
| Microarray | # |
| Other: | |
| Karyotype | # |
| FISH | # |
| Microarray | # |
|  |  |

1. Provide the data requested below for each molecular genetics laboratory that will contribute significantly to the education of post-doctoral fellows. Do not include research and test data. Duplicate table as needed. [PR I.D.1.]

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| --- | --- | --- | --- |
| **Name of Disease** | **Indication for Testing\*** | **Diagnostic Method(s)\*\*** | **Total Number of Tests Performed** |
|  |  |  | # |
|  |  |  | # |
|  |  |  | # |
|  |  |  | # |
|  |  |  | # |
|  |  |  | # |
|  |  |  | # |
|  |  |  |  |

\*Indication for Testing: diagnostic, predictive, carrier determination, carrier screening, other, unknown

\*\*Diagnostic method(s): RFLP/gel, sequencing, microarray, allele specific platform, real time PCR, etc.

1. Concisely describe the office space, meeting rooms, classrooms, laboratory space, and research facilities available at on-site laboratories. [PR I.D.1.b).(1)] (Limit response to 400 words)

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**Other Program Personnel**

1. Concisely summarize the technical, clerical, and other non-physician personnel who will provide support for the administrative and educational conduct of the program. Is the support of the program in this area satisfactory at all program sites? [PR II.D.] (Limit response to 400 words)

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1. Summarize the opportunities post-doctoral fellows will have to work with laboratory technicians, laboratory quality officers, laboratory directors, and other laboratory professionals involved in the provision of laboratory genetics and genomics services. [PR II.D.1.] (Limit response to 400 words)

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1. Summarize the opportunities post-doctoral fellows will have to work with genetic counselors, nurses, dieticians, and other health care professionals involved in the provision of laboratory genetics and genomics services. [PR II.D.1.] (Limit response to 400 words)

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**Educational Program**

**Patient Care**

1. Describe how and in what settings post-doctoral fellows will demonstrate competence in pre-analytic laboratory skills, including collection of specimen types. [PR IV.B.1.b).(1).(a).(i)] (Limit response to 400 words)

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1. Describe how and in what settings post-doctoral fellows will demonstrate competence in analytic laboratory skills used for various specimen types. [PR IV.B.1.b).(1).(a).(ii)] (Limit response to 400 words)

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1. Describe how and in what settings post-doctoral fellows will demonstrate competence in post-analytic skills. [PR IV.B.1.b).(1).(a).(x)] (Limit response to 400 words)

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1. Describe how and in what settings post-doctoral fellows will demonstrate knowledge of quality control, quality management, quality improvement, and quality assurance. [PR IV.B.1.b).(1).(a).(xi)] (Limit response to 400 words)

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**Medical Knowledge**

1. List the activity(ies) (lectures, conferences, journal clubs, clinical teaching rounds, etc.) in which post-doctoral fellows will demonstrate knowledge in each of the following areas. Also indicate the assessment method(s) that will be used to assess competence. [IV.B.1.b).(2)]

| **Area of Expertise** | **Settings/Activities** | **Assessment Method(s)** |
| --- | --- | --- |
| *Use of scientific evidence, current medical information, and practice standards for the purpose of patient care [PR IV.B.1.c).(1).(a)]* | | |
| Evaluation of results from molecular and cytogenetics-based genomics laboratories  [PR IV.B.1.c).(1).(a).(i)] | Click here to enter text. | Click here to enter text. |
| Quantitative risk assessment  [PR IV.B.1.c).(1).(a).(ii)] | Click here to enter text. | Click here to enter text. |
| Application of bioinformatics  [PR IV.B.1.c).(1).(a).(iii)] | Click here to enter text. | Click here to enter text. |
| Mendelian and non-Mendelian genetics  [PR IV.B.1.c).(1).(b).(i)] | Click here to enter text. | Click here to enter text. |
| Population and quantitative genetics  [PR IV.B.1.c).(1).(b).(ii)] | Click here to enter text. | Click here to enter text. |
| Genomics  [PR IV.B.1.c).(1).(b).(iii)] | Click here to enter text. | Click here to enter text. |
| General principles of cell and molecular biology, as it relates to the field of medical genetics and genomics  [PR IV.B.1.c).(1).(c)] | Click here to enter text. | Click here to enter text. |
| Principles of cytogenetics and clinical molecular genetics as they relate to the field of laboratory genetics and genomics  [PR IV.B.1.c).(1).(d)] | Click here to enter text. | Click here to enter text. |

**Interpersonal and Communication Skills**

1. Describe the role of the post-doctoral fellows and settings in gaining experience in communicating results to physicians, other health professionals, and health-related agencies. [PR IV.B.1.e).(1).(b)] (Limit response to 400 words)

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**Systems-Based Practice**

1. Describe opportunities for post-doctoral fellows to actively participate in laboratory inspections. [PR IV.B.1.f).(1).(a).(i).(a)] (Limit response to 400 words)

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1. Describe how and in what settings post-doctoral fellows will participate in laboratory quality management, including quality control and quality assurance. [PR IV.B.1.f).(1).(i)] (Limit response to 400 words)

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**Curriculum Organization and Post-Doctoral Fellow Experiences**

1. Will post-doctoral fellows participate in a rotation in clinical biochemical genetics of at least two weeks in length? [PR IV.C.2.a).(1)]  YES  NO
2. Will the curriculum include at least eight months of constitutional/germline testing? [PR IV.C.2.a).(3)]  YES  NO
   1. Will post-doctoral fellows have exposure to prenatal/carrier testing and non-invasive prenatal testing, even if the testing is performed outside and the exposure involves interpretation and/or communication of results to patients?   
      [PR IV.C.2.a).(3).(a)]  YES  NO
   2. Will post-doctoral fellows have exposure to postnatal (perinatal, pediatric, and adult non-obstetric) testing? [PR IV.C.2.a).(3).(b)]  YES  NO
3. Will the curriculum include at least eight months of experience in cancer testing with a focus on somatic analysis? [PR IV.C.2.a).(4)]  YES  NO
4. Describe how the program will ensure that education across cytogenetics and molecular genetics is integrated throughout the program. [PR IV.C.2.c)] (Limit response to 400 words)

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1. Describe how post-doctoral fellows will participate in the development of clinical laboratory methods or tests. [PR IV.C.2.d)] (Limit response to 400 words)

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1. Describe opportunities for direct exposure to the clinical evaluation of patients, medical decision-making, and genetic counseling. [PR IV.C.3.a)] (Limit response to 400 words)

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1. Describe how and in what settings, post-doctoral fellows will have direct exposure to pre-conception/prenatal, neonatal/perinatal, pediatric, and adult non-obstetric patients referred for a variety of clinical indications. [PR IV.C.3.a).(2)] (Limit response to 400 words)

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1. Provide a list of the planned seminars, journals clubs, rotations in a clinical chemistry laboratory, and other educational opportunities. Comment on the levels of teaching staff member participation and post-doctoral fellow attendance at these sessions. Provide a list of topics and speakers as appropriate. [PR IV.C.6.]

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**Supervision and Graduated Responsibility**

How will the members of the faculty ensure that post-doctoral fellows have an opportunity to assume increasing responsibility for result interpretation and reporting as they progress through the program? [PR VI.A.2.f)]

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