2017 ACMG
Genetics and Genomics Review Course

Tampa, Florida
May 4 - 7, 2017
Course Description & Course Format
The ACMG Genetics and Genomics Review Course offers a 3 day format that provides an intense learning environment with exam preparation lectures that cover a broad range of genetic and genomic topics presented by recognized experts in the field. Topics include:

- Cell Biology/Genomics
- Molecular Biology
- Clinical Cytogenetics
- Molecular Genetics and Genomics
- Genetic Transmission
- Biochemical Genetics
- Developmental Genetics
- Cancer Genetics
- Genetic Counseling & Risk Assessment
- Newborn Screening
- Neurogenetics
- Reproductive Genetics
- Systems-Based Disorders
- Genomic Medicine

The Course will feature a pre-course sample examination, exam preparation and exam taking tips, interactive examination workshops with in-depth coverage of exam content areas. There will be an interactive breakout sessions with faculty on-site.

Course Objectives
At the conclusion of this activity, participants should be able to:

- Identify common genetic syndromes and discuss their clinical features
- Interpret standard molecular data and explain how to communicate results to families
- Perform simple quantitative genetic calculations and solve related problems
- Describe basic cytogenetics and identify features of common chromosomal disorders
- Recognize clinical features of selected metabolic disorders and describe their molecular basis and review how to provide counseling about them
- Discuss the extents and limits of prenatal tests and explain how to perform routine prenatal counseling
- Explain clinical and molecular aspects of inherited cancer syndromes and know how to provide counseling for common human cancers

Course Objectives approved by the NSGC for Genetic Counselors
At the conclusion of this activity, participants should be able to:

- Identify common genetic syndromes
- Interpret standard molecular data
- Perform simple quantitative genetic calculations
- Describe basic cytogenetics
- Recognize clinical features of selected metabolic disorders
- Explain how to perform routine prenatal counseling
- Explain clinical and molecular aspects of inherited cancer syndromes

Target Audience
This course is designed to assist genetics healthcare professionals who are seeking to update and reinforce their general knowledge of medical genetics. This course is designed to assist
genetics healthcare professionals who are seeking to update and reinforce their general knowledge of medical genetics. This course also allows ABMGG individuals to prepare for Board Certification or Recertification. Genetic counselors are also welcome.

Continuing Medical Education Credit
This activity has been planned and implemented by the American College of Medical Genetics and Genomics in accordance with the Essential Areas and Policies of the Accreditation Council for Continuing Medical Education.

Accreditation
The American College of Medical Genetics and Genomics is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians.

CME Credit Designation for Onsite
The American College of Medical Genetics and Genomics designates this live activity for a maximum of 23 hours in AMA PRA Category 1 Credits™. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

CME Credit Designation for Live Streaming
The American College of Medical Genetics and Genomics designates this live activity for a maximum of 21.5 hours in AMA PRA Category 1 Credits™. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

Genetic Counselor CEUs Onsite:
The National Society of Genetic Counselors (NSGC) has authorized the American College of Medical Genetics and Genomics to offer up to 23 Category 1 contact hours for the event: 2017 ACMG Genetics and Genomics Review Course. The American Board of Genetic Counseling (ABGC) will accept CEUs earned at this program for the purposes of certification and recertification.

Genetic Counselor CEUs Live Streaming:
The National Society of Genetic Counselors (NSGC) has authorized the American College of Medical Genetics and Genomics to offer up to 21.5 Category 1 contact hours for the event: 2017 ACMG Genetics and Genomics Review Course. The American Board of Genetic Counseling (ABGC) will accept CEUs earned at this program for the purposes of certification and recertification.

Continuing Education Units (Clinical Laboratory Scientists, Directors, and Personnel)
ACMG is approved as a provider of continuing education programs in the clinical laboratory sciences by the American Society for Clinical Laboratory Science (ASCLS) Professional Acknowledgment for Continuing Education (P.A.C.E.®) Program. The College designates the 2017 ACMG Genetics and Genomics Review Course onsite course for a maximum of 23 contact hours and the live streaming video for a maximum 21.5 contact hours. ACMG is approved by the Florida Board of Clinical Laboratory Personnel as CE Provider #275.

