

## Committee Minutes

### ACADEMIC, RESEARCH, AND STUDENT AFFAIRS COMMITTEE Inn at Virginia Tech, Latham Ballroom 10:00 – 11:30 a.m. April 4, 2022

**Committee Members Present:** Melissa Nelson (chair), Anna James, one board member participated remotely for personal reasons in accordance with the Code of Virginia §2.2-3708.2(A)(1)(2). Ms. Chenery participated remotely while on a family vacation and was located at 9423 Old Oregon Inlet Road, Nags Head, NC.

**Committee Members Absent:** Jeff Veatch, Serena Young (staff senate representative).

**Board Members Present:** Rector Tish Long, Holli Drewry (A/P representative), Paolo Fermin (undergraduate student representative), Phil Miskovic (graduate and professional student representative), Robert Weiss (faculty representative).

**Guests:** Janice Austin, Callan Bartel, Laura Belmonte, Rosemary Blieszner, Eric Brooks, Kevin Carlson, Cyril Clarke, Jon Deskins, Jeff Earley, Corey Earles, Kari Evans, Ron Fricker, Mike Friedlander, Rachel Gabriele, Martha Glass, Cathy Grimes, Dave Guerin, Rebekah Gunn, Kay Heidbreder, Rachel Holloway, Byron Hughes, Sharon Kurek, Lee Learman, Steve McKnight, Natalie Melville, Scott Midkiff, Ken Miller, Bernadette Mondy, Kim O'Rourke, Mark Owczarski, Ellen Plummer, Jon Porter, Robin Queen, Chris Rahmes, Paul, Richter, Julie Ross, Tim Sands, Niesha Savory, Frank Shushok, Aimée Surprenant, Don Taylor, Judy Taylor, Tracy Vosburgh, Paul Winistorfer, Chris Yianilos, Jia-Ray Yu.

#### **Tour and Update on Pamplin College of Business**

Prior to the convening of the ARSA Open Session, committee members toured Holden Hall and the Data and Decision Sciences (D&DS) building. Pamplin College of Business (PCOB) is one of several colleges engaged in the delivery of academic programs in the D&DS building. Provost Clarke introduced Kevin Carlson, PCOB associate dean for research and faculty affairs, and Elizabeth Mitchell, PCOB assistant dean of advancement. As part of the Global Business and Analytics Complex, the D&DS building will support faculty members from business, computer science, and statistics to advance instruction and scholarship in data analytics and decision sciences. The design of the building includes a commitment to shifting the learning environment to one that is student-focused and incorporates interaction, collaboration, and experiential learning. The building houses three types of collaboration spaces: team rooms, trading labs, and a commons.

#### **OPEN SESSION**

**1. Welcome.** M. Nelson, chair of the committee welcomed board and committee members.

**2. Review and Approval of Open Session Agenda.** The committee unanimously approved to remove from the consent agenda and place on the regular agenda the

Resolution to Approve Reorganizing the Colleges of Architecture and Urban Studies, Engineering, and Liberal Arts and Human Sciences and to Approve Renaming the College of Architecture and Urban Studies as the College of Arts, Design, and Architecture.

**3. Consent Agenda.** Approval of November 7, 2021 Meeting Minutes, Report of Reappointments to Endowed Chairs, Professorships, and Fellowships, Resolution for Exclusion of Certain Officers/Directors.

**The committee unanimously approved the Open Session including the Consent Agenda as amended.**

**4. Resolution to Approve Reorganizing the Colleges of Architecture and Urban Studies, Engineering, and Liberal Arts and Human Sciences and to Approve Renaming the College of Architecture and Urban Studies as the College of Arts, Design, and Architecture.** The committee unanimously approved to amend the Resolution to Approve Reorganizing the Colleges of Architecture and Urban Studies, Engineering, and Liberal Arts and Human Sciences and to Approve Renaming the College of Architecture and Urban Studies as the College of Arts, Design, and Architecture such that the new name of the college is the *College of Architecture, Arts, and Design* rather than the College of Arts, Design, and Architecture.

**The committee unanimously approved the resolution as amended.**

**4. Provost's Update.** C. Clarke, executive vice president and provost, updated the committee on several initiatives. Student mental health remains a concern that has been additionally aggravated by the pandemic. From August 15, 2021 to March 14, 2022, professional staff at the university's Cook Counseling Center have seen 4,554 student clients averaging five visits per client. The top three client concerns are anxiety, stress, and depression. Significant strides have been made in awareness, education, prevention, and intervention as recommended by the provost's 2018 Mental Health Task Force. In addition, the university is moving forward with innovations in student mental health support by focusing resources on residential well-being that embeds five new counselors in the residence halls. In another model, the college of veterinary medicine has counselors embedded in the college to attend to student needs. Since 2015, the university has invested \$2.7M in new resources for mental health including hiring 18 new, professional, and credentialed counselors. Also, the university will launch a telehealth program that will be available 24/7 and will increase the number and diversity of clinicians available to students, reduce wait times, and increase the number of sessions students may access. Virginia Tech remains committed to student mental health wellness as evidenced by the Cook Counseling Center's No. 1 ranking for best counseling services in the 2021 edition of the Princeton Review's Best 386 Colleges.

In the area of graduate student compensation, Provost Clarke shared information regarding the university's efforts to increase financial support for students that takes into account the cost of living expenses. Achieving this goal will support graduate students in their efforts to focus on their studies without the need for additional financial aid and employment and improves Virginia Tech's competitiveness for student talent. Provost Clarke and Aimée Surprenant, dean of the graduate school, are appointing a task force

to formulate a plan to be implemented as soon as feasible within the university's budget.

Provost Clarke updated the committee on efforts at the university's Falls Church, VA location. The expectation is that Virginia Tech will execute an agreement to sell or release its interest in its property at Falls Church. The release of the Falls Church property will enable the university to establish a national center for smart construction there. Planning is underway for the relocation of academic programs from the Northern Virginia Center at Falls Church to other facilities in northern Virginia, leased facilities in the region, or to Blacksburg. Provost Clarke and several deans met in-person with faculty and staff to inform them of the timeline, explain the strategic justification for the relocation, alternatives available, and the process whereby decisions will be made.

The university will welcome Dr. Kevin Pitts as the new dean of the College of Science in June and two dean searches are underway. In addition, a search for a vice president of student affairs will occur in the near future.

**5. Health Sciences Discussion.** C. Clarke and M. Friedlander, Virginia Tech Vice President for Health Sciences and Technology, provided information on the mission-related, strategic initiatives in health and biomedical sciences. The university has the potential to be amongst the best in the world in these areas by building upon a history of accomplishment, a competitive position in the sciences, technology, and engineering. The university is committed to increasing the number of postdoctoral associates and national academy memberships. The development of the health sciences is the university's largest opportunity gap. Committee members were invited to comment and to provide guidance on how these efforts help the university move forward.

The university is positioned to grow a nationally prominent position in the area of neural development in children. Virginia Tech is expanding its partnership with Children's National Hospital and initiating a related academic Destination Area project. Expanding the children's health program in Blacksburg and in Roanoke is a priority for the Fralin Biomedical Research Institute. A panel discussion included Niesha Savory, undergraduate student in the School of Neuroscience, Natalie Melville, graduate student in Translational Biology, Medicine, and Health program, and Jia-Ray Yu, M.D., assistant professor located at the university's Children's National Research and Innovation Campus.

**6. Agenda Items for June 2022 ARSA committee meeting.** Committee members will submit agenda topics for consideration at future meetings.

**7. Adjournment.**

**Open Session Agenda**  
**Amended during committee meeting: removed resolution from Consent Agenda  
and placed on Agenda as item #4**

**ACADEMIC, RESEARCH AND STUDENT AFFAIRS COMMITTEE**

**Inn at Virginia Tech and Skelton Conference Center  
10:00 a.m. – 11:30 a.m.**

**April 4, 2022**

<u>Agenda Item</u>	<u>Reporting Responsibility</u>
1. Welcome	M. Nelson
2. Review and Approve Open Session Agenda	M. Nelson
3. Consent Agenda	M. Nelson
A. Approval of November 7, 2021 Meeting Minutes	
B. Report of Reappointments to Endowed Chairs, Professorships, and Fellowships	
*C. Resolution for Exclusion of Certain Officers/Directors	
*4. Resolution to Approve Reorganizing the Colleges of Architecture and Urban Studies, Engineering, and Liberal Arts and Human Sciences and to Approve Renaming the College of Architecture and Urban Studies as the College of Arts, Design, and Architecture	C. Clarke
5. Provost's Update and Discussion	C. Clarke
6. Health Sciences Discussion	C. Clarke, M. Friedlander
7. Agenda Items for June 2022 Committee Meeting	M. Nelson
8. Adjourn Committee Meeting	M. Nelson



**REPORT**

**Reappointments to Endowed Chairs, Professorships, or Fellowships (5)**

**April 4, 2022**

The president and executive vice president and provost have confirmed the reappointment of the following faculty to endowed chair, professorship, or fellowship appointments with a salary and/or operating supplement provided by the endowment and, if available, with funds from the eminent scholars match program.

**College of Engineering (5)**

Roop Mahajan	Lewis A. Hester Chair in Engineering
Wing Ng	Chris C. Kraft, Jr. Endowed Professorship
Ranga Pitchumani	George R. Goodson, Jr. Professorship in Mechanical Engineering
Danesh Tafti	William S. Cross, Jr. Endowed Professorship
Christopher Williams	Electro-Mechanical Corporation (EMC) Senior Faculty Fellowship in Advanced Manufacturing Systems

**Provost's Update**

**ACADEMIC, RESEARCH, AND STUDENT AFFAIRS COMMITTEE**

**April 4, 2022**

Cyril Clarke, executive vice president and provost, will provide an update.

