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The Society for Neuro-Oncology would like to thank Novocure for its independent medical education support of the the 5th Pediatric Neuro-Oncology Basic & Translational Research Conference.

**Meeting Exhibitors**

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Educational Objectives

After attending this conference, participants should be able to:

- Incorporate novel therapies in treatment of pediatric brain tumors for more effective outcomes
- Expand their knowledge base on advancements of treatment options for rare pediatric brain tumors
- Incorporate molecular studies to ensure diagnostic accuracy and targeted treatment options
- Investigate and implement adaptive clinical trial designs for pediatric brain tumors
- Apply knowledge of the role of immunotherapy in enhancing the effects of conventional treatment for pediatric brain tumors

Target Audience

Pediatric neuro-oncologists, medical oncologists, neurosurgeons, radiation oncologists, radiologists, physician/scientists, clinical and laboratory trainees.

Education Methods

Lectures, Q/A Sessions, Posters and Poster Discussions

Evaluation

A course evaluation form will provide participants with the opportunity to comment on the value of the program content to their practice decisions, performance improvement activities, or possible impact on patient health status. Participants will also have the opportunity to comment on any perceived commercial bias in the presentations as well as to identify future educational topics.

Accreditation/Credit Designation

This activity has been planned and implemented in accordance with the accreditation requirements and policies of the Accreditation Council for Continuing Medical Education (ACCME) through the joint providership of The University of Texas MD Anderson Cancer Center and the Society for Neuro-Oncology. The University of Texas MD Anderson Cancer Center is accredited by the ACCME to provide continuing medical education for physicians.

The University of Texas MD Anderson Cancer Center designates this live activity for a maximum of 15.25 AMA PRA Category 1 Credits™. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

CME Certificates and Attendance Verification Certificates

Certificates awarding AMA PRA Category 1 Credit™ or certificates documenting attendance will be emailed when an individual completes the online CME Verification process after the conference.

Upon request, a record of attendance (certificate) will be provided on-site to other health care professionals for requesting credits in accordance with state nursing boards, specialty societies, or other professional associations.

The University of Texas MD Anderson Cancer Center has implemented a process whereby everyone who is in a position to control the content of an educational activity must disclose all relevant financial relationships with any commercial interest that could potentially affect the information presented. MD Anderson also requires that all faculty disclose any unlabeled use or investigational use (not yet approved for any purpose) of pharmaceutical and medical device products. Specific disclosure will be made to the participants prior to the educational activity.
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The Evaluation and CME Verification link will be accessible until June 17, 2019.

To submit a CME Verification and Evaluation Form after this date, please email hhardin@mdanderson.org

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The survey is programmed to ‘Save and Continue’, though we recommend completing the survey in one sitting. If you close the survey before completing it, re-enter the survey via the same method used (i.e. bitly link via Safari, QR Code Reader, same computer).

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SUNRISE SESSIONS: Solving the Puzzle

Sunrise Session 1 Grand Ballroom

New Therapeutic Avenues for Pediatric High Grade Glioma
Session Chair: Michelle Monje

- Microenvironmental dependencies in pediatric high-grade gliomas
  Michelle Monje

- Retroviral replicating vector-mediated gene therapy and immunotherapy: Current clinical trials and translational application to pediatric brain tumors
  Noriyuki Kasahara

- Therapeutic vulnerabilities in H3K27M mutant tumours
  Nada Jabado

Sunrise Session 2 California West

Rare Pediatric Brain Tumors
Session Chair: Marcel Kool

- Molecular pathogenesis of CNS germ cell tumors
  Koichi Ichimura

- Rhabdoid tumour biology and therapies: an update
  Annie Huang

- EMTR: What do we know, what is new, and where do we go?
  Marcel Kool

Sunrise Session 3 Georgian

Predisposition Syndromes
Session Chair: David Malkin

- Central nervous system manifestations of DICER1 syndromes
  William Foulkes

- Updates on germline and somatic replication repair deficiency and hypermutation in pediatric brain tumors
  Uri Tabori

- Brain tumor predisposition: Opportunities for prediction and prevention
  David Malkin

Welcome and Introduction Program Chairs: Sabine Mueller, Nada Jabado

SESSION 1: Setting the Standard for Molecular Diagnosis in Brain Tumors
Moderators: Sabine Mueller, Nada Jabado
Supported by the Collaborative Ependymoma Research Network (CERN) Foundation

8:20 - 9:20am

Exploring the DNA methylation atlas of brain tumors
David Jones

Molecular brain tumor classification using cell of origin fingerprints
Stefan Pfister

Molecular pathology in the diagnosis of pediatric brain tumors
David Ellison

Panel Discussion
David Ellison, Cynthia Hawkins, David Jones, Keith Ligon, Arie Perry, Stefan Pfister David Solomon

Award Winning Abstract Presentations

GENE-02 Chromosome conformation analysis of ependymoma identifies putative tumor dependency genes activated by distal oncogenic enhancers
Lukas Chavez

HGG-02 Evolution of genomic architecture in pediatric glioblastoma relies on cancer stem cell hierarchies
Marco Gallo

SESSION 2: Medulloblastoma
Moderators: Holly Lindsay, Bjoern Schwer

10:00 - 11:40am

Tumor necrosis factor overcomes immune evasion in p53-mutant medulloblastoma
Alexandra Garancher

Pilot study of a surgery and chemotherapy-only approach in the upfront therapy of children with Wnt-positive standard risk medulloblastoma
Kenneth Cohen
Friday, May 3

10:20 - 10:30am  MEDU-37  Neuronal differentiation and cell-cycle programs mediate response and resistance to BET-bromodomain inhibition in MYC-driven medulloblastoma  
Pratiti Bandopadhayay

10:30 - 10:40am  MEDU-05  Prognostic implication of TERT promoter mutation and TP53 nuclear staining in adult medulloblastoma  
Kay Ka-Wai Li

10:40 - 10:50am  MEDU-21  Loss of the transcriptional co-repressor Bcor leads to overexpression of the growth factor Igf2 and SHH medulloblastoma tumor formation  
Lena Kutscher