ACMG is approved by the California Department of Health Services through the ASCLS P.A.C.E.® Program as CE Provider # 0001.
2017 ACMG GENETICS AND GENOMICS REVIEW COURSE

AGENDA

Thursday, May 4, 2017

4:00 pm – 7:00 pm  Registration
7:00 pm - 7:30 pm  Introduction to Course  Bruce R. Korf, MD, PhD, FACMG
7:30 pm – 8:30 pm  ABMGG Review and Exam Preparation Tips  Miriam G. Blitzer, PhD, FACMG
Gary S. Gottesman, MD, FAAB, FACMG

Friday, May 5, 2017

7:30 am – 8:00 am  Continental Breakfast/Registration
8:00 am – 9:00 am  Cell Biology/Genomics  Christa Lese Martin, PhD, FACMG
9:00 am – 10:00 am  Genomics - Basics  Madhuri Hegde, PhD, FACMG
10:00 am – 10:30 am  Break
10:30 am – 11:30 am  Clinical Cytogenetics  Christa Lese Martin, PhD, FACMG
11:30 am – 12:30 pm  Clinical Molecular Genetics  Madhuri Hegde, PhD, FACMG
12:30 pm – 2:00 pm  Lunch (on your own lunch)
2:00 pm – 3:00 pm  Genetic Transmission  Bruce R. Korf, MD, PhD, FACMG
3:00 pm – 4:00 pm  Newborn Screening  John A. Phillips, III, MD, FACMG
4:00 pm – 4:30 pm  Break
4:30 pm – 5:30 pm  Developmental Genetics  Tony Wynshaw-Boris, MD, PhD, FACMG
5:30 pm – 6:30 pm  Cancer Genetics I  Sharon Plon, MD, PhD, FACMG
6:30 pm – 7:30 pm  Dinner (on your own)
7:30 pm – 9:00 pm  Advanced Genetic Topics - Informal Sessions  Faculty

This session is not live streamed or recorded

- Quantitative
- Biochemistry
- Molecular
- Cytogenetics
- Prenatal
- Genetic Counseling
**Saturday, May 6, 2017**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Speaker</th>
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<tbody>
<tr>
<td>7:30 am – 8:00 am</td>
<td>Continental Breakfast</td>
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<tr>
<td>8:00 am – 9:00 am</td>
<td>Genetic Counseling &amp; Risk Assessment</td>
<td>Pamela L. Flodman, MSc, MS, LCGC</td>
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<tr>
<td>9:00 am – 10:00 am</td>
<td>Biochemical Genetics I</td>
<td>Gerard Berry, MD, FACMG</td>
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<tr>
<td>10:00 am – 10:30 am</td>
<td>Break</td>
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<tr>
<td>10:30 am – 11:30 am</td>
<td>Neurogenetics</td>
<td>Bruce R. Korf, MD, PhD, FACMG</td>
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<tr>
<td>11:30 am – 12:30 pm</td>
<td>Reproductive Genetics I</td>
<td>Louise E. Wilkins-Haug, MD, PhD, FACMG</td>
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<tr>
<td>12:30 pm – 2:00 pm</td>
<td>Lunch (on your own lunch)</td>
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<tr>
<td>2:00 pm – 3:00 pm</td>
<td>Cancer Genetics II</td>
<td>Sharon Plon, MD, PhD, FACMG</td>
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<tr>
<td>3:00 pm – 4:00 pm</td>
<td>Biochemical Genetics II</td>
<td>Gerard Berry, MD, FACMG</td>
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<tr>
<td>4:00 pm – 5:00 pm</td>
<td>Systems-Based Disorders I</td>
<td>Bruce R. Korf, MD, PhD, FACMG</td>
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<tr>
<td>05:00 pm – 6:30 pm</td>
<td>Dinner (on your own)</td>
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<td>6:30 pm – 8:00 pm</td>
<td>Exam Workshop</td>
<td>Gary S. Gottesman, MD, FAAB, FACMG</td>
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<tr>
<td>8:00 pm – 9:00 pm</td>
<td>Networking Reception</td>
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**Sunday, May 7, 2017**

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<tr>
<th>Time</th>
<th>Event</th>
<th>Speaker</th>
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<tbody>
<tr>
<td>7:30 am – 8:00 am</td>
<td>Continental Breakfast</td>
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<tr>
<td>8:00 am – 9:00 am</td>
<td>Systems-Based Disorders II</td>
<td>John A. Phillips, III, MD, FACMG</td>
</tr>
<tr>
<td>9:00 am – 10:00 am</td>
<td>Reproductive Genetics II</td>
<td>Louise E. Wilkins-Haug, MD, PhD, FACMG</td>
</tr>
<tr>
<td>10:00 am – 10:30 am</td>
<td>AM Break</td>
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<tr>
<td>10:30 am – 11:30 am</td>
<td>Genomic Medicine</td>
<td>Bruce R. Korf, MD, PhD, FACMG</td>
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<tr>
<td>11:30 am – 12:00 pm</td>
<td>Course Wrap Up</td>
<td>Bruce R. Korf, MD, PhD, FACMG</td>
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<td>John A. Phillips, III, MD, FACMG</td>
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COURSE DIRECTORS