**Panel Discussion: Health Sciences**  
**ACADEMIC, RESEARCH, AND STUDENT AFFAIRS COMMITTEE**

**April 4, 2022**

*Cyril Clarke and Mike Friedlander, vice president for health sciences, will lead a discussion of partnerships and opportunities for further growth in health sciences at Virginia Tech.*



# Mapping the Way Forward



# AAU metrics: A tool to measure Virginia Tech strengths and gaps

## Phase I Indicators

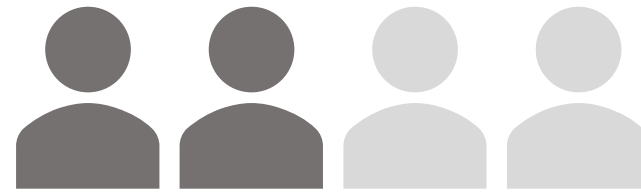
- Competitively funded federal research support
- Membership in the National Academies (NAS, NAE, IOM)
- Faculty awards, fellowships, and memberships
- Citations

## Phase II Indicators

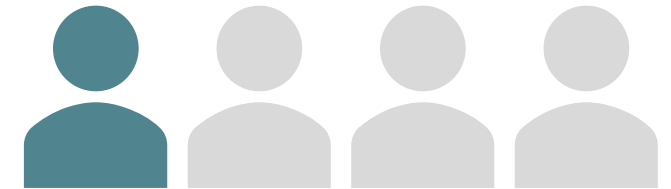
- USDA, state, and industrial research funding
- Doctoral education
- Number of postdoctoral appointees
- Undergraduate education

# Research talent is nationally dominated by those in health and biomedical areas

- 50% of postdocs nationally are in health and biosciences, compared to 25% at Virginia Tech

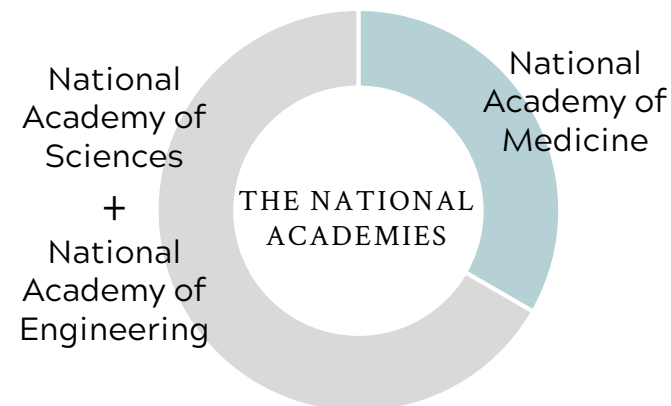


NATIONALLY

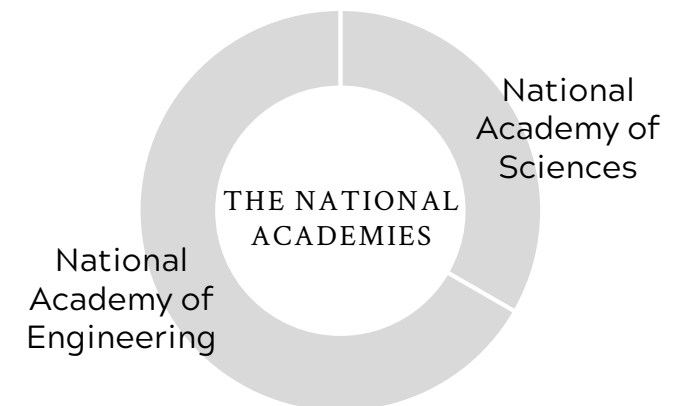


VIRGINIA TECH

- National Academy of Medicine members comprise 1/3 of the National Academies membership nationally. Virginia Tech has 0 members in the National Academy of Medicine.



NATIONALLY



VIRGINIA TECH



An investment in health and biomedical sciences is:

- Strategically aligned
- Optimized for progress





**Michael J. Friedlander, Ph.D.**  
**Virginia Tech Vice President for Health Sciences and Technology**  
**Executive Director, Fralin Biomedical Research Institute at VTC**  
**Sr. Dean for Research, VTC School of Medicine**



**Presentation BOV**  
**April 4, 2022**



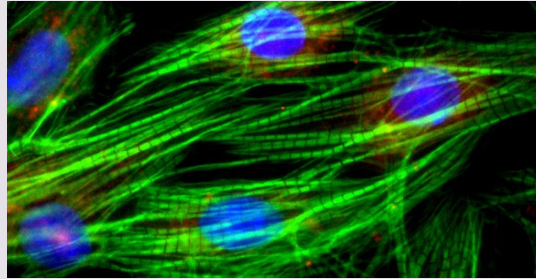


# Cardio-Metabolic Disorders

FBRI Center for Vascular and Heart Research  
FBRI Metabolism and Obesity Program  
FBRI Center for Health Behaviors Research



Jessica Pflieger, Ph.D.



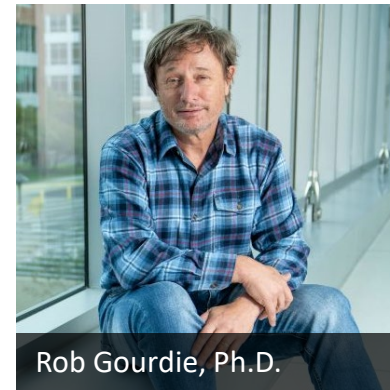
Alex DiFeliceantonio, Ph.D.

# One Health: Human-Animal Health Nexus Attachment D

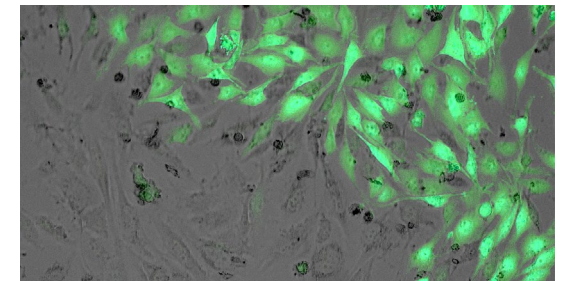
FBRI Center for Human Neuroscience Research  
VT Cancer Research Alliance  
VT Animal Cancer Care and Research Center



Shana Klahn, DVM



Rob Gourdie, Ph.D.

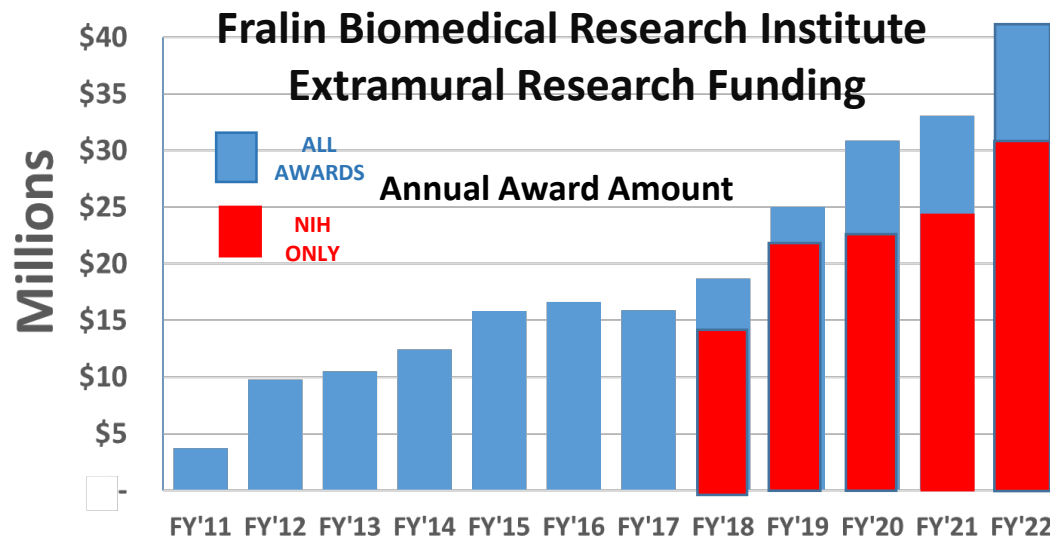




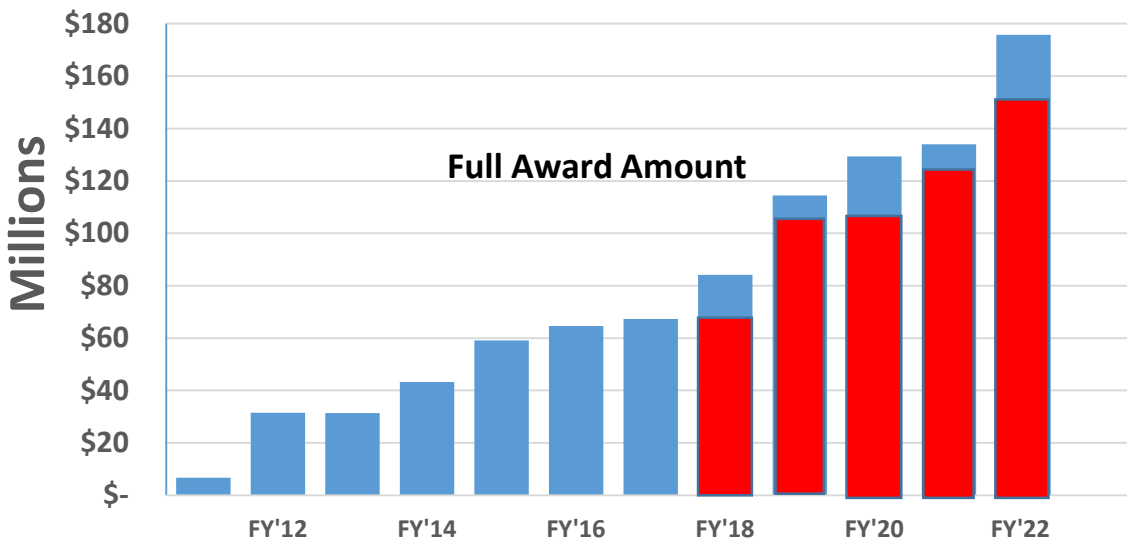
# Highly Cited Researchers 2021



**Top 0.1% of world's most highly cited  
researchers in all fields  
FBRI's Warren Bickel for cross-field  
interdisciplinary research**

