ADVance

ADdenoViruses As Novel Clinical TrEatments

Partner Profiles
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ANDREW H BAKER: University of Glasgow, UK

Role in ADVANCE: Co-ordinator, Partner 1

Description of Research

Development of gene therapeutics for cardiovascular disease

Summary of Current Research Funding

My research group is funded through British Heart Foundation Programme and Chair grants, project grants, fellowships and EU FP7 funding. My group is approximately 20 (students, post docs, fellows and technicians) and focused in three main areas – vascular gene therapy for acute injury, vascular remodelling and miRNA and adenovirus vector development.

5 Key Publications relating to ADVANCE


ER/ESR on ADVANCE

ER = Raquel Garcia
ESR = Estrella Lopez Gordo

Images of Research

Website: http://www.fom.gla.ac.uk/research/profile.php?id=4cd5ebe58a9e
ERIC J KREMER: Institut de Génétique Moléculaire de Montpellier, FR

Role in ADVANCE: Deputy co-ordinator, Partner 2

Description of Research

Adenoviridae: receptors, trafficking & vectorology

Summary of Current Research Funding

My research group is funded through national and international project grants, fellowships and EU FP7 funding. My group is approximately 12 (students, post docs, fellows and technicians) and focused in three main areas – CNS gene transfer, understanding & treating mucopolysaccharidosis, and CAR biology and function.

5 Key Publications relating to ADVANCE


ER/ESR on ADVANCE

ESR = Karsten Eichholz

Images of Research: human neurospheres infected with CAV-2 vectors

Website: http://www.igmm.cnrs.fr/spip.php?rubrique35
URS F. GREBER: University of Zurich, Switzerland

Role in ADVANCE: Work Package 3 Leader, Partner 3a

Description of Research

Host pathways in virus entry and infection

Summary of Current Research Funding

My group has been interested in mapping out the entry and infection mechanisms of human adenoviruses and rhinoviruses, two unrelated families causing respiratory disease. We are 16 members, including senior research scientists, postdoctoral fellows, PhD students, technicians and Master students. Our current funding is from the Swiss National Science Foundation, the Swiss initiative for systems biology SystemsX.ch, the Novartis Foundation, the State of Zurich, fellowships and the EU FP7.

5 Key Publications relating to ADVANCE


ER/ESR on ADVANCE

ESR = Nicole Stichling

Images of Research
SILVIO HEMMI, University of Zurich, Switzerland

Role in ADVANCE: Work Package 3 Leader, Partner 3b

Description of Research

Development of gene therapeutics for cancer disease

Summary of Current Research Funding

My research group is funded through Swiss National Foundation, University of Zurich, and EU FP7 funding. My group is approximately 7 (students, and technicians) and focused in three main areas – virus receptor interactions, oncolytics and transcriptomics / proteomics of Ad infections.

5 Key Publications relating to ADVANCE


ER/ESR on ADVANCE

ESR = Rodinde Hendrickx

Images of Research

Website: http://www.imls.uzh.ch/research/hemmi.html
NIKLAS ARNBERG: Umeå University, Sweden

Role in ADVANCE: Partner 4

Description of Research: Early virus-host interactions; development of antiviral drugs

Summary of Current Research Funding

My research group is funded through The Swedish Research Council, Swedish Foundation for Strategic Research and other sources. My group consists of some 15 members (students, post docs, fellows and technicians) and our main focuses are ligand-receptor interactions and development of antiviral drug candidates for treatment of ocular infections.

5 Key Publications relating to ADVANCE


ER/ESR on ADVANCE

ESR5 = Anandi Rajan; ESR6 = Naresh Chandra

Image of Research

Website: http://www.mims.umu.se/en/groups.html
LEONARD W SEYMOUR: University of Oxford, UK

Role in ADVANCE: Work Package 4 Leader, Partner 5

Description of Research

My research combines an understanding of key aspects of cell & molecular biology and virology with principles of chemistry and pharmaceutics, enabling design and translational development of innovative strategies for treatment of cancer and other diseases. With interests in both oncolytic viruses and cancer immunotherapy, I lead an integrated research group with expertise ranging from molecular virology and immunology through cell biology and pharmaceutical chemistry to early phase clinical studies.

