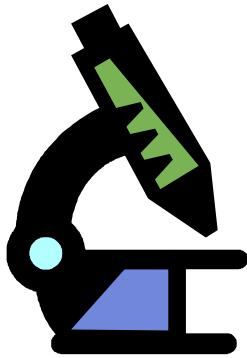


# Northern Virginia Regional Science & Engineering Fair

## Category Awards 2023



Holly Krull  
Category Judge Coordinator

Dat Le  
Fair Director

Michele Lombard  
Assistant Fair Director

**NORTHERN VIRGINIA REGIONAL  
SCIENCE & ENGINEERING FAIR**

March 4, 2023

**CATEGORY AWARDS**

First Place Awardees ..... 1-3

Second Place Awardees..... 4-6

Third Place Awardees .....7-9

Honorable Mention Awardees..... 10-13

Thermo Fisher Junior Innovators Challenge Nominees..... 14

Virginia State Science and Engineering Fair Nominees ..... 15

Best of Fair Awardees ..... 16

<b>Project Number</b>	<b>Name</b>	<b>School</b>
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***1st Place***

**Animal Sciences**

7 AS	101	Tregaskis Gordon, Karsten	George Washington
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8 AS	104	Finnegan, Sean	Swanson
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**Behavioral and Social Sciences**

7 BE	200	Hazlett, Amelia	George Washington
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8 BE	205	Lester, Siena	George Washington
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11 BE	208	Stroud, Lanyi	Yorktown
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**Biochemistry**

11 BI	304	Bartrum, Olivia	Wakefield
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**Chemistry**

7 CH	402	Oberkirsch, Purvi	Gunston
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8 CH	407	Ganzorig, Ronald	Swanson
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10 CH	415	Freeman, Anna	Washington-Liberty
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**Engineering**

8 EN	509	Tarpley, Michael	H-B Woodlawn
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9 EN	516	Hettinger, Grace; Espiritu, Arianna	Alexandria City HS
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10 EN	523	Volpe, Claudia	Washington-Liberty
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<b>Project Number</b>	<b>Name</b>	<b>School</b>
<b>1st Place</b>		

**Environmental and Earth Sciences**

8 EV	607	Burks, Thomas	George Washington
8 EV	608	Pines, Asher	Williamsburg
8 EV	614	Bu, Matthew; Decker, Carson	Dorothy Hamm
8 EV	616	Umerov-Todoroki, Maya; Louis, Raika	Williamsburg
10 EV	622	Adhi, Roayba	Washington-Liberty
10 EV	624	Beaumont, Nicola	H-B Woodlawn
10 EV	625	Cozette, Olivia	Washington-Liberty
10 EV	629	Pickard, Elle	Washington-Liberty
10 EV	630	Sagatov, Alina	Washington-Liberty
11 EV	636	Baron, Bridget	Alexandria City HS

**Mathematics and Computer Science**

10 MC	701	Song, Sicheng	Episcopal
10 MC	703	Sayre, Julia; Winn, Mia	Alexandria City HS

**Medical and Health Sciences**

7 ME	800	Butler, Katherine	H-B Woodlawn
10 ME	807	Mohanty, Anna	Washington-Liberty
10 ME	808	Yang, Lihao	Episcopal

**Microbiology**

12 MI	909	Westwater Brodsky, Julia	H-B Woodlawn
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<b>Project Number</b>	<b>Name</b>	<b>School</b>
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***1st Place***

**Physics and Astronomy**

6 PH 1000	Ayalew, Maedot	Kenmore
8 PH 1003	Beckner, Colin	Swanson
9 PH 1009	Leighton, Declan	Yorktown
9 PH 1011	Monroy, Sebastian	Washington-Liberty

