National Society of Genetic Counselors

Register today at www.nsgc.org/2016AEC

Early registration savings deadline is August 3, 2016

A LANDMARK IN GENOMICS:

OUR VALUE IN HEALTHCARE

35th Annual Education Conference

PRELIMINARY PROGRAM

SEPTEMBER 28 – OCTOBER 1, 2016

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JOIN US IN SEATTLE THIS SEPTEMBER

We invite you to join the National Society of Genetic Counselors (NSGC) and 2,000 of your peers to celebrate this landmark time in genomics. The 35th Annual Education Conference (AEC) will provide a diverse education program and a variety of networking opportunities designed specifically for genetic counselors and other genetics professionals. Register today for this must-attend event.

Earn Up to 33.25 Contact Hours

As currently planned, NSGC anticipates approval of up to 33.25 contact hours at this year's AEC. With a wide variety of pre-conference, plenary, educational breakout, concurrent paper and sponsored meal sessions, you can tailor your educational experience to your unique needs. Our content spans the breadth and depth of genetic counseling, to ensure you receive a well-rounded educational experience. To learn more about the educational sessions we have planned, turn to page 6.

Enhance Your AEC Experience with a Pre-conference Symposium

Choose from one of six in-depth, five-hour sessions on Wednesday, September 28, before the start of the AEC. Topics include integrating oncology and genomics, an insider view of the genetic testing laboratory and the expansion of cfDNA non-invasive prenatal screening. Pre-conference symposium participants can earn up to 5.00 contact hours, pending CEU approval. Read full descriptions of the pre-conference symposia on page 6.

Please note: Additional registration fee applies for pre-conference symposia.

Dr. Beverly Rollnick Memorial Lecture

"So Much Yes: Creating Authentic Human Connection in Difficult Conversations" is an hour-long session sponsored by The Dr. Beverly Rollnick Memorial Fund. Through compelling stories and dynamic exercises, family physician, assistant professor and improvisational actor Belinda Fu, MD, will demonstrate how medical improvisational skills can improve one's communication skills. Don't miss what is sure to be an engaging session!

Make Connections

Make new professional connections and greet old friends in session rooms, throughout the Convention Center and in the AEConnect area of the Exhibitor Suite. Organized networking events include the Wednesday evening Welcome Reception, graduate program reunions, Special Interest Group (SIG) meetings and more!

Enjoy Seattle: The Perfect Mix of Urban and the Outdoors

A thriving urban city surrounded by nature's beauty, Seattle offers something for everyone. Take a trip to the top of the Space Needle for a bird's eye view of Seattle. Get some coffee at the original Starbucks®. "Catch" the fish-throwing fun at Pike Place Market. Or escape into the vast array of outdoor activities surrounding Seattle, sure to please any outdoor enthusiast.

Make your travel plans for Seattle early to ensure you receive the best possible hotel rates and airfare. Be sure to register for the AEC on or before August 3, 2016, to take advantage of early registration discounts.

For more information and up-to-date details on the AEC, please visit **www.nsgc.org/2016AEC**. We look forward to seeing you in Seattle!

Jason Flanagan, MS, CGC
2016 AEC Subcommittee Chair

Renee Chard, MS, CGC
2016 AEC Subcommittee Vice-Chair

ABOUT NSGC's 35th ANNUAL EDUCATION CONFERENCE

The largest national conference dedicated to advancing the profession of genetic counseling

Who Should Attend the AEC?

- Genetic counselors
- Genetic counseling students
- Physicians, nurses and other healthcare professionals interested in genetics and genomics

What Will You Gain from the AEC?

Conference objectives:

- Describe recent developments in the field of genetic counseling and medical genetics, including diagnosis, disease management and therapeutic options.
- Incorporate new technologies, genetic testing and research results into the practice of genetic counseling.
- Apply counseling theories and techniques in varied genetic counseling settings.
- Identify emerging areas of ethical, legal and social concern.
- Examine the expanding role of the genetic counselor.
- Maintain connections with representatives from top companies and non-profit organizations in the field.

Continuing Education

NSGC anticipates approval of up to 5.00 contact hours for the pre-conference symposia and up to 28.25 contact hours for the AEC and sponsored meal sessions. CEUs earned through these programs will be accepted by the American Board of Genetic Counseling (ABGC) as Category 1 CEUs for genetic counselor recertification. Individuals must be certified at the time of participation in the activity for CEUs to count towards recertification. The application is pending Category 1 CEU approval.

Pre-conference Symposia	Earn up to:	5.00 Contact Hours
AEC General Sessions	Earn up to:	21.75 Contact Hours
Sponsored Meal Sessions	Earn up to:	6.50 Contact Hours
Total	**Earn up to:**	**33.25 Contact Hours**

Presentations and Handouts

NSGC offers electronic versions of AEC session handouts if provided by AEC speakers. The session handout link will be sent to all pre-registered attendees in advance of the conference. Please download or print the handouts you need prior to arriving in Seattle. A copy of the handouts will be available for reproduction, at the attendee's expense, in the business center (FedEx Office Print & Ship Center) located across the street from the Convention Center.