10:50 - 10:57am  MEDU-26  Latent SOX9-positive cells responsible for MYC-driven medulloblastoma recurrence  
Fredrik Swartling

10:57 - 11:04am  MEDU-47  A novel TGF-beta/MYC-driven medulloblastoma model to study immune-tumor interactions  
Jacob Henderson

11:04 - 11:11am  THER-16  Interaction of immune system with oncolytic measles virus therapy in an MV-sensitive immunocompetent murine model of medulloblastoma  
Sangeet Lal

11:11 - 11:18am  BIOL-02  Cellular heterogeneity contributes to the aggressive behavior of MYC-driven medulloblastoma  
Nan Qin

11:18 - 11:25am  MEDU-13  Functional CRISPR-Cas9 screen identifies druggable dependencies in Myc-driven medulloblastoma  
Bethany Veo

11:25 - 11:32am  STEM-01  Predictable and distinct mechanisms drive de novo vs. acquired resistance to SMO/SHH inhibitors in SHH medulloblastomas  
Kyuson Yun

11:32 - 11:39am  MEDU-44  Musashi-1 is a master regulator of aberrant translation in Group 3 medulloblastoma  
Michelle Kameda-Smith

11:40 - 12:45pm  LUNCH  Colonial

12:45 - 2:00pm  SESSION 3: Embryonal Tumors  
Moderators: Annie Huang, Ashley Margol

12:45 - 12:55pm  ATRT-05  PRC1 is an essential dependency and therapeutic target in SMARCB1 deficient Atypical Teratoid Rhabdoid Tumors  
Irina Alimova

12:55 - 1:05pm  GENE-06  Distinct molecular subgroups of tumors of the pineal region correlate with clinical parameters and genetic alterations  
Elke Pfaff

1:05 - 1:15pm  MEDU-04  An OTX2-PAX gene network regulates Group 3 medulloblastoma differentiation and tumor growth  
Jamie Zagozewski

1:15 - 1:22pm  ATRT-09  Integrative analyses of gene regulatory landscapes reveal rhabdoid tumor subgroups with possible immune modulation through epigenetic dysregulation  
Pascal Johann

1:22 - 1:29pm  ATRT-04  Unbiased metabolic profiling of Atypical Teratoid/Rhabdoid Tumors predicts sensitivity to glutamine metabolic inhibitors  
Sabrina Wang

1:29 - 1:36pm  ATRT-03  Efficacy of the oncolytic adenovirus Delta-24-RGD as a therapeutic agent for the treatment of pediatric embryonal brain tumors  
Marc Garcia-Moure

1:36 - 1:43pm  ATRT-07  Targeting primary ciliogenesis in atypical teratoid/rhabdoid tumors  
Lena Blümel
Friday, May 3

1:43 - 1:50pm ATRT-02 Therapeutic targeting of EZH2 and BET BRD4 in AT/RT
Rintaro Hashizume

1:50 - 1:57pm ATRT-10 Heterogeneity of BAF and PBAF SWI/SNF complex subunits in malignant rhabdoid tumors relates with polyphenotypic differentiation and the immune microenvironment
Sriram Venneti

2:00 - 3:00pm SESSION 4: Clinical Trial Designs for Pediatric Neuro-Oncology
Moderators: Sabine Mueller, Nada Jabado

2:00 - 2:10pm Adaptive designs for pediatric phase I trials
Clement Ma

2:10 - 2:20pm Implementation of adaptive trial designs in pediatric neuro-oncology
Steve Dubois

2:20 - 2:30pm An industry perspective on clinical trial design for pediatric neuro-oncology
Mark Kieran

2:30 - 3:00pm Panel Discussion
Steve Dubois, Maryam Fouladi, Mark Kieran, Clement Ma, Michael Prados, Kathy Warren

3:00 - 3:25pm BREAK Colonial

3:25 - 5:15pm SESSION 5: H3K27 Mutant Glioma
Moderators: Tabitha Cooney, Carl Koschmann

3:25 - 3:35pm GENE-15 Histone H3.3 mutations drive tumorigenesis through chromosomal instability
Edward Hinchcliffe

3:35 - 3:45pm DIPG-15 PNOC-003: Clinical impact of a precision medicine strategy for children with diffuse intrinsic pontine glioma
Cassie Kline

3:45 - 3:55pm DIPG-07 Epigenome screening identifies transcriptional elongation as therapeutic vulnerability in H3K27M-mutant diffuse intrinsic pontine glioma
Nathan Dahl

3:55 - 4:05pm DIPG-21 Electrical integration of glioma into neural circuitry
Humsa Venkatesh

4:05 - 4:12pm DIPG-09 CRISPR gene editing of endogenous mutant forms of H3.3 defines oncohistone mechanisms and new therapeutic approaches
Paul Knoepfler

4:12 - 4:19pm GENE-11 Shared long non-coding RNA dysregulation in Histone H3 K27M gliomas and PF-A ependymomas
Lauren Sanders

4:19 - 4:26pm DIPG-12 Characterizing the role of PPM1D mutations in the pathogenesis of Diffuse Intrinsic Pontine Gliomas (DIPGs)
Prasidda Khadka

4:26 - 4:33pm BSTM-04 Neuronal-activity secreted BDNF increases DIPG proliferation
Kathryn Taylor

4:33 - 4:40pm DIPG-06 Rapid, ultra-deep sequencing of pediatric DIPG from cerebrospinal fluid using a novel hand-held electronic DNA analysis platform
Amy K. Bruzek

4:40 - 4:47pm DIPG-08 The role of KMT5B/C and H4K20 di/trimethylation in DIPG
Ketty Kessler

