

# CHRONIC DISORDERS OF AGING IN THE 21<sup>ST</sup> CENTURY:

## *New Insights and Approaches*



### CO-CHAIRS:

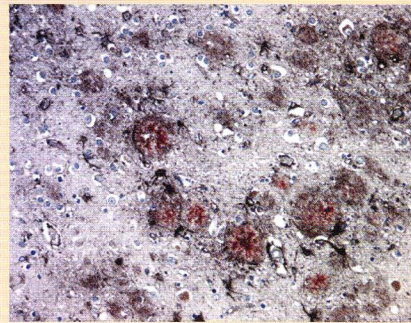
Brian Balin, PhD, and Michael Kuchera, DO  
Center for Chronic Disorders of Aging  
(CCDA) at Philadelphia College of  
Osteopathic Medicine

SEPTEMBER 30 – OCTOBER 2, 2007  
SAN DIEGO CONVENTION CENTER

# LABORATORY FOCUS

## DENAH APPELT, PhD

The laboratory focuses on infection and Alzheimer's disease, specifically on the roles of infection with Herpes Simplex Virus 1 and *Chlamydomphila (Chlamydia) pneumoniae* in cell death processes such as apoptosis. [ABSTRACT #2007-67, #2007-110]



BRAIN TISSUE:  
BALIN/APPELT LABORATORIES

## BRIAN BALIN, PhD

The laboratory focuses on the role of infection with *Chlamydomphila (Chlamydia) pneumoniae* as a risk or causative factor in Alzheimer's disease, in other neurodegenerative diseases, and in Cutaneous T Cell Lymphoma. [ABSTRACT #2007-46, #2007-67, #2007-110]

## RUTH BORGHAEI, PhD

Using the model system of periodontitis, the laboratory is focused on understanding the regulation of the production of matrix metalloproteinase-3 (MMP-3, stromelysin-1) by cytokines in chronic inflammation.

## FARZANEH DAGHIGH, PhD

The laboratory focuses on biochemical pathways involved in metabolism of arginine and production of nitric oxide in inflammatory conditions such as periodontitis and the effectiveness of passive exercise by Periodical Acceleration Therapy in conjunction with Osteopathic Manipulative Treatment in patients with Parkinson's disease. [ABSTRACT #2007-34]

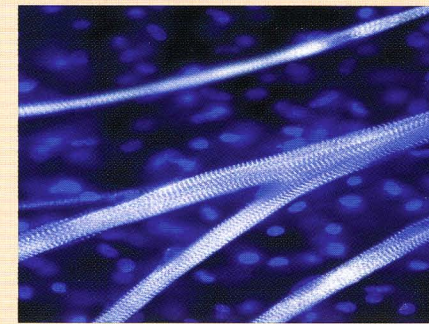
## MARINA D'ANGELO, PhD

The laboratory focuses on the study of cartilage and bone cell interaction used to regulate maturation and homeostasis of cartilaginous tissues

during development and injury repair important in the disease osteoarthritis characterized by the erosion of cartilage in weight-bearing joints. [ABSTRACT #2007-40]

## CAMILLE DILULLO, PhD

The laboratory focuses on the investigation of the role of specific transmembrane proteins and extracellular matrix molecules in wound healing and in diseases such as muscular dystrophy. [ABSTRACT #2007-60]



SKELETAL MUSCLE :  
DILULLO LABORATORY

## KERIN FRESA-DILLON, PhD

The laboratory focuses on the understanding of how the immune system controls infection with *Chlamydomphila (Chlamydia) pneumoniae* in young versus old animals, and how vaccination may prevent infection and pathology arising from infection.