Bruce R. Korf, MD, PhD, FACMG
Wayne H. and Sara Crews Finley Chair in Medical Genetics
Professor and Chair, Department of Genetics
Director, Heflin Center for Genomic Sciences
University of Alabama at Birmingham
1720 2nd Ave. S., Kaul 230
Birmingham, AL 35294
Tel: (205) 934-9411
bkorf@uab.edu

John A. Phillips, III, MD, FACMG
David T. Karzon Professor of Pediatrics
Professor of Pathology, Microbiology and Immunology and Professor of Medicine
Director, Division of Medical Genetics & Genomic Medicine
Vanderbilt University School of Medicine
DD-2205 Medical Center North
Nashville, TN 37232-2578
Tel: (615) 322-7602
john.a.phillips@vanderbilt.edu

FACULTY

Gerard Berry, MD, FACMG
Harvey Levy Chair in Metabolism Director,
Metabolism Program Division of Genetics and Genomics Boston Children’s Hospital
Professor of Pediatrics, Harvard Medical School
Center for Life Science Building,
Suite 14070
3 Blackfan Circle
Boston, MA 02115
Tel: (617) 355-4316
Gerard.Berry@childrens.harvard.edu

Madhuri Hegde, PhD, FACMG
Associate Professor
Emory Genetics Lab Scientific Director
Sr. Director, Emory Genetics Lab, Molecular Lab
Department of Human Genetics
Emory University School of Medicine
2165 North Decatur Road
Decatur, GA 30033
Tel: (404) 727-5624
mhegde@emory.edu

Pamela L. Flodman, MSc, MS, LCGC
Adjunct Professor, Pediatrics
School of Medicine
Director, Graduate Program in Genetic Counseling
Department of Pediatrics
University of California, Irvine
101 The City Drive
Mail Code: 4482
Orange, CA 92868
Tel: (714) 456-5789
pflodman@uci.edu

Christa Lese Martin, PhD, FACMG
Autism & Developmental Medicine Institute
Geisinger Health System
120 Hamm drive, suite 2A, M.C. 60-36
Lewisburg, PA 17837
Tel: (570) 522-9427
Clmartin1@geisinger.edu

Gary S. Gottesman, MD, FACMG
Medical Geneticist
Center for Metabolic Bone Disease
Shrines Hospitals for Children - St. Louis
2001 S. Lindbergh Blvd.
St. Louis, MO 63131
Tel: (314) 872-8305
gottesgs@slu.edu

Sharon E. Plon, MD, PhD, FACMG
Professor, Pediatrics/Hematology-Oncology
Professor, Molecular and Human Genetics
Human Genome Sequencing Center
Director, Medical Scientist Training Program
Department of Pediatrics
Baylor College of Medicine
Feigin Center Room 1200.18
1102 Bates Street
Houston, TX 77030
Tel: (832) 824-4251
splon@bcm.edu
Louise E. Wilkins-Haug, MD, PhD, FACMG
Division Director, Maternal Fetal Medicine
and Reproductive Genetics
Brigham & Women’s Hospital
Professor, Obstetrics/Gynecology
Harvard Medical School
75 Francis Street
Boston, MA 02115
Tel: (617) 732-4208
Fax: (617) 264-6310
lwilkinshaug@partners.org

Tony Wynshaw-Boris, MD, PhD, FACMG
James H. Jewell Professor of Genetics
Chair, Department of Genetics and Genome Sciences
Case Western Reserve University, School of Medicine
University Hospitals Case Medical Center
One 10900 Euclid Avenue, BRB731
Cleveland, OH 44106-4955
Tel: (216) 368-0581
ajw168@case.edu

CONTRIBUTOR
Miriam G. Blitzer, PhD, FACMG
Executive Director
American Board of Medical Genetics and Genomics
9650 Rockville Pike
Bethesda, MD 20814-3998
Tel: (410) 706-1429
mblitzer@abmg.org

FACULTY DISCLOSURES

As a sponsor accredited by the ACCME, the American College of Medical Genetics and Genomics must ensure balance, independence, objectivity and scientific rigor in all its sponsored educational activities. All faculty participating in a CME-certified activity are expected to disclose to the audience any relevant financial interest(s) or other relationship(s) with the manufacturer(s) of any commercial product(s), provider(s) of commercial services or any commercial supporters, including diagnostic laboratories, of the activity discussed in an educational presentation. Relevant financial interest(s) or other relationship(s) can include such things as grants or research support, consultancy, major stock holder, etc. The intent of this disclosure is not to prevent a planner or speaker with a relevant financial or other relationship from course planning or making a presentation, but rather to provide learners with information on which they can make their own judgments. It remains for the audience to determine whether the speaker's interests or relationships may influence the presentation with regard to exposition or conclusion. All conflicts of interests have been reviewed and resolved by the education and CME subcommittee.