SIG Meetings

Meetings for NSGC Special Interest Groups (SIGs) will be held throughout the conference. Dates and times will vary but will not interfere with educational sessions. As meeting dates and times are confirmed, they will be posted online, in the mobile app and in the final program. Visit **www.nsgc.org/2016AEC** for the most up-to-date information.

Program Reunions

Reunions will take place throughout the conference, typically in the evenings, at off-site venues. As reunion activities are confirmed, they will be posted online, in the mobile app and in the final program. Visit **www.nsgc.org/2016programreunions** for current information or to confirm a program reunion for publication.

ADA Information

NSGC provides reasonable accommodations for our attendees without undue burden, attendees are asked to specify any needed accomodations, dietary restrictions or food allergies before September 12, 2016, so that necessary arrangements may be made. Attendees should submit this information through their registration form. A staff member may contact attendees to discuss any accommodations.

2016 AEC Session Recordings

Maximize your AEC experience: iew sessions you missed in Seattle, earn additional CEUs and review the valuable information you gathered during the conference by purchasing online session recordings. The session recordings package features all pre-conference symposia, plenary and educational breakout sessions.* The online recordings will contain synced audio and PowerPoint presentations for each recorded session.

The full session recordings package, including both the pre-conference symposia and the AEC recordings is available for the special price of $149 for conference attendees.** Registered attendees will be able to order the AEC Recordings through October 1, 2016, at the discounted rate of $149, or following the conference at an increased rate. The AEC Recordings package will be released for viewing in January 2017.

Not attending the AEC? Check the NSGC website in January 2017 for additional information and purchase availability.

To earn Category 1 CEUs, it is required that you complete and pass a quiz included at the conclusion of each session.

Visit **www.nsgc.org/2016AEC** to add session recordings to your registration.

** With speaker approval*

*** Discounted package rates only available when purchased in conjunction with a conference registration.*

Reserve Your Meeting Space

If you are the host of a SIG, committee, task force or other organized genetic counselor group, please visit **www.nsgc.org/2016AEC** to complete a meeting space request form. All meeting room requests are available on a first-come, first-served basis and are subject to NSGC approval.

SCHEDULE-AT-A-GLANCE

TUESDAY, SEPTEMBER 27

5:00 pm – 8:00 pm
Registration Open

WEDNESDAY, SEPTEMBER 28

7:00 am – 7:00 pm
Registration Open

8:00 am – 2:00 pm
Pre-conference Symposia A01 – A06

2:00 pm – 3:15 pm
AEC 101: Welcome to the Emerald City

2:00 pm – 2:30 pm
NSGC SIG Fair

3:30 pm – 3:45 pm
Opening Remarks

3:45 pm – 4:45 pm
Plenary Session A07

4:45 pm – 5:45 pm
Plenary Session A08

6:00 pm – 8:30 pm
Welcome Reception in Exhibitor Suite

6:15 pm – 7:30 pm
Posters with Authors
Group A Posters A09

THURSDAY, SEPTEMBER 29

6:30 am – 7:00 pm
Registration Open

7:00 am – 7:45 am
Sponsored Breakfast Session B01

Integrated GENETICS
LabCorp Specialty Testing Group

7:00 am – 7:45 am
NSGC 2017 Board and Committee Leadership Orientation

7:00 am – 7:45 am
NSGC 2017 SIG Leader Orientation

8:00 am – 8:30 am
Janus Series I Presentation B02

8:30 am – 9:00 am
Natalie Weissberger Paul National Achievement Award

9:00 am – 9:30 am
Best Abstract Awards B03 – B04

9:30 am – 10:15 am
NSGC State of the Society Address B05

10:30 am – 12:00 pm
Educational Breakout Sessions B06 – B10

12:00 pm – 1:15 pm
Sponsored Lunch Session B11

Baylor Miraca Genetics Laboratories

1:30 pm – 3:00 pm
Educational Breakout Sessions B12 – B16

3:15 pm – 4:15 pm
Dr. Beverly Rollnick Memorial Lecture
So Much Yes: Creating Authentic Human Connection in Difficult Conversations B17