## FREDERICK GOLDSTEIN, PhD

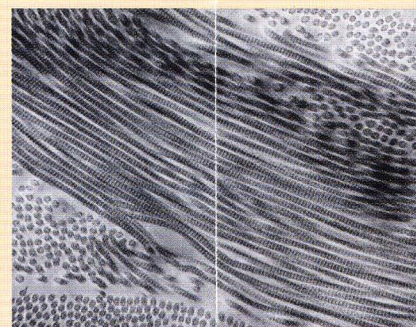
The research focuses on two different clinical issues: (1) improving analgesia in cancer patients, and (2) reducing post-operative pain in a variety of conditions.

## KATE GALLUZZI, DO

The collaborative research focuses on the evaluation of the use of cases to improve student attitudes and knowledge of geriatric/end of life issues.

## SUSAN HINGLEY, PhD

The laboratory focuses on a viral model, using the mouse hepatitis virus, in the development of multiple sclerosis, and



DERMAL LAYER OF SKIN:  
GREENE LABORATORY

# RESEARCH AGENDA

effect of estrogen on protein kinase activity, nitric oxide and cell adhesion in endothelial cells and monocytes.

## EUGENE MOCHAN, PhD, DO

Research focuses on developing and testing innovative approaches that will translate into effective and efficient practice in the areas of obesity, diabetes, cardiovascular disease and rheumatoid arthritis.

## PEGGY STEWART, PhD

The Human Performance and Biomechanics Laboratory focuses on the efficacy and mechanisms of OMT and various novel treatment techniques in a variety of conditions including ankle injury, carpal tunnel syndrome, multiple sclerosis, Parkinson's disease, fibromyalgia, post-traumatic headache, low back pain, and hypothyroidism. [ABSTRACT #2007-54, #2007-120]

## RUTH THORNTON, PhD

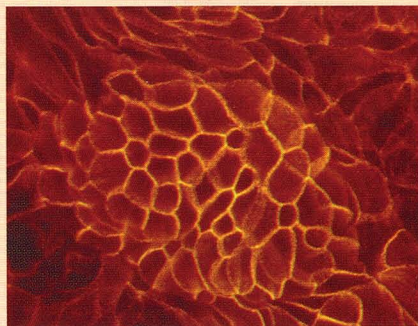
The collaborative research focuses on the evaluation of the use of cases to improve student attitudes and knowledge of geriatric/end of life issues.

## MARY OWEN, PhD (GA-PCOM)

The laboratory focuses on the neural and humoral control of resistance vessels of the vasculature in an *in vitro* manner, taking into account the effects of external pressure as well as internal pressure on the vessels.

## MINDY WEINSTEIN, PhD

The laboratory studies embryonic stem cells specifically to understand how stem cells are directed to form different tissues such as skeletal and cardiac muscle.



EMBRYONIC EPIBLAST TISSUE:  
WEINSTEIN LABORATORY

## LINDON YOUNG, PhD

The laboratory is focused on the mechanisms related to cardiovascular disease and reperfusion injury.

[ABSTRACT #2007-34, #2007-51]

## SUNDAY, SEPTEMBER 30

### SESSION ONE: CHRONIC DISORDERS IN MEDICINE – DEBATING THE ISSUES

#### 8:00 – 10:00 a.m. Which is More Important, the Role of Genetics or the Environment in Chronic Disorders and Diseases?

Michael L. Kuchera, DO,  
Moderator

**Participants:** Walter Prozialeck, PhD  
Alan Hudson, PhD  
Christopher Butt, PhD  
Justin McCormick, PhD  
Barry Oken, MD  
James Simpkins, PhD

#### 10:15 – Noon Do We Require New Technologies in Addressing Chronic Disorders?

Brian Balin, PhD, Moderator

**Participants:** Beverly Rzigalinski, PhD  
Aleister Saunders, MD  
Mark Haskins, PhD  
LuAnn Soliah, PhD, RD  
Melicien A. Tettambel, DO

#### Noon – 1:00 p.m. Break

#### 1:00 – 5:00 p.m. Research Poster Session – Convention Center Exhibit Hall Student Poster Competition (1:00–3:00 p.m.)