The following have reported disclosures:
Bruce R. Korf, MD, PhD, FACMG
Dr. Korf receives grant/research support from Novartis. He is on the Advisory Board for Accolade and Genome Medical. He is on the Board of Directors for the American College of Medical Genetics and Genomics and the Children’s Tumor Foundation. He is an advisor for the Neurofibromatosis Therapeutic Acceleration Project, a Founding Member of Envision Genomics. He receives a salary from the University of Alabama at Birmingham.

Madhuri Hegde, PhD, FACMG
Dr. Hegde is an advisor for Genzyme (Pompe program), PTC (DMD program), Coriell Cell Repositories, and PerkinElmer Genetics Inc.
Christa Lese Martin, PhD, FACMG
Dr. Martin is employed by Geisinger Health System and is a consultant the The Jackson Laboratory.

John A. Phillips, III, MD, FACMG
Dr. Phillips is a Site Investigator for the following: 1) PKU: BMN 015 &165, 2) Achondroplasia: BMN 111-901, 201 & 202 Clinical Trials BioMarin Pharmaceutical Inc. & 3) FAOD: UX007 Ultragenyx Pharmaceuticals, Inc. He is Principal Investigator for TN State Genetics Contract & Member TN Genetics Advisory Committee. A Co-PI: Vanderbilt Undiagnosed Disease Network (UDN) Clinical Center and a Co-I: Dr Blackwell's PPG "Mechanisms of Familial Pulmonary Fibrosis".

Sharon Plon, MD, PhD, FACMG
Dr. Plon is an employee of Baylor College of Medicine (BCM) which derives revenue from genetic testing, including whole exome sequencing. BCM and Miraca Holdings Inc. have agreed on a joint venture with shared ownership and governance of the clinical genetics diagnostic laboratories. Dr. Plon will also discuss off-label use and/or investigational use of drug target tumors.

The following faculty members have nothing to disclose:
Gerard Berry, MD, FACMG
Pamela L. Flodman, MSc. MS, LCGC
Gary S. Gottesman, MD, FAAP, FACMG
Louise E. Wilkins-Haug, MD, PhD, FACMG
Anthony J. Wynshaw-Boris, MD, PhD, FACMG
Miriam G. Blitzer, PhD, FACMG
Jane Radford, MHA, CHCP (ACMG Staff)

HIPAA COMPLIANCE

The ACMG supports medical information privacy. While the ACMG is not a “covered entity” under HIPAA 1996 and therefore is not required to meet these standards, ACMG wishes to take reasonable steps to ensure that the presentation of individually identifiable health information at ACMG-sponsored events has been properly authorized. All presenters have completed a form indicating whether they intend to present any form of individually identifiable healthcare information. If so, they were asked either to attest that a HIPAA-compliant consent form is on file at their institution, or to send ACMG a copy of the ACMG HIPAA compliance form. This information is on record at the ACMG Administrative Office and will be made available on request.

Content Validation
ACMG follows the ACCME policy on Content Validation for CME activities, which requires:

Content Validation and Fair Balance
1. ACMG follows the ACCME policy on Content Validation for CME activities, which requires:
   a) All recommendations involving clinical medicine must be based on evidence that is accepted within the profession of medicine as adequate justification for their indications and contraindications in the care of patients.
   b) All scientific research referred to, reported or used in CME in support or justification of patient care recommendations must conform to the generally accepted standards of experimental design, data collection and analysis.
2. Activities that fall outside the definition of CME/CE; “Educational activities that serve to maintain, develop, or increase the knowledge, skills, and professional performance and relationships that a physician uses to provide services for patients, the public, or the profession” (source: ACCME and AMA) will not be certified for credit. CME activities that promote recommendations, treatment, or manners of practicing medicine or pharmacy that are not within the definition of CME/CE or, are known to have risks or dangers that outweigh the benefits or, are known to be ineffective in the treatment of patients.

3. Presentations and CME/CE activity materials must give a balanced view of therapeutic options; use of generic names will contribute to this impartiality. If the CME/CE educational materials or content includes trade names, where available, trade names from several companies must be used.

**Off-label Uses of Products**

When an off-label use of a product, or an investigational use not yet approved for any purpose, is discussed during an educational activity, the accredited sponsor shall require the speaker to disclose that the product is not labeled for the use under discussion, or that the product is still investigational. Discussions of such uses shall focus on those uses that have been subject of objective investigation.