4:47 - 4:54pm DIPG-22 Genetic modeling implicates RAS and MYC as key epigenetically activated transcriptional targets of H3K27M-driven cancer
Robert Siddaway
<table>
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<tr>
<th>Time</th>
<th>Session</th>
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<tr>
<td>4:54 - 5:01pm</td>
<td>DIPG-11</td>
<td>Activation of RAS signaling and distinct mitogen-activated protein kinases (MAPKs) provides unique therapeutic vulnerabilities in mutant histone DIPG</td>
<td>Robert Koncar</td>
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<td>5:01 - 5:08pm</td>
<td>DIPG-26</td>
<td>ACVR1R206H cooperates with H3.1K27M in promoting diffuse intrinsic pontine glioma pathogenesis</td>
<td>Christine Hoeman</td>
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<td>5:08 - 5:15pm</td>
<td>HGG-24</td>
<td>Comprehensive genomic analysis of pediatric gliomas uncovers novel mutations in histone-encoding genes</td>
<td>Erin Bonner</td>
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<td>5:30 - 7:30pm</td>
<td>Poster and Networking Reception</td>
<td>St. Francis Heights 32nd Floor</td>
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See Posters by Category on page 15
**SUNRISE SESSIONS: Solving the Puzzle**

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<th>Sunrise Session 1 Grand Ballroom</th>
<th>Sunrise Session 2 California West</th>
<th>Sunrise Session 3 Georgian</th>
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<td><strong>Single Cell Sequencing in Pediatric Brain Tumors</strong>&lt;br&gt;Session Chair: Mariella Filbin</td>
<td><strong>Model Systems for Pediatric Brain Tumors</strong>&lt;br&gt;Session Chair: Bjoern Schwer</td>
<td><strong>Liquid Biopsy: Application in Pediatric Brain Tumors</strong>&lt;br&gt;Session Chair: Javad Nazarian</td>
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<tr>
<td>• Dissecting the development and oncogenic programs of pediatric gliomas through single-cell analysis&lt;br&gt;Mariella Filbin</td>
<td>• Of mice and brain tumors: using models to discover new therapies for medulloblastoma&lt;br&gt;Rob Wechsler-Reya</td>
<td>• Tumor monitoring in the era of precision medicine&lt;br&gt;Javad Nazarian</td>
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<td>• Profiling tumors at single-cell resolution: stalled development at the root of pediatric brain tumors&lt;br&gt;Claudia Kleinman</td>
<td>• New approaches for genetic studies of medulloblastoma development&lt;br&gt;Bjoern Schwer</td>
<td>• Sensitive tumor detection and classification using methylome analysis of plasma cfDNA&lt;br&gt;Daniel de Carvalho</td>
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<td>• Resolving the cellular architecture of medulloblastoma through single-cell genomics&lt;br&gt;Paul Northcott</td>
<td>• Functional genomics to identify therapeutic targets and resistance mechanisms in model systems of pediatric brain tumors&lt;br&gt;Pratiti Bandopadhayay</td>
<td>• Implementing liquid biopsy for pediatric brain tumours in the clinical diagnostic lab&lt;br&gt;Cynthia Hawkins</td>
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**8:15 - 8:20am**<br>**Welcome and Introduction**<br>Program Chairs Sabine Mueller, Nada Jabado<br>Grand Ballroom

**8:30 - 10:10am**<br>**SESSION 6: Low Grade Glioma**<br>Moderators: Pratiti Bandopadhayay, Angela Waanders<br>Supported by the Pediatric Brain Tumor Foundation and PLGA Fund at PBTF

| 8:30 - 8:40am | LGG-02 | A phase II prospective trial of Selumetinib in children with recurrent/progressive pediatric low-grade glioma (pLGG) with a focus upon optic pathway/hypothalamic tumors and visual acuity outcomes: A Pediatric Brain Tumor Consortium (PBTC) Study, PBTC-029B<br>Jason Fangusaro |
| 8:40 - 8:50am | THER-26 | Pharmacokinetic and updated outcome data from PNOC-002: A safety study of vemurafenib, an oral inhibitor of BRAFV600E, in children with recurrent/refractory BRAFV600E mutant brain tumors<br>Theodore Nicolaides |
| 8:50 - 9:00am | LGG-05 | Single cell RNA sequencing reveals mitogenic and progenitor gene programs in BRAF-rearranged pilocytic astrocytomas<br>Pratiti Bandopadhayay |
| 9:00 - 9:07am | LGG-07 | Clinical features of non-canonical molecular drivers in pLGG; an update from the international pLGG Taskforce<br>Scott Ryall |
| 9:07 - 9:14am | GENE-10 | Developmental origins of sex differences in response to tumor suppressor loss<br>Lauren Broestl |
| 9:14 - 9:21am | GENE-19 | Deep proteomic survey across seven childhood brain tumors<br>Brian Rood |
| 9:21 - 9:28am | TMOD-10 | Replication repair deficient mouse models provide insight on hypermutant brain tumours and combinational immunotherapy<br>Melissa Galati |
### Saturday, May 4