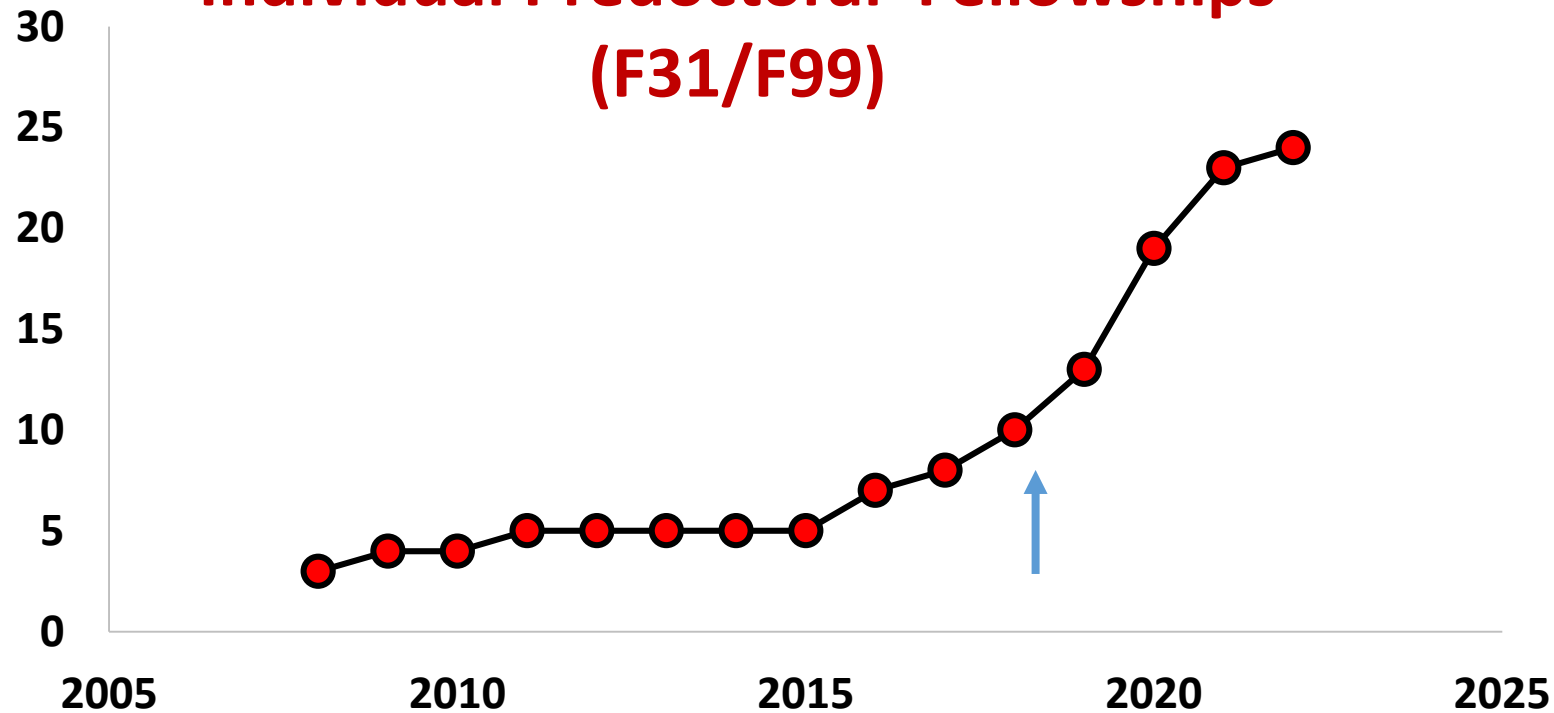


- In FY21, 103 new NIH grants submitted @\$35M annual; \$159M total
- From FY21, 20 new grants awarded so far @\$7M annual; \$34M total



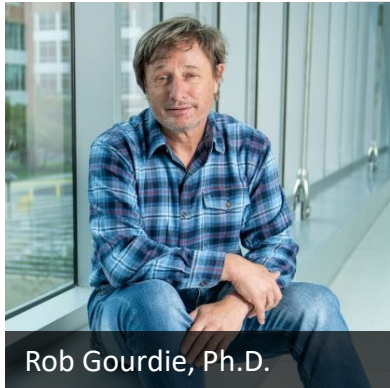
## Graduate Students Elevate VT's Profile at NIH

### Cumulative New Virginia Tech NIH Individual Predoctoral Fellowships (F31/F99)



- 77 VT students submitted 119 applications
- Of those, 34 were TBMH students who submitted 51 applications
- 24 awards have been made to VT
- 14/24 awards to TBMH students
- TBMH success rate by applications submitted = 27%; by number of students funded = 41%)

# Translation to Commercialization



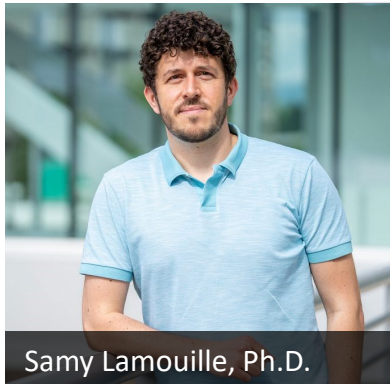
Wound healing  
therapeutic  
peptide



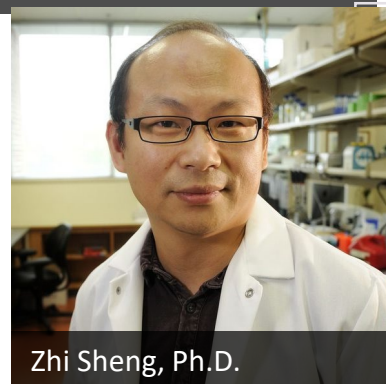
Next-generation  
exosome drug  
delivery



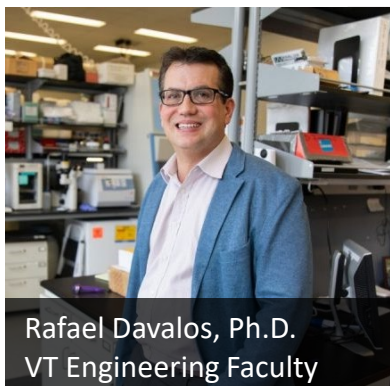
Applying  
behavioral  
economics in  
advanced  
diagnostics for  
substance use  
disorders



Advancing  
treatments for  
aggressive  
cancers



Overcoming  
chemoresistance  
in aggressive,  
treatment-  
resistant cancers



Cell Separation  
and Recovery  
Technology

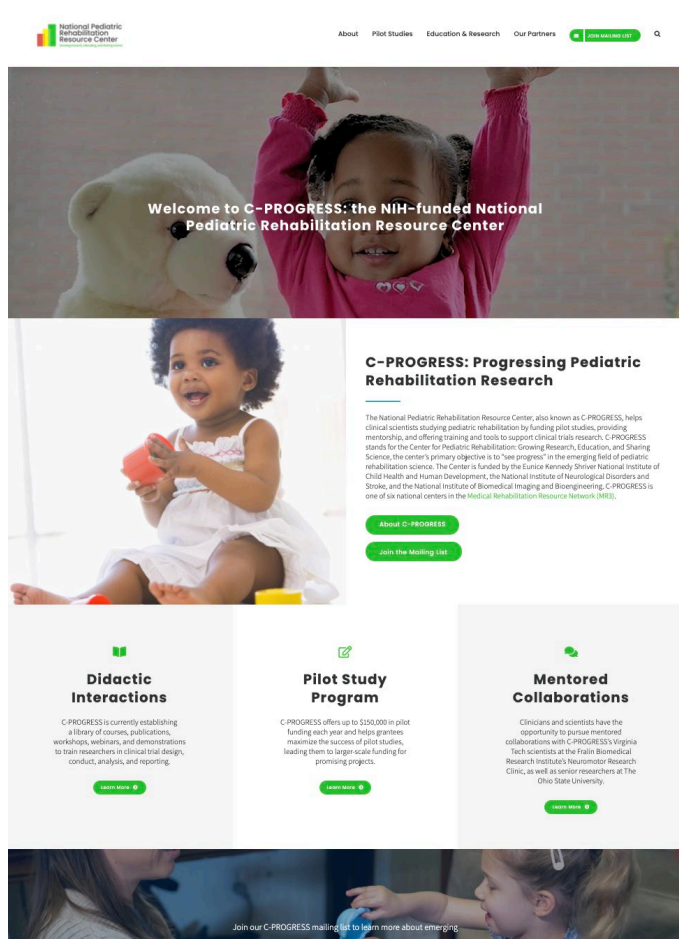


Irreversible  
electroporation  
to treat cancer

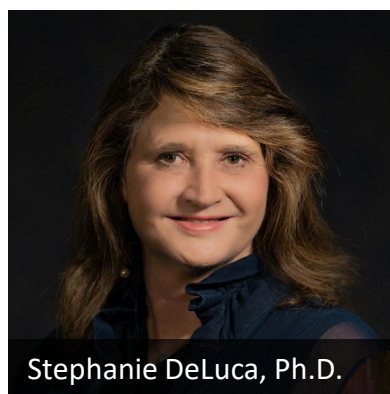
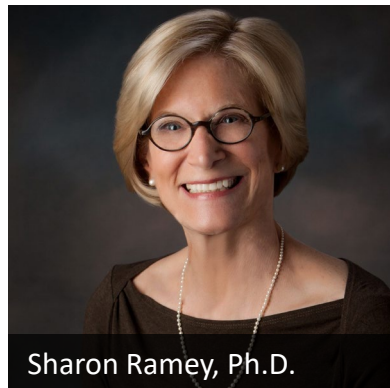


# Children's Health Research

FBRI Neuromotor Research Clinic  
National Pediatric Rehabilitation Resource Center,  
headquartered at Fralin Biomedical



The screenshot shows the homepage of the National Pediatric Rehabilitation Resource Center (C-PROGRESS). At the top left is the logo for the National Pediatric Rehabilitation Resource Center. The main navigation includes 'About', 'Pilot Studies', 'Education & Research', and 'Our Partners'. A search bar is located on the right. The main content area features a large image of a young girl with her arms raised, with a white teddy bear in the foreground. Below this is a 'Welcome to C-PROGRESS: the NIH-funded National Pediatric Rehabilitation Resource Center' message. A section titled 'C-PROGRESS: Progressing Pediatric Rehabilitation Research' includes a sub-image of a child playing with blocks and a paragraph of text. Below this are three columns: 'Didactic Interactions', 'Pilot Study Program', and 'Mentored Collaborations', each with a 'Learn More' button. At the bottom, there is a 'Join our C-PROGRESS mailing list to learn more about emerging...' section with a 'Join Now' button.



