

**April Branch Meeting**



**The Search for Dark Matter in the Universe  
Dr. Andrew R. Zentner**

**April 14, 2016 9:30 AM**  
Municipal Meeting Room  
Murrysville Community Library  
4100 Sardis Road

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Numerous measurements of the structures of galaxies, the structures of galaxy clusters and the evolution of the universe itself strongly suggest that roughly 84% of the matter is very different from all matter that we are familiar with on Earth. This form of matter provides gravitational attraction, as do all forms of matter. However, this form of matter must not interact with normal matter (at least not very strongly). In particular, this form of matter must not absorb, emit or reflect light. As such, we refer to it as "Dark Matter". Dr. Zentner will describe the evidence for Dark Matter in the universe and the scientific effort to identify the Dark Matter. Along the way, he will have to discuss many aspects of the evolution of our universe.

Dr. Andrew R. Zentner is an Associate Professor and Director of Graduate Studies, Department of Physics and Astronomy and Pittsburgh Particle Physics, Astrophysics and Cosmology Center (PITT PACC) at the University of Pittsburgh. Dr. Zentner is a

theoretical cosmologist whose interests range throughout a broad cross section of cosmology to encompass galaxy formation, the phenomenology and identification of the dark matter and dark energy, and astrophysical limits on fundamental physics. He joined the faculty at the University of Pittsburgh in the Fall of 2007. Dr. Zentner received a Bachelor of Science in Electrical Engineering from the Cooper Union for the Advancement of Science and Art in New York City. He received his Ph.D. from The Ohio State University in 2003 under the direction of Professor Terry Walker. He was an Institute Fellow and then later Postdoctoral Fellow at the Kavli Institute and the Enrico Fermi Institute, both at the University of Chicago.

We were very fortunate to have Dr. Zentner as our speaker in March of 2014 on a presentation of "Views of the Big Bang". We are delighted to welcome him back for his presentation this month on "The Search of Dark Matter in the Universe". Please come and bring friends and spouses to this fascinating program. The public is always welcome.

## President's Letter

I love watching and identifying the birds in my backyard. So our March program was especially interesting to me. I hope everyone else felt the same. And, obviously they did because we had a record 14 people join Bob Mulvihill for lunch! His talk was continued at lunch so we got even more wonderful information. As a follow-up we toured the National Aviary Hospital on Thursday, March 17. There Dr. Pilar Fish gave a fascinating inside view of how they care for the ailing birds, both young and old. Thanks to Judy Johnson for drawing our attention to Bob and setting up not only the great meeting program but also an exceptional tour.

Many new things have been going on in our branch. Joanna Demarest has been working on setting up our new website. Sue Hauser has agreed to become the website coordinator and is working with Joanna. Thank you, Joanna and Sue!

Jane Kerr is already hard at work on the book sale. Volunteers are now being solicited for the committee, so if you are willing to continue working on the book sale or want to become involved for the first time, this is your time to contact Jane.

Janet Sutton and Michele Clarke are working on generating a list of possible programs for next year. We usually have a list of about 25 programs to select from at the May luncheon. So be sure and send your ideas to Janet and Michele.

At the March branch meeting we had a sign-up sheet for bringing salads, desserts and bread to the May luncheon. Only one person signed up to bring a salad and another has signed up to bring a dessert. Please contact Janet Sutton if you are willing to bring something. In the past, we had everyone bring a salad and found we had way too much food. The board decided to change it this year. So, if you are as willing, as you have been in the past, please let us know. The sign-up will be out again at the April meeting if necessary.



The April meeting will be another great one, with Andrew Zentner from Pitt again speaking about our wonderful cosmos. He was so interesting the last time and I am sure he will be again. Bring a guest!

See you at the April meeting.

Sally Haleen

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## Slate of Officers Announced

The board has announced our new slate of officers for the 2016-2018 term. They are as follows:

Susan Petrie – President

Michele Clarke – Vice President of Program

Bethia Schulz – Secretary

The slate was presented at the March branch meeting. Nominations from the floor will be taken at the April meeting. All nominations must be accompanied with written permission from the nominee. Voting will then take place at the April meeting.

Sally Haleen

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## Allegheny Observatory Tour

To those who signed up for the tour or the tour and dinner, this is a reminder that the Allegheny Observatory



Tour is on Friday, April 8, 2016. A detailed email was sent to all those signed up for the tour. The free public tour starts at 8:00 PM. The dinner reservations are at 5:30 PM at Bravo! Cucina Italiana on McKnight Road. Carpools will meet at 4:30 at Pat Catan's parking lot. For any questions, please email us at [MurrysvilleAAUW@gmail.com](mailto:MurrysvilleAAUW@gmail.com).

