

# CURRICULUM VITAE

**NAME:** Peter Myles GEORGE  
**DATE OF BIRTH:** 3 September 1952  
**NATIONALITY:** Australian: permanent resident of New Zealand since 1981  
**MARITAL STATUS:** Married: 3 children

## QUALIFICATIONS

1974 BSc University of Queensland, Australia (Biochemistry)  
1976 MB BS University of Queensland, Australia  
1985 FRCPA Royal College of Pathologists of Australasia

## AWARDS/HONOURS

Commonwealth University Scholar  
Senior Fellow (University of Canterbury)  
RCPA Handbook: Associate Editor for Chemical Pathology RCPA Examiner for Chemical Pathology  
CHLabs achieved selection as a finalist in the KPMG Consulting. Innovation Awards 2002  
(Recognising public sector innovation). Submission: "The Multilab Project"

## POSITIONS CURRENTLY HELD

- June 1986 to present Specialist in Lipid Disorders and Clinical Biochemistry, Canterbury Health Ltd., Christchurch.
- 1987 to present Clinical Senior Lecturer in Biochemistry, Christchurch School of Medicine (University of Otago), Christchurch Hospital, Christchurch.
- 1998 to present Medical Director, Clinical Biochemistry, Canterbury Health Laboratories, Christchurch.
- 1998 to present Consultant in Chemical Pathology, MedLab Central, Palmerston North.
- 2002 to present Clinical Director, Canterbury Health Laboratories, Cnr Tuam St & Hagley Ave., Christchurch, New Zealand.
- 2004 to present Professor, Department of Pathology, Christchurch School of Medicine & Health Sciences (University of Otago - from 1/2/04)

**CONSULTANCIES** Including Consultant to various Pathology laboratories throughout NZ):

Hawkes Bay District Health Board to Nov 2006  
Nelson Marlborough District Health Board to Nov 2006  
Taranaki District Health Board  
Tairāwhiti District Health Board  
West Coast District Health Board  
Technical Expert in Medical Testing (International Accreditation New Zealand from 18 May 2007-18 May 2009)

## INVITED REFEREE FOR

Royal Society of New Zealand (Marsden Fund)  
Health Research Council of New Zealand  
National Heart Foundation of New Zealand  
Kuwait University  
International Journal of Clinical Practice  
Clinical Chemistry

## POSITIONS HELD PREVIOUSLY

1974 to 1976	Scientist, Pathology on-call service, Princess Alexandra and Royal Brisbane Hospital, Brisbane, Australia
1977 to 1978	House Surgeon, Christchurch Hospital, Christchurch, New Zealand.
1978 to 1980	Medical Locum, Australian Medical Locum Service, Melbourne, Australia.
May 1981 to 1986	Registrar, Department of Clinical Biochemistry, Christchurch Hospital, Christchurch, New Zealand
1988 to 1992	Chemical Pathologist, Medlab South Ltd., Christchurch, New Zealand.
1992 to 1995	Medical Director, Cardinal Community Laboratories Ltd., Christchurch, NZ.
1995 to 1998	Chemical Pathologist, Southern Community Laboratories Ltd., Christchurch, NZ.

## NATIONAL/INTERNATIONAL COMMITTEES

1991 to 1996	Member of the 'National Genetic Services and Newborn Screening Advisory Committee'.
1997 to 2004	Member of the 'National Heart Foundation Scientific Advisory Committee'.
2001 to present	MultiLab Steering Group (Founding Chairman)
2002 to present	RCPA "Pathology Update" Program Committee
2007	RCPA - NZ Representative Genetics Advisory Committee

