

The UDN is a research study funded by the National Institutes of Health Common Fund. The objectives of the UDN are to: **(1)** improve the level of diagnosis and care for patients with undiagnosed diseases; **(2)** facilitate research into the etiology of undiagnosed diseases; **(3)** create an integrated and collaborative research community to identify improved options for optimal patient management.

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**PLATFORM PRESENTATIONS****Wednesday 4:15 PM** // Platform Presentations - Clinical Genetics and Therapeutics // 6E**8 Liz Worthey, HudsonAlpha Institute for Biotechnology**

Findings of the Whole Genome Sequencing Core of the Undiagnosed Diseases Network

**Thursday 8:45 AM** // Featured Platform Presentations // 4E**28 Johannes Birgmeier, Stanford University**

ClinPhen Extracts and Prioritizes Patient Phenotypes Directly from Medical Records to Expedite Genetic Disease Diagnosis

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**ODD NUMBERED POSTERS****Thursday 10:00 AM – 11:30 AM****135 Camille Birch, HudsonAlpha Institute for Biotechnology**

Whole Genome Sequencing and Analysis of ME/CFS

**251\* Kendall Burdick, Vanderbilt University Medical Center**

Limitations of Whole Exome Sequencing in Detecting Rare and Undiagnosed Diseases

**309 Joel Krier, Brigham and Women's Hospital**

Workflow, Implementation and Remaining Challenges for Reanalysis of Genomic Sequencing Data by a Clinical Genomics Program

**337 Diane Zastrow, Stanford University**Compound Heterozygous Variants in *IL6ST* Associated with Immunodeficiency and GP130 Deficiency**387 Tito Onyekweli, NHGRI**Oculodentodigital Dysplasia-associated *GJA1* Mutation Leads to Deficiencies in CX43 Expression**389 Jennefer Kohler, Stanford University**Biallelic Variants in *MRE11* Cause Ataxia-Telangiectasia-Like Disorder: A Case Report**399 Laura Meissner, NHGRI**Novel Variant Identified in *DYRK1A*-Related Intellectual Disability Syndrome by the Undiagnosed Diseases Program**469 Liliana Fernandez, Stanford University**A Novel, Pathogenic Variant in *KMT2C* in a Patient with Learning Disability, Cleft Palate, and Skeletal Abnormalities: A Case Report**473 Donna Novacic, NHGRI**Undiagnosed Diseases Network Clinical Case Report: Compound Heterozygous *TOP3A* Changes Manifest as a Mitochondrial Disease**495 Devon Bonner, Stanford University***DNASE1L3*-related autoimmune disease: Case report and Molecular Profile**523 Jeremy Woods, UCLA**Myofibrillar Myopathy Associated with Homozygous *PYROXD1* Pathogenic Variants Detected by Exome Sequencing**603 Sho Yano, NHGRI**

Late-Onset Familial Episodic Aphasia with an Autosomal Dominant Inheritance Pattern

**693 Thomas Markello, NHGRI**

Automated Agnostic Genome Analysis Demonstrates a Net Difference Between Final Deleterious Candidate Lists of Proband Versus Unaffected Siblings Analyzed Symmetrically

**739 Christopher Lau, NHGRI**

Reanalysis of Negative Clinical Exome in Undiagnosed Diseases: Assessing the Level of Evidence and Clinical Validity of Gene-Disease Associations

**EVEN NUMBERED POSTERS****FRIDAY 10:30 AM – 12:00 PM****116 Harish Chatrathi, NHGRI**Novel De Novo *CUL3* Mutation in a Patient with Gordon's Syndrome Results in Altered Function of Cullin-RING E3 Ubiquitin Ligase**328 Jeremy Woods, UCLA**Microtubule abnormalities and mitochondrial network dysfunction in mitochondrial myopathy and ataxia associated with pathogenic variants in *MSTO1***346 Jill Rosenfeld (Mokry), Baylor College of Medicine**

Overcoming the "N of 1" Problem: Novel Disease Gene Discovery in the Undiagnosed Diseases Network

**352 Nadiya Sosonkina, HudsonAlpha Institute for Biotechnology**





A Finding in Whole Genome Sequencing of an Individual with Undiagnosed Disease Suggests an Ethnicity-Specific Gene Duplication Event

**452 Ely Brokamp, Vanderbilt University Medical Center**Evidence for a New *MSL2*-Related Disease Using Internal VUMC De-Identified Database**508 Colleen Evans, NHGRI**Recurrent de novo *SPG4* Mutation Causes an Atypical Phenotype of Severe Progressive Early-onset Spastic Quadriplegia in Two Unrelated Individuals**536 Linnea Westerkam, NHGRI**The Importance of Exploring Multiple Genetic Explanations as Demonstrated by a Blended Phenotype of *EHMT1* and *ACAN* Variants**580 Marta Maria Majcherska, Stanford University**

Unusual Cardiac Presentations at the Stanford Center for Undiagnosed Diseases

**744 Kyle Reichard, NHGRI**The characterization of a novel zebrafish model for a human seizure disorder caused by mutations in *PRUNE1***800 Hongzheng Dai, Baylor Genetics**A common pan-ethnic exonic deletion in *TBCK* gene causes early onset hypotonia and psychomotor retardation identified through clinical exome sequencing

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