**Disclaimer:**

This review course is designed as an educational resource for medical geneticists and other health care providers. Its use does not, and should not be considered to ensure a successful outcome on the certification examinations offered by the American Board of Medical Genetics and Genomics or the American Board of Genetic Counseling, or any other examinations. The course should not be considered inclusive of all appropriate information or all available sources of information that may be useful in preparing for the examinations or for any other purpose.

The ACMG does not endorse, or recommend the use of this educational program to make patient diagnoses, particular by individuals not trained in medical genetics. Adherence to the information provided in these programs does not necessarily ensure a successful diagnostic outcome. The program should not be considered inclusive of all proper procedures and tests or exclusive of other procedures and tests that are reasonably directed at obtaining the same results. In determining the propriety of any specific procedure or test, a healthcare provider should apply his or her own professional judgment to the specific clinical circumstances presented by the individual patient or specimen.

**Participation Instructions for Live Streaming**

For Technical Support Call 1-703-948-3001

1. User logs into 2017 Genetics and Genomics Review Course Live
2. The participant will then complete the practice test for the course.
3. Then the participant will watch the live sessions when they are available.
4. Once the meeting is completed, the participant will be able to claim credit for each session.
5. Before claiming credit for their first session, the participant is prompted to review the front matter and attests that they have read the information. Then they click Continue.
6. After that, the participant will be able to select the credit type to claim.
7. After completing a session evaluation, the participant is redirected to the credit claim page with the credits drop down where the participant claims the credits up to the max allowed for the session.
8. Once the participant claims the credits, they are redirected to the confirmation page from which the participant can go back to the meetings page.
9. There is a final course evaluation that the participant must complete. The course evaluation will be available on the Live Stream page, and once completed, the user can continue to claim any additional unclaimed credits.

10. Once the overall meeting evaluation is completed, the participant can then claim their certificate which totals up the number of credits claimed.

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<thead>
<tr>
<th>Live Stream Requirements</th>
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<tbody>
<tr>
<td><strong>Network</strong></td>
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<tr>
<td>For best results, use a hardwired network connection instead of wireless</td>
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<tr>
<td><strong>Full Screen Viewing</strong></td>
</tr>
<tr>
<td>If you would like to view the webcast full screen, display the tool bar at the bottom and click the double arrow in the far right corner. The screen will enlarge to the full screen of your system. To restore the size, press the &quot;ESC&quot; key</td>
</tr>
<tr>
<td><strong>Refresh Browser Window</strong></td>
</tr>
<tr>
<td>If the webcast freezes and does not recover in 3-4 seconds, refresh browser window</td>
</tr>
<tr>
<td><strong>Freezing or Stuttering Issues</strong></td>
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<tr>
<td>Adjust the amount of bandwidth needed by putting your mouse anywhere over the video window. A tool bar will appear at the bottom. On the right side you will see a &quot;HD&quot; button, click on that button and you will see a list of options. The top is &quot;auto&quot;, with decreasing numbers below. Select a lower bandwidth (such as 360p) to see if your webcast improves</td>
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<tr>
<td>For Technical Support call</td>
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<td>1-800-504-5379</td>
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<tr>
<th>Mobile Viewing Requirements</th>
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<tbody>
<tr>
<td><strong>Android Devices</strong></td>
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<tr>
<td>Android 2.3+ with Adobe Flash Player 10.2 or better installed</td>
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<tr>
<td>Install Flash Player</td>
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<tr>
<td><strong>Apple Devices</strong></td>
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<tr>
<td>iOS 4+</td>
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## Online Viewing Requirements

| Required Hardware and Software | Screen resolution of 1024X768 or larger  
|                               | Sound card and speakers/headphones  
| Browser                       | Microsoft Internet Explorer 7.0 or better  
|                               | Mozilla Firefox 4 or better  
|                               | Safari 5 or better  
| Windows                       | Operating System: Windows 8 desktop mode, Windows 7; Windows Vista;  
|                               | Windows XP Service Pack 2 or 3  
|                               | x86 or x64 (Browsers must be in 32-bit mode) 1.6-gigahertz (GHz) or higher processor  
|                               | 512MB of RAM  
| Mac OS                        | Operating System: Apple Mac OS X 10.4.8 or above  
|                               | Intel Core™ Duo 1.83GHz or faster processor  
|                               | 512MB of RAM  

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American College of Medical Genetics and Genomics, 7101 Wisconsin Avenue, Suite 1101, Bethesda, Maryland 20814, [www.acmg.net](http://www.acmg.net), Telephone: (301) 718-9603