4:15 pm – 5:00 pm
Leadership Awards

5:00 pm – 7:45 pm
Exhibitor Suite Open

5:45 pm – 7:00 pm
Posters with Authors
Group B Posters B18

7:00 pm – 8:15 pm
Sponsored Evening Session B19

Boulder Abortion Clinic

FRIDAY, SEPTEMBER 30

7:00 am – 7:00 pm
Registration Open

7:00 am – 7:45 am
NSGC Past Board Member Breakfast

7:00 am – 7:45 am
Sponsored Breakfast Session C01

Personalis
Pioneering Genome-Guided Medicine

8:00 am – 8:30 am
Janus Series II Presentation C02

8:30 am – 9:30 am
Professional Issues Panel C03

9:45 am – 11:15 am
Concurrent Papers C04 – C07

11:15 am – 3:00 pm
Exhibitor Suite Open

11:30 am – 12:45 pm
Posters with Authors
Group C Posters C08

12:45 pm – 2:00 pm
Sponsored Lunch Session C09

GeneDx
DNA DIAGNOSTIC EXPERTS

1:45 pm – 2:15 pm
ABGC Business Meeting

2:15 pm – 2:45 pm
ACGC Presentation

3:15 pm – 4:45 pm
Educational Breakout Sessions C10 – C14

5:00 pm – 5:45 pm
Plenary Session C15

5:45 pm – 6:00 pm
Audrey Heimler Special Project Award Plenary Session

6:00 pm – 6:30 pm
Jane Engelberg Memorial Fellowship Presentation C16

6:45 pm – 8:00 pm
Sponsored Evening Session C17

Ambry Genetics

SATURDAY, OCTOBER 1

7:00 am – 2:00 pm
Registration Open

7:00 am – 7:45 am
Sponsored Breakfast Session D01

sequenom

8:00 am – 8:30 am
Janus Series III Presentation D02

8:30 am – 9:30 am
Late-Breaking Plenary Session D03

9:30 am – 10:00 am
Incoming Presidential Address

10:15 am – 11:45 am
Educational Breakout Sessions D04 – D08

11:45 am – 1:00 pm
Sponsored Lunch Session D09

INVITAE

1:00 pm – 2:30 pm
Concurrent Papers D10 – D13

Vendor Sponsored Presentations

Please visit the VSP Pavilion in the Exhibit Hall to catch a special presentation from select companies. Visit www.nsgc.org/2016AEC for the most up-to-date information.

WEDNESDAY, SEPTEMBER 28

6:15 pm — 6:45 pm
CancerIQ

7:00 pm — 7:30 pm
Prevention Genetics

7:45 pm — 8:15 pm
Shire

THURSDAY, SEPTEMBER 29

5:15 pm — 5:45 pm
Seattle Children's Hospital

6:00 pm — 6:30 pm
Counsyl

6:45 pm — 7:15 pm
Shire

FRIDAY, SEPTEMBER 30

11:45 am — 12:15 pm
Boulder Abortion Clinic

12:30 pm — 1:00 pm
Natera

SESSION SPEAKERS AND OBJECTIVES

PRE-CONFERENCE SYMPOSIA

A01 Double Dipping: Education Research in Diverse Settings

1: Alix Darden, PhD, University of Oklahoma Health Sciences Center; 2: Britta Thompson, PhD, MS, Pennsylvania State University College of Medicine; 3: Carrie Guy, MS, CGC, Quest Diagnostics; 4: Claire Davis, MS, CGC, Sarah Lawrence College; 5: Erica Nelson, BS, 23andMe; 6: Emily Morris, MSc, CCGC, University of British Columbia

- Describe the principles and value of education research methodologies.
- Compare education research approaches and methods by example.
- Create education research questions through hands-on experience with mentors.
- Apply education research methodologies to designed research questions.

Submitted by: NSGC Education SIG and NSGC Research SIG

A02 Integrating Oncology and Genomics for Patient Care and Management

1: Victoria Raymond, MS, LCGC, CCRP, Trovagene, Inc; 2: Mark Robson, MD, Memorial Sloan Kettering Cancer Center; 3: Joy Larsen Haidle, MS, CGC, Humphrey Cancer Center; 4: Stephen B. Gruber, MD, PhD, MPH, USC Norris Comprehensive Cancer Center; 5: Jeff Weitzel, MD, City of Hope Cancer Center; 6: Sara Pirzadeh Miller, MS, CGC, UT Southwestern Medical Center; 7: Tom Walsh, PhD, University of Washington

- Discuss somatic tumor testing clinical decision making.
- Describe how the information we provide to oncologists is utilized.
- Recognize the next frontier of genomic research.

Submitted by: NSGC Familial Cancer SIG

A03 Oh the Places You'll Go! Genetic Counseling as a Fast Pass to Personal and Professional Growth

1: Kimberly Banks, MS, CGC, MBA, Guardant Health; 2: Elizabeth Butler, MS, CGC, GeneDx; 3: Melissa Maisenbacher, MS, CGC, Natera; 4: Donna McDonald-McGinn, MS, LCGC, The Perelman School of Medicine of the University of Pennsylvania, The Children's Hospital of Philadelphia; 5: Matt Tschirgi, MS, LCGC, Progenity; 6: Kathleen Valverde, MS, CGC, Arcadia University; 7: Leah Williams, MS, CGC, GeneDx

- Distinguish professional development from career advancement.
- Describe various strategies and paths of professional development as a genetic counselor.
- Generate a set of professional skills to place a genetic counselor on a path of career advancement.
- Examine characteristics of CVs and cover letters of genetic counseling applicants in a critical manner.

A04 Opening the cfDNA Non-invasive Prenatal Screen Floodgates: Expansion into the General Population and Its Impact on Industry Counselors, Clinical Providers and Policy Makers

1: Mary Norton, MD, University of California, San Francisco; 2: Erica Sturm, MS, CGC, Perinatal Quality Foundation; 3: Megan Maxwell, MS, LGC, Quest Diagnostics; 4: Lisa Demers, MS, CGC, Roche Diagnostics; 5: Lindsey Steckling, MS, CGC, eviCore Healthcare; 6: Kelly Chen, MS, CGC, LGC, Personalis, Inc.; 7: Danielle LaGrave, MS, LCGC, ARUP Laboratories; 8: Edye Conway, MS, CGC, Saint Alphonsus Maternal Fetal Medicine; 9: Shannon Mulligan, MS, CGC, Baylor College of Medicine, Texas Children's Fetal Center; 10: Kelly L. Adams, MS, LCGC, Kaiser Permanente

- Assess the unique factors in cfDNA non-invasive prenatal screening that impact pre- and post-test patient counseling for the general population.
- Identify challenges and strategies related to expanding pre-test education for cfDNA non-invasive prenatal screening to any woman in pregnancy.
- Describe factors that impact insurance coverage and reimbursement for cfDNA non-invasive prenatal screening, including analytical validity, clinical validity and clinical utility.