## POSTER ABSTRACTS

### #2007-34

Protein Kinase C (PKC) isoform peptide activators (+)/inhibitors (-) attenuates polymorphonuclear leukocyte (PMN)-induced myocardial ischemia/reperfusion (MI/R) injury. H.Y. Kay, J.C. Teng, J. Adams, M. Jivani, N. Atkinson, C. Grilli, G. Guglielmo, R.J. Brue, M. Dawley, D. Omiyi, P. Tairmina II, Q. Chen and L.H. Young.

### #2007-40

Chondrocyte-produced TGF $\beta$  modulates early osteoblast differentiation at the chondro-osseous border. V.L. Scheinfeld, S.E. Day, B.N. Dragann, E.L. Bray, P.V.N. Bodine and M. D'Angelo.

### #2007-46

Role of cutaneous *Chlamydia pneumoniae* infection in the pathogenesis of Mycosis Fungoides. M. Lewars, C.J. Hammond, S. Margetas, G. Severs, C. Angel, V. Nozad, T.D. Griffin and B.J. Balin.

### #2007-51

The effects of tetrahydrobiopterin (BH4) and dihydrobiopterin (BH2) on nitric oxide (NO) and hydrogen peroxide (H2O2) release during femoral vein ischemia/reperfusion (I/R) by real-time measurement. Q. Chen, J.J. Wood and L.H. Young.

### #2007-54

Influence of customized proprioceptive foot orthotics in posture, balance and pain. V.A. Cohen, T. Richardson, M.L. Kuchera and P.E. Stewart.

### #2007-60

Variation in appearance of laminin isoforms in developing skeletal muscle grown on a synthetic matrix. S.C. Richard, P.M. Mattioli, E.O. Adah, M.P. Hammock and C. DiLullo.

### #2007-67

Herpes Simplex Virus 1 and *Chlamydomytila (Chlamydia) pneumoniae* promote, 1-42 amyloid processing in murine astrocytes linking an infectious process to Alzheimer's disease. L.R. Triplett, A.L. Dore, K.S. Kralik, B.J. Balin, S.T. Hingley and D.M. Appelt.

### #2007-82

Up-regulation of arginase II mRNA levels in human gingival fibroblasts. E. Maksimik and F. Daghigh.

### #2007-108

Prolonged effects of maximal effort exercise (with Valsalva) and osteopathic manipulative treatment in women with multiple sclerosis. M.L. Kuchera, T.C. Vardy, H. Yates, B. Stouch and J.C. Johnson.

### #2007-110

Analysis of *Chlamydomytila pneumoniae* and AD-like pathology in the brains of BALB/c mice following intranasal infection. T. Joyce, C.J. Hammond, D.M. Appelt, B.J. Balin and C.S. Little.

### #2007-111

Immediate and prolonged effects of a 10-week maximal effort exercise (with Valsalva) protocol on cognition in men and women with multiple sclerosis: a multi-center study. M.L. Kuchera, R.T. Dombroski, T. Vardy, F. Thomas, S. O'Brien, P. Yagnik, K. Wenzel, S. Stol, B. Stouch and M.T. Walin.

### #2007-117

Immediate and prolonged effects of a 10-week non-fatiguing maximal effort exercise protocol on strength in deconditioned men and women with multiple sclerosis: a multi-center study. M.L. Kuchera, R.T. Dombroski, T. Vardy, F. Thomas, S. O'Brien, P. Yagnik, K. Wenzel, S. Stol, B. Stouch and M.T. Walin.

### #2007-118

Developing technology and protocols to measure pressure characteristics used by physicians and students for diagnosis and treatment of cervical somatic dysfunction. M.L. Kuchera, N.T. Jean, B. Schoenfeldt, L. Williams, T. Vardy and R.T. Dombroski.

### #2007-120

Development of an objective instrument and protocol to document two- and one-leg balance with and without visual input. T.R. Drames, M.A. Tratenberg, L. Yoo, P. Stewart, T. Vardy, R.T. Dombroski and M.L. Kuchera.