Attachment D  
Pediatric Stroke  
Neurorehabilitation  
Research





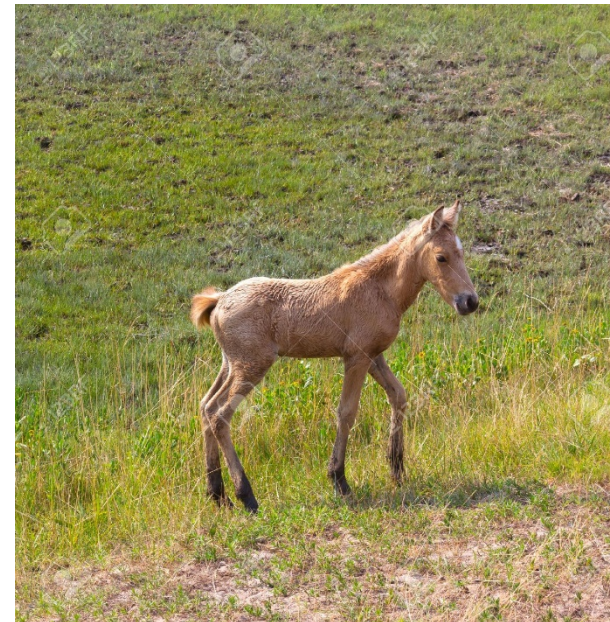
# Strategies of Development

Attachment D

## Altricial



## Precocial



# VT research on childhood disorders that impact lifespan brain and behavioral health

Attachment D



- **developmental disabilities**
- **early-life quality education**
- **pediatric brain cancers**
- **seizure disorders**
- **brain injuries including pediatric strokes**
- **nutritional deficiencies**
- **substance abuse in adolescence**
- **childhood infections**





# Developmental Neurogenetics Research


Attachment D

Complete loss of the X-linked gene CASK causes severe cerebellar degeneration



Paras A Patel,<sup>1</sup> Julia V Hegert,<sup>2</sup> Ingrid Cristian,<sup>3</sup> Alicia Kerr,<sup>1</sup> Leslie E W LaConte,<sup>1</sup> Michael A Fox,<sup>1,4</sup> Sarika Srivastava,<sup>1,5</sup> Konark Mukherjee <sup>1,6</sup>

**Journal of Medical Genetics, February, 2022**

RESEARCH ARTICLE | 04 MAY 2021

**Selective disruption of trigeminal sensory neurogenesis and differentiation in a mouse model of 22q11.2 deletion syndrome** 

In collection: [The RAS Pathway](#)

[Beverly A. Karpinski](#), [Thomas M. Maynard](#), [Corey A. Bryan](#), [Gelila Yitsege](#), [Anelia Horvath](#), [Norman H. Lee](#), [Sally A. Moody](#), [Anthony-Samuel LaMantia](#)  



**Konark  
Mukherjee**



**Anthony  
Lamantia**



[Nat Commun](#). 2018; 9: 4705.

PMCID: PMC6246600

Published online 2018 Nov 20. doi: [10.1038/s41467-018-07138-5](https://doi.org/10.1038/s41467-018-07138-5)

PMID: [30459305](https://pubmed.ncbi.nlm.nih.gov/30459305/)

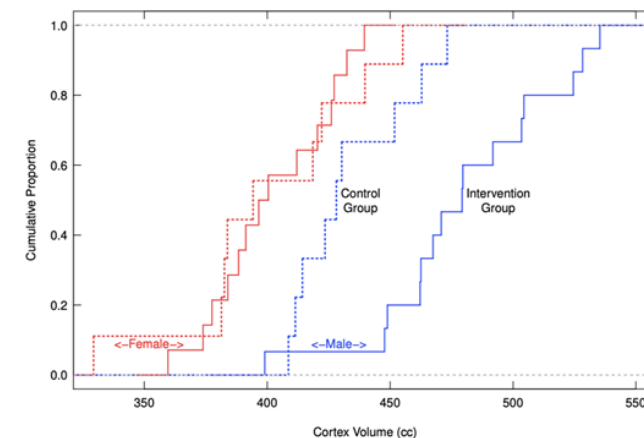
## Early childhood investment impacts social decision-making four decades later

> [J Cogn Neurosci](#). 2021 May 1;33(6):1197-1209. doi: [10.1162/jocn\\_a\\_01709](https://doi.org/10.1162/jocn_a_01709).

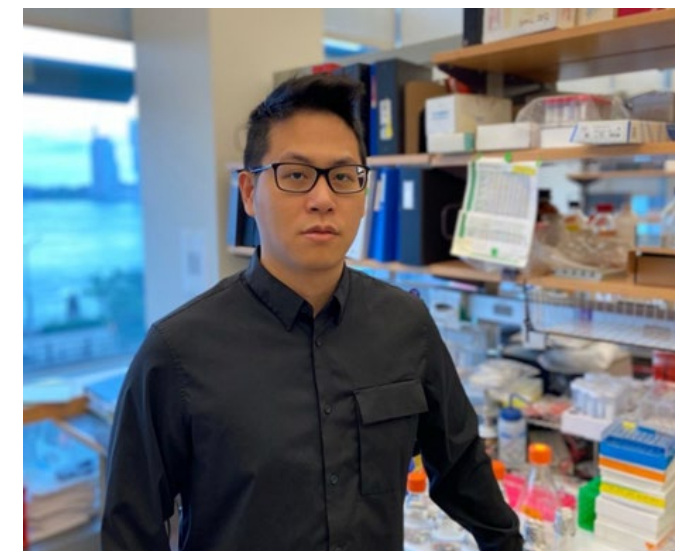
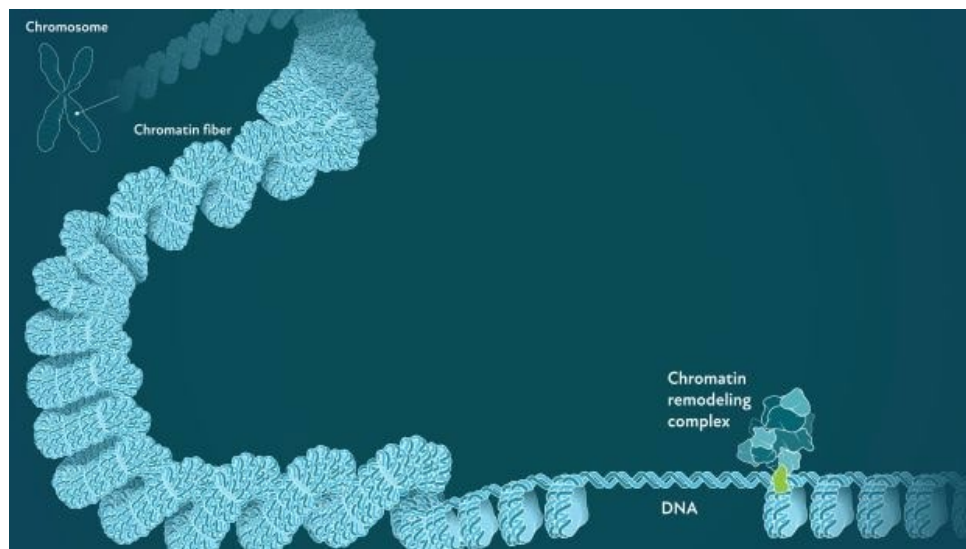
## Randomized Manipulation of Early Cognitive Experience Impacts Adult Brain Structure



Craig Ramey



# Diffuse Intrinsic Pontine Glioma (DIPG) (2% survival in children)

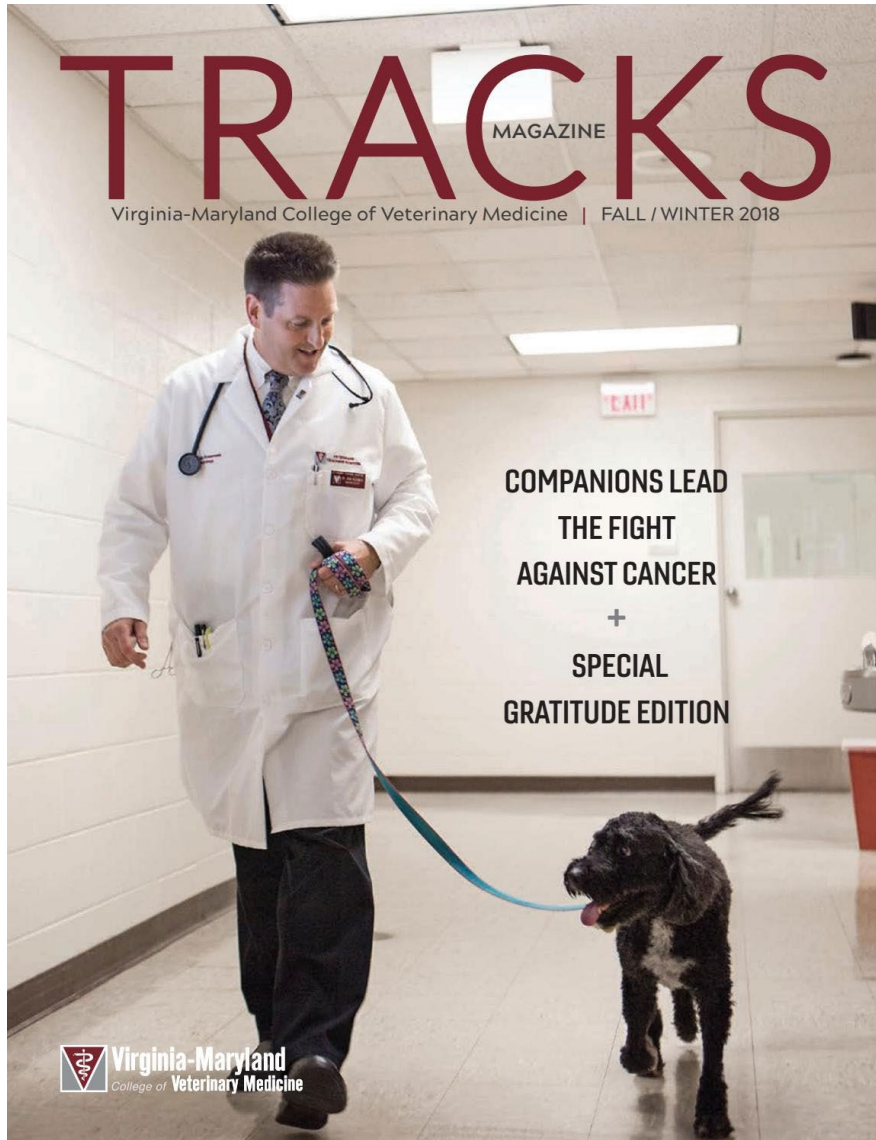


**Jia-Ray  
Yu**





VIRGINIA TECH.