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<th>Time</th>
<th>Session</th>
<th>Title</th>
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<tr>
<td>9:28 - 9:35am</td>
<td>TMOD-11</td>
<td>Modeling and targeting KIAA1549-BRAF driven CNS tumors</td>
<td>Ram Kannan</td>
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<td>9:35 - 9:42am</td>
<td>TMOD-14</td>
<td>Innovative 3D model for the establishment of primary paediatric Low-Grade Glioma (LGG) cultures: new platform for advanced preclinical studies of innovative and immunotherapeutic approaches</td>
<td>Francesca Del Bufalo</td>
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<td>9:42 - 9:49am</td>
<td>TMOD-03</td>
<td>Gaining a mechanistic understanding of therapy evasion from dual MAPK pathway inhibition in a syngeneic BRAFV600E mutant CDKN2A deleted mouse model to preempt resistance in patients with BRAFV600E mutant pediatric glioma</td>
<td>Claudia Petritsch</td>
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<td>9:49 - 9:56am</td>
<td>LGG-08</td>
<td>Proteogenomics reveals two distinct biological pilocytic astrocytoma subgroups</td>
<td>Daniel Picard</td>
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<td>9:56 - 10:03am</td>
<td>EPEN-12</td>
<td>A common fetal developmental origin for PFA ependymoma, PFB ependymoma, and cerebellar pilocytic astrocytomas</td>
<td>Maria Vladoiu</td>
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<td>10:03 - 10:10am</td>
<td>EPEN-04</td>
<td>CXorf67 mimics oncogenic histone H3 K27M mutations and functions as intrinsic inhibitor of PRC2 function in aggressive posterior fossa ependymoma</td>
<td>Jens-Martin Hübner</td>
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<td>10:10 - 10:30am</td>
<td>BREAK</td>
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<td>10:30 - 11:55am</td>
<td>SESSION 7: Immunotherapy</td>
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<td>10:35 - 10:45am</td>
<td>IMMU-24</td>
<td>OX40 agonism as a potent treatment for immune-primed high risk medulloblastoma</td>
<td>Jacob Henderson</td>
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<td>10:45 - 10:55am</td>
<td>IMMU-13</td>
<td>CRISPR/Cas9-mediated silencing of SHP-1 significantly enhances the anti-glioma activity of IL-13Rα2 CAR T cells</td>
<td>Christopher Petersen</td>
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<tr>
<td>10:55 - 11:05am</td>
<td>IMMU-18</td>
<td>Targeting H3.3 K27M mutation as a shared neoantigen in HLA-A*0201+ patients with diffuse midline gliomas – development of a novel mass cytometry-based monitoring of vaccine-reactive, epitope-specific CD8+ T cell responses</td>
<td>Jared Taitt</td>
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<tr>
<td>11:05 - 11:15am</td>
<td>IMMU-08</td>
<td>Unlocking cancer immunotherapy against pediatric brain tumors with transcriptome loaded nanoparticles</td>
<td>Elias Sayour</td>
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<td>11:15 - 11:25am</td>
<td>IMMU-02</td>
<td>Locoregional HER2CAR T cells for pediatric central nervous system tumors: preclinical efficacy to tolerability in first patient</td>
<td>Nicholas Vitanza</td>
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<td>11:25 - 11:35am</td>
<td>IMMU-07</td>
<td>Immunologic targeting of DIPG with H3K27M encoding RNA-nanoparticles</td>
<td>James McGuiness</td>
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<td>11:35 - 11:45am</td>
<td>IMMU-23</td>
<td>Targeting the CD200 checkpoint to enhance immunotherapy for CNS tumors</td>
<td>Christopher Moertel</td>
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<td>11:45 - 11:55am</td>
<td>DIPG-04</td>
<td>Translation of DNX-2401 from the bench to the clinic for pediatric high grade gliomas including diffuse intrinsic pontine gliomas</td>
<td>Marc Garcia-Moure</td>
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<td>11:55 - 1:00pm</td>
<td>LUNCH</td>
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<td>1:00 - 1:30pm</td>
<td>Award Winning Abstract Presentations</td>
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<td>1:00 - 1:10pm</td>
<td>MEDU-11</td>
<td>Molecular characterization of EMTRs reveals role for R-loop mediated chromosomal instability</td>
<td>Sander Lambo</td>
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</table>
1:10 - 1:20pm  GENE-12 Anaplastic neuroepithelial tumor with condensed nuclei (ANTCoN): A novel brain tumor entity with recurrent NTRK fusion  
Felix Sahm

1:20 - 1:30pm  MEDU-39 Highly recurrent U1 small nuclear RNA hotspot mutations drive alternative splicing in Sonic Hedgehog medulloblastoma  
Sachin Kumar

1:35 - 3:05pm  SESSION 8: High Grade Glioma  
Moderators: Cassie Kline, Ana Guerreiro Stücklin

1:35 - 1:45pm  HGG-04 Use of an advanced RNA-seq fusion pipeline results in the targeted treatment and sustained clinical response of children with recurrent pediatric high-grade glioma  
Kallen Schwark

1:45 - 1:55pm  HGG-19 Molecular analysis uncovers 3 distinct subgroups and multiple targetable gene fusions in infant gliomas  
Ana Guerreiro Stücklin

1:55 - 2:05pm  HGG-25 Targeting the epigenetic modifier HMGA2 in DIPG and high grade gliomas inhibits proliferation, invasion and tumorigenicity  
Harpreet Kaur

2:05 - 2:15pm  HGG-03 Everolimus treatment improves the CNS penetration and efficacy of dasatinib in the treatment of PDGFRα-driven pediatric high-grade glioma and diffuse intrinsic pontine glioma  
Zachary Miklja

2:15 - 2:25pm  HGG-11 Germline genetic predisposition to pediatric glioma  
Ivo Muskens

2:25 - 2:35pm  HGG-08 ATRX loss in pediatric GBM results in epigenetic dysregulation of G2/M checkpoint maintenance and sensitivity to ATM inhibition  
Brendan Mullan

2:35 - 2:45pm  DIPG-13 A novel mouse model reveals unexpected mechanisms of action of ACVR1 mutations in Diffuse Intrinsic Pontine Glioma  
Jerome Fortin

2:45 - 2:55pm  TMOD-20 The Pediatric Brain Tumor Atlas: An initiative by the Children’s Brain Tumor Tissue Consortium and Pacific Pediatric NeuroOncology Consortium  
Adam Resnick

2:55 - 3:05pm  GENE-07 Liquid biopsy detection of genomic alterations in pediatric brain tumors from cell-free DNA in peripheral blood, CSF, and urine  
Mélanie Pagès

3:05 - 3:30pm  BREAK  Colonial

3:30 - 4:30pm  SESSION 9: Manipulating the Immune System in Pediatric Brain Tumors  
Moderators: Sabine Mueller, Nada Jabado

3:30 - 3:40pm  TRC/CAR T cell approaches  
Hideho Okada

3:40 - 3:50pm  Cloak and dagger: how medulloblastomas hide from the immune system (and what we can do about it)  
Rob Wechsler-Reya

3:50 - 4:00pm  CAR T cell trials and next steps  
Nicholas Vitanza

4:00 - 4:30pm  Panel Discussion  
Hideho Okada, Rob Wechsler-Reya, Nicholas Vitanza, Ira Dunkel

4:30 - 4:45pm  Wrap-up and Adjourn  
Program Chairs Sabine Mueller, Nada Jabado
**ATYPICAL TERATOID RHABDOID TUMOR (ATRT)**