Submitted by: NSGC Prenatal SIG

A05 Religion and Spirituality in Genetic Counseling

1: Kate Wilson, MS, CGC, Quest Diagnostics; 2: Katelynn Sagaser, MS, CGC, Johns Hopkins Hospital, Prenatal Diagnosis and Treatment Center; 3: Jennifer Lemons, CGC, UT Health Science Center at Houston; 4: Brent Peery, DMin, BCC, Memorial Hermann Texas Medical Center

- Define religiosity and spirituality (R/S) as well as several different belief systems.
- Illustrate possible R/S complexities that may arise in healthcare, specifically in regard to genetic counseling.
- Evaluate when R/S exploration would be beneficial in a genetic counseling session.
- Identify considerations and perceived challenges of genetic counselors related to performing R/S assessment.

Submitted by: NSGC Membership Committee

A06 The Genetic Testing Laboratory: Insider View for Genetic Counselors

1: Katrina Kotzer, MS, CGC, Mayo Clinic; 2: Patricia Winters, MS, CGC, Illumina, Inc.; 3: Mathew Bower, MS, CGC, University of Minnesota Health; 4: W. Andrew Faucett, MS, LGC, Geisinger; 5: Heather MacLeod, MS, CGC, Cardiovascular Genetics Consultant; 6: Danielle LaGrave, MS, LCGC, ARUP Laboratories; 7: Jill Rosenfeld Mokry, MS, CGC, Baylor College of Medicine; 8: Alice Tanner, PhD, MS, CGC, FACMG, Emory University, Emory Genetics Laboratory, LLC; 9: Michelle Dolan, MD, University of Minnesota; 10: Lisa Sniderman King, MSc, CGC, University of Washington

- Describe in-depth specifics of genetic testing terminology and technologies, relevant to both clinical practice and the practice of laboratory genetic counseling.
- Analyze largely unknown aspects of the genetic testing laboratory, including the history and importance of regulatory bodies, the test development process, the laboratory infrastructure and laboratory business relationships.
- Evaluate nuances and challenges within the genetic testing laboratory through the evaluation of ethical case examples and contributions to research.

Submitted by: NSGC Industry SIG

JANUS SERIES

B02 The *BAP1* Tumor Predisposition Syndrome

1: Robert Pilarski, MS, LGC, MSW, The Ohio State University

- Review the hereditary basis of uveal melanoma and the contribution of *BAP1* mutations.
- Summarize the signs of the *BAP1* tumor predisposition syndrome (BTPS) and the spectrum of associated cancers, penetrance estimates, and management recommendations.
- Discuss the potential role of research studies for patients and families suspected of having BTPS.

C02 Barth Syndrome: So Much More than Cardiomyopathy

1: Rebecca McClellan, MGC, CGC, Johns Hopkins School of Medicine

- Review the multisystem clinical presentation and discuss what we know about the disorder's connection to cardiolipin remodeling.
- Explore the varied experiences and often conflicting roles of a genetic counselor working with a rare disease support group.
- Outline the challenges faced by X-linked disease carriers.

Submitted by: NSGC Cardiovascular SIG

D02 CHARGE: A Syndrome of Sensory Deficits and the Psychosocial Implications for Children and Families

1: Meg Hefner, MS, CGC, Saint Louis University School of Medicine

- Define the diagnostic criteria and testing options for CHARGE syndrome in a clinical setting.
- Recognize how hearing loss, vision loss and other sensory deficits alter typical infant development and affect the clinical and psychosocial needs of patients with CHARGE syndrome and their family members.
- Explain the impact and implications of deaf-blind educational programs for patients diagnosed with CHARGE syndrome.

PLENARY SESSIONS

A07 Population Based Screening for Inherited Predisposition to Breast and Ovarian Cancer

1. Mary-Claire King, PhD, University of Washington; 2. Muin J. Khoury, MD, PhD, Centers for Disease Control and Prevention; 3. Joy Larsen Haidle, MS, CGC, Humphrey Cancer Center; 4. Jean Enersen, King 5 TV

- Describe expert opinions about population screening for Hereditary Breast and Ovarian Cancer Syndrome (HBOC).
- Appraise potential benefits as well as barriers to population based screening for HBOC.
- Consider critical elements of a proposed screening program including the population served, tests included, variants reported and follow-up care.

A08 Gene to Community, Community to Action: The Power of Social Media in Genomics

1. Matthew Might, PhD, University of Utah

- Describe non-traditional methods to create and foster connection of patients with rare diseases.
- Explain how genetic counselors can connect with patient-driven efforts to facilitate sharing of research data, patient advocacy and community-building.

