

Generations

THE NEWSLETTER OF THE CENTER OF EXCELLENCE IN GENERATIVE MEDICINE



NEW BEGINNINGS

Three years in development, the new Center of Excellence in Generative Medicine opens its doors.

Renovations are complete. Equipment has been unpacked and calibrated. Staff has been trained and systems prepared. The Center of Excellence (COE) in Generative Medicine is here! Five months after University of Bridgeport's President Neil A. Salonen, Dr. David M. Brady, Vice Provost for Health Sciences, and Dr. Peter D'Adamo signed the official agreement for the Center on January 24, at a ceremony held on the eighth floor of the Wahlstrom Library building.



“Dr. Peter D’Adamo is a giant in the field of naturopathic and integrative medicine, and he has made transformational changes in the way thousands of doctors treat their patients. Having him here at UB uniquely allows our students and interns to be mentored by him.” said Brady.

Dr. Elizabeth Pimentel, Dean of the College of Naturopathic Medicine, echoed Brady’s enthusiasm. “We are thrilled that we are able to offer our students the opportunity to learn from someone who has been called the ‘most creative scientist in the western world’ and who is a true pioneer in our profession.”

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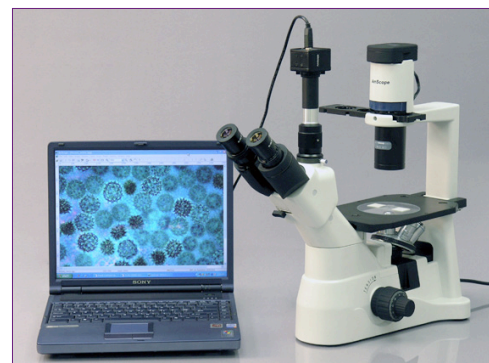


LOOKING FOR TOXINS IN ALL THE RIGHT PLACES

Our new phase contrast microscope allows for the detection of circulating bacterial toxins in the blood.

The study of the structure, the movements, and the behavior of living cells under various experimental conditions is one of the fundamental techniques of blood diagnosis. However the conventional microscope leaves much to be desired. In one field in particular, namely the examination of living material, it has manifest drawbacks. Living matter is, as a rule, more or less transparent. Because of this, the common method for diagnosis and control of treatment relies on viewing stained cells on a smear.

In standard microscopy, differential staining is used to bring out such structures, but at the expense of killing



the cell and subjecting its components to harsh chemical insults. With phase contrast microscopy, on the other hand, the living and undistorted cell can be examined. The experience of looking at living cells and distinguishing minute structural details is an exciting one!

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MOVING BEYOND ABO: SECRETOR STATUS

DR. PETER D'ADAMO

Identifying the outcome of this important gene can dramatically enhance the results of personalized medicine.



Although it is quite common to speak of one's blood type as 'A positive' or 'O negative' from a nutritional perspective scientists may instead be referring to their patients a 'A non-secretor' and 'O secretor.'

The 'negative-positive' description denotes our Rh (Rhesus) blood group and is

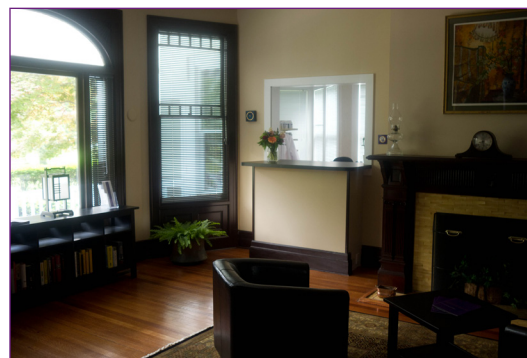
commonly tested for when we donate blood. The Rhesus blood group system is incredibly important with regard to transfusions and problems that can result between a pregnant women and her fetus. However, other than these specific indications, the Rhesus system is not very significant with regard to diet personalization. Why?