**ATRT-06** Ispinesib is an efficacious therapeutic agent for atypical teratoid rhabdoid tumors  
*Wan-Yee Teo*

**ATRT-08** SMARCB1 loss interacts with neural differentiation state to generate cell type-specific phenotypes  
*Alison Parisian*

**ATRT-11** Molecular background and survival of patients with ATRT and rhabdoid tumours; single centre experience  
*Adela Misove*

**ATRT-12** Binimetinib suppresses the growth of atypical teratoid/rhabdoid tumor cells and induces apoptosis  
*Shubin Shahab*

**ATRT-13** Late recurrences of atypical teratoid/rhabdoid tumor (AT/RT) and benefit of salvage treatment with craniospinal irradiation  
*Matthew Miller*

**ATRT-15** Targeting LIN28 regulated pathways in novel therapeutics development for CNS Atypical Teratoid/Rhabdoid tumor (CNS ATRT)  
*Sunand Kannappan*

**BASIC BIOLOGY**

**BIOL-03** Transcriptional analysis of adult and pediatric craniopharyngioma reveals similar expression signatures regarding potential therapeutic targets  
*Eric Prince*

**BIOL-04** Distal-less/DLX2 homeobox gene regulation of chemokine receptor CXCR4 - role in migration in forebrain development and CNS tumors  
*David Eisenstat*

**BRAINSTEM TUMORS**

**BSTM-01** Potent anti-tumor efficacy of palbociclib in treatment-naïve H3.3K27M-mutant diffuse intrinsic pontine glioma  
*Qiaoran Xi*

**BSTM-02** Longitudinal monitoring of Gd-DTPA following convection enhanced delivery in the brain stem  
*Umberto Tosi*

**BSTM-03** Increasing anti-tumor T cell activation, velocity, and migration to brain stem glioma using hematopoietic stem and progenitor cells  
*Catherine Flores*

**DIFFUSE INTRINSIC PONTINE GLIOMA**

**DIPG-01** The impact on survival by the H3K27M mutation in pediatric high grade glioma: a systematic review and meta-analysis  
*Victor M. LU*

**DIPG-02** Translational MR imaging correlates for molecular analyses in diffuse intrinsic pontine glioma (DIPG)  
*Karen Wright*

**DIPG-03** Targeting PI3K using the blood brain barrier penetrable inhibitor, GDC-0084, for the treatment of diffuse intrinsic pontine glioma (DIPG)  
*Ryan Duchatel*

**DIPG-05** A rational combination strategy targeting ATM kinase in pediatric high-grade glioma  
*Jia Xie*

**DIPG-10** TP53 pathway alteration is driving radioresistance in Diffuse Intrinsic Pontine Gliomas (DIPG)  
*Coralle Werbrouck*

**DIPG-14** Multisite stereotactic needle aspiration biopsy in pediatric diffuse intrinsic pontine glioma — a promised safe procedure  
*Jie Ma*
Posters by Category

DIPG-16 Applying the SIOPe DIPG registry survival prediction tool to select a survival extension target for a power calculation for a new trial of convection enhanced drug delivery (CED) of carboplatin and sodium valproate in diffuse intrinsic pontine glioma (DIPG)

Elwira Szychot

DIPG-17 Improving the radiosensitivity of diffuse intrinsic pontine gliomas by modulating bioenergetic pathways

Han Shen

DIPG-18 Sonic Hedgehog (SHH) signalling promotes Blood Brain Barrier (BBB) integrity in Diffuse Intrinsic Pontine Glioma (DIPG)

Babu Sajesh

DIPG-19 Reversal of cancer gene expression identifies novel therapeutics for diffuse intrinsic pontine glioma

Guisheng Zhao

DIPG-23 Efficacy of the soluble panobinostat (MTX110) in preclinical Diffuse Intrinsic Pontine Glioma (DIPG) models

Sabine Mueller

DIPG-24 Diffuse intrinsic pontine gliomas exhibit high basal DNA damage and are vulnerable to inhibition of DNA damage repair pathways

Daphne Haas-Kogan

DIPG-25 Genetic alterations targeting the MAPK pathway confers preclinical sensitivity to trametinib in a co-clinical trial in DIPG

Elisa Izquierdo

DIPG-27 Optimizing clinical trial design: Pharmacokinetics of Marizomib and Panobinostat in a non-human primate model

Katherine Warren

DIPG-28 NTRK fusions in pediatric diffuse intrinsic pontine gliomas

Nathan Dahl

DIPG-29 DFMO and Panobinostat target LIN28 and HDAC in DIPG decreasing cell viability

Tyler Maser

DIPG-30 Isoform specific overexpression of Wilms’ tumor protein in diffuse intrinsic pontine gliomas

Sulgi Lee

DIPG-31 Feasibility of hyperpolarized 13C metabolic imaging in pediatric patients with DIPG and other CNS cancers

Adam Autry

DIPG-32 Combination of ChIP-Seq and RNA-Seq analysis for target discovery reveal promising candidates for validation

Yong Yean Kim

DIPG-33 Harmonization and characterization of postmortem donations for pediatric brain tumors

Madhuri Kambhampati

DIPG-34 Preclinical precision testing of PNOC003 biopsy derived models of DIPG

Eshini Panditharatna

DIPG-35 Open DIPG Initiative: A platform for accelerating discovery through data access, consolidation and harmonization

Javad Nazarian

DIPG-36 Clinical, radiological, and histo-molecular characteristics of diffuse intrinsic pontine glioma in patients who survive less than 3 months from diagnosis: a report from the International DIPG Registry

Nathan Dahl

DIPG-37 The ketone body β-hydroxybutyrate acts as an epigenetic modifier and increases radiation-induced DNA damage in diffuse intrinsic pontine glioma

Alex P. Rossi

DIPG-38 Dianhydrogalactitol (VAL-083) with AZD1775 increases survival in diffuse intrinsic pontine glioma (DIPG), in vivo

Dennis Brown
Posters by Category

**EPENDYMOMA**

EPEN-01 Characterization and drug testing in preclinical ependymoma models  
*Ashleigh Lester*