VT CVM Neurologist, John Rossmeisl Comparative Molecular Life History of Spontaneous Canine and Human Gliomas Amin, SB,..... Rossmeisl, J.....,Verhaak, RGW, *Cancer Cell*; 2020

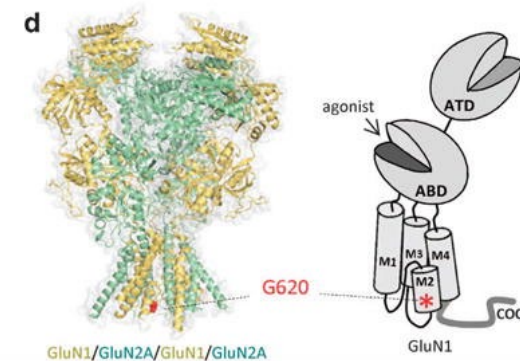
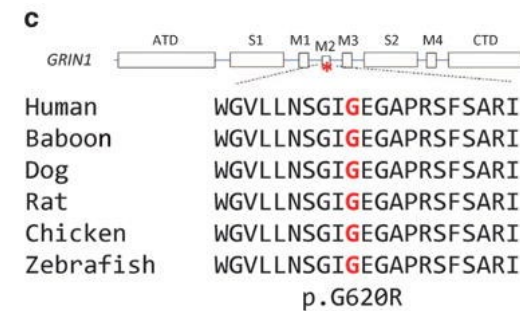
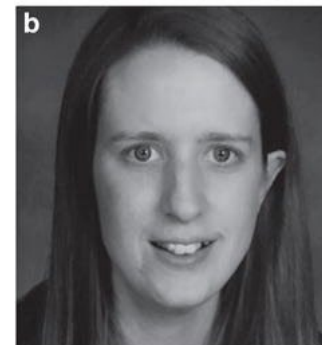
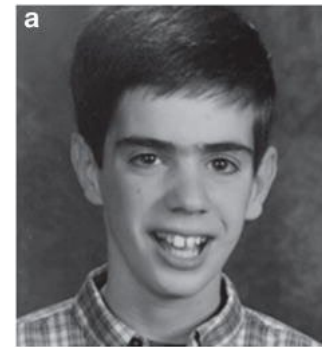
**“Canine gliomas showed high similarity with human pediatric glioma per robust aneuploidy, mutational rates, relative timing of mutations, and DNA-methylation patterns.”**

# Dravet's Syndrome Foundation funds FBRI Researcher's innovative work on intractable seizure disorder

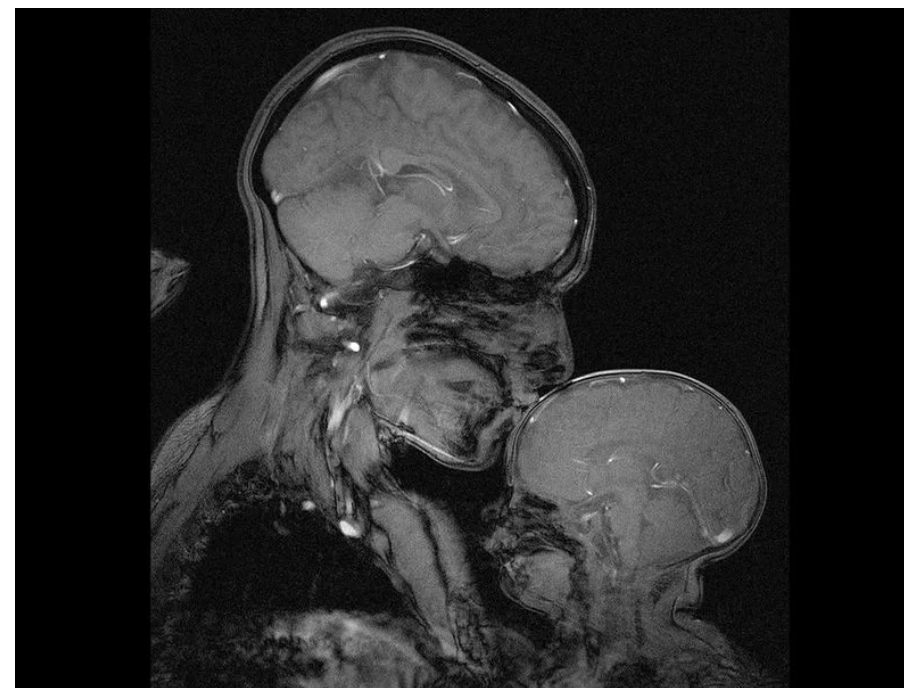
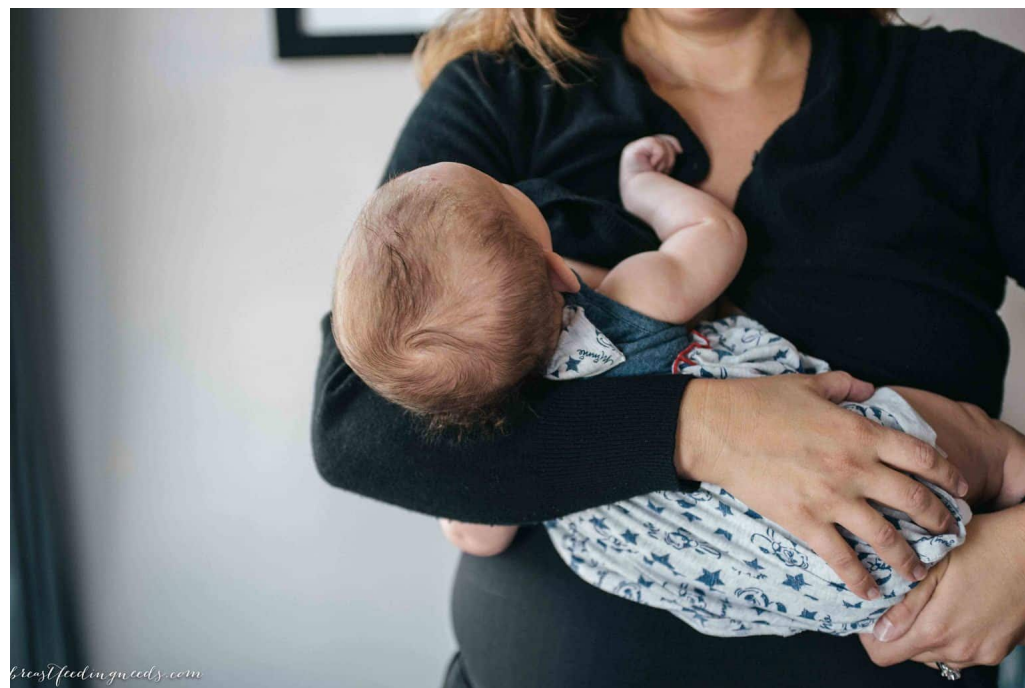


**Sharon Swanger**

Molecular pharmacology of brain developmental disorders and seizures



# FBRI's Dr. Brittany Howell studies gut-brain-behavior axis development, and the biological pathways of early experience and maternal influence on infant neurodevelopment.



# Identifying and preventing substance abuse and progression to addiction in adolescents



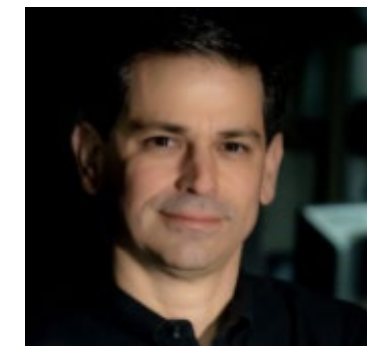
**Pearl  
Chiu**

Observational Study > Proc Natl Acad Sci U S A. 2020 Dec 15;117(50):31729-31737.

doi: 10.1073/pnas.1919111117. Epub 2020 Nov 30.