Annie Rivers

## Reading for Pleasure

Continuing with the saga of Henry VIII and Thomas Cromwell, ***Bring up the Bodies*** is the sequel to ***Wolf Hall***. Hilary Mantel's retelling of the familiar story of Anne Boleyn's tragic end is made fresh and terrifying all over again in this award winning novel. Betty Hollingsworth will lead the discussion at the home of Bethia Schulz. Please let her know if you plan to attend.



In preparation for our May selection meeting, please send me your suggestions for books to be discussed in the 2016-2017 season prior to our April 28 meeting. These should be books you have read and believe would be worth discussing. I'll compile a list to distribute at the April meeting so you can make an informed decision on final picks in May.

Marge Hanes

## Save the Date



Our last tour for the membership year will be Thursday May 19. Beginning at 1:00 PM, Burgh Bits & Bites will lead us on a walking and tasting tour of Deutschtown. We begin at Teutonia Mannerchor, a German choral and cultural society not usually open to the public. The tour continues to the Priory as we learn about the history and architecture of Pittsburgh's Northside, as well as sampling goodies from today's food businesses along the way. If you have joined us in previous years, you know how fun, informative and delicious these tours are. If you are new to Burgh Bits & Bites, you will love it! Cost is \$35.47 per person, a group rate savings over \$39 online. Sign up by emailing [MurrysvilleAAUW@gmail.com](mailto:MurrysvilleAAUW@gmail.com) or there will be a sign up sheet at the branch meeting.

Betty Hollingsworth

## Great Decisions

We are continuing with our GREAT DECISIONS discussions in April at the Municipality Community Room at 10:00 AM each Wednesday (4/6, 4/13, 4/20, 4/27). The meetings are open to all members and to the public. The first Wednesday, Fran Lynch will lead the discussion on "**Islamic State**". The second Wednesday, the 13<sup>th</sup>, Douglas Granger will lead the discussion on "**The Kurds**". April 20<sup>th</sup>, the third Wednesday, Nancy Veyo leads us in a discussion on "**Migration**". And the last Wednesday of April, the 27<sup>th</sup>, Annie Rivers will discuss "**Middle East Alliances**".



## Dues are Due for 2016-2017




AAUW operates on a fiscal year of July 1 to June 30 and we begin collecting dues now for the July 1, 2016 to June 30, 2017 year.

Dues are \$75 for members. This is the same as last year. Of the \$75, \$49 goes to the National Association, \$10 to the State Association and \$16 is for our branch operating budget. Of the \$49 AAUW National dues, \$46 is considered a tax deductible contribution. AAUW is a 501(c)3 corporation.

Please send your dues to Nancy Veyo. Make checks payable to Murrysville Area AAUW. Also, please include any changes in address, phone numbers or email, so that we may correct the information in the branch directory.

Nancy Veyo

## April 2016

<b>6</b>	Wed.	10:00 AM	<b>Great Decisions – ISIS</b> – Municipal Meeting Room†
<b>7</b>	Thurs.	9:30 AM	<b>Board Meeting</b> – Municipal Meeting Room† Board Members, please email Sally if you cannot attend.
<b>8</b>	Fri.	4:30 PM	<b>Allegheny Observatory Tour</b> -- Meet at Pat Catan's for car pools to Bravo! and then the Observatory.
<b>9</b>	Wed.	10:00 AM	<b>Great Decisions – Kurds</b> – Municipal Meeting Room†
<b>14</b>	Thurs.	9:30 AM	<b>Branch Meeting</b> – Municipal Meeting Room† Bring a guest!
<b>18</b>	Mon.		<b>Focus Deadline</b> – Email articles to Donna Beard.
<b>20</b>	Wed.	10:00 AM	<b>Great Decisions – Migration</b> – Municipal Meeting Room†
<b>22</b>	Fri.	10:00 AM	<b>Duplicate Bridge</b> at the home of Annie Rivers. Please let her know if you cannot attend.
<b>26</b>	Tue.		<b>Pennsylvania Primary Election Day</b>
<b>27</b>	Wed.	10:00 AM	<b>Great Decisions – Alliances</b> – Municipal Meeting Room†
<b>28</b>	Thurs.	10:00 AM	<b>Reading for Pleasure</b> in the home of Bethia Schulz. Please let her know if you will attend .

† The Municipal Meeting Room is located at the entrance to the Murrysville Community Library, 4100 Sardis Road.

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