The Rh marker (called an antigen) is a true 'blood type' meaning that it is found only on our red blood cells and no where else. The ABO blood type antigens on the other hand are found through the body. Determining your *secretor status* allows your physician to understand just how much 'blood type expression' is found in your body's tissues. About 80% of the population has a gene that allows them to secrete their ABO blood type into their secretions in free or unbound form. These individuals are know as 'secretors.' In general the ability to put our blood type antigen into our tissues is an advantage, since this provides a degree of 'insulation' against foods that react with our blood type antigens and microbes that can latch onto our blood type antigens as part of their infection cycle. In both cases the free blood type antigen can act as a 'decoy', attracting the offending food or microbe to it rather than the 'real' blood group antigens that reside on the cells.

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BEGINNINGS (continued from page 1)

The COE will continue to train naturopathic doctors while broadening the College of Naturopathic Medicine's curriculum. It also will sponsor research in the fields of nutrigenomics and epigenetics, which examines how human genes interact and are affected by the environment, lifestyle and diet.



THE NEW COE WAITING ROOM IS BRIGHT AND COZY

Dr. D'Adamo describes the process of developing the COE, 'From our first discussions about the possibility of a Center of Excellence in Generative Medicine, almost three years ago, our goal was to investigate the use of new technologies, algorithms and philosophies as applied to a new type of patient care; one that is personalized and crafted according to generative principles. I am especially proud that this initiative has found a partner in the University of Bridgeport, a recognized educational world leader in the field of integrative medical education.'

Generative medicine is an exciting new naturopathic specialty that aims to identify the body's self-healing processes and allows the physician to participate in partnership with them. This is achieved by applying the tools of systems biology and bioinformatics to the complex behaviors seen in both health and disease. This approach allows for safer and more individualized treatments of sickness and a better understanding of the complex behaviors seen in both health and disease. These behaviors go beyond simple cause-and-effect relationships and provide for a better understanding of the relationships between the individual parts, whether they are genes, cell organelles, organ systems or even an individual's place in society.



GENERATIVE PEOPLE

For doctors Vanessa Doyle and Maria Zangara, working at the COE is a dream come true.

What initially interested you in Naturopathic Medicine?

Vanessa: My parents exposed me to many different countries and diverse medical styles while growing up. My mother, especially, taught me there was another way of healing. Through herbs, flower essences, changing ones thought processes, and realizing that there is more interconnectedness in health and healing than what is expressed on the surface.

Maria: I have a large and loving Italian family and I credit this with my love of good food. My grandparents believed that for food to be good, it had to be fresh, and they taught me early how important food was to the health and happiness of a person.



DOCTORS VANESSA (L) AND MARIA (R)

Why did you choose to study under Dr. D'Adamo?

Maria: Dr. D'Adamo's work has transformed my own life, and even as I continue to study it, I seek to bring its wisdom to others. I am grateful for the opportunity to study with Dr. D'Adamo. My choice in starting my career at the COE was a wonderful opportunity for me since I could practice what I have learned from Dr. D'Adamo and continue learning from him.

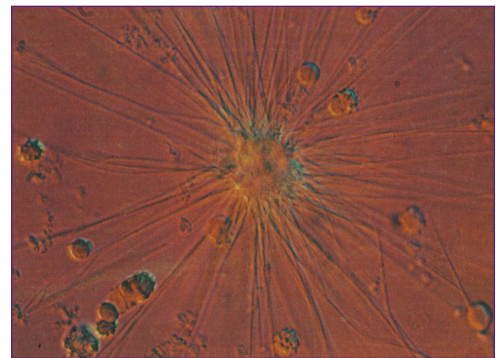
Vanessa: Dr. D'Adamo never ceases to amaze me with his theories of how and why certain plans are put together. He takes great care in making sure that he is teaching his students, his shift supervisors and helping and educating the patients in their journey. These are quite a lot of responsibilities that he takes incredibly seriously.