## LOCAL COMMITTEES

1997 to present	Christchurch Hospital Radiation Safety Committee.
1998 to present	Christchurch Hospital Medical Staff Association: member of the executive committee and past deputy chair.
1998 to present	Christchurch School of Medicine: Animal Ethics Committee.
1999 to present	Canterbury Health Laboratories IS&T Committee (Founding Chairman).
2001 to 2002	Christchurch Hospital Proposal for Change Steering Committee.
2002 to present	Christchurch Hospital Clinical Records Committee.
2002 to present	Christchurch Hospital Information Systems Advisory Group.
2002 to present	Canterbury District Health Board: Intellectual Property Working Group.
2002 to present	University of Otago Biochemistry Objectives Academic Group.
2002 to present	University of Otago Medical Education Group
2004 to 2005	University of Otago Graduate Entry Implementaton Group - CSM&HS.
2004 July to present	CDHB Ad Hoc Credentialling Committee
2005 Aug to present	Health Technology Assessment Committee
2005 to present	Chief Medical Officers Advisory Group
2005 to present	Australasian Mutation Detection Organizing Group
2006 from June	Clinical Information Systems Governance Group
2006 from Nov	Laboratory Reference Group (Primary Care)

## MEMBERSHIPS

American Association for Clinical Chemistry  
Asia Pacific Society of Atherosclerosis and Vascular Disease  
Australasian Association of Clinical Biochemists  
Australasian Society of Thrombosis and Haemostasis  
Australian Atherosclerosis Society  
Canterbury Medical Research Foundation  
European Society of Human Genetics  
Fellow of the Royal College of Pathologists of Australasia  
Human Genetics Society of Australasia  
Human Genome Variation Society 2008  
International Fibrinogen Research Society  
New Zealand Society for Oncology  
The Human Genome Organisation  
The kConFab Consortium  
The New York Academy of Sciences

## **OTHER ACHIEVEMENTS:**

2002 Assisted the laboratory to achieve selection as a finalist in the KPMG Consulting. Innovation Awards 2002 (Recognising public sector innovation). Submission: "The Multilab Project"

## **COMPLETED RESEARCH PROJECT GRANTS**

1985-1988 W.H.O. Special Project 82913(E) - Special Investigator.

1986-1989 Medical Research Council of New Zealand.  
' $\alpha_1$ -Antitrypsin and Antithrombin-III: Variation and Disease'.

1987-1988 National Heart Foundation of New Zealand.  
'Variation of Apolipoprotein Structure: Role in Hyperlipidaemia'.

1987-1990 TELARC Project Grant: 'Standardisation of Lipid Analysis'.

1989- 1992 Medical Research Council of New Zealand.  
'Proprotein (Hormone) Convertases: Albumin as a Model System'. (3 years)

1989-1991 Blood Foundation of New Zealand.  
'Expression of Recombinant Antithrombin-III'. (1 year)

1990-1992 Medical Research Council of New Zealand.  
'Chronic Lung Disease in Premature Neonates'. (2 years)

1991-1993 Health Research Council of New Zealand.  
'Transgenic Mouse Models of Emphysema'. (3 years)

1991-1993 Canterbury Medical Research Foundation.  
'Expression of Recombinant Antithrombin III'. (1 year)

1992-1993 National Heart Foundation of New Zealand.  
'Effect of Selenium Supplementation on Blood Lipids and Platelets' (1 year)

1993-1996 Health Research Council of New Zealand.  
'Relationship between the Predicted Protease Furin and the Hepatic Proalbumin Convertase.' (3 years)

1994 Canterbury Medical Research Foundation.  
'Construction of gene targeting vectors'. (6 months)

1994-1995 University of Otago Faculty Bequest.  
'Gametic instability in Huntington's disease'. (1 year)

1994-1995 Canterbury Medical Research Foundation.  
'Molecular Genetics of Familial Motor Neuron Disease.' (1year)

1995 University of Otago Faculty Bequest.  
'Processing of proHNE by dipeptidyl peptidase I (DPPI)'. (6 months)

1997-1999 Health Research Council of New Zealand.  
'Fibrinogen and albumin in health and disease.' (3 years)

1998 University of Otago Research Committee Grant: 'Screening for haemochromatosis in high risk groups and in general practice'. (\$25,000)

1998 Canterbury Medical Research Foundation.  
Project Grant: 'Iron deficiency: prevalence and risk factors in Christchurch infants'. (\$34,966)

1999 Health Research Council of New Zealand.  
Glycine betaine and homocysteine metabolism in diabetes and renal failure. (\$307,608)

1999 McCelland Trust.  
'Mitotic crossing over and the molecular diagnostics of cancer. (\$67,053)

1999 Heart Foundation of New Zealand.  
Familial hypercholesterolaemia in NZ – molecular analysis and the MED PED-FH project. (\$103,061)