## Valuation of peers' safe choices is associated with substance-naïveté in adolescents

Dongil Chung<sup>1 2</sup>, Mark A Orloff<sup>1 3</sup>, Nina Lauharatanahirun<sup>1 4</sup>, Pearl H Chiu<sup>5 3 4</sup>, Brooks King-Casas<sup>5 3 4</sup>



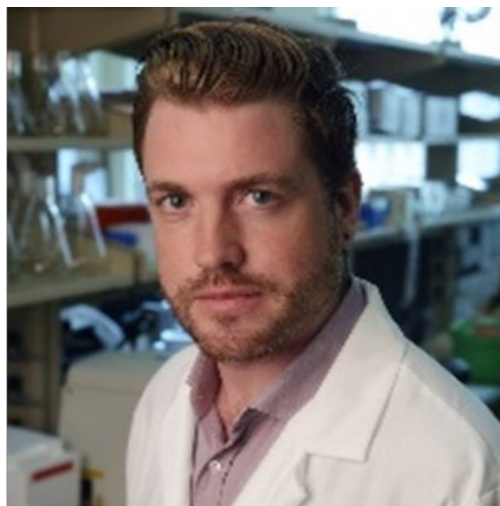
**Brooks  
King-Casas**

## Executive functioning and substance use in adolescence: Neurobiological and behavioral perspectives

Jungmeen Kim-Spoon<sup>1</sup>, Rachel E Kahn<sup>2</sup>, Nina Lauharatanahirun<sup>3</sup>, Kirby Deater-Deckard<sup>4</sup>, Warren K Bickel<sup>3</sup>, Pearl H Chiu<sup>3</sup>, Brooks King-Casas<sup>3</sup>



# COVID-19 impact on heart and brain development



Jamie Smyth



ABSL3 Facility - FBRI



# Children's National Research and Innovation Campus Washington, DC



## Virginia Tech & Children's National Hospital Pediatric Brain Cancer Research Partnership



## 2021 Rankings of over 250 Children's Hospitals in the U.S.

### The New York Times

Sept. 15, 2009

The government of Abu Dhabi is giving \$150 million to the [Children's National Medical Center](#) in Washington, with the aim of developing tools and processes to reduce the pain children experience before, during and after surgery.

### Children's National Hospital and NIAID launch large study on long-term impacts of COVID-19 and MIS-C on kids: \$40 million

NIH-funded multi-year study will look at impacts on children's physical health and quality of life

July 20, 2021

### Children's National Hospital Wins \$12.8M NIH Grant for Pediatric Mendelian Genomics Research Center

Jul 15, 2021 | [staff reporter](#)

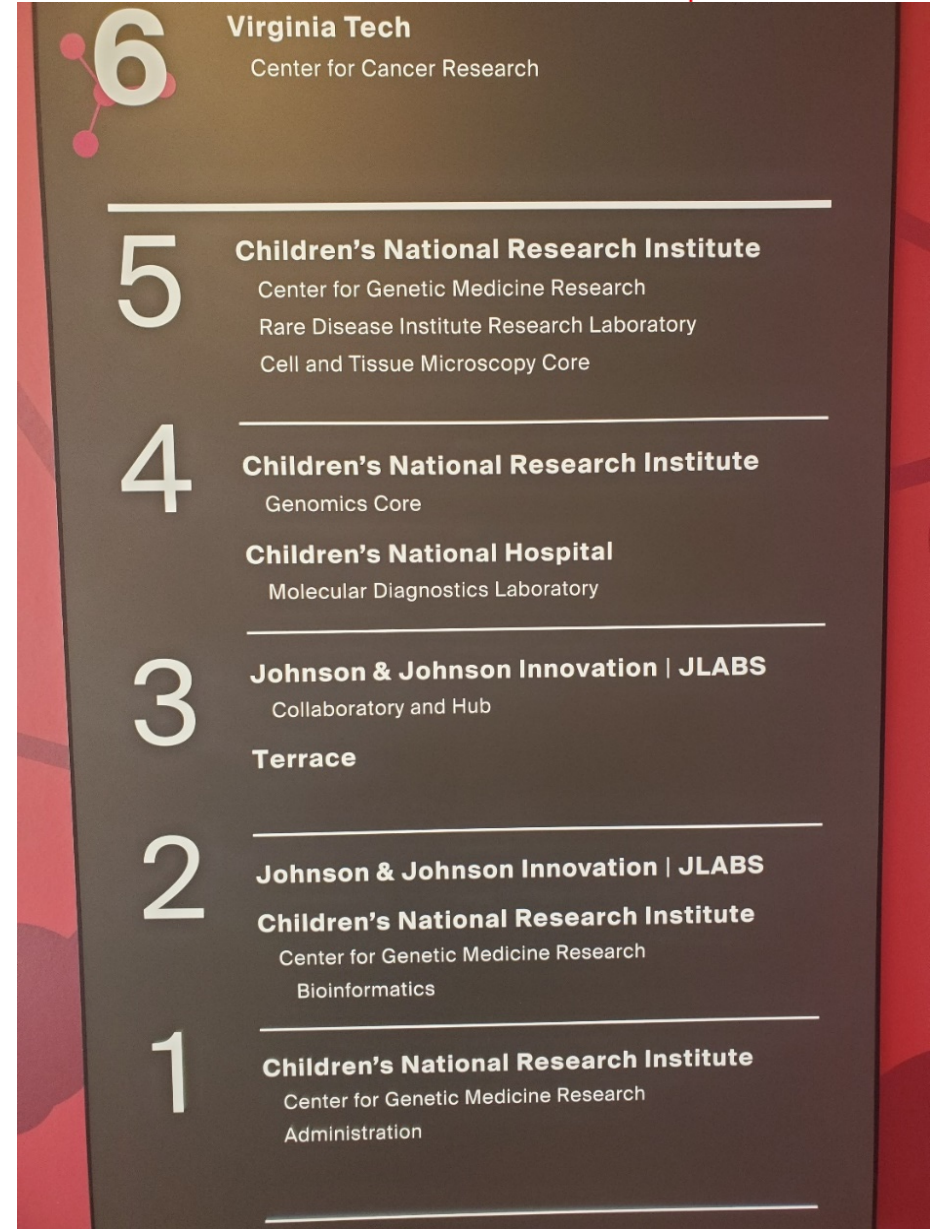
#### Pediatric cancer

1. Children's Hospital of Philadelphia
2. Dana-Farber/Boston Children's Cancer and Blood Disorders Center
3. Cincinnati Children's Hospital Medical Center
4. Texas Children's Hospital
5. Children's National Hospital

#### Neonatology

1. Children's National Hospital
2. Children's Hospital Los Angeles
3. Lucile Packard Children's Hospital Stanford
4. UCSF Benioff Children's Hospitals, San Francisco and Oakland
5. Rady Children's Hospital (San Diego)








# Johnson and Johnson JLABs

Attachment D





## Children's National Research and Innovation Campus Washington DC

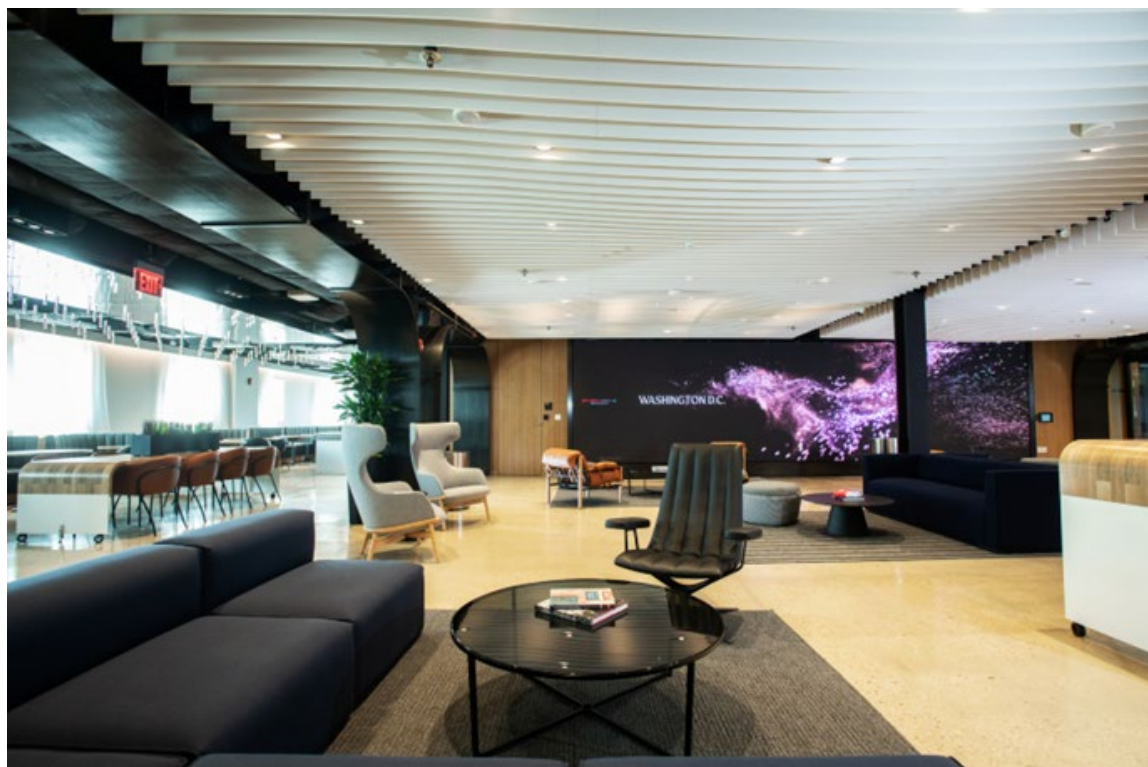
Beerse, Belgium  
Boston, MA  
Houston, TX  
New York, NY  
Philadelphia, PA

San Diego, CA  
San Francisco, CA  
Shanghai, China  
Toronto, Canada  
Washington, DC



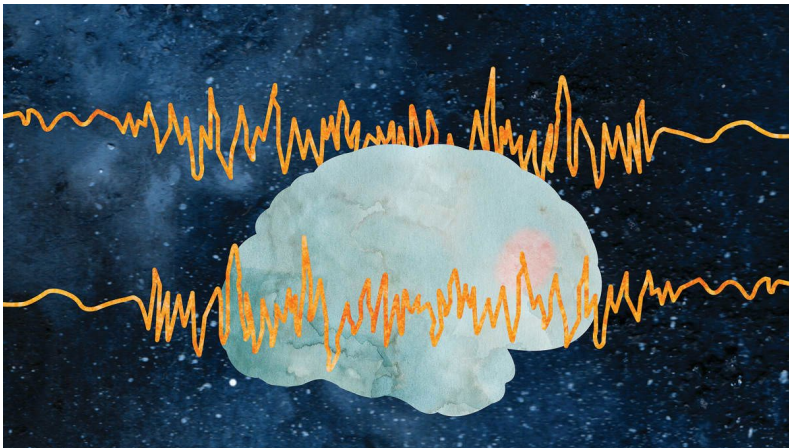
**JLABS @ Washington DC**

 <b>Sally Allain</b> Head of JLABS @ Washington, DC	 <b>Ruhee Subedar</b> Innovation Activation Manager	 <b>Jennifer Sague</b> Business Operations Sr. Lead	 <b>Mikyla Tuggle</b> Innovation Activation Specialist
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# New Faculty recruitments Currently Underway at Fralin Biomedical Research Institute