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MICROSCOPE (continued from page 1)

Many biologic specimens, such as components of living cells, do not change the *amplitude* of the light passing through them, but they do change the *phase* of the light waves. However since the eye is not sensitive to phase changes, this does not make the specimen visible. The phase contrast microscope translates the differences in phase into differences in intensity. Even a slight alteration in the brightness of the observed image and small (virtually invisible) structures can be clearly discerned. The phase contrast method of microscopy is considered such an important advance in microscopy that its inventor, Fritz Zernike, was awarded the Nobel prize in 1953.



FIBRIN STAR SEEN WITH PHASE CONTRAST MICROSCOPE

At the COE we use phase contrast microscopy to test for circulating toxins in the blood known as *endotoxins*. These are fragments of bacterial membranes that can trigger very powerful reactions from the immune system, often leading to allergic and autoimmune problems such as chronic hives, Crohn's disease and ulcerative colitis. The Center is currently conducting research on the broader implications of endotoxin overload (endotoxemia) that can lead to the development of new ways to prevent and treat the condition.

Testing is quite simple. A small amount of blood is collected from a finger stick into a capillary tube coated with an anticoagulant medicine. The sample is then allowed to incubate at 37 degrees centigrade for twenty four hours during which the red cells will sink (sediment) to the bottom. The tube is then scanned via the phase contrast microscope for 'fibrin stars' a particular type of coagulation that is diagnostic of endotoxin. When detected, the test can then be used as a barometer of successful treatment, whether by diet or supplements such as herbs and probiotics.

GENERATORS NEEDED

The COE invites you to join the growing number of individuals and corporations who are committed to making a dynamic difference in revolutionizing medicine by their donations and support of this work. As an affiliate of the University of Bridgeport, the COE can be the beneficiary of your tax-deductible donation.

We welcome all donations in any amount.

To learn more about becoming an individual or corporate sponsor, please contact:

Carol Agostino
Director of Gift Planning
giving@generativemedicine.org
(203) 761-0042

Visit us on the web at:
www.generativemedicine.org
For news, lectures and blogs.

GENERATIVE PEOPLE (continued from page 3)

Why did you choose to begin your career at the COE?

Maria: I know that Generative Medicine changes the way people see things, I see the paradigm shift in many of our patients after the visit. I know that we are on the edge of the tipping point as far as generative medicine is concerned and I want to be part of it. I hope to establish my medical practice, and to have it strongly rooted in education of others in Dr. D'Adamo's work.

Vanessa: I believe that the COE brings high quality Naturopathic healthcare and education to UB and to the Bridgeport area. From the moment you click on the home page or call the front desk you know you're in for something special. The level of service provided to our patients, and to the education of our future doctors, is surpassed by no other center in the country.

SECRETOR STATUS (continued from page 2)

About 20% of the population lacks the so-called secretor gene (FUT2) and thus cannot manufacture free, unbound blood type antigens. These individuals are known as *non-secretors*. These subcategory of individuals is very interesting from a disease susceptibility vantage. Non-secretors often have more consistent problems with low level infections, such as yeast (*Candida*) and Streptococcus. Because much of our internal microbial environment is determined by our blood type antigen (which is often used as a source of food by our intestinal bacteria) non-secretors often have an imbalance in their bacteria flora, a condition known as dysbiosis. Non-secretors are also known to suffer from many forms of auto-immune disease, especially Crohn's disease, an inflammatory disease of the intestines. Blood type A non-secretors often suffer from an overgrowth of bacteria in the stomach, a situation that can lead to serious problems, such as Barrett's Esophagus, a chronic inflammation of the esophagus and upper stomach. Although it would appear that being a non-secretor has no up-side, some preliminary research appears to indicate that non-secretors may have a lower rate of several common digestive tract cancers.

Here at the COE we determine secretor status by testing to determine the presence of the secretor gene. In combination with your ABO blood group, secretor status can refine your diet to a high degree of accuracy. Combined with our other methods of assessment, blood type and secretor status provide the basis for our unique SWAMI software and opens the door to the promise of personalized medicine.

Generations is published by the
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