C15 Genetic Counselors in Emerging Roles

1: Steven Keiles, MS, LCGC, Quest Diagnostics; 2: Heather L. Shappell, MS, CGC, Beacon Laboratory Benefit Solutions, Inc.; 3: Angela Walter, MS, CGC, Sanofi Genzyme Corporation; 4: Joan Scott, MS, CGC, Maternal and Child Health Bureau, Health Resource and Services Administration

- Highlight three emerging roles for genetic counselors in different aspects of the health system.
- Compare the professional pathways of genetic counselors who have taken unique roles and outline the skills and resources helped them along the way.
- Evaluate the value genetic counselors can bring to emerging roles in healthcare.

Submitted by: NSGC Roles of Genetic Counselors Taskforce

EDUCATIONAL BREAKOUT SESSIONS

B06 Diagnosis and Treatment of Cystic Fibrosis: A (Not So) Simple Recessive Condition

1: Elinor Langfelder-Schwind, MS, CGC, Mount Sinai Beth Israel; 2: Matthew Pastore, MS, LGC, Nationwide Children's Hospital; 3: Laura Fischer, MS, CGC, Women and Children's Hospital of Buffalo; 4: Lisa Green, MA, Happy Heart Families; 5: Bonnie Watts Ramsey, MD, Seattle Children's Research Institute

- Describe recent developments in the field of Cystic Fibrosis (CF) research and mutation-specific therapies.
- Explain common CF newborn screening algorithms and their potential diagnostic outcomes.
- Recognize the needs of the family through the diagnostic and treatment journey (family perspective).
- Compare benefits and limitations of various CF testing platforms for risk assessment.

Submitted by: NSGC Cystic Fibrosis SIG

B07 Genetic Screening and Risk Assessments for Gamete Donors: The Need for Consensus Guidelines for Donor Eligibility

1: Lauren J. Isley, MS, LCGC, California Cryobank; 2: Amy Vance, MS, LCGC, Bay Area Genetic Counseling; 3: Peggy Orlin, MS, MFT, Private Practice at Pacific Fertility Center; 4: Lauri Black, MS, LCGC, Pacific Reproductive Genetic Counseling

- Summarize the current regulations and guidelines for gamete donor screening.
- Describe existing gamete donor screening practices, including carrier testing, psychological assessment and family medical history screening.
- Outline the issues behind the lack of uniform donor screening processes between egg and sperm donors, and across gamete donor facilities.
- Assess the impact of the lack of uniform processes when performing a risk assessment and providing patient care.
- Review the efforts to establish consensus eligibility guidelines for gamete donors.

Submitted by: NSGC ART/Infertility SIG

B08 Historical Perspective of Hereditary Colon Cancer: A Personal and Professional Journey

1: Richard Boland, MD, Baylor Scott and White Health; 2: Heather Hampel, MS, LGC, Ohio State University

- Describe the transformation of genetic testing for hereditary colon cancer over the last 40 years.
- Discuss the epigenetic factors for hereditary colon cancer and the implication on risk reduction.
- Describe the personal impact of hereditary cancer on a family.
- Discuss the international impact of population-based screening for the Lynch syndrome.

B09 Next Gen Teaching: The Lecture As We Know It Is Dead

1: Beverly M. Yashar, MS, PhD, CGC, University of Michigan; 2: Emily Edelman, MS, CGC, The Jackson Laboratory; 3: Catherine Reiser, MS, CGC, University of Wisconsin-Madison; 4: MaryAnn W. Campion, EdD, MS, CGC, Boston University School of Medicine; 5: Leslie Cohen, MS, PhD, Case Western Reserve University School of Medicine

- Describe emerging educational and assessment methods.
- Discuss how to adapt these innovative approaches to diverse groups of learners.
- Apply active learning concepts to develop a mock genetic educational program including teaching and assessment methods.

Submitted by: NSGC Education SIG

B10 The Results are In! Clinicians' Experience in Returning Results for Genomic Sequencing

1: Sarah Scollon, MS, CGC, Baylor College of Medicine/Texas Children's Hospital; 2: Julia Wynn, MS, CGC, New York Presbyterian Columbia; 3: Katie Lewis, ScM, CGC, National Institutes of Health

- Identify how return of results for whole exome sequencing/whole genome sequencing (WES/WGS) differs from single gene or panel genetic testing and how that may alter the return of results process.
- Recognize common challenges faced in the return of results process and methods for addressing these challenges.
- Apply lessons learned from the Clinical Sequencing Exploratory Research clinicians to your own return of results process in order to increase efficiency and improve patient experiences at your home institution.
- Recognize the valuable role of the genetic counselor in various areas of the WES/WGS return of results process.

B12 Assessment of Copy Number Variation Using Next Generation Sequencing Data

1: Kimberly Banks, MS, CGC, MBA, Guardant Health; 2: Kelly D.F. Hagman, MS, CGC, Ambry Genetics; 3: Dale Muzzey, PhD, Counsyl, Inc; 4: Zhongming Zhao, PhD, UT Health Science Center at Houston; 5: Hsiao-Mei Lu, PhD, Ambry Genetics

- Recall data regarding the use of next-generation sequencing (NGS) data for copy number variation (CNV) detection.
- Recognize the current use of CNV analysis from NGS in clinical practice.
- Interpret clinical reports describing results from CNV analysis from NGS data.