(Building on the Adaptive Brain Destination Area)



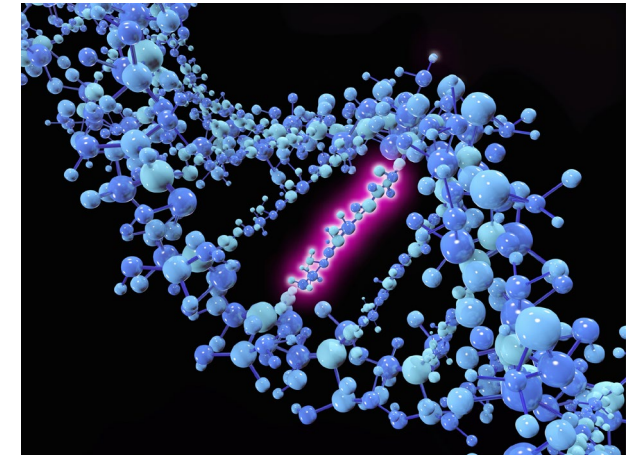
## Developmental Neuroscience

Pediatric seizure disorders



## Pediatric Brain Cancer

Genetic therapeutic targets



## Metabolism and Obesity

Genetic basis of  
metabolic disease susceptibility





# Insights into lifespan health through pediatrics



New collaborative – Virginia Tech, Children's National, Howard University, NIH



3-D health trajectories and related childhood predictors among older adults in China

Artificial intelligence in cancer research, diagnosis and therapy

RESEARCH ARTICLE

Long-Term Outcomes Associated with Traumatic Brain Injury in Childhood and Adolescence: A Nationwide Swedish Cohort Study of a Wide Range of Medical and Social Outcomes

ARTIFICIAL INTELLIGENCE

Artificial Intelligence–Assisted Prediction of Late-Onset Cardiomyopathy Among Childhood Cancer Survivors

Childhood maltreatment predicts adult inflammation in a life-course study

Obesity Etiology

Predicting adult obesity from childhood obesity: a systematic review and meta-analysis

M. Simmonds,<sup>1</sup> A. Llewellyn,<sup>1</sup> C. G. Owen<sup>2</sup> and N. Woolacott<sup>1</sup>

Pediatric Markers of Adult Cardiovascular Disease



<https://doi.org/10.1038/s43018-021-00172-1>



Prospective pan-cancer germline testing using MSK-IMPACT informs clinical translation in 751 patients with pediatric solid tumors

# Opportunities going forward

- Major advances to improve the lives and health of all children
- Healthy beginnings through science based interventions
- Increased HHS funding (including NIH)
- Major foundation partnerships and funding
- Increased national donor visibility
- Consilience of strengths in biomedical and health science, computation, engineering, social sciences and veterinary medicine
- Growth of the health science partnership between VT and the Children's National Hospital
- Health sciences commercialization opportunities for VT faculty and students through Jlabs collaboration
- Enhanced VT presence in the nation's capitol
- Linkage of research and education activities between VT sites in Roanoke, Bburg and Alexandria with Children's National in DC
- New training and mentoring opportunities for undergraduate, graduate and medical students
- New opportunities for advances in diversity and inclusion for faculty, staff and students through DC partnerships



# Upcoming major funding opportunities in 2022

- **NIH Faculty Institutional Recruitment for Sustainable Transformation (FIRST) grant application with Children's National partners (@\$15-20M)**
- **Chan Zuckerberg Biohub grant application with Children's National Hospital, Howard University and the NIH (@\$250M)**
- **NIMH Silvio Conte mental health P30 Center grant (@\$17M)**



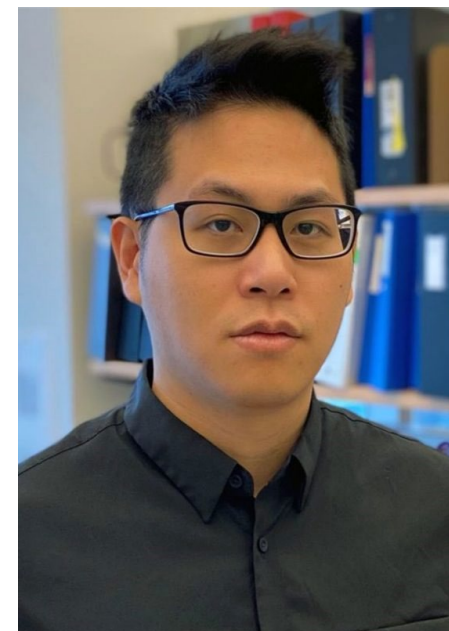




**Niesha Savory**

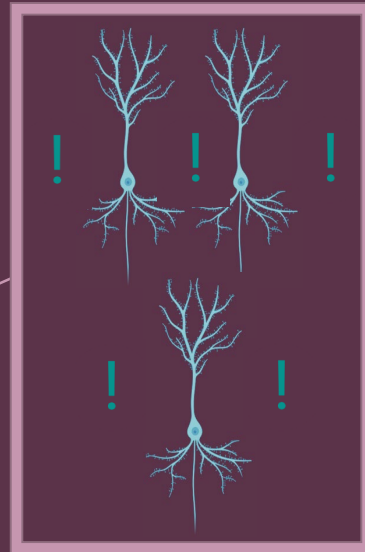
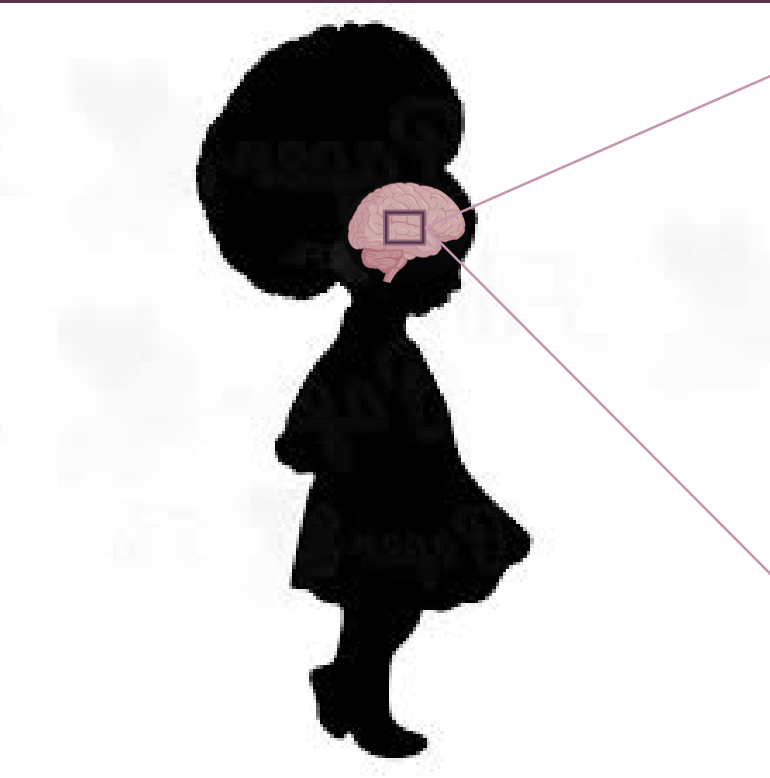


