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Ocean freight outlook for 2019

Copyright © Emory UniversityEO/AA Statement | Copyright copyright © Emory UniversityEO/AA Statement | Copyright Adam Marcus, PhD, is the new assistant director of the Winship Cancer Institute for basic research and common resources. Adam Marcus, Director of Integrated Cell Imaging Shared Resource at Emory University, is associate director of basic research and shared resources at winship cancer institute on September 1. In this role, he provides supervision and guidance for the development and growth of Winship's common resources and its basic scientific activities in all four Winship research programmes. Dr. Paul Doetsch has held the position since 1999 and has been named scientific director of the Department of Intramural Research at the National Institute of Environmental Health. Paul has been winship's perfect assistant manager with an amazing commitment to all aspects of this responsibility. Since joining Emory in 1985, Paul has played a key role in Winship's extraordinary growth over the years, says Walter J. Curran Jr., Ceo of Winship. Marcus, an assistant professor in the Department of Hematology and Medical Oncology and a member of winship's Cancer Cell Biology Program, is a funded researcher with several National Cancer Institute (NCI) grants that support a diverse range of research. He is a national leader in understanding how cancer cells penetrate and metastasized and how this information is applied in the development of new therapeutic strategies. Since joining Winship in 2006, Adam has established himself as a leader in research, including how a common mutation of the LKB1 protein in lung cancer is associated with high metastatic potential and how this information can be used to develop new therapeutic strategies, Curran says. Adam has been an excellent leader in the integrated shared resource of cell imaging, and we all know he will be an outstanding assistant director of winship. Marcus leads efforts to stimulate critical thinking and enthusiasm for science in children, kindergarten 12. With Theresa Gillespie, she received the \$1.2 million R25 Science Education Partnership Award (SEPA) from the National Institutes of Health in 2016. The grant led to the establishment of the Centre for the Promotion of Health and Diversity through Citizen Science, where he is co-director. Marcus has worked as a Georgia Cancer Coalition Distinguished Scholar researcher, recipient of the American Cancer Society Research Scholar award and TEDx speaker. He was awarded the National Lung Cancer Partnership Career Development Award and the Fund for Innovative Teaching Award. Last year, she was named to the Atlanta Business Chronicle's 40 Under 40 list, identifying young women and men who are subway area migrants and Our laboratory studies the biological mechanisms that regulate the invasion and metastases of cancer cells. We want to use this information: Jessica Konen, a former graduate student with Adam Marcus of the Winship Cancer Institute, developed a technique for tagging and separating invasive lung cancer cells. They found that cells play specialized roles as leaders and followers, and depend on each other symbiotically. The molecules that cancer cells rely on for packaging behavior are highlighted in the journal Nature Communications may play a key role in future treatments for metastatic treatments. When cancer cells are divided from a tumor into deadly metastases of seeds, they are thought to travel as clusters or packs, a phenomenon called collective invasion. Members of the invasive herd are not all the same, researchers at Emory University's Winship Cancer Institute have learned. Lung cancer cells the size of an invasive herd have specialized roles as leaders and followers who depend on each other for mobility and survival, researchers report in the journal Nature Communications. Differences between leaders and followers - and their interdependence - may be the key to future treatments aimed at weakening or preventing cancer metastases, says senior author Adam Marcus, PhD, assistant professor of hematology and medical oncology at winship cancer institute and Emory University School of Medicine. We are finding that the leader and successor cells have a symbiotic relationship and depend on every survival and attack, he says. Since metastatic invasion is the deadliest side of cancer, our goal is to find substances that interfere with the symbiotic relationship. Marcus and former graduate student Jessica Konen, PhD, began by observing how the mass of lung cancer cells behaves when immersed in 3D protein gel. Cells usually stick together, but sometimes a few cells extend from the mass like tentacles, with the tip cell at the tip. We saw that when the leader cell came off or died unexpectedly, followers could no longer move, says Konen, now a postdoctoral researcher at MD Anderson. In one particular movie, we saw a leader cell come out of other cells, and then you seem to realize that no one was following him. He actually made 180 and went back to get some cells to bring with him. SaGA separates managers and followers to investigate what makes leader and successor cells different from each other, Marcus and Konen developed a technique to mark cultured cells with a laser, turning them from fluorescent green to red and then isolated red blood cells. They call this technique SaGA for spatiotemporal genomic