Submitted by: NSGC Genomic Technologies SIG

B13 Patient Safety in the Era of Genomic Medicine: Implications for Genetic Counselors

1: Wendy R. Uhlmann, MS, CGC, University of Michigan; 2: Thomas H. Gallagher, MD, University of Washington; 3: Stephanie M. Fullerton, DPhil, University of Washington

- Review basic principles of patient safety.
- Identify potential errors that have been reported to arise in the order, analysis, interpretation and follow-up of genetic tests.
- Recognize the implications of genetic testing for patient safety.
- Identify strategies for addressing and enhancing patient safety in your own genetic counseling practice.

B14 Prenatal Diagnostic Exome Sequencing: Genomics for the Next Generation

1: Christina Alamillo, MS, CGC, LGC, Ambry Genetics; 2: Alicia Braxton, MS, CGC, Baylor Miraca Laboratories, Baylor College of Medicine; 3: Elena Ashkinadze, MS, CGC, Rutgers Robert Wood Johnson Medical Group; 4: Lauren Westerfield, MS, CGC, Baylor College of Medicine, Texas Children's Hospital; 5: Curtis R. Coughlin II, MS, MBe, CGC, University of Colorado School of Medicine

- Discuss the clinical utility of diagnostic exome sequencing in the prenatal population, including use for diagnosis, decision-making, preparation, family planning and pregnancy and birth management.
- Describe the findings of the published literature regarding prenatal diagnostic exome sequencing.
- Identify ethical, legal and social implications of prenatal diagnostic exome sequencing.

Submitted by: NSGC Prenatal SIG

B15 Tier 1 Genomic Applications: Implementing Cancer Genomics via Public Health Programs

1: Muin J. Khoury, MD, PhD, Centers for Disease Control and Prevention; 2: Debra Duquette, MS, CGC, Michigan Department of Community Health; 3: Natasha F. Bonhomme, Genetic Alliance

- Summarize the Centers for Disease Control and Prevention Tier 1 Genomic Applications and their relevance to public health practice.
- Describe the Tier 1 implementation methods for public health departments that are outlined in the CDC Tier 1 Genomic Applications Toolkit, including bi-directional cancer registry reporting, educational programs, developing and tracking surveillance indicators, informing policy making and cascade screening.
- Identify successful examples of state public health programs and patient advocacy work involving Tier 1 Genomic Applications.

Submitted by: NSGC Public Health SIG

SESSION SPEAKERS AND OBJECTIVES *(CONTINUED)*

B16 When Hoof Beats Mean Horses: New Insights into the Science and Personal Impact of Diagnosing and Treating Alzheimer Disease

1: Adam Boxer, MD, PhD, University of California, San Francisco; 2: Jill S. Goldman, MS, MPhil, CGC, Columbia University Medical Center; 3: Jamie Tyrone, RN, B.A.B.E.S. (Beating Alzheimer's by Embracing Science); 4: Susan Hahn, MS, CGC, Quest Diagnostics

- Recognize red flags for familial/hereditary risk for Alzheimer disease and other dementia.
- Describe current practices regarding genetic testing, imaging and biomarkers in predicting, diagnosing and treating dementia.
- Discuss the personal, logistical and emotional impact of undergoing comprehensive risk assessment for dementia.
- Explain how current and future drug studies may be beneficial to families with hereditary dementias.

Submitted by: NSGC Neurogenetics SIG

C10 Black & White…or Grey? Billing Integrity, Compliance and Legal Liability for the Genetic Counselor

1: Jodie Vento, MS, CGC, Children's Hospital of Pittsburgh of UPMC; 2: S. Craig Holden, Ober|Kaler; 3: Gillian Hooker, PhD, ScM, CGC, NextGxDx

- Describe the federal anti-kickback, Stark and other billing compliance regulations, and their roles in genetic testing services.
- Discuss the role of the clinical genetic counselor in regards to billing practice compliance and "genesurance" counseling.
- Recognize red flags indicating that billing practices may be out of compliance.

Submitted by: NSGC Access and Service Delivery Committee

C11 Novel Precision Therapies for Genetic Disorders: Clinical Trials, Drug Development and the Perspectives of the Genetic Counselor and our Patients

1: Christian Jacobs, The FH Foundation; 2: Julie C. Sapp, ScM, CGC, National Human Genome Research Institute, National Institutes of Health; 3: Leslie Leinwand, PhD, University of Colorado Boulder; 4: Haroon Hashmi, PhD, Alnylam Pharmaceuticals

- Discuss the value of and considerations for patient participation in clinical trials.
- Identify ways that genetic information can drive therapeutic development.
- Explain the pathway for drug development.