EPEN-02 Multiplatform molecular profiling reveals intratumor heterogeneity in ependymoma  
*John Liu*

EPEN-06 YAP1 subgroup supratentorial ependymoma requires TEAD and Nuclear factor I-mediated transcriptional programs for tumorigenesis  
*Daisuke Kawauchi*

EPEN-07 Ependymomas in infancy: Underlying genetic alterations, histological features and clinical outcome  
*Stephanie Jünger*

EPEN-08 Pharmacogenomics reveals ERBB2 as a therapeutic target in primary ependymoma cultures  
*David Pauck*

EPEN-09 Preclinical models reveal subgroup-stratified targeted therapy options for childhood supratentorial ependymoma  
*Vladimir Amani*

EPEN-10 5-FU enhances radiation therapy in in vitro and in vivo treatment of 1q+ PFA ependymoma  
*Andrea Griesinger*

EPEN-13 Outcomes after first relapse of childhood intracranial ependymoma: a single institution experience  
*Neevika Manoharan*

EPEN-14 Exploration of intra- and inter-tumor cellular heterogeneity in supratentorial ependymoma  
*Andrew Donson*

**GENETICS/EPIGENETICS**

GENE-01 Tumor mutational burden and driver mutations: further insight into the genomic landscape of pediatric brain tumors  
*Roshal Patel*

GENE-03 Case report: choroid plexus carcinoma treated with stereotactic radiosurgery in 2-year-old with Li Fraumeni Syndrome  
*Eva Galvan*

GENE-04 Establishing a molecular profiling service for children’s central nervous system tumors in Australasia – The Australian and New Zealand Children’s Haematology and Oncology Group (ANZCHOG) AIM BRAIN PROject  
*Christine White*

GENE-05 ATRX in-frame fusion neuroblastoma is sensitive to EZH2 inhibition via modulation of neuronal gene signatures  
*Zulekha Qadeer*

GENE-08 The MNP 2.0 study: prospective integration of DNA methylation profiling in CNS tumor diagnostics  
*Dominik Sturm*

GENE-09 Mutation signature analysis in an ultrahypermutated medulloblastoma predicts underlying germline polymerase proofreading deficiency in a child with clinical features of constitutional mismatch repair deficiency syndrome  
*Holly Lindsay*

GENE-13 Pediatric meningiomas are characterized by distinct methylation profiles different from adult meningiomas  
*Christian Mawrin*

GENE-14 Unique molecular and clinical features of Li-Fraumeni syndrome associated brain tumours  
*Míchal Zapotocký*

GENE-15 Evaluating the utility of integrated clinical sequencing for childhood neuro-oncology patients: the Texas KidsCanSeq study  
*Ross Mangum*

GENE-17 Tumor-derived cell-free DNA may be frequently detected by clinical targeted sequencing of cerebrospinal fluid in children with brain tumors  
*Kristine Karvonen*
Posters by Category

**GENE-18** Pan-Omic analysis of diffuse intrinsic pontine glioma from children enrolled in the PNOC003 precision medicine trial identifies opportunities and challenges in clinical implementation of a multi-omics sequencing approach  
Adam C. Resnick

**GENE-20** Multi-gene mutation profiling of pediatric midline gliomas using patient liquid biopsy  
Erin Bonner

**GENE-21** Pediatric brain tumors with FGFR1 Mutations: a series of 14 cases assessing the morphologic spectrum and associated genetic alterations  
Bonnie Cole

**GENE-22** Molecular alterations and use of targeted therapy in 160 pediatric patients with Central Nervous System (CNS) tumors  
Erin Wright

**HIGH GRADE GLIOMA**

**HGG-01** Acquisition of a hypermutator phenotype underlying distant spinal intramedullary spread in histone-mutated diffuse midline glioma  
Christopher Hong

**HGG-05** Gallium Maltolate as treatment in pediatric glioma  
Salvatore Molino

**HGG-06** Podoplanin positive myeloid cells promote glioma development by immune suppression  
Tanja Eisemann

**HGG-07** Three successive biopsies demonstrate clonal evolution in a multiply-recurrent pediatric gliofibroma  
Kristiyana Kaneva

**HGG-12** Impact of the addition of vinorelbine to temozolomide in the first-line treatment of pediatric high-grade gliomas  
Milena Guidi

**HGG-13** Determining regional differences in high-grade glioma vasculature phenotype  
Xin Wei

**HGG-14** Pediatric bithalamic diffuse gliomas are distinguished from their unilateral counterparts by frequent EGFR exon 20 insertions and rare histone H3 mutations  
Julieann Lee

**HGG-15** Successful treatment of an NTRK-fusion positive infantile glioblastoma with larotrectinib, a targeted TRK inhibitor  
Robin Buerki

**HGG-16** Molecular pathophysiology of histone 3.3 G34R mutant childhood brain tumours; towards the development of novel targeted therapies  
Richard Grundy

**HGG-17** New pharmacological approaches in glioblastoma therapy: biological effects and molecular alterations  
Anna Lisa Iorio

**HGG-18** Alternative splicing of neurofibromin 1 is associated with elevated MAPK activity and poor prognosis in high-grade glioma  
Robert Siddaway

**HGG-20** Novel identification of simultaneous H3F3A K27M and G34W mutations in a pediatric diffuse midline glioma of the spinal cord  
Tabitha Cooney

**HGG-21** An omics approach to elucidating the mechanism of Etv5 in pediatric glioma  
Hannah Park

**HGG-22** Characterizing the role H3.3G34R mutation in pediatric high grade astrocytoma  
Byungjin Kim

**HGG-23** Glutaminolysis involvement and its targeting in pediatric high grade gliomas: a new way of treatment  
Natacha Entz-Werlé
Posters by Category

**HGG-26** Targetable molecular alterations in congenital glioblastoma
  Ahmed Gilani

**HGG-27** Clinical analysis of choroid plexus tumors
  Yoshiko Nakano

**IMMUNOLOGY/IMMUNOTHERAPY**

**IMMU-01** Novel RNA-targeting strategy for treating T cell-driven immunosuppression in human diffuse intrinsic pontine glioma
  Alicia Lenzen