Summary of Current Research Funding

- Wellcome Trust Phase I / II Dose Escalation Trial of a Group B Oncolytic Adenovirus (ColoAd1) Administered by Intrahepatic Artery Infusion in Patients with Primary or Secondary Liver Cancer.
- CRUK Programme grant: Clinical and molecular pharmacology of novel anticancer agents and their delivery.
- ECMC Cancer Translational Research Centre
- MRC Capacity Building Studentships (In Vivo & Imaging theme)
- EPSRC/Wellcome Centre of Excellence in Personalised Healthcare
- European Union, Integrated Programme “Gene therapy for prostate cancer, an integrated approach”, with ten other European centres

5 Key Publications relating to ADVANCE


ER/ESR on ADVANCE

ESR = Jorien Koelen

Website: http://www.oncology.ox.ac.uk/research/len-seymour-1
RAMON ALEMANY, Institute of Biomedical Research of Bellvitge; Catalan Institute of Oncology.

Role in ADVANCE: Work Package 5 Leader, Partner 6

Description of Research

Development of oncolytic adenoviruses

Summary of Current Research Funding

My research group is funded through a Spanish Science Ministry project grant and fellowships. My group is approximately 9 (7 students, 1 postdocs, and 1 technician) and our research is focused in genetic modifications to improve oncolytic adenoviruses at the levels of tumour targeting, intratumoural spread, and antitumour immune responses.

5 Key Publications relating to ADVANCE


ER/ESR on ADVANCE

ESR = Carlos Fajardo Calderon

Images of Research

Website: http://www.idibell.cat/modul/cancer-virotherapy/en
SEPPO YLÄ-HERTTUALA, University of Eastern Finland, Finland

Role in ADVANCE: Work Package 7 Leader, Partner 7

Description of Research

Therapeutic angiogenesis and development of gene therapy for cardiovascular diseases

Summary of Current Research Funding

My research group is funded through Academy of Finland Centre of Excellence program, Leducq Transatlantic Research Network, several project grants and EU FP7 research programs. My group is approximately 35 people (senior scientists, post docs, graduate students and technicians) and focused on therapeutic angiogenesis, vascular endothelial growth factor biology and development of gene therapy methods and vectors for the treatment of cardiovascular diseases.

5 Key Publications relating to ADVANCE


ESR/ER on ADVANCE

ESR = Nicholas Downes

Images of Research
JEROME CUSTERS: Crucell, Leiden, The Netherlands

Role in ADVANCE: Work Package 6 Leader, Partner 8

Description of Research

Development of prophylactic and therapeutic vaccines to combat infectious diseases

Summary of Current Research

I am heading a research group in Vaccine Research and Early development in Crucell, a Johnson and Johnson company. We are developing prophylactic and therapeutic vaccines against infectious diseases caused by viral pathogens. Several of the vaccines in development in Crucell are based on replication deficient adenoviral vectors but we are also focusing on vaccines based on live-attenuated viruses and whole inactivated viruses. The research involves antigen discovery and design, technology development, manufacturing and characterization of prototype vaccines. The group (25+ people) consists of scientists, technicians and (PhD) students.

Key Publications relating to ADVANCE


ESR/ER on ADVANCE

ER = Dragomira Majhen

Images of Research

Website: http://www.crucell.com
KERRY D FISHER: PsiOxus Therapeutics Ltd, UK

Role in ADVANCE: Partner 9

Description of Research

Development of oncolytic adenoviruses

Summary of Current Research Funding

PsiOxus is a clinical stage company with over £20 million committed to support the clinical programmes. The company has also secured a Wellcome Trust grant and a TSB award to fund additional clinical trials. The in-house research team consists of 5 scientists working on future products closely supported by a development team of 6 further scientists. PsiOxus has several collaborations with academic institutions and three Industrial CASE PhD studentships.

5 Key Publications relating to ADVANCE


ER/ESR on ADVANCE

ESR = Hugo Calderón

Images of Research

Website: www.psioxus.com
PEKKA SIMULA: Oncos Therapeutics Ltd, Helsinki, Finland

Role in ADVANCE: Partner 10

Description of Research

Oncos is a biopharmaceutical SME commercializing cancer therapies based on oncolytic viruses. Our staff of about 20 is working on research and development on three important areas: 1) Preclinical research, 2) Clinical research, 3) Production of oncolytic viruses including research and process development for commercial scale manufacturing.