**Plant Sciences**

6 PS 1100	Zee, Rebecca	Kenmore
10 PS 1114	Edsall, Alba	Washington-Liberty
10 PS 1116	Wearmouth, Isla	Washington-Liberty

<b>Project Number</b>	<b>Name</b>	<b>School</b>
<b><i>2nd Place</i></b>		
<b><u>Animal Sciences</u></b>		
7 AS 103	Komlodi, Kira; Seyran, Zeynep	Jefferson
9 AS 105	Ellis, Christabel	Alexandria City HS
<b><u>Behavioral and Social Sciences</u></b>		
7 BE 201	Wondim, Noemi	Jefferson
8 BE 204	LaGarde, Catherine	Jefferson
8 BE 206	Singh, Aman; Cocker, George	Williamsburg
10 BE 207	Marcy, Ava	Alexandria City HS
<b><u>Biochemistry</u></b>		
8 BI 302	Casadaban, Lorraine; Stout, Lily	Williamsburg
10 BI 303	Babic, Harlow	Alexandria City HS
<b><u>Chemistry</u></b>		
7 CH 401	Menta, Rahil	Williamsburg
8 CH 406	Barua, Preontee	Jefferson
9 CH 413	Sidahmed, Gaia	Alexandria City HS
10 CH 417	Schiaffino, Elizabeth	Wakefield
<b><u>Engineering</u></b>		
7 EN 501	Leaning, Alexandra	Gunston
10 EN 518	Hensch, Emma	Washington-Liberty

<b>Project Number</b>	<b>Name</b>	<b>School</b>
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***2nd Place***

**Environmental and Earth Sciences**

7 EV	600	Bell, Daisy	Dorothy Hamm
7 EV	602	Gennarelli, Evelyn	George Washington
7 EV	603	Ghosh, Siddharth	Williamsburg
8 EV	610	Shoffner, Sophia	Swanson
8 EV	612	Waterhouse, Reese	George Washington
9 EV	620	Batenhorst, Maya; Hardwick, Katie	Yorktown
10 EV	623	Akay, Peter	Yorktown
10 EV	626	Docena, Nico	Washington-Liberty
10 EV	631	Shapiro, Frances	Washington-Liberty
10 EV	633	Tomanio, Braelynn	Alexandria City HS
11 EV	637	Beasley, Marion	Yorktown
11 EV	638	Silva, Leila	Yorktown
12 EV	639	Ermovick, Ryan	Yorktown

**Mathematics and Computer Science**

10 MC	700	Jemaneh, Zechariah	Alexandria City HS
10 MC	702	Hardies, Alexander; Andersen, Elias	Alexandria City HS

<b>Project Number</b>	<b>Name</b>	<b>School</b>
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***2nd Place***

**Medical and Health Sciences**

7 ME 801	DeFilippi, Georgia	Jefferson
8 ME 802	Cunningham, Josephine	Hammond
9 ME 803	Anwar, Ayesha	Alexandria City HS
9 ME 804	Dieguez, Kenshu	Yorktown
9 ME 805	South, Caroline	Washington-Liberty

**Physics and Astronomy**

7 PH 1001	Carpenter, Kylie	Williamsburg
8 PH 1004	La, Myriam	Williamsburg
8 PH 1005	Moran-Uriona, Tomas	Swanson
8 PH 1006	Yoo, Andrew	H-B Woodlawn

**Plant Sciences**

7 PS 1102	Oakey, Graham	George Washington
8 PS 1104	Carestio, Blake	Kenmore
9 PS 1109	Dalley, Lilah	Yorktown
9 PS 1110	Mendoza, Alessandra	Washington-Liberty
9 PS 1111	Snyder, Elliana	Washington-Liberty
10 PS 1113	Collard, Megan	Alexandria City HS
10 PS 1115	FitzHarris, Olie	Washington-Liberty



<b>Project Number</b>	<b>Name</b>	<b>School</b>
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**3rd Place**

**Animal Sciences**

7 AS	100	Lorenzen-Schmidt, Luca	George Washington
7 AS	102	Weber, Ryan	Hammond
9 AS	106	Gooden, Elisha	H-B Woodlawn

**Behavioral and Social Sciences**

7 BE	202	Dudley, Deveneir; Tejan-Bah, Amad	Patrick Henry
8 BE	203	Kiamie, Faris	Williamsburg

**Biochemistry**

7 BI	300	Siddiqi, Husna; Assadi, Rayhana	Hammond
8 BI	301	Thulson, Benjamin	George Washington

**Chemistry**

7 CH	404	Butler, Leah; LaGarde, Laurel	H-B Woodlawn
8 CH	405	Adhi, Romeesa	Jefferson
8 CH	408	Hjerstedt, Gabriel	Williamsburg
8 CH	411	Lawler, Catherine	Williamsburg
10 CH	416	O'Toole, Gabriel	Yorktown
10 CH	418	Scharnweber, Lillian; White, Seamus	Alexandria City HS