**IMMU-04** Development of GPC2-directed chimeric antigen receptor therapy for pediatric brain tumors with in vitro transcribed mRNA
  Jessica B. Foster

**IMMU-05** Combinational CAR T-cell and epigenetic modifier therapy to target posterior fossa tumors
  Laura Donovan

**IMMU-06** Investigating immunosuppressive mechanisms in the tumor microenvironment of high-risk neuroblastoma; an immunocompetent, MYCN-driven, non-germline GEM model
  Lauren McHenry

**IMMU-09** Locally administered CAR T cells demonstrate most favorable route of administration in a model of ATRT
  Johanna Theruvath

**IMMU-10** Central nervous system neuroblastoma metastases pseudoprogression following intraventricular anti-B7H3 radioimmunotherapy
  Kim Kramer

**IMMU-11** Response of T-cells under the influence of adamantinomatous craniopharyngioma cyst fluid
  Trinka Vijmasi

**IMMU-12** Novel approach for the treatment of pediatric high-grade gliomas with the combination of oncolytic adenoviruses and gene therapy encoding a BiTE directed to the EphA2 tumor antigen
  Claudia Manuela Arnone

**IMMU-14** Implications for T-cell immunotherapy: Cell surface antigen and HLA class I expression in pediatric brain tumors are heterogenous
  Haley Houke

**IMMU-15** Allogenic macrophages immunotherapy in a mice model of glioblastoma
  Huanyu Dou

**IMMU-21** Development of PET tracers for non-invasive imaging of immunotherapy in diffuse intrinsic pontine glioma
  Gary Köhanbash

**IMMU-22** Single-cell characterization of intratumoral and systemic immune populations in pediatric and adult brain tumors reveals differences in subpopulation composition, activation and memory
  Aaron Mochizuki

**LOW GRADE GLIOMA**

**LGG-01** BRAF V600E mutant oligodendroglioma-like tumors with chromosomal instability in adolescent and young adult
  Kohei Fukuoka

**LGG-04** Clinico-histo-molecular landscape of eighty-two pediatric and young adult dysembryoplastic neuroepithelial tumors
  Mélanie Pagès

**LGG-06** Clinical features of 1136 tumors of central nervous system in children: Single institutional report from Shanghai Xinhua Hospital, the Founding member of CNOG
  Jie Ma

**LGG-09** PD-L1 expression in pediatric low grade gliomas, an opportunity for intervention independent of BRAF mutational status
  Allison Martin
Posters by Category

LGG-10 Tumor-associated immune response in anaplastic progression of PXA  
_Anupam Kumar_

LGG-11 Establishment of a human 3-dimensional low-grade glioma tumor model in induced pluripotent stem cell derived brain organoids  
_Annabelle Bahr_

LGG-12 Trametinib for the treatment of recurrent/progressive pediatric low grade glioma: a single institution experience  
_Neevika Manoharan_

LGG-13 Papillary glioneuronal tumor (PGNT) exhibits a characteristic methylation profile and mandatory fusions involving PRKCA  
_Andreas von Deimling_

LGG-14 The genetic landscape of dysembryoplastic neuroepithelial tumors  
_Payal Jain_

LGG-15 Combined suppression of the mTOR and MAPK pathways inhibits cell proliferation and decreases vascularity in pediatric low grade glioma  
_Antje Arnold_

LGG-16 Predictors of outcome in BRAF-V600E pediatric gliomas treated with BRAF inhibitors: a report from the PLGG taskforce  
_Liana Nobre_

LGG-17 Decreased function of Isoprenylcysteine Carboxylmethyltransferase results in increased sensitivity to chemoradiation in oligodendroglioma  
_David Altshuler_

MEDULLOBLASTOMA

MEDU-01 HDACi and PLK1i act synergistically in MYC-amplified medulloblastoma  
_Gintvile Valinciute_

MEDU-08 MiR-1253 possesses novel tumor suppressor properties in pediatric medulloblastoma  
_Ranjana Kanchan_

MEDU-12 Treatment results of children with metastatic medulloblastoma according to C-MYC/N-MYC/Iso17q and MGMT tumor status  
_Andrey Levashov_

MEDU-14 Genomic analysis of ETMR guides efficacious DFMO drug combinations  
_Austin Goodyke_

MEDU-15 Structural brain network properties and cognitive impairment in adolescents after radiation therapy  
_Justin Yuan_

MEDU-16 MYC but not MYCN generates aggressive Group 3 medulloblastoma through ARF suppression  
_Oliver Mainwaring_

MEDU-17 High impact of miRNA-4521 on FOXM1 expression in medulloblastoma  
_Sibylle Madlener_

MEDU-18 Functional brain network properties and cognitive impairment in adolescents following radiation therapy  
_Melanie Morrison_

MEDU-19 EZH2-regulated inhibition of HIPK2 suppresses treatment-induced apoptosis in group 3 medulloblastoma  
_Sujatha Venkataraman_

MEDU-20 HDAC and NFκB antagonists synergistically inhibit growth of MYC-driven medulloblastoma  
_Viktoria Marquardt_

MEDU-22 Inhibition of Olig2 suppresses the growth of MYC-amplified medulloblastoma  
_Yanxin Pei_

MEDU-23 Improving immunotherapeutic potential in group 3 medulloblastoma using low dose radiation followed by 4-1BB monoclonal antibody administration  
_Mohammed Alshareef_
Posters by Category

MEDU-24 Interrogating the role of epigenetic regulators in MYC-driven medulloblastoma
Jennifer Stripay

MEDU-25 Genes preserving stem cell state in Group 3 MB BTICs contribute to therapy evasion and relapse
David Bakhshinyan

MEDU-27 Enhancing selumetinib-mediated killing of SHH medulloblastoma
Brent Guppy

MEDU-28 Eliminating the root of medulloblastoma by targeting a voltage-gated potassium channel
Jerry Fan

MEDU-30 Identifying distinctive lincRNAs in the different medulloblastoma subgroups
Ruty Mehrian-Shai