1999 Heart Foundation of New Zealand - Small Project Grant:  
Molecular genetic studies in families with inherited cardiac diseases. (\$15,000)

- 1999 Heart Foundation of New Zealand. Project: Effects of genes and the environment on the structure and function of fibrinogen. (\$150,601)
- 1999 Foundation for Research Science and Technology  
George P, Lever M, Storer M.  
Project: New laboratory tests for assessing vitamin status in an ageing New Zealand population. (\$76,923)
- 2001 Lotteries Grants Board of New Zealand  
SPA McCormick, PM George and T Merriman  
Project: Studying the genetic control of lipoprotein (a) levels in humans. 2 years \$80,575
- 2001 Heart Foundation of New Zealand. Ref: 976 (#740)  
George P, Scott R, Mann J, Watts G, Sullivan D.  
Project: Developing a co-ordinated approach to FH investigation: diagnosis and functional studies. (\$178,200) 1/9/2001-1/9/2003
- 2001 Health Research Council of New Zealand  
Chambers ST, Robson RR, Lever M, George PM.  
Project: Betaines and dimethylglycine – role in treatment of elevated homocysteine in renal failure. (\$698,040) 3 yrs.
- 2002 Health Research Council of New Zealand  
DA Richards, C Dowson, DM Ferguson, EJ Wells, G Abbott, PM George, LJ Toop, IG Town  
Project: A study of the dose response association between infant iron status and later cognitive functioning (5 years - \$783,041)
- 2003 The National Heart Foundation of New Zealand  
Shand B, Elder P, Scott R, George P, Poa N.  
Project: Adiponectin as a marker of Type 2 Diabetes. (\$81,259 2 years) Start 1/8/03
- 2004 The National Heart Foundation of New Zealand  
Willis JA, Scott RS, George PM, Shand B, McRae JF, Frampton CM. Project Working Expenses.  
Adiponectin Receptor Genes: Novel risk markers for the Metabolic Syndrome and CVD. (6 months \$13425) Start 1 Dec 2004.
- 2005 Health Research Council of New Zealand  
Willis JA, Scott RS, George PM, McRae JF, Frampton CM. Project: Adiponectin Receptors in the metabolic syndrome, type 2 diabetes and atherosclerosis. (\$245,492)

#### **CURRENT GRANTS:**

- 2004 The National Heart Foundation of New Zealand Ref: 1090 (#794)**  
George PM, Slow\* S-M, Elmslie J, Chambers S, Lever M, Richards M, Troughton R, Frampton C. Project: Betaine, diet and homocysteine. (2 yrs \$200,000 GST exclusive)  
\*Slow S-M replaced by Atkinson, Wendy (May 2005-Jan 2007)
- 2004 The National Heart Foundation of New Zealand (a)**  
Young J, Scott R, George PM, Florkowski CM, Troughton R, Molyneux SL. Project: Coenzyme Q<sub>10</sub>: Potential for improving cardiovascular risk. (1 year \$107,564) Start 1/8/04
- 2005 The National Heart Foundation of New Zealand (Grant in Aid) (b)**  
Molyneux SL. (Postdoctoral study: Limited Budget \$14,922 - 2 years) COQ<sub>10</sub> in Cardiovascular Disease.
- 2005 Health Research Council of New Zealand**  
Scott R, Florkowski C, George P, Young J, McGregor P, Molyneux S. Project: Does ezetimibe correct vascular dysfunction? (14 months, \$102,122)
- 2006 Neurological Foundation of New Zealand (#768)**  
Fink J, Chambers S, George P, Lever M, Elmslie J, Atkinson\* W. Project: Prevalence and importance of abnormalities of glycine betaine metabolism among patients with cerebrovascular disease: a cross-sectional study. (18 months \$148,705) 6 March 2006.  
\*WA replaced with Slow S-M 9 September 2007-30 March 2008

**2006 Health Research Council of New Zealand**

Chambers S, George P, Lever M, Atkinson W, Elmslie J, McEntyre C. Project: Betaine homeostasis, diet and vascular risk. (3 yrs \$942,770)

**2006 Canterbury Medical Research Foundation Ref: 06/01 (#739)**

Lee MB\*, Blunt JW, Lever M, George PM, McEntyre C. Project: NMR spectroscopy for the clinical laboratory. (15 months \$48,276) \*MBL replaced with Hickford SH 20 June 2007

**2007 Lilly Diabetes Specialist Research Grant**

Willis JA, Scott RS, George PM, P Taylor Project: HDL-Cholesterol Function and Cardiovascular Disease in Diabetes. (\$30,000, 2 years).

