Physics Club of New York

Founded 1899 – affiliated with the American Association of Physics Teachers, 1998

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1 September 2019

Dear New York City Area Physics Teacher:

Welcome back for the 2019-2020 academic year and the 121st season of meetings of the Physics Club of New York. Again we have a wide variety of programs that I hope will interest you, as indicated in the enclosed brochure, which I hope you will share with other interested physics teachers.

Our first program of the 2019-2020 year will be held on **Friday, 13 September 2019**, when **Abba Leffler**, of Schrödinger, LLC, will speak to us on **"Using computer programs as a way to discover drugs and as a hands-on approach for engaging students in a real-world application of chemistry."** He will describe how he developed a computer program to predict how natural product compounds bind to the protein target for smoking cessation therapeutics, an ion channel named the alpha4 beta2 nicotinic acetylcholine receptor. Using this program, the speaker designed four new compounds which were synthesized by solid-phase synthesis, analyzed structurally using NMR spectroscopy, and tested for bioactivity in a fluorescent membrane potential assay. Two of the compounds had significantly improved selectivity relative to the starting compound, a key step in their development into therapeutic agents or tool compounds. This computer algorithm has been freely released as an easy-to-use web server called "ToxDock" which has since been used hundreds of times by scientists around the world for their own research questions. He will close by describing the speaker's educational and career path from a specialized science high school to obtaining an industry position and will point out emerging opportunities for chemistry teachers to integrate hands-on molecular modeling technology into their classrooms to get students engaged in a real-world application of chemistry, drug discovery.

We are grateful to Manhattan College for hosting our September meeting for the past five years. Like last year's September meeting, this meeting will be held at **100 Hayden Hall** of Manhattan College – **accessed from the 242 St. Station on the #1** (see minimap on reverse for further information). We are also grateful to member Bob Drake for arranging for the speaker. We encourage you to join us for our **pre-meeting dinner,** which will be held at **6 p.m.** at **Thomas Hall** (same as last September) on the Manhattan College campus. Thomas Hall offers an all-you-can-eat dinner from over 16 dining stations for $12 (cash or credit card) from 5 to 8 p.m., and it is only a short walk from there to Hayden Hall, where the talk will be given (see minimap on reverse for further information). I look forward to welcoming you back personally at our 13 September meeting.

Sincerely,

Jack DePalma, President

TREASURER'S REPORT

Cash on hand, 1 September 2018		$4539.19	Expenses:	Postage	$250.00
				Printing	$64.77
Income:	Dues	$579.00		Speaker Dinners	$15.00
	Contributions	$ 40.00		Speaker Transportation	$19.00
		$619.00			$348.77

Cash on hand, 1 September 2018 $4809.42

John L. Roeder, Treasurer

How to get to the meeting: Attendees can arrive by (elevated) subway line #1 at 242 Street or car and park in a lot off the main entrance to Manhattan College, past a guard booth, the first right turn when headed uphill and west on Manhattan College Parkway. This lot (P2 on map), nearly opposite Waldo Avenue, is near Hayden Hall (14 on map), where the talk will be given (on the 4th or 5th floor), and Thomas Hall (12 on map), where we will eat.

Although there is no elevator at the 242 Street #1 stop, there is one at 231 St., from which one could take the Bx9 bus on Broadway under the elevated train to 242 St. One could also walk from the SE corner of 231 St. and Broadway to the NW corner and take the Bx7 uphill to 238 St. and Broadway and walk downhill to the College by way of 238th and Waldo Ave.

Another place to park is the parking garage (P5 on map) near the 242 St. entrance, which accesses the overhead walk to the back of Hayden Hall (14 on map), where the talk will be given. The 3rd floor of Hayden Hall corresponds roughly to the first floor of Thomas Hall (12 on map), where we will eat. It is quite a hilly campus, shown in the minimap below.