BIOGRAPHICAL SKETCH
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NAME: Piyali Dasgupta

eRA COMMONS USER NAME (credential, e.g., agency login): PDASQUPTA

POSITION TITLE: Associate Professor

EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.)

<table>
<thead>
<tr>
<th>INSTITUTION AND LOCATION</th>
<th>DEGREE (if applicable)</th>
<th>Completion Date MM/YYYY</th>
<th>FIELD OF STUDY</th>
</tr>
</thead>
<tbody>
<tr>
<td>University of Delhi, New Delhi, India</td>
<td>B.S.</td>
<td>1992</td>
<td>Chemistry</td>
</tr>
<tr>
<td>Indian Institute of Technology, New Delhi, India</td>
<td>M.S.</td>
<td>1994</td>
<td>Physiology</td>
</tr>
<tr>
<td>National Institute of Immunology, Delhi, India</td>
<td>Ph.D</td>
<td>2000</td>
<td>Life Sciences</td>
</tr>
<tr>
<td>Columbia University, New York, NY</td>
<td>Postdoctoral</td>
<td>2001</td>
<td>Cancer Biology</td>
</tr>
<tr>
<td>Moffitt Cancer Center, Tampa, FL</td>
<td>Postdoctoral</td>
<td>2007</td>
<td>Cancer Biology</td>
</tr>
</tbody>
</table>

A. Personal Statement

B. Positions and Honors
1. Dean's Award for Excellence in Basic Research, 2013.
2. Recipient of the John and Francis Rucker Outstanding Graduate Faculty Award, Marshall University, 2011.

Contributions to Science
1. One of my major research interests is the biochemical mechanisms by which tobacco components like nicotine accelerate the growth of human lung cancer. Nicotine is the addictive component of cigarette smoke. During my postdoctoral fellowship, I showed for the first time that nicotine could block the apoptotic activity of gemcitabine, cisplatin and taxol in human lung cancers. Clinical studies show that patients who smoke during chemotherapy have worse outcomes than those who quit before starting chemotherapy. Our observations provided a mechanistic insight into these clinical observations. We also discovered that nicotine accelerated tumor angiogenesis via the Src pathway. We believe or findings are relevant for lung cancer patients who are exposed to nicotine via cigarettes, second hand smoke, electronic cigarettes or patches or hums to quit smoking.


2. Our publications have revealed new knowledge on the signaling pathways by which nicotine promotes the proliferation, angiogenesis and metastasis of human lung cancers. We conjectured that disruption of the nicotine-signaling pathway should inhibit the growth of human lung cancers. Our studies were the first to show that inhibitors to the nicotine-signaling pathway attenuate angiogenesis and cause apoptosis in human SCLCs. We also extended these drug-discovery studies to tobacco-related diseases like diabetic retinopathy.


4. The field of “Nutrition and Cancer” is one of the emphasis research areas at the Marshall University School of Medicine. My laboratory studies the anti-tumor activity of capsaicin, the pungent ingredient of chili peppers. Our studies showed for the first time that capsaicin exerted potent anti-tumor activity in human SCLCs. We also found that the bioavailability of capsaicin was greater in the lung compared to the liver, blood and kidneys. Our laboratory also the first to identify the signaling pathway underlying the anti-cancer effect of capsaicin in human SCLC.


Complete List of Published Work in My Bibliography:

D. Additional Information: Research Support and/or Scholastic Performance

Ongoing Support

A. National Institute of Health R-15 AREA grant
   PI on Grant
   Title: Capsaicin and Small Cell Lung Cancer Therapy
   Duration of Grant: 2016-2020
   Budget: $100,000/year

There is no overlap between the above grant and the present application.

Completed Research Support

A. WVU-Marshall Health Partnership grant
   Co-PI on Grant
   Title: Long-term effects of e-cigarettes on cardiac and respiratory structure and function
   Duration of Grant: 2016-2017
   Budget: $50,000

B. American Institute of Cancer Research (AICR)
   PI on Grant
   Duration of Grant: 2014-2016
   Title: Anti-Metastatic Activity of Capsaicin in SCLC
   Budget: $75,000/year

C. National Institute of Health R-15 AREA grant
   PI on Grant
   Title: Capsaicin and Small Cell Lung Cancer Therapy
   Duration of Grant: 2012-2015
   Budget: $100,000/year

D. Young Clinical Scientist Award Program from Flight Attendant Medical Research Institute
   PI on Grant
   Duration of Grant: 2009-2014
   Title: Nicotine/Acetylcholine Signaling in Lung Cancer
E. American Retina Foundation
   PI on Grant
   Duration of Grant: 2009-2010
   Title: **Nicotine/Acetylcholine Signaling in ARMD**
   Budget: $12,000/year

F. ASPET-Astellas Award Program from American Society of Pharmacology and Experimental Therapeutics
   PI on Grant
   Duration of grant: 2009-2010
   Title: **α7-nicotinic receptor inhibitors in small cell lung cancer therapy**
   Budget: $30,000

G. MU-CDDC Pilot grant from Cell Differentiation and Development Center, Marshall University
   PI on Grant
   Duration of the grant: 2009-2010
   Title: **Nicotinic Receptor signaling in atherogenesis**
   Budget: $20,000

H. Research Starter Grant from the Pharmaceutical Manufacturer’s Association of America.
   PI on Grant
   Duration of grant: 2007-2009
   Title: “**α7-Nicotinic Receptor Signaling in Non-small cell Lung Cancer**”.
   Budget: $30,000 a year

I. COBRE Pilot Grant
   PI on Grant
   Duration of Grant: 2008-2009
   Title: **Anti-Neoplastic Activity of capsaicin in human small cell lung cancer**
   Budget: $35,000