**MAJOR EQUIPMENT GRANTS:**

1990 Purchase of a DNA synthesizer; Lottery Grants Board (Medical)

1991 Purchase of an automated protein sequenator; Lottery Grants Board (Medical)

1995 Purchase of a mass spectrometer; Lottery Grants Board (Medical), Canterbury Medical Research Foundation and the University of Otago.

1997 Purchase of a HPLC for mass spectrometry; Lottery Grants Board (Medical)

**DEPARTMENTAL GRANTS:**

**2006 NZ Lottery Grants Board – Equipment – Analytical Lab, Clinical Biochemistry Unit, CHLabs.**

Lever M. Keeping study specimens cool. Sanyo MDF593 Freezer (#13,300) and Tower racksx24 (\$4,800) (2006/2007).

**PATENTS:**

**2002** NZ Patent # 523150 “Improved solutions for renal dialysis” Lever M, Chambers ST, George PM, Slow S-M

**CITATIONS:**

EDITORIAL - Massie J. Sweat testing for cystic fibrosis: How good is your laboratory? (see related paper by MacKay et al. J Paediatr Child Health 2006; 42: 160-4) J Paediatr Child Health 2006; 42: 153-4

ACKNOWLEDGEMENT for technical assistance – George PM, Potter H. Hui-Ju Chen, Shuan-Pei Lin, Hong-Chang Lee, Chih-Ping Chen, Nan-Chang Chiu, Han-Yang Hung, Sehu-Rern Chern, Chih-Kuang Chuang. Cystic fibrosis with homozygous R553X mutation in a Taiwanese child.

## Students Supervised

<b>PhD Graduates:</b>	Otago	(1993)	McCormick SPA
	Otago	(1996)	Ledgerwood E
	Otago	(1998)	Aitken G
	Lincoln	(2000)	Fellowes AP
	Otago	(2001)	Metcalfe V
	Otago	(2002)	McGregor D
	Otago	(2003)	Zhang M (conjointly with Clin Pharmacol)
	-	<i>King M (2 yrs - withdrawn)</i>	
	Otago	(2004)	Dellow W
	Otago	(2004)	Maghzal G
	Lincoln	(2004)	Eisert
	Canterbury	(2004)	Homer V
	Otago	(2005)	Dear A
	Otago	(2006)	Storer M
	Canterbury	(2006)	Molyneux S
	Canterbury	(2006)	Vasudevamurthy M
Canterbury	(2006)	Lee M	
<b>PhD - Current:</b>	Otago		McRae J from 2003
	Otago		Sheen C from 2004
	Otago		Werno A from 2005
	Otago		Davis R from 2006
	Otago		Taylor P from 2007
	Otago		Young J from 2007
<b>MSc Graduates:</b>	Otago	(1993)	Scrimshaw BJ
	Otago	(1994)	Brennan AJ
	Lincoln	(1995)	Potter HC
	Otago (with Distinction)	(2000)	Chua EKM
	Otago (A+ grade pass)	(2002)	Wang D
	Otago (A grade pass)	(2002)	Evans G
<b>Med Lab Science:</b>	Otago		
Post Graduate Diploma Med Lab Science:	(2003)	Soakai L	
Post Graduate Diploma Med Lab Science (with credit)	(2007)	Chamberlain E	
MELS 501 Molecular Pathology: 2006			
MELS 508 Research Project: 2007			
Post Graduate Diploma Med Lab Science:	<i>current</i>	Chew J	
MELS 501 Clinical Biochemistry: 2006			
MELS 508 Research Project: 2007			
<b>FRCPA:</b>			
Chemical Pathology:	(1996 Parts 1 & 2)	(1996)	Florkowski C
	(2002 Part 1; Nov 2004 Part 2)	(2004)	MacKay R
	(2007 Part 1)	<i>current</i>	Saleem M
Molecular Genetics:	(2005 Part 1)	(2005)	Harraway J
	(from 2003 to Sept 2005. 2005 awarded scholarship by University of Oxford)		
	from 2007	<i>current</i>	Mead RJ