and cell analysis. Once isolated, the leader cells retain an invasive and are in a distinctive form. When leader cells are added back to purified followers, they restore the mobility and order of followers behavior, even though the leaders are only 1 percent of the mix. Although the leadership cell space is sustainable, followers spawn new leaders after a month or two of cultural growth, Marcus says. Leaders show several differences in follower cells in gene patterns that are turned on or off. For example, leader cells transmit more VEGF (vascular endothel growth factor) than followers. In themselves, leader cells do not need VEGF for invasive behavior, but VEGF seems to be important for pack formation because it is a mobility factor that managers provide to followers. In contrast, followers offer leaders the ability to grow and survive. As they grow apart from followers, leaders increase their numbers more slowly, have irregular cell cycles and more blebs, which are bulges in the cell membrane. Communicating with followers saves these problems, the researchers found. Other molecular differences between managers and followers include grip-producing FAK (focal adhesion kinase) activity in leader cells and growth-promoting Notch signal in followers – both possible ways to disrupt the symbiotic relationship between managers and followers. Marcus and his colleagues recently published a related paper in JCI Insight on the possible use of FAK inhibitors against lung cancer. Collective invasion Nature Communications paper covers lung cancer cells; Breast cancer has detected a similar phenomenon of collective attack, led by distinctive cells, but different genes and biochemical pathers appear to be important in each system. I think what is needed for collective attack depends on the environmental stresses that cancer cells face, and that can change with treatment, marcus says. As described, the SaGA technique depends on whether the cells first have a photolumous fluorescent green protein called Dendra. Marcus' lab is now testing whether similar approaches could work when studying tumor organoids derived from cancer patients in either Dendra or light-convertible color. Marcus emphasizes that SaGA can be applied to other cell types or environments or other types of cancer cell behavior, such as drug resistance. His lab continues to study the genetic and/or epigenetic basis for differences between leader and successor cells. A video explaining the SaGA won first prize in a competition organized by the Association of American Medical Colleges in 2015. The authors include postgraduate student Emily Summerbell, senior researcher Bhakti Dwivedi, PhD, and Winship faculty members Wei Zhou, PhD, Lawrence Boise, PhD, Paula Vertino, PhD, Lee Cooper, PhD, Khalid Salaita, PhD and Jeanne Kowalski, PhD. Research support Cancer Institute (R21CA201744, P30CA138292, F31CA180511, U24CA180924, U24CA19436201) and Winship Cancer Institute Development Funds. Adam Marcus, PhD Lead ResearcherAssociate Professor, Department of Hematology and OncologyPrincipal Researcher / Laboratory Director Georgia Cancer Coalition Distinguished ScholarDirector of Graduate Studies, Cancer Biology PhD Program Jessica Tepe- 5th Year Graduate Student I received a bachelor's degree in biology from the University of Transilvania, a small university located in central Kentucky. Right now, I'm working on a PhD in cancer biology here at Emory. In the laboratory, I am interested in how the loss of the tumor attestation gene LKB1 in lung cancer can affect the metastases. In particular, I studied how LKB1 loss can have varying effects on cell mobility and metastases, depending on the components of the extra-cell matrix that occur in the cell microentern, and I try to determine the molecular mechanisms that affect these differences in cell movement. In addition to my interest in the laboratory, I enjoy being outdoors as much as possible and especially love hiking and canoeing. Scott Wilkinson- 5. My research interests include regulating the polarity of cancer cells and invasive abilities of epithelial cells when polarity is disturbed. I am currently focusing on the role of tumor dampener LKB1 in regulating cell polarity and determining whether mutations in the LKB1 gene interfere with cell polarity. In addition, I will examine whether polarity disorders increase the ability of cancer cells to penetrate through an extra-cell matrix and cause metastases. J Shupe, research expert, director Previously my job was in the field of reproductive physiology. There, I studied the molecular mechanisms of the Sertoli cell that regulate spermatogenesis. Here at Dr. Marcus' lab, I study molecular mechanisms that control the mobility of invasive and metastatic cancer cell cells to design a therapeutic strategy that would hinder this process. Outside of research, I enjoy fishing and am an avid Pittsburgh Penguins hockey fan. Alessandra Salgueiro - 4. Doctor currently: Associate Professor of Hematology and Medical Oncology Lauren Havel, PhD- Currently: Postdoctoral Researcher Memorial Sloan Kettering Zhen Yang, PhD - Former Postdoctoral Researcher Jose Thaiparambil PhD Former Postdoctoral Researcher Erik Kline, Doctoral Former Postdoctoral Researcher Carrie Eggers, MS- Specialist Katherine Hales, Doctoral Student Shumin Zhang, Doctoral Student Jonathan Iaconelli, former undergraduate shazia Ali, former undergraduate chelsea spragg- former undergraduate student