



American Chemical Society Susquehanna Valley Section

APRIL 2012 NEWSLETTER

The four hundred and second meeting of the American Chemical Society Susquehanna Valley Section will be held on Wednesday, April 11, 2012 in the room 126 of the Center for Natural and Health Sciences Building on the campus of Marywood University in Dunmore, PA. The meeting will begin at 7:00 PM and will be preceded by dinner at 5:00 PM at Gubbio's Unique Italian Restaurant in Dunmore, PA. The speaker will be Dr. Jun Ling of The Commonwealth Medical College in Scranton, PA.

"Regulation of Protein Synthesis as a Novel Mechanism of Phthalate Toxicity"

Dr. Jun Ling
Assistant Professor of Basic Sciences
The Commonwealth Medical College
Scranton, PA

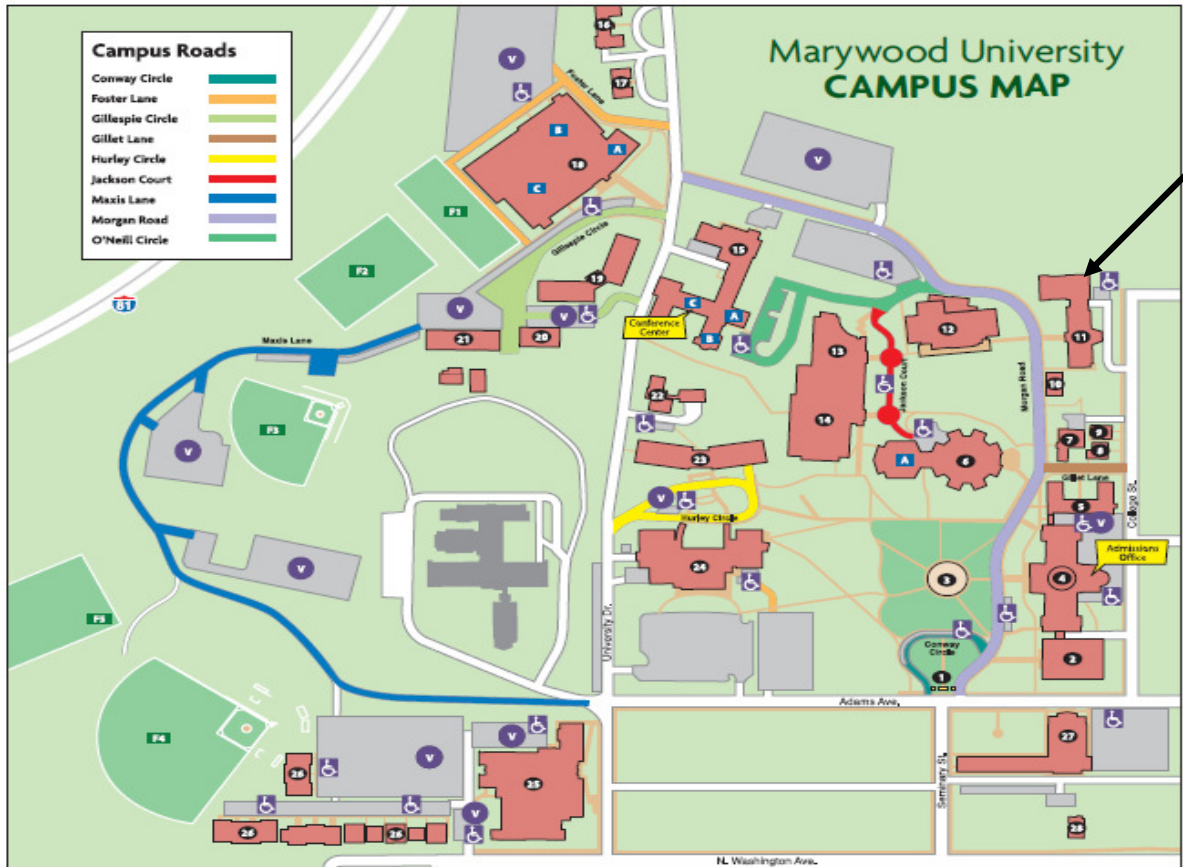
There are about ~70,000 man-made chemicals that are widely used in our modern lives, causing a large spectrum of human exposures and many diseases. Cancers are largely environmental diseases except for a small percentage caused by hereditary mutations. Many man-made and environmental chemicals function as toxicants in cancer etiology, among which phthalates are important and unsolved toxicants that attract extensive research. Phthalates are a group of plasticizers that are widely used in many consumer products, medical devices and personal care products, thus generating a broad range of exposures to human health. Phthalates have been known to cause a number of reproductive disorders through the function as endocrine disruptors; their effects on carcinogenesis are much less understood. In this study, we reported a new effect of phthalate (e.g., Butyl benzyl phthalate, BBzP) on mRNA translation / protein synthesis, a key and regulatory step of gene expression. Protein synthesis is a fundamental process underlying all physiological events, thus playing an important role in cancer development. Phthalate was found to inhibit protein synthesis directly in vitro, but showed a dual effect in vivo (e.g., HEK293 cells) where lower concentrations of BBzP enhanced translational activity and higher concentrations inhibited translation. These results suggested that phthalates might promote cell transformation and cancer cell survival. Indeed, when colon cancer cells (HT29) were treated by BBzP, their proliferation was slightly enhanced. The mechanisms of the effects of phthalate on translation were also investigated at the activities and interactions of translation initiation factors (eIFs). The discovery from this study identified a new pathway of phthalate toxicity at gene expression level, thus providing another avenue to diagnose and/or control phthalate toxicity to cells. The chemistry, general toxicity and biological relevance with cancer development will be discussed in this presentation.

