

Iannis E. Adamopoulos, B.Sc.(Hons), M.Phil., D.Phil.

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| Research/Academic Interests | Our laboratory studies the interface between the skeletal and immune systems, a newly emerging area of research called “osteimmunology”. Haematopoietic stem cells in the bone marrow give rise to both T cells which are important in inflammation and osteoclasts that regulate bone resorption. Differentiation and activation of osteoclasts from their precursors is tightly regulated by cytokines and growth factors such as receptor activator of nuclear factor kappa beta (RANKL), tumor necrosis factor (TNF) and various interleukins. Receptor engagement of these molecules results in signaling cascades and transcriptional changes that give rise to medical conditions such as rheumatoid arthritis, osteoporosis and osteopetrosis. Using in vivo gene transfer of immune cytokines IL-23 and IL-17, we have established new arthritis animal models that highlight the importance of these immune cytokines in arthritis initiation and bone homeostasis. Using in vitro assays, we continue our attempts to define the cellular and molecular mechanisms that take place in this fascinating interplay of the immune and skeletal systems. |
| Title | Associate Professor, Department of Internal Medicine, Division of Rheumatology, Allergy and Clinical Immunology |
| Specialty | Internal Medicine, Rheumatology, Allergy and Clinical Immunology, Osteoimmunology, Arthritis |
| Department | Internal Medicine |
| Division | Rheumatology, Allergy and Clinical Immunology |
| Languages | Greek |
| Education | M.Phil, University of London, London, UK, 2003 D.Phil., University of Oxford, Oxford, UK, 2006 B.Sc. (Hons), University of Surrey, Guildford, Surrey, UK, 1997 |
| Fellowships | Wolfson College, Oxford, UK, 2006 |
| Professional Memberships | American Association of Immunologists American Society of Bone and Mineral Research British Biochemical Society British Society for Research Into Aging International Cytokine Society (ICS) |
| Honors and Awards | Arthritis National Research Foundation Fellow, 2011 Sontag Fellow, 2011 Wolfson College, Oxford D. Phil Scholarship, 2003 |

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Select Recent Publications

*IE Adamopoulos, Suzuki E, Chao CC, Gorman D, Adda S, Maverakis E, Zarbalis K, Geissler R, Asio A, Blumenschein WM, McClanahan T, de Waal Malefyt R, Gershwin ME, EP Bowman. IL-17A induces bone destruction and epidermal hyperplasia associated with psoriatic arthritis. *Annals of Rheumatic Diseases*. 2015 Jun 74(6):1284-92 doi: 10.1136/annrheumdis-2013-204782.

*IE Adamopoulos. Autoimmune or Autoinflammatory; bad to the bone. *International Journal of Clinical Rheumatology*. 2015 10:1;5-7 (Invited Editorial).

*IE Adamopoulos and ED Mellins. Arthritis: Alternative Pathways of Osteoclast Differentiation in Inflammatory Arthritis. *Nature Rheumatology Reviews*. 2015 Mar;11(3):189-194 (doi: 10.1038/PMID: 25422000)

HS Shin, R Sarin, N Dixit, J Wu, ME Gershwin, EP Bowman and *IE Adamopoulos. Crosstalk among IL-23, MDL-1 and DAP12-dependent pathways promotes bone destruction in inflammatory arthritis. *Journal of Immunology*. 2015 Jan 1;194(1):316-24.

GL Norman, CY Yang, HP Ostendorff, Z Shums, MJ Lim, J Wang, G Hirshfield, P Milkiewicz, DB Bloch, CL Bowlus, IE Adamopoulos, PSC Leung, and ME Gershwin. Anti-Kelch-like 12 and Anti-Hexokinase 1 Autoantibodies in Primary Biliary Cirrhosis: Closing the Window Further on 'AMA-negative PBC'. *Liver International*. 2015 Feb;35(2):642-51

N Dixit, D Wu, YH Belgacem, LN Borodinsky and *IE Adamopoulos. Interleukin 23 induces osteoclastogenesis via a Leukotriene B4 dependent pathway. *Arthritis Research and Therapy*. 2014 Dec 2;16(6):496.

LA Orosco, SL Cates, AP Ross, J Sohn, D Pleasure, SJ Pleasure, IE Adamopoulos, KS Zarbalis. Loss of Wdfy3 in mice results in abnormal cortical neurogenesis reflecting aspects of the autism pathology. *Nature Communications*. 2014 Sep 8;5:4692. doi: 10.1038/ncomms5692.

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DJ Wu, N Dixit, T. Nguyen, E Suzuki, HS Shin, J. Davis, E. Maverakis, *IE Adamopoulos. A novel in vivo gene transfer technique and in vitro cell based assays for the study of bone loss in musculoskeletal disorders. *Journal of Visualized Experiments*. 2014 e51810, doi:10.3791/51810.

F Patel, C Duong, IE Adamopoulos, E Maverakis. NKG2C, HLA-E and their association with psoriasis. *Experimental Dermatology*. 2013 Dec;22(12):797-9.

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