Submitted by: NSGC Personalized Medicine SIG, NSGC Research SIG and NSGC Cardiovascular Genetics SIG

C12 Strategies for Affecting Behavior Change to Improve Clinical Outcomes in Genetic Counseling

1: Scott T. Walters, PhD, University of North Texas Health Science Center

- Recall key components and principles of motivational interviewing (MI) in addressing risk behaviors.
- Describe client change talk and how it contributes to MI practice.
- Review MI techniques, including responding to client resistance, eliciting and reinforcing "change talk" and consolidating commitment around change.

C13 The Advent of Molecular Therapeutics for Duchenne and Becker Muscular Dystrophy and the Implications for Genetic Counselors

1: Lauren Morgenroth, MS, CGC, Childrens' National Health System; 2: Ann Lucas, MS, CGC, Parent Project Muscular Dystrophy; 3: Ann Martin, MS, CGC, Parent Project Muscular Dystrophy; 4: Laurie Paschal

- Describe the current natural history of Duchenne and Becker muscular dystrophy (DBMD).
- Explain the different therapeutic strategies in the pipeline for DBMD, with an emphasis on molecular therapeutics.
- Discuss the importance of rare disease patient registries such as DuchenneConnect.

Submitted by: NSGC Neurogenetics SIG

C14 The Negative Genome Conundrum: What To Do When the Most Comprehensive Genetic Test is Negative

1: Michael O. Dorschner, PhD, University of Washington; 2: Allison L. Cirino, MS, CGC, Brigham and Women's Hospital; 3: Laura Amendola, MS, CGC, University of Washington; 4: Sarah Scollon, MS, CGC, Baylor Texas Children's Hospital; 5: Julia Wynn, MS, CGC, Columbia University Medical Center; 6: Sawona Biswas, MS, CGC, Children's Hospital of Philadelphia

- Recognize the technical limitations of whole exome/genome sequencing with a focus on current sequencing methods, interpretation of variants and variant databases.
- Discuss common issues raised in disclosing and managing negative whole exome/genome sequencing results.
- Examine approaches to counseling patients about the limitations of whole exome/genome sequencing, setting realistic expectations and disclosing negative results.

Submitted by: NSGC Genomic Technology SIG

D04 Bioinformatics for Genetic Counselors 2.0: (More) Knowledge is Power

1: Michelle Fox, MS, LCGC; 2: Erica Ramos, MS, LCGC, Illumina; 3: Eric W. Klee, PhD, Mayo Clinic; 4: Stephen E. Lincoln, Invitae

- Describe bioinformatics tools and databases used in clinical testing, in particular for quality assessment, variant annotation and classification.
- Contrast differing uses of bioinformatics databases and tools by various genetic tests.
- Discuss bioinformatics issues with laboratories, non-genetics clinicians and patients.
- Identify ongoing developments in bioinformatics that will impact clinical practice in the future.

Submitted by: NSGC Industry SIG

D05 Challenges of Prenatal Cell-free DNA Screening from the Patient Advocacy Perspective

1: Cori Feist, CGC, Oregon Health and Science University; 2: Stephanie Meredith, MA, University of Kentucky Human Development Institute; 3: Megan Allyse, PhD, Mayo Clinic; 4: Victoria Miller, Trisomy 18 Foundation; 5: Myra Byrd, AXYS; 6: Marsha Michie, PhD, UCSF; 7: Linzee Carroll, 11q Research and Resource Group

- Give examples of the impact of cfDNA screening on non-profit patient advocacy groups.
- Review evidence-based research identifying the most common challenges for patient advocacy groups.
- Develop strategies for support of these groups by the genetic counseling community.

D06 Genetics and Primary Care: Preparing Primary Care Physicians for the Future of Genomic Medicine

1: Jason Vassy, MD, MPH, SM, Brigham and Women's Hospital, Harvard Medical School; 2: Carrie Lynn Blout, MS, CGC, LGC, Brigham and Women's Hospital; 3: Emily Edelman, MS, CGC, The Jackson Laboratory

- Describe the current landscape of primary care physicians and their comfort with genomic medicine.
- Explore outcomes surrounding the integration of whole genome sequencing into primary care and the provision of genetic counseling by primary care physicians.
- Discuss opportunities to facilitate the integration of genomics into primary care practice.

Submitted by: Personalized Medicine SIG

D07 It's Not You, It's Your Tumor: Navigating the Journey from Somatic Tumor Testing to the Genetics Clinic

1: Jennifer Morrissette, PhD, Center for Personalized Diagnostics, University of Pennsylvania; 2: Dana Farengo Clark, MS, CGC, University of Pennsylvania; 3: Daniel Catenacci, MD, University of Chicago; 4: Jacquelyn Powers, MS, LCGC, University of Pennsylvania

- Examine the current landscape of next generation sequencing (NGS) tumor testing to help genetic counselors identify somatic variants that may be more suggestive of a germline finding.
- Review implementation and early outcomes of University of Pennsylvania's patient referral process for somatic findings warranting genetic counseling and/or germline mutation testing.
- Review the University of Chicago's framework in development for pre- and post-test informed consent and counseling for patients undergoing NGS tumor testing based upon experience gained by retrospective review and stratification of GI clinical cohort.
- Discuss case examples for when to proceed with clinical germline genetic testing for a somatic finding.