**Natalie Melville**

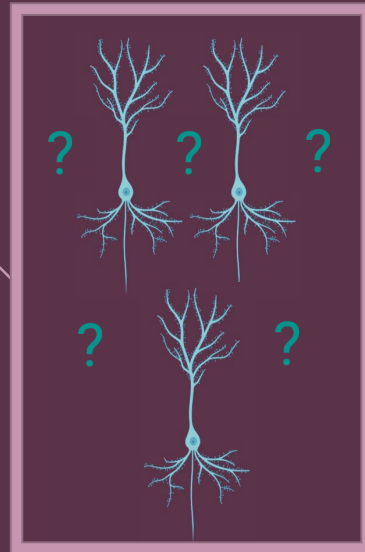


**Jia-Ray Yu**

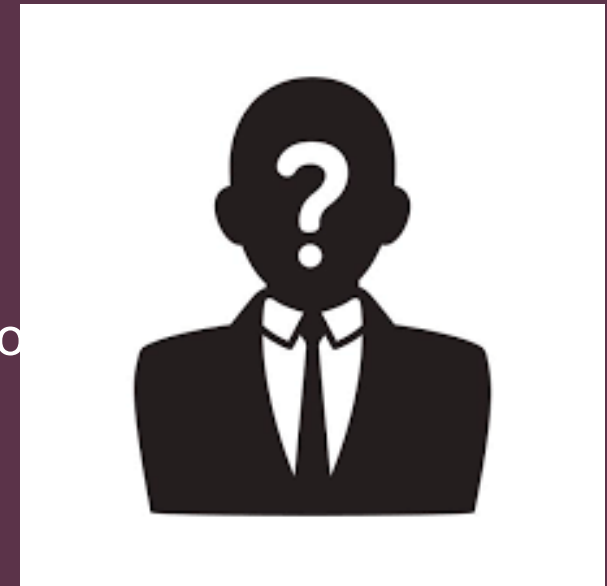
# Social Memory Development

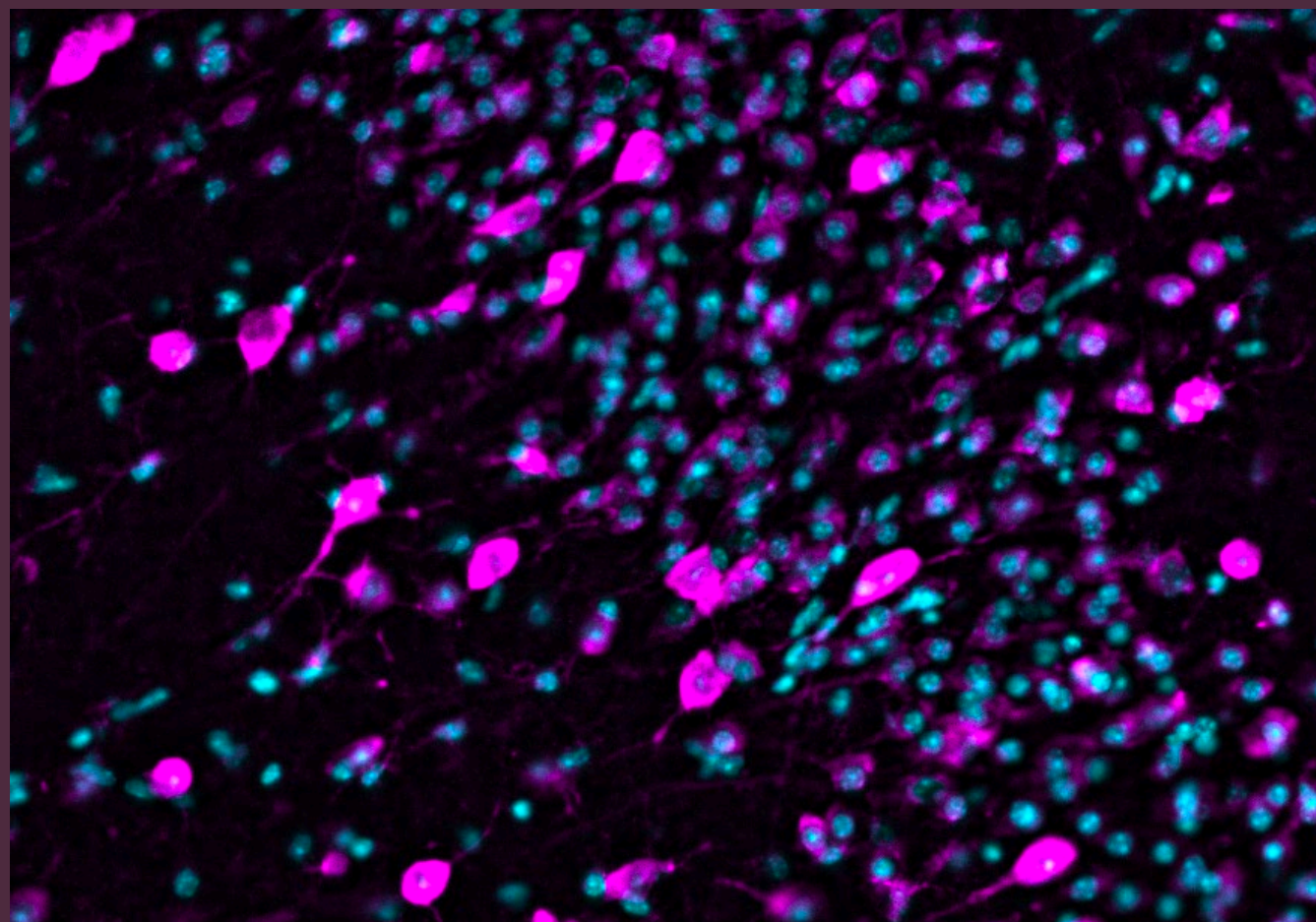
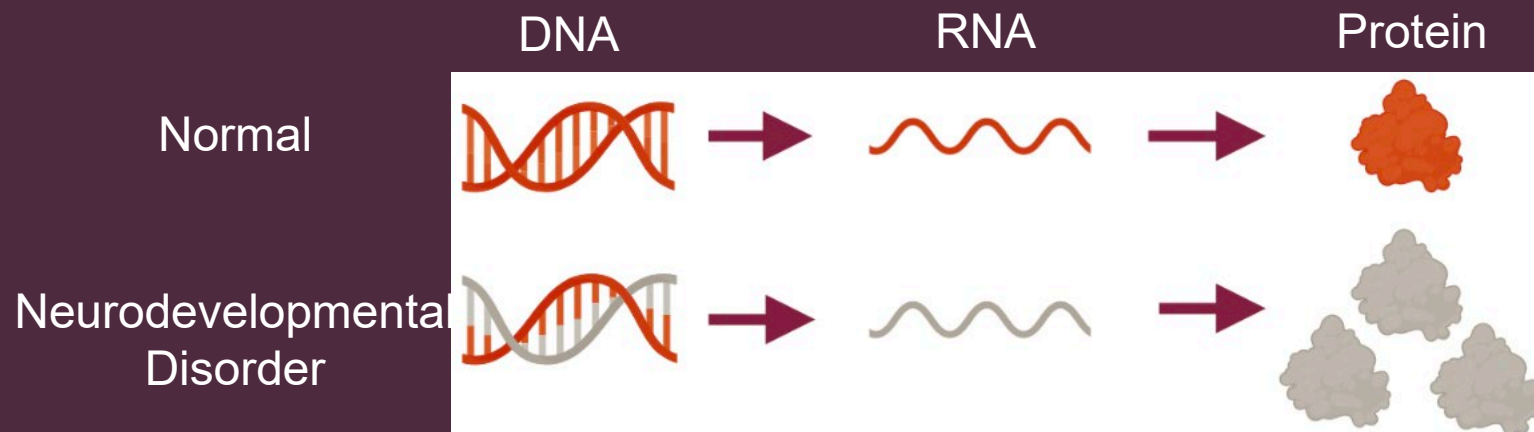


- Who?
- Familiar (Grandparents) = Relaxed Behavior



- Who?
- Unfamiliar (Stranger) = Hesitant Behavior





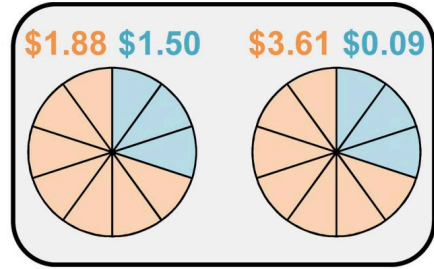
Magenta = All newly made proteins in a cell

Cyan = Nucleus of cells containing DNA



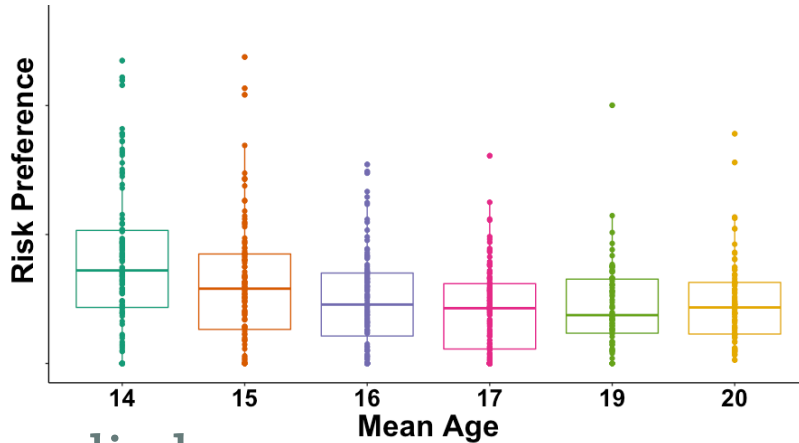
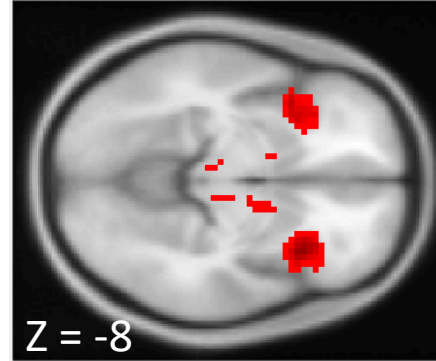


# Why do some adolescents make unhealthy risky decisions?



$$E[U] = p^1 * x_1^\alpha + p^2 * x_2^\alpha$$

$$\hat{p} = \frac{1}{1 + e^{-\beta(E[U \text{ safe}] - E[U \text{ risky}])}}$$





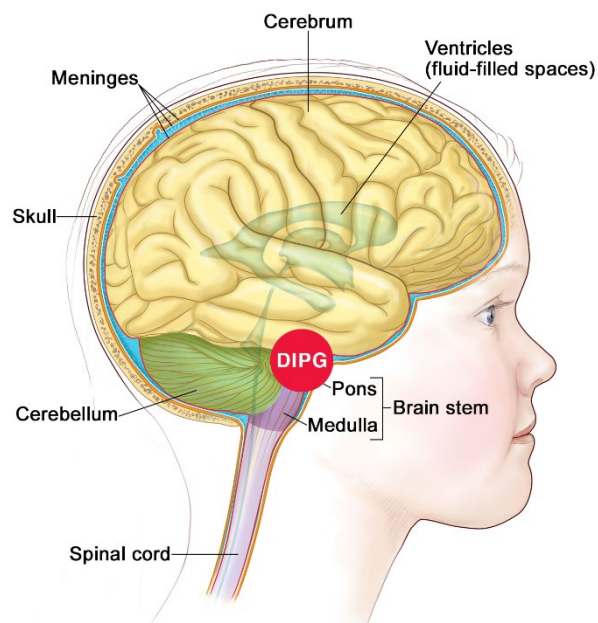
## Children's health challenges

Developmental disorders

Cancer

- Leukemia & Lymphoma
- Brain (CNS) cancers

### Diffuse Intrinsic Pontine Glioma (DIPG)



No effective therapy approved to date

Identify cancer dependency genes

> Basic research - understand why?

> Targeting strategies

> Preclinical models

> Clinical Trials

Children's National Partnership

- Access to clinical resources
- Secure federal funding

Children's National Research & Innovation Campus (CNRIC) in Washington, DC



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