**Engineering**

8 EN	510	Vasisht, Janak	H-B Woodlawn
10 EN	519	Hoganson, Taylor	Alexandria City HS

<b>Project Number</b>	<b>Name</b>	<b>School</b>
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**3rd Place**

**Environmental and Earth Sciences**

7 EV	605	Procida, Eliana	H-B Woodlawn
7 EV	606	Snipe, Amelia	George Washington
8 EV	609	Schroeder, Zoe	Kenmore
8 EV	613	Wunderlich, Caleb	Kenmore
8 EV	615	Kammerman, Noa; Jacob, Erin	Dorothy Hamm
9 EV	617	Dorotheo, Sloane	Yorktown
9 EV	618	McCommons, Margaret	Alexandria City HS
9 EV	619	Mukhtar, Ayah	Wakefield
9 EV	621	Bright, Eleanor; Verhoeven, Gaetanina	Alexandria City HS
10 EV	632	Sjetnan-Day, Erika	Washington-Liberty
10 EV	634	Witmer, Skye	Alexandria City HS
10 EV	635	Ariunbayasgalan, Maral; Abdelbagi, Hanan	Washington-Liberty

**Microbiology**

7 MI	900	St. Clair, Lauriston	George Washington
10 MI	908	Levin, Nate; Khani, Cambyses	Yorktown

**Physics and Astronomy**

9 PH	1008	Hogans, Catherine	Washington-Liberty
9 PH	1010	Miller, Andrew	Yorktown

<b>Project Number</b>	<b>Name</b>	<b>School</b>
<b>3rd Place</b>		
<b><u>Plant Sciences</u></b>		
7 PS 1101	Foerster, Nolan	Jefferson
7 PS 1103	Vogel, Page	George Washington
8 PS 1105	Grajales, Olivia	George Washington
8 PS 1106	Quinones, Mia	George Washington
8 PS 1108	Fallon, Alexandra; Swartz, Lydia	Dorothy Hamm
9 PS 1112	Uddin, Maqsuda; Lopez, Emely	Wakefield
11 PS 1117	Fitzgerald, Lia; Enow, Madison	Alexandria City HS
11 PS 1118	Rizzo, Amelia; Helms, Helena	Wakefield

<b>Project Number</b>	<b>Name</b>	<b>School</b>
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***Honorable Mention***

**Chemistry**

7 CH 400	Cordon, William	Kenmore
7 CH 403	Perez Castanaza, Fatima	Patrick Henry
8 CH 409	Jones, Delanie	Dorothy Hamm
8 CH 410	Keane, Taogh	H-B Woodlawn
8 CH 412	Seaver, Aelwen	Swanson
10 CH 414	DeMots, Avery	Washington-Liberty
11 CH 419	Opshara, Afifa	Alexandria City HS

<b>Project Number</b>	<b>Name</b>	<b>School</b>
<b><i>Honorable Mention</i></b>		
<b><u>Engineering</u></b>		
7 EN 500	Dementi, Kye	Hammond
7 EN 502	Nizami, Hennah	Patrick Henry
7 EN 503	Robasson, Sydney	Hammond
8 EN 504	Ainspan, Isaac	H-B Woodlawn
8 EN 505	Anderson-Sprecher, Isaac	Kenmore
8 EN 506	Lyon, Nora	Swanson
8 EN 507	McComis, Matthew	Kenmore
8 EN 508	Miller, Peter	Swanson
8 EN 511	Ward, Benjamin	Kenmore
8 EN 512	Kwan, Alexander; Kwan, Benjamin	Dorothy Hamm
8 EN 513	Shewchuk, Abigail; Gannon, Ella	George Washington
9 EN 514	Kambhampaty, Kedar	Washington-Liberty
9 EN 515	Kiesel, Emily	Washington-Liberty
10 EN 517	Anderson, Karin	Washington-Liberty
10 EN 520	Khanna, Evan	Alexandria City HS
10 EN 521	Shah, Jaya	Washington-Liberty
10 EN 522	Shiffer, Andrei	Alexandria City HS
10 EN 524	Rami, Rayyan; Curry, Norah	Alexandria City HS

<b>Project Number</b>	<b>Name</b>	<b>School</b>
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***Honorable Mention***

**Environmental and Earth Sciences**

7 EV	601	Bryant, Andrew	Hammond
7 EV	604	Gomez Crummett, Candela	Williamsburg
8 EV	611	Tulgaa, Anu-Ujin	Gunston
10 EV	627	Eichers, Julian	Arlington Tech
10 EV	628	Encinas Mendoza, Melanie	Wakefield

**Medical and Health Sciences**

10 ME	806	Martah, Sara	Washington-Liberty
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**Microbiology**

7 MI	901	Kamens, Harper; Keeton, Annalena	George Washington
9 MI	902	Goody, Claire	Washington-Liberty
9 MI	904	Muldoon, Aidan	Alexandria City HS
10 MI	905	Goldener, Sylvia	Washington-Liberty
10 MI	906	Hubbard, Leia	Alexandria City HS
10 MI	907	Smaragdis, John	Washington-Liberty

<b>Project Number</b>	<b>Name</b>	<b>School</b>
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***Honorable Mention***

**Physics and Astronomy**

7 PH 1002	Hopkins, Vivienne	George Washington
8 PH 1007	Hutchison, Ronan; Burducea, Stephan	H-B Woodlawn
9 PH 1012	Pericak, Ryan	Yorktown
9 PH 1013	Ilie, Victor; Meydenbauer, Luke	Washington-Liberty
9 PH 1014	Iov, Sebastian; Keene, Massey	Alexandria City HS
10 PH 1015	Wiley, Claire	Wakefield

## 2023 Thermo Fisher Junior Innovators Challenge

<b>PROJECT</b>	<b>NAME</b>	<b>SCHOOL</b>
7 AS 101	Karsten Tregaskis Gordon	George Washington
8 AS 104	Sean Finnegan	Swanson
7 BE 200	Amelia Hazlett	George Washington
8 BE 205	Siena Lester	George Washington
7 CH 402	Purvi Oberkirsch	Gunston
8 CH 407	Ronald Ganzorig	Swanson
8 EN 509	Michael Tarpley	H-B Woodlawn
8 EV 607	Thomas Burks	George Washington
8 EV 608	Asher Pines	Williamsburg
8 EV 614	Matthew Bu & Carson Decker	Dorothy Hamm
8 EV 616	Maya Umerov-Todoroki & Raika Louis	Williamsburg
7 ME 800	Katherine Butler	H-B Woodlawn
6 PH 1000	Maedot Ayalew	Kenmore
8 PH 1003	Colin Beckner	Swanson
6 PS 1100	Rebecca Zee	Kenmore



# RECOMMENDATIONS FOR VIRGINIA STATE SCIENCE & ENGINEERING FAIR 2023

<b>PROJECT</b>	<b>NAME</b>	<b>SCHOOL</b>
11 BE 208	Lanyi Stroud	Yorktown
11 BI 304	Olivia Bartrum	Wakefield
10 CH 415	Anna Freeman	Washington-Liberty
9 EN 516	Grace Hettinger & Arianna Espiritu	Alexandria City HS
10 EN 523	Claudia Volpe	Washington-Liberty
10 EV 622	Roayba Adhi	Washington-Liberty
11 EV 636	Bridget Baron	Alexandria City HS
10 MC 701	Sicheng Song	Episcopal
10 MC 703	Julia Sayre & Mia Winn	Alexandria City HS
10 ME 807	Anna Mohanty	Washington-Liberty
10 ME 808	Lihao Yang	Episcopal
12 MI 909	Julia Westwater Brodsky	H-B Woodlawn
9 PH 1009	Declan Leighton	Yorktown
9 PH 1011	Sebastian Monroy	Washington-Liberty
10 PS 1114	Alba Edsall	Washington-Liberty
10 PS 1116	Isla Wearmouth	Washington-Liberty

# **BEST OF FAIR 2023**

## **GRADES 7 & 8**

Michael Tarpley  
H-B Woodlawn

*C++ Retro Gaming Console*

## **GRAND PRIZE AWARDEES**

Olivia Bartrum  
Wakefield

*Analysis of Anti-Inflammatory Compounds in Drug Absorption and  
Calculated Transdermal Permeability Utilizing the Parallel Artificial  
Membrane Permeability Assay (PAMPA)*

**and**

Julia Westwater Brodsky  
H-B Woodlawn

*Characterization of Novel Acinetobacter baumannii  
Phages EAb3 and EAb7*

## **ALTERNATE AWARDEE**

Declan Leighton  
Yorktown

*The Effect of Electrode Spacing on the Force Generated by  
Magnetohydrodynamic Drive*