## RESEARCH INTERESTS

The overall theme of my research interests has always been the molecular pathology of human disease and the development and application of methods for the diagnosis of these conditions. While current activities are diverse there is an underlying theme related to cardiac risk (fibrinogen, thrombosis, hyperlipidaemia, homocysteine, subclinical vitamin deficiencies and the use of novel cardiac markers). I am still involved in projects related to the historical roots of our laboratory (haemoglobinopathies, thalassaemia) and to diagnostic activities (cystic fibrosis, iron metabolism and neurogenetics). In recent years, I have developed some research projects in specific areas of cancer genetics (PTEN/Cowden disease, retinoblastoma).

### 1. $\alpha_1$ -Antitrypsin:

Since 1983, I have been involved in studies of  $\alpha_1$ -antitrypsin, with particular emphasis on the interactions of  $\alpha_1$ -antitrypsin with models of inflammation, and on recombinant  $\alpha_1$ -antitrypsin variants with altered function. Two types of recombinant  $\alpha_1$ -antitrypsin have been studied and shown to be potentially useful therapeutic agents in disease states with uncontrolled activation of neutrophils (i.e. acute disseminated coagulation and acute respiratory distress syndrome). The most promising therapeutic agents are  $\alpha_1$ -antitrypsin 358 Met→Arg, which is a potent inhibitor of thrombin and kallekrein; and  $\alpha_1$ -antitrypsin 358 Met→Val, which is a potent inhibitor of neutrophil elastase and is not inactivated by neutrophil oxidants. This work was extended in a transgenic mouse model of emphysema in which human neutrophil elastase is expressed from the UG3.3 promoter. These mice express human neutrophil elastase in a lung specific manner but did not develop emphysema.

### 2. Antithrombin-III , Fibrinogen and Thrombosis:

My research interests in  $\alpha_1$ -antitrypsin led to the study of mutations in the homologous inhibitor AT-III. The identification of molecular abnormalities of AT-III from patients with familial thrombotic tendencies has given new insights into the mechanism of heparin activation.

Subsequently, identifying the mutations in families with dysfibrinogenaemia and hypo- or afibrinogenaemia has extended our studies of familial thrombosis.

### 3. Hyperlipidaemia, homocysteine and cardiovascular risk:

Since 1985 I have been responsible for the hyperlipidaemia laboratory. This laboratory performs ultracentrifugation of lipid subfractions, lipoprotein electrophoresis, HDL and total cholesterol, triglyceride analyses, and acts as a national reference laboratory for determination of the apolipoproteins E and C. We have also developed assays for the apolipoproteins A<sub>1</sub>, AII, B and Lp(a). I was a Principal Investigator in a World Health Organisation multicentre study to examine the long-term effects of Depo-provera administration on lipid subfractions and apolipoproteins. We determined the mutation responsible for the finding of a new truncated form of apoB (B-32) in a patient with hypobetalipoproteinaemia. As this is the shortest apo B variant that has particles in the LDL range, the mutation defines the minimal structural requirements for normal lipid binding. Recently, we have extended this work to studies of the LDL-receptor and are collaborating in a comprehensive study to define *in vitro* and *in vivo* kinetics of lipoprotein metabolism in patients with defined LDL receptor mutations.

Studies of homocysteine, its role as a cardiovascular risk factor and the effect of the betaine dependant pathway in homocysteine metabolism have complemented these studies. These have concentrated on betaine metabolism in patients with renal failure, diabetes or multiple cardiovascular risk factors. We have also studied the betaine content of common foods.