D08 Optimizing Compensation and Professional Advancement: From Negotiating Salary, Signing Bonuses and Benefits to Developing and/or Enhancing a Career Ladder

1: Angela Trepanier, MS, CGC, Wayne State University; 2: Steven Keiles, MS, LCGC, Quest Diagnostics; 3: Shannon Morill-Cornelius, MS, LCGC, Western Connecticut Health Network; 4: Catherine Reiser, MS, CGC, University of Wisconsin; 5: Kristen Shannon, MS, LGC, Massachusetts General Hospital; 6: Christine Spaeth, MS, LGC, Cincinnati Children's Hospital and Medical Center

- Recognize the opportunity that the current job market presents in terms of negotiating for better compensation and benefits and/or seeking advancement opportunities.
- Summarize strategies for negotiating for increased salaries and benefits.
- Describe career ladders as a means of delineating advancement opportunities
- Recognize the process of implementing and modifying a career ladder.
- Communicate a plan for achieving one's own compensation and/or advancement goals.

TRAVEL AND HOTEL INFORMATION

Hotel Reservations

Please do not reserve a hotel room until you have registered for the conference. This will help to ensure availability of rooms for all registered attendees. NSGC reserves the right to contact any non-registered hotel guests booked within the NSGC room block.

Sheraton Seattle Downtown
1400 Sixth Avenue
Seattle, WA 98101
Phone: 206-621-9000

Check-in time: 3:00 pm, Check-out time: 12:00 pm
NSGC rate: $239/night plus tax, single/double;
$25 per additional person in room

Reservations can be made online at **www.nsgc.org/2016AEC** or by calling the hotel directly and mentioning NSGC.

Room Rate Availability

The discounted room rates will be available until August 30, 2016, based on availability.

Reservation Deposit and Cancellation Policy

To cancel a reservation at the Sheraton Seattle Downtown, please contact the hotel 24 hours prior to your check-in date to avoid a penalty (please note: check in is 3:00 pm PT). Cancellation within 24 hours of scheduled arrival will result in guest paying full room and tax.

Room Share

Interested in sharing a room with a fellow attendee? Contact Andrea Harbison at **andrea.harbison@gmail.com**.

Attire

Business casual. As the temperature in meeting rooms can vary, it is recommended to dress in layers.

Travel Tips

- The Washington State Convention Center and the Sheraton Seattle Downtown are serviced by the Seattle-Tacoma International Airport (SEA).
- The airport is 16 miles from the Sheraton Seattle Downtown.
- The Sheraton Seattle Downtown is adjacent to the Washington State Convention Center.
- Taxi Service is available from SEA to the Sheraton Seattle Downtown for approximately $55.
- A Downtown Airporter shuttle is available between SEA and the Sheraton Seattle Downtown for $18 one-way and runs every 30 minutes.

Hotel Parking (at the Sheraton Seattle Downtown)

- On-site hotel valet parking: $57 per night*

**Price may be subject to change*

Convention Center Parking

Two parking garages are available at the Washington State Convention Center:

- Washington State Convention Center Garage
  - » Hourly rates; 24-hour parking rate: $29
- Freeway Park Garage
  - » Hourly rates; 24-hour parking rate: $28

35th ANNUAL EDUCATION CONFERENCE EXHIBITORS*

AEC exhibitors and sponsors provide you with information about services, information and products pertinent to the field of genetics and genomics. Make sure you find the time to visit them while at the AEC!

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Genzyme, a Sanofi Company
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Illumina
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Laboratory for Molecular Medicine, Partners Health
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Mayo Medical Laboratories
MNG Laboratories
MotherToBaby Pregnancy Studies conducted by OTIS
Myriad Genetic Laboratories
Natera
NextGxDx, Inc.
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UCLA Health
UCSF Fetal Treatment Center
Ultragenyx
Undiagnosed Diseases Network
University of Chicago Genetic Services
University of Washington
UNMC Human Genetics Laboratory
UW Medical Center for Precision Diagnostics

**As of April 20, 2016.*

SAVE THE DATE FOR NSGC's ONLINE BUSINESS MEETING

New in 2016, instead of having the NSGC Annual Business Meeting during the AEC, it will be held as an interactive webinar in November, following the AEC! This change is being made in order to allow a greater number of NSGC members to attend and participate, and also to decrease the intensity of the AEC schedule for attendees. The business meeting provides an opportunity for members to learn about all that NSGC has accomplished over the past year, including a review of progress toward our strategic initiatives, our 2015 financial report, an overview of NSGC's publications and an update on the 2016 nomination and election process.

All members will have the opportunity to submit questions in advance of the webinar meeting, as well as to submit questions live, during the Q&A portion. The webinar meeting will be recorded, and made available for those who are not able to participate in the live webinar. Look for an email in June soliciting your input on scheduling options. We look forward to your participation

National Society of Genetic Counselors

AEConnect

AEConnect is the central location at the Annual Education Conference (AEC) for networking with your professional community. While in the Exhibitor Suite, stop by to check out available job postings, learn more about NSCG's social media efforts, attend a vendor sponsored presentation and meet up with colleagues or friends. We invite you to visit the AEConnect during Exhibitor Suite hours Wednesday through Friday.

National Society of Genetic Counselors

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