Dr. Jun Ling is currently an Assistant Professor of Biochemistry in the Basic Sciences Department at TCMC. He is also an adjunct faculty at University of Scranton and Marywood University. Dr. Ling's research focuses on the regulation of cancer development at post-transcriptional gene expression and cell signaling levels. Dr. Ling received his PhD degree from the Institute of Biochemistry and Cell Biology at Chinese Academy of Sciences; he carried out his postdoctoral training at University of California, Riverside. Dr. Ling has published over 50 papers in peer-reviewed journals and served as an editor of "Biochemistry and Analytical Biochemistry" journal.

DINNER: The meeting will be preceded by a reception and dinner at 5:00 PM at [Gubbio's Unique Italian Restaurant](#) at 411 Chestnut St., Dunmore, PA. Their telephone number is: 570-955-5179. Dinner will be ordered off the menu and entrees average \$15 per person. If you are interested in attending the dinner, please RSVP [Ms. Lacey Hessling-Yzeik](#) by e mail (lhessling@maryu.marywood.edu) or phone (570) 348-6265 by Tuesday, April 10th.

DIRECTIONS TO MARYWOOD UNIVERSITY:

From Interstate 81, Exit 188 (old exit 55): follow directional signs at the end of the exit ramp toward Dunmore (If you are traveling north on 81, make a left at the light at the O'Neill Highway, which becomes Blakely St.). Follow Blakely St. to traffic light at Drinker St. Turn right onto Drinker St. which merges with Electric St. Proceed to second traffic light. At this intersection, turn right onto N. Washington Ave., and proceed four blocks. At third stop sign on North Washington, turn right onto Seminary St. Proceed up the hill to the Memorial Arch. Pass through the Memorial Arch. The Science Building is on the right just past the library (which is on the left). Parking is available on the visitor lot around the corner from the Science Building.



ALPHABETICAL BUILDINGS LISTING

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| Aquatics Center 18C | Marian Chapel 10B |
| Bethany Hall 28 | McCarty Hall 8 |
| Center for Architectural Studies 14 | McGowan Center for Graduate and Professional Studies 25 |
| → Center for Natural and Health Sciences 11 | Media Center 24A |
| Conference Center 15C | Mellow Center for Athletics and Wellness 18 |
| Domiano Center for Early Childhood Education 17 | Memorial Arch 1 |
| Emmanuel Hall 22 | Memorial Commons 3 |
| Fricchione Day Care Center 16 | Nazareth Student Center 24 |
| Immaculata Hall 5 | O'Neill Center for Healthy Families 19 |
| Insalaco Arena 10A | Perpetual Help Hall 9 |
| Insalaco Center for Studio Arts 12 | Physical Plant 20 |
| Learning Resources Center 6 | Printing/Mailing Center 7 |
| Liberal Arts Center 4 | Regina Hall 2 |
| Loughran Hall 15 | Sette LaVerghetta Center for Performing Arts 27 |
| Lynett-Haggerty Fitness Center 10A | Shields Center for Visual Arts 13 |
| Madonna Hall 23 | Swartz Center for Spiritual Life 15A |
| Maintenance Building 28 | Woodland Residences 26 |
| Maria Hall 10 | |

PARKING

- V Visitor Parking (Please visit the Campus Safety Office located in Nazareth Student Center to obtain a visitor parking pass.)
- ♿ Parking for Physically Disabled

FIELDS AND COURTS

- F1 Tennis Courts
- F2 Grass Field
- F3 Softball Field
- F4 Baseball Field
- F5 Multipurpose Synthetic Turf Field