4. Haemoglobinopathies and thalassaemia:

I am responsible for the supervision of our haemoglobin laboratory. This is an international reference laboratory, which identifies approximately 100 haemoglobin variants each year. We have now extended this service to provide genetic analysis for  $\alpha$ -thalassaemia and the  $\beta$ -globin gene. This has allowed the identification of the specific mutations in several patients with  $\beta$ -thalassaemia and in patients with unstable variants, where protein sequencing is often unhelpful. These techniques are used to perform antenatal diagnosis for 'at-risk'  $\beta$ -thalassaemia families.

5. Cystic Fibrosis:

Since 1988, I have been providing a service for clinical and antenatal diagnosis of cystic fibrosis. We have identified 95% of the mutations in over 400 affected patients tested to date and are using DHPLC with DNA sequencing in an effort to identify the remaining mutations.

6. Neurology:

Since 1982 I have been involved in studies of the proteins in cerebral spinal fluid (CSF) from patients with multiple sclerosis. In initial studies, I developed a new procedure for the demonstration of oligoclonal IgG in the CSF of patients with multiple sclerosis. This interest has now been extended by the provision of diagnostic services for a range of neurogenetic disorders.

7. Nutrition, Vitamins and Iron Metabolism:

I am involved in studies aiming to develop markers of subclinical vitamin deficiency and of iron overload (haemochromatosis) and iron deficiency. These currently focus on deficiency of vitamin B12, and its effect on transcobalamin 2 and methylmalonic acid, folate and its effects on betaine metabolism. The studies of iron are concentrating on the evaluation of markers of iron deficiency and their relationship to cognitive outcomes in infants and young children. We are also developing methods to identify the genetic basis of iron overload in individuals without mutations in the HFE gene.

8. Miscellaneous:

Other research interests include the more general application of molecular biology to clinical medicine. For instance, I have recently been involved in the development of improved methods for the identification of legionella infections.

9. Laboratory Computer Systems:

I have been heavily involved in the introduction of comprehensive laboratory computer systems at three laboratories. In the Canterbury Health Laboratories "multilab group", this network has five departments each with laboratories at up to twelve hospitals. I was responsible for the implementation of a computer system (Delphic) when Medlab South was formed by the amalgamation of two local private laboratories. While working with Cardinal, I was responsible for the functional specification of a LINC-based system intended for international sale. I continue to maintain an interest in the effect of computer systems on the laboratory and clinical activities and in 2002 our "Multilab project" was a finalist in the KPMG Consulting Innovation Awards (Recognising public sector innovation).

## PRESENTATIONS AT NATIONAL & INTERNATIONAL MEETINGS

- 2001 THE 34<sup>TH</sup> INTERNATIONAL CONGRESS OF PHYSIOLOGICAL SCIENCES: FROM MOLECULE TO MALADY, Christchurch, New Zealand. Mutations in the fibrinogen genes causing hypofibrinogenaemia. Homer VM, Mullin JL, Brennan SO, Barr A, George PM.
- 2002 INTERNATIONAL SOCIETY FOR FIBRINOLYSIS AND PROTEOLYSIS AND THE INTERNATIONAL FIBRINOGEN RESEARCH SOCIETY, Munich, Germany. Two fibrinogen A $\alpha$ C-terminal truncations associated with bleeding; implications for the A $\alpha$ C domain in lateral aggregation. Homer VM, Mullin JL, Brennan SO, Barr A, George PM.
- 2002 THIRD INTERNATIONAL COENZYME Q10 ASSOCIATION CONFERENCE, London, 21-24 November. (Poster): An alternative detection system for coenzyme Q10 assay by HPLC. Molyneux S, Lever Michael, George Peter, Daines Alison, Munro Murray.
- 2002 NEW ZEALAND SOCIETY FOR BIOCHEMISTRY AND MOLECULAR BIOLOGY, THE SOCIETY FOR MICROBIOLOGICAL SCIENCE AND THE SOCIETY OF PLANT PHYSIOLOGISTS: MICROBES AND MOLECULES, Christchurch, New Zealand. The fibrinogen A $\alpha$ C domain and its role in clotting. Homer VM, Mullin JL, Brennan SO, Barr A, George PM.
- 2003 COMBIO CONFERENCE, Melbourne, Australia. September. (Poster): Quantifying biologically important quinones. Molyneux SL, Lever M, George PM, Florkowski CM.
- 2004 MEDICAL SCIENCES CONGRESS 2004, Queenstown, New Zealand. 30 November-3 December. (Poster): Biological variation of coenzyme Q<sub>10</sub>. Molyneux SL, Florkowski CM, Lever M, George PM.
- 2005 FOURTH CONFERENCE OF THE INTERNATIONAL COENZYME Q10 ASSOCIATION, Los Angeles, USA. 14-17 April. (Poster): Bioavailability, biological variation, and reference interval for coenzyme Q10. Molyneux SL, Florkowski CM, Lever M, George PM.
- 2005 AUSTRALIAN ATHEROSCLEROSIS SOCIETY ANNUAL SCIENTIFIC MEETING, Darwin, Australia. 19-22 October
- (i) (Poster): Betaines affect plasma total homocysteine concentrations. Atkinson W, Slow S, Lever M, Dellow WD, George PM, Chambers ST.
- (II) (Poster) Betaines affect plasma total homocysteine concentrations. Atkinson W, Slow S, Lever M, Dellow ED, George PM, Chambers ST.
- (ii) PCSK9 screening in a New Zealand 'FH' cohort. Homer VM, George PM.
- 2006 THE XIV INTERNATIONAL SYMPOSIUM ON ATHEROSCLEROSIS, Rome, Italy. PCSK9 analysis in familial hypercholesterolaemia patients negative for LDLR and APOB mutations. Homer VM, Laurie AD, Hurndell N, Scott RS, George PM.
- 2006 FEDERATION OF AMERICAN SOCIETIES FOR EXPERIMENTAL BIOLOGY (FASEB) SUMMER RESEARCH CONFERENCE SERIES: Folic Acid, vitamin B12- and One Carbon Metabolism satellite meeting. Indian Wells, California, USA. August. The bioavailability of dietary versus supplementary glycine betaine: Acute effects on normal and post-methionine load plasma homocysteine concentrations in healthy individuals. Atkinson W, Elmslie J, Lever M, Chambers ST, George PM.

2007 CSHL/WT PHARMACOGENOMICS 2007

Promoter insertion in an inflammatory bowel disease patient exhibiting ultra-high thiopurine s-methyltransferase activity.

By Rebecca L. Roberts<sup>1</sup>, Richard B. Gearry<sup>2</sup>, Michael V. Bland<sup>1</sup>, Christiaan W. Sies<sup>3</sup>, Peter M. George<sup>3</sup>, Michael Burt<sup>2</sup>, Martin A. Kennedy<sup>1</sup>, Murray L. Barclay<sup>2</sup>

2007 WORLD CONGRESS, HYPERHOMOCYSTEINEMIA, SAARBRUECKEN, GERMANY 5-9 June

(i) Bioavailability of dietary and supplementary glycine betaine: acute effects on plasma homocysteine concentrations.

By Wendy Atkinson, Jane Elmslie, Michael Lever, Stephen T Chambers, Peter M George.

(ii) Normal and abnormal betaine excretion.

By Michael Lever, Wendy Atkinson, Sandy Slow, Peter M. George, Stephen T. Chambers

(iii) Glycine betaine excretion, homocysteine and stroke.

By Slow S, Fink JN, Lever M, Atkinson WL, Chambers ST, George PM.

## P. M. GEORGE

## BOOKS CHAPTERS AND HANDBOOKS

- i. George PM, Walmsley TA and Grant S. Handbook of Trace Metal Analysis for Health. 1995 Canterbury Health Laboratories, Christchurch, New Zealand.
- ii. George PM, Walmsley TA, Woods SH and Woltersdorf WWW. Handbook of Vitamin Analyses for Health. 2005 Canterbury Health Laboratories, Christchurch, New Zealand.
- iii. George P, Pemberton P, Bathurst I, Carrell R, Gibson A, Rosenberg S, Hallewell R, Barr P. Characterisation of antithrombins produced by mutagenesis of human  $\alpha_1$ -antitrypsin in yeast. In: Developments in Biological Standardisation (Schiff P, Hennessen W, eds) Vol 67, pp 73-75, S. Karger and Co., Basel 1987
- iv. George PM, Vissers MCM, Bathurst IC, Winterbourn CC, Carrell RW. Natural and genetically engineered proteinase inhibitors as protective agents against connective tissue damage in an in vitro system. In: Pulmonary Emphysema and Proteolysis (Taylor JC, Mittman C, eds) Vol II, pp 143-150, Academic Press, New York, 1987
- v. George PM, Carrell RW. Engineered re-targeting of a plasma protease inhibitor. In: Design of Enzyme Inhibitors as Drugs (Sandler M, Smith J, eds). pp 581-596, Oxford University Press, 1988
- vi. Bunn CF, George PM. Mutation analysis of LDLR mutations in patients with familial hypercholesterolaemia. Editor: Hecker KH. In Genetic Variance Detection. Nuts and bolts of DHPLC in Genomics, DNA Press. 2003; pp. 117-33
- vii. Delahunt B, George PM, Kenwright DN, Bethwaite PB, Gillis D, Graves D, Zheluk A, Harvey M and Johnson C. (eds.) 2004. The Royal College of Pathologists of Australasia Manual (4th ed). Australia: RCPA.

## REFEREED JOURNALS

1. George PM, Abernethy MH. Improved Ellman procedure for erythrocyte cholinesterase. Clin Chem 1981; 29: 365-8
2. George P, André C. Is there a role for routine estimations of plasma magnesium. Clin Biochem 1983;16: 191-4
3. George PM, Lorier MA, Donaldson I MacG. An evaluation of cerebrospinal fluid oligoclonal banding confirmed by immunofixation of agarose gel. J Neurol Neurosurg Psychiat 1983; 46: 500-4
4. Abernethy M, George P, Melton V. A new succinylcholine-based assay of plasma cholinesterase. Clin Chem 1984; 30: 192-5
5. Bathurst IC, Travis J, George PM, Carrell RW. Structural and functional characterization of the abnormal Z  $\alpha_1$ -antitrypsin isolated from human liver. FEBS Lett 1984; 177: 179-83
6. George PM, Vissers MCM, Travis J, Winterbourn CC, Carrell RW. Genetically-engineered mutant of  $\alpha_1$ -antitrypsin protects connective tissue from neutrophil damage: significance for lung disease. Lancet 1984; ii: 1426-9
7. Travis J, Owen M, George PM, Carrell RW, Rosenberg S, Hallewell RA, Barr PJ. Isolation and properties of recombinant DNA produced variants of human  $\alpha_1$ -proteinase inhibitor. J Biol Chem 1985; 260: 4384-9
8. Lorier M, Hawes C, Donaldson I, George P. A case of partial deficiency of  $\alpha_1$ -antichymotrypsin. Clin Chem 1985; 31: 1739-40

9. Abernethy M, George P, Herron J, Evans R. Plasma cholinesterase phenotyping with use of visible region spectrophotometry. *Clin Chem* 1986; 32: 194-6
10. Travis J, Matheson N, George PM, Carrell RW. Kinetic studies on the interaction of  $\alpha_1$ -protease inhibitor (Pittsburgh) with trypsin-like serine proteases. *Biol Chem Hoppe Seyler* 1986; 367: 853-60
11. George P, Abernethy, Herron J. Concerning assay of serum cholinesterase with succinylcholine. *Anaesthesiology* 1986; 65: 104-5
12. Carrell RW, George PM. Reactive centre mutants of  $\alpha_1$ -antitrypsin: a new range of anti-inflammatory agents. *Biotech Genetic Engineering Rev* 1986; 4: 291-309
13. Brennan SO, George PM, Jordan RE. Physiological variant of antithrombin-III lacks carbohydrate sidechain at Asn 135. *FEBS Lett* 1987; 219: 431-6
14. George PM, Joyce SL, Abernethy MH. Screening for plasma cholinesterase deficiency: An automated succinylcholine based assay. *Clin Biochem* 1987; 21: 159-62
15. George PM, Taylor HW, Rollinson TR. Cholesterol levels in Christchurch blood donors. *NZ Med J* 1987; 100: 694
16. Brennan SO, George PM, Peach RJ. Characterisation of a slow component of normal human serum albumin. *Clin Chim Acta* 1988; 176: 179-84
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