MEDU-31 Identification and characterization of a novel patient-specific gene combination to model group 3 medulloblastoma
Claudio Ballabio

MEDU-36 BCL2 family members attenuate response of MYC-driven medulloblastomas to BET-bromodomain inhibition
Jessica Clymer

MEDU-38 A case series of children with embryonal tumor with multilayer rosettes treated with a modified IRS-III chemotherapy backbone
Derek Hanson

MEDU-40 Matching of single cell transcriptomics from cerebellar development identifies putative subgroup specific cells of origin for medulloblastoma
Ibrahim El-Hamamy

MEDU-41 Targeting granulocyte colony stimulation factor receptor expressing medulloblastoma cells
Megan Paul

MEDU-42 Elucidating the role of stress granule formation in medulloblastoma
Sofya Langman

MEDU-43 Global and regional effects of radiation therapy on cerebral microvasculature in pediatric brain tumor survivors
Sivakami Avadiappan

MEDU-45 Development of a new etoposide-bound magnetic nanoparticle designed to treat medulloblastoma cells disseminated within cerebrospinal fluid pathways
Amanda Kwasnicki

MEDU-46 Sonic hedgehog speeds up DNA replication and causes cancer-initiating mutations
Frederic Charron

MEDU-48 A network-based druggable genome analysis identifies novel therapeutic targets for non-WNT medulloblastoma
Laura Genovesi

SIG-01 MYCN negatively regulates starvation-induced autophagy through miR-17 family microRNAs
Zhenyi An

SIG-02 Rational targeting of pro-invasive FGFR signaling in medulloblastoma
Martin Baumgartner

SIG-03 HHIP-AS1 promotes tumor survival through stabilizing dynein complex 1 in hedgehog driven human brain tumors
Jasmin Bartl

SIG-04 Human pluripotent stem cell models of high-risk and RAS/MAPK pathway-mutated neuroblastoma
Tina Zheng

SIG-05 MYCN-driven MAP kinase signaling in neuroblastoma
Colin Sperring
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| THER-05 | Continuous and bolus intraventricular topotecan prolong survival in a mouse model of leptomeningeal medulloblastoma
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| THER-06 | Proteasome inhibition in primary medulloblastoma cell culture and patient-derived xenograft models: a potential therapeutic implication
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| THER-08 | Raplink-1 cooperates with inhibitors of Bcl-2/Bcl-xl to induce apoptosis in glioblastoma
  *Xujun Luo* |
| THER-09 | Evaluation of protein kinase inhibitors with PLK4 cross-over potential in pediatric embryonal brain tumors
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  *Rachid Drissi* |
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| THER-13 | Pediatric neuro-oncology clinical trial enrollments: a 30 years’ experience in the state of Florida
  *Emily Owens Pickle* |
| THER-14 | Small molecule inhibitor targeting self-renewal as a therapeutic option for recurrent medulloblastoma
  *Ashley Adile* |
| THER-15 | Functionalized nanoparticle trafficking assessed in a novel microfluidic model of the blood-brain barrier with high grade glioma spheroids
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| THER-17 | BRAF-V600E degradation as a therapeutic strategy in BRAF-V600E mutant gliomas
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  *Eric Prince* |
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  *Fred C. Lam* |
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Posters by Category

THER-28  A CK1α activator penetrates the brain, and shows efficacy against drug-resistant metastatic medulloblastoma  
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THER-29  Novel dual EGFR/PI3-kinase inhibitors show enhanced potency, stronger pathway suppression and targeting of metabolic properties in pediatric and adult high grade glioma models than single kinase inhibitors  
  Joya Chandra

THER-30  Combination Toca 511 & 5-FC significantly extends survival in a murine orthotopic model of intracerebellar medulloblastoma  
  Angela Richardson

THER-31  Targeting the histone demethylase LSD1 for selective apoptosis and immune-sensitization in pediatric DIPG  
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THER-33  Tocilizumab as a potential novel therapy in patients diagnosed with adamantinomatous craniopharyngioma  
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THER-34  MEK blockade synergistically increases the anti-tumor effects of mTOR inhibition in gliomas  
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THER-35  Targeted dual drug delivery using non-toxic Carbon dots as a nanocarrier for pediatric brain tumors  
  Frederic Vallejo

TUMOR MODELS

TMOD-01  Credentialing novel pediatric glioblastoma and ependymoma models with single-cell RNA sequencing  
  Joshua Breunig

TMOD-02  Characterization of the tumor immune microenvironment in a pediatric high grade glioma mouse model harboring the H3.3-G34R mutation  
  Maria Garcia Fabiani

TMOD-04  Determining the neuroanatomical and cellular origin of BRAFV600E mutant CDKN2A deleted gliomas and mechanisms of transformation by BRAFV600E expression in transgenic mice  
  Claudia K. Petritsch

TMOD-07  Advanced ultra-high field MRI on tumor habitat in orthotopic mouse models for pediatric brain tumors  
  Jenna Steiner

TMOD-08  Elucidating epigenetic mechanisms in diffuse intrinsic pontine glioma harboring ACVR1 G328V and H3.1 K27M  
  Flor Mendez

TMOD-09  Tumor associated macrophage dynamics in pediatric high-grade gliomas  
  James Ross

TMOD-13  Maximizing the power of patient tumor-derived orthotopic xenograft (PDOX) models of pediatric brain tumors to predict drug responses in humans  
  Sarah Injac

TMOD-16  A novel algorithm for management of pediatric craniopharyngioma  
  Mohammed Fouda

TMOD-17  Development and characterization of diffuse intrinsic pontine glioma mouse models generated by brainstem in utero electroporation  
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TMOD-18  An integrated set of pediatric high grade glioma resources for translational studies  
  Heba Ijaz

TMOD-19  Gabriella Miller Kids First Data Resource Center: Large-scale harmonized clinical and genomic data platform to support childhood cancer and structural birth defect research  
  Adam Resnick

TMOD-21  Expanding a pediatric glioma toolkit of genetic manipulation to generate tertiary modes of inducible recombinase expression  
  Katie B. Grausam
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