Summary of Current Research Funding

Oncos is financially backed by venture capital, and receives research funding also from the Finnish Funding Agency for Technology, Tekes (www.tekes.fi).

Key publications and projects related ADVANCE

As an SME our focus is on commercial projects, not in publishing; the list below provides an introduction to some of the most relevant projects and publications.

1. Clinical study ONCOS-C1: Exploratory Open Label Study of GM-CSF Coding Oncolytic Adenovirus CGTG-102, With Low Dose Cyclophosphamide in Patients With Refractory Injectable Solid Tumours. Currently active and recruiting participants. ClinicalTrials.gov Identifier: NCT01598129
2. Clinical study ONCOS-C2: GOAT; Phase I Single-Center Open Label Dose Escalation Study of CGTG-102, a GM-CSF Encoding Oncolytic Adenovirus, for Therapy of Advanced Cancers. IND approved by the FDA, patient recruitment expected to start Q1/2013.

ER/ESR on ADVANCE

ESR = Lukasz Kuryk

Website: http://www.oncos.com
MÁRIA BENKŐ: Institute for Veterinary Medical Research, Centre for Agricultural Research, Hungarian Academy of Sciences

Role in ADVANCE: Partner 11

Description of Research

Diversity and taxonomy of animal adenoviruses

Summary of Current Research Funding

My research group has 10 members (including graduate and PhD students, post docs) and is funded by grants from the Hungarian Academy of Sciences, the Hungarian Scientific Research Fund, fellowships and the ADVance EU FP7 programme. Our research is focused on the exploration of the biodiversity represented by animal adeno-, circo-, herpes- and parvoviruses. I am also involved in the taxonomy of adenoviruses presently being the chair of the ICTV Adenoviridae Study Group.

5 Key Publications relating to ADVANCE


ER/ESR on ADVANCE

ESR = Iva Podgorski

Images of Research

Website: http://www.vmri.hu/mbenko.htm
BALÁZS HARRACH, Institute for Veterinary Medical Research, Centre for Agricultural Research, Hungarian Academy of Sciences

Role in ADVANCE: Partner 11

Description of Research

Comparative analysis and evolution/coevolution of animal adenoviruses

Summary of Current Research Funding

My research group is funded by grants from the Hungarian Scientific Research Fund, fellowships and EU FP7 funding. The group consists of 7 members (graduate and PhD students, fellows). We wish to elucidate the differences in the genome organization of adenoviruses of different vertebrate groups from fish to primates. We study the molecular evolution of adenoviruses, their coevolution with the hosts and interspecies or even interclass host switches.

5 Key Publications relating to ADVANCE


ER/ESR on ADVANCE

ESR = Iva Podgorski

Images of Research

Website: http://www.vmri.hu/~harrach
MENZO JE HAVENGA: Batavia Bioservices, NL

Role in ADVANCE: Partner 12

Description of Research

Development of Adenoviral vectors and translation into the clinic

Summary of Current Research Funding

Our company is primarily engaged in industry-to-industry business. We employ approximately 40 people in our BSL-2/ BSL-2+ facilities in Leiden, The Netherlands. We also currently employ 10 people in our BSL-2 facilities in Boston, USA (launched in 2012). We participate as partners in several Dutch national TI-Pharma grants, a European fellowship grant and EU-FP7 program. We are experts in the process and product development of biopharmaceuticals be it antibodies, recombinant proteins, vaccines, or vectors for gene therapy.

5 Key Publications relating to ADVANCE


ER/ESR on ADVANCE

ER = Agnieska Lipiec

Website: [http://www.Bataviabioservices.com](http://www.Bataviabioservices.com)
GLEN NEMEROW
Department of Immunology and Microbial Science, California Campus

Role in ADVANCE: Visiting Researcher

Summary of Current Research

Research in the Nemerow lab is focused on gaining a better understanding of adenovirus interactions with host cells. We investigate basic mechanisms involved in virus attachment, internalization, membrane penetration and nuclear localization. A major focus of these studies is the signaling events initiated by cell integrins that promote adenovirus endocytosis. Collaborations with structural, cell biologists, protein chemists at TSRI and Case Western Reserve University play a significant role in these investigations. Fundamental knowledge gained from virus-host cell interaction studies is exploited for the design of novel viral vectors with increased capacity to deliver therapeutic genes to specific cell types including endothelial, vascular smooth muscle cells and photoreceptors.

Education
B.S., Biology, Syracuse University, Syracuse, New York, 1973
Ph.D., Microbiology and Immunology, University of Illinois, Chicago, Illinois, 1979

Professional Experience
Postdoctoral Training, Department of Immunology, Scripps Clinic and Research Foundation, La Jolla, CA 1979-1983

Awards & Professional Activities
Leukemia Society of America Fellowship, 1981-1983
Leukemia Society of America Special Fellowship, 1983-1985
Pew Scholars Award in the Biomedical Sciences, 1986-1990

5 Key Publications -


Laboratory Website: [www.scripps.edu/ims/nemerow/](http://www.scripps.edu/ims/nemerow/)
EXTERNAL SCIENTIFIC ADVISORY BOARD

PROFESSOR DR. WINALD GERRITSEN is medical oncologist with a background in translational research with a special interest in tumourimmunology and prostate cancer. He is director of Vumc Cancer Center Amsterdam. Prof. Gerritsen has chaired the Dutch Society of Gene Therapy and became honorary member of the society. He has served as chairman of the commission of clinical research of the Dutch Cancer Society (KWF). He chaired the commission of biotherapy of the National Translational Cancer Research Network, UK and is a member of the Cancer Research UK Immunotherapy Quinquennial Review Committee. He is also member of the Royal Holland Society of Sciences and Humanities and has an Adjunct professorship at John Hopkins University.

DR GABOR M RUBANYI, MD, PhD is the Chief Scientific Officer of Cardium Therapeutics in San Diego, California, where he is leading the late stage clinical development of the angiogenic gene therapy product candidate, Generx (Ad5FGF-4). Formerly he was Vice President of Gene Therapy at Berlex Biosciences, where he lead several teams and programs in gene therapy and directed the transition of them from early stage discovery through preclinical development and clinical trials. Dr Rubanyi received his MD degree in Hungary and has a PhD in Physiology from Washington University in St Louis. He worked as Associate Professor at the Mayo Clinic where he made important discoveries about the chemical nature of endothelial vasoactive factors (nitric oxide and endothelin).

PROFESSOR DAN BAROUCH focuses on studying the immunology and virology of HIV-1 infection and developing novel vaccine strategies. He has demonstrated that humoral and cellular immune responses elicited by adenovirus and poxvirus vectors can partially protect against acquisition of infection and can control viral replication following pathogenic virus challenges in rhesus monkeys. His lab has also developed a series of alternative serotype and chimeric adenovirus vector-based vaccines that are designed to circumvent the high titers of neutralizing antibodies to the common adenovirus serotype 5 (Ad5) vector in the developing world. Four phase 1 clinical trials with novel HIV-1 vaccine vectors are currently in progress in the United States and sub-Saharan Africa. His group is a key part of the Bill & Melinda Gates Foundation Collaboration for AIDS Vaccine Discovery (CAVD), the NIH Center for HIV/AIDS Vaccine Immunology and Immunogen Design (CHAVI-ID), and the Ragon Institute of MGH, MIT, and Harvard. Dan currently serves as the Director of the Center for Virology and Vaccine Research at Beth Israel Deaconess Medical Center.

ETHICS ADVISOR: DR CHRISTIAN DELLES, University of Glasgow Christian studied medicine at the Universities of Freiburg, Germany, and Innsbruck, Austria. He undertook his MD research in Prof. Paul Dietl's lab at the Department of Physiology in Innsbruck and joined Prof. Roland Schmieder's group at the Department of Nephrology, University of Erlangen-Nürnberg, in 1997. Here he worked on renal haemodynamics in arterial hypertension, type 2 diabetes, and other diseases; pathophysiology of endothelial dysfunction; and pathophysiology of left ventricular hypertrophy. In parallel he completed his specialist training in Internal Medicine. He joined Glasgow in 2003 as a Research Fellow funded by the Deutsche Forschungsgemeinschaft and holds a Senior Lectureship since 2005. His main focus is on the role of oxidative stress in the development of human cardiovascular disease, genetics of hypertension, and vascular phenotyping including measures of endothelial dysfunction and vascular stiffness.