## MONDAY, OCTOBER 1

### SESSION TWO: CHRONIC NEURODEGENERATIVE DISORDERS

- 8:00 a.m.** **Opening Session,  
AOA Convention**
- 9:15 – 10:50 a.m.** Chronic Neurodegenerative  
Disorders
- 9:15 a.m.** Opening Remarks – Brian Balin,  
PhD
- 9:30 a.m.** “Infection in  
Neurodegenerative Disorders”  
Brian Balin, PhD
- 10:05 a.m.** “Intrinsic Factors in  
Neurodegenerative Disorders”  
Barry Oken, MD
- 10:40 a.m.** Panel Discussion  
Justin McCormick, PhD,  
Moderator
- 10:50 a.m.** **Break**
- 11:05 a.m.–  
12:55 p.m.** **Focus on Alzheimer’s:  
Directions from Research**
- 11:15 a.m.** “*C. pneumoniae* & Alzheimer’s”  
Alan Hudson, PhD
- 11:50 a.m.** “Estrogen & Alzheimer’s”  
James Simpkins, PhD
- 12:25 p.m.** Panel Discussion  
Walter Prozialek, PhD, Moderator
- 1:00 – 2:30 p.m.** Alumni Lunches
- 1:30 – 3:30 p.m.** **Buffet Lunch and International  
Research Round Table: An Issues  
Forum**  
*Sponsored by the CCDA*
- 4:00 – 6:00 p.m.** Annual Research Directors’  
Meeting (By Invitation)

## TUESDAY, OCTOBER 2

### SESSION THREE: ENHANCING HEALTH: NEW INSIGHTS IN EVIDENCE BASED MEDICINE

- 8:15 a.m.** **Opening Remarks**  
Michel Kuchera, DO
- 8:30 – 10:00 a.m.** **Enhancing Host Factors to Pro-  
mote and Extend Healthy Aging**
- 8:30 a.m.** “OMM and eNOS/Homeostasis”  
Michael Kuchera, DO
- 9:05 a.m.** “Dietary Considerations”  
LuAnn Soliah, PhD, RD
- 9:40 a.m.** Panel Discussion  
Christopher Butt, PhD, Moderator
- 10:00 a.m.** **Break**
- 10:15 – Noon** **Combating Age-Related  
Disorders through Innovative  
Technology**
- 10:15 a.m.** Opening Comments  
Brian Balin, PhD
- 10:30 a.m.** “Nanomedicine: The future of  
medical therapeutics”  
Beverly Rzigalinski, PhD
- 11:05 a.m.** “Rheumatic disease: Innovative  
osteopathic approaches”  
Melicien Tettambel, DO
- 11:40 a.m.** Panel Discussion  
Aleister Saunders, MD, and Mark  
Haskins, PhD, Moderators
- 12:30 – 3:30 p.m.** **Research Directors Lunch and  
Collaborative Forum**  
*Sponsored by the CCDA*  
(By Invitation)
- 3:30 – 5:30 p.m.** “Is it Time for an Osteopathic  
‘Framingham’ Study?”  
Registry & Framingham Forum  
Round Tables (By Invitation)

## MISSION STATEMENT

The mission of the Center for Chronic Disorders of Aging (CCDA) at Philadelphia College of Osteopathic Medicine is to improve the quality of life for all individuals suffering from age-related chronic diseases and disorders. The CCDA promotes a better understanding of the nature of chronic disease processes by supporting basic and applied investigations, and providing educational opportunities for the community, scientists and health care professionals. The CCDA furthers its mission through an interdisciplinary approach combining scientific research, education, and clinical application into chronic diseases and disorders associated with the aging process.

**The Center received a \$2 million  
endowment from the Osteopathic Heritage  
Foundation. The endowment is named in  
honor of three PCOM alumni:**

Ruth E. Purdy, DO '50  
Peter E. Johnston, DO '59  
George O. Faerber, DO '61