

*Curriculum vitae*  
Professor Robert J Beynon, BSc, PhD, FLSW

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Robert J Beynon BSc PhD FLSW

## PERSONAL DETAILS

Name: Robert Jeffrey BEYNON  
Date of Birth: 19th May 1953  
Age: 70  
Place of Birth: Cardiff, U.K.  
Nationality: British

Home Address: Haddon House  
Vicarage Lane  
Burton  
Cheshire CH64 5TJ

Work Address: Centre for Proteome Research  
Institute of Systems, Molecular and Integrative Biology  
BioSciences Building  
University of Liverpool,  
Crown Street, Liverpool L69 7ZB, UK  
(+44) 151 794 4312 (office)  
mailto: r.beynon@liv.ac.uk  
<http://www.liv.ac.uk/cpr>

## EDUCATION

(University of Wales, 1978) Ph.D. "Studies on an Intracellular Proteolytic Enzyme".  
(University of Wales, 1974) B.Sc. - First Class Honours in Biochemistry

## EMPLOYMENT

1977 - 1988 Lecturer in Biochemistry,  
University of Liverpool

1988 - 1991 Senior Lecturer in Biochemistry,  
University of Liverpool

1991 - 1993 Reader in Biochemistry,  
University of Liverpool

1993 - 1999 Chair of Biochemistry,  
University of Manchester Institute of Science and Technology (UMIST)

2000 - 2020 Chair of Veterinary Basic Science, then Proteomics  
University of Liverpool

2020 - Emeritus Professor

## BIBLIOGRAPHY

Publications	335
Books and Web resources	5

## PAST MAJOR ROLES AND DISTINCTIONS

1986-1990	Committee Member, The Biochemical Society
1980-1984	Founder, Organiser of Biochemistry Microcomputer Group (BMG)
1980-1984	Collator and Editor, BMG Newsletter
1983-1986	Member and Secretary (1986), Techniques Group of the Biochemical Society
1983	Org. of 1 day meeting of Northern Universities Enzyme Group
1984	Org. of Biochem. Soc. Colloquium: Microcomputers In Biochemistry Keele University
1985-1990	Committee Representative, Techniques Group of the Biochemical Society
1985-1990	Executive Editor, Computer Applications in the Biosciences
1985-1991	Editorial Board, Arch. Biochem. Biophys
1985	Jnt Org. of Biochemical Society Colloquium on Intracellular Proteolysis, Cardiff
1987-1992	Affiliate Associate Professor, Virginia Commonwealth University
1987	Jnt Org. of Bioch. Soc. Coll on Determinants of Protein Degradation, Leicester
1987-1988	Member, Publications Board of the Biochemical Society
1988	Member, SERC IT Studentships panel
1988	Member, Finance Board of the Biochemical Society
1991	MRC Site Visit to Strangeways Research Laboratories, Cambridge
1992	BBSRC Site Visit, Dept Animal Nutrition, Nottingham
1997	BBSRC RAE Exercise, ASP Committee
1996-1998	Head of Department
1995-1998	Member, Academic Development and Resource Committee
1997-00	Member, UMIST Equipment Sub-Committee
1981-1984	Organiser of visits by UCCA applicants
1981-1984	Vice Chairman - Laboratory Management Committee
1981-1983	Organiser of Centennial and other Open Day activities
1982	Design and implementation of 2nd B.V.Sc Practical Biochemistry course
1982	Design and maintenance of manual for 2nd B.V.Sc. Practical Biochemistry
1983	School Relations Representative
1984-1987	Special responsibility for Departmental Animal Facility
1985-1989	Member-Joint Network Committee (to maintain UGC teaching network)
1986-1990	Special responsibility for graduate student education (inc 3 lectures)
1989-1992	Vice Chairman, Teaching Committee
1988-1993	Joint Director, Muscle Research Centre, University of Liverpool
1988-	Editor, Biochim Biophys Acta (second term)
1992-	Editorial Advisor, Biochemical Journal
1991-	Series Editor - "The Basics" (Bios Scientific Publishers)
1985-1991	Editorial Board, Am. J. Physiol: Cell Physiol.
1990-1993	Editorial Board, Essays in Biochemistry
1985-1991	Editorial Board, Arch. Biochem. Biophys.

Referee: Biochem. J., Biochim. Biophys. Acta, FEBS Lett., Arch. Biochem. Biophys., Urology Int., Int J. Biological Macromol., Computer Applications in the Biosciences, J. Gen. Microbiol., Enzyme Microbial. Tech. Proteomics, Molecular and Cellular Proteomics, Chemical Senses, Bioinformatics, The Veterinary Journal, Nature Methods, Nature Biotechnology, PNAS USA., Anal. Bioch., Chemical Biology, Molecular Systems Biology, Nature Methods, J Proteome Research,

### 1996-1999 Programme co-ordinator CARMEN

I was the author and principal applicant of CARMEN, a CEC Concerted Action to promote exchange of information in metabolic myopathies. The focus of CARMEN is a series of meetings and a database of patient records across the whole of the EU.

### Head of Department of Biochemistry, UMIST

As Head of Department in UMIST, I presided over a major expansion in activities in molecular life sciences at the University. In 1996, UMIST went through a process of an 8% reduction in staffing. This allowed a headspace of approx 30 posts for development of new activities, especially in Life Sciences. About half of the Departments in UMIST made bids to this fund, and these were reviewed by an external panel. My Department, which has now been renamed 'Biomolecular Sciences' was awarded approx. 11 of the 30 posts. A further two were joint appointments with other Departments, and another six were for Life Science activities in other Departments. I was responsible for a bid to HEFCE for an additional 50 undergraduate places to develop a new Honours Degree Course in Molecular Cell Biology. This bid was awarded (March, 1998). Further teaching and support posts were awarded to the Department as a consequence of this success.

On behalf of the Department, I submitted a successful bid to HEFCE for £150K for development of derelict laboratory space into a Centre for Proteome Research, a joint venture between Biomolecular Sciences and The Michael Barber Centre for Mass Spectrometry. This was a major new development that established a modern and well-equipped facility at UMIST. It was supported by UMIST funds for the provision of a MALDI-TOF Spectrometer, and by a successful JREI bid as co-applicant with Professor Simon Gaskell, for a Q-TOF mass spectrometer. I was the senior member of academic staff who managed the visit by the Subject Review Panel in February 1999. I was a member of the Vice Chancellor's Strategy Review Group, and chaired a Subcommittee with special interest in the use and development of IT within UMIST.

## ESTEEM: RECENT AND CURRENT MAJOR ROLES AND DISTINCTIONS

	2019-	Member, Fellowship Committee, Learned Society of Wales
	2019-2021	Chair, Fellowship Election Panel A2, Learned Society of Wales, and Member, Panel A (STEM subjects)
	2018-2020	Member of Management Committee and Board of Directors, BSPR
	2019	Chair, ALERT18 Grant review panel
	2018	Chair, ALERT17 Grant review panel
	2017	Deputy Chair, ALERT16 Grant review panel
	2016-2017	British Society for Proteome Research Nominated Lecturer. Thus far I have given lectures in Caltech, CA and the Triangle Area Mass Spectrometry Group (NC), Southampton, London, Warwick.
 Ulywodraeth Cymru Welsh Government	2016-	Member of Grant and Awards Expert Panel, Ser Cymru, Welsh Government
	2016-2020	Chair, Fellowship Election Panel A2, Learned Society of Wales, Member, Panel A
	2015	Elected as Fellow of the Learned Society of Wales
 BIOCHEMICAL SOCIETY	2013-2018	Chair, Education Committee, Biochemical Society
 BIOCHEMICAL SOCIETY	2014-	Member of Council and Executive, Trustee.
	2014	Deputy Chair, BBSRC ALERT 14 panel
	2013-2016	Chair, BBSRC Biosciences Careers and Skills Strategy Panel
 THE ROYAL SOCIETY	2012 -2016	Royal Society Industrial Research Fellowship
	2012-2015	Chair, BBSRC Performance Monitoring Group, David Philips Fellowships
	2012	'Golden Globe' Prize from the International Forum for Proteomics
	2010	Member of BBSRC Biosciences Careers and Skills Strategy Panel
	2010	Member of BBSRC Evaluation Group for the Doctoral Training Grant Scheme
	2009-2012	Chair, BBSRC Committee C "Technologies and Methodological Develop. I was asked to remain as Chair for an extra-ordinary extension of normal time to oversee the transition from the old BBSRC committee structure to the new committee structure.

	2006-2008	Chair, BBSRC Grants Committee, Engineering and Biological Systems, Initially committee member 2005.
 Research Assessment Exercise	2005-2008	Member, RAE Panel D16 (Agriculture, Food and Veterinary Sciences). I engaged in multiple assessment panel meetings, and read and evaluated over 1100 papers.

## INTERNAL

- 2008: One of the Academic Leads on the ‘Research Excellence’ component of Strategic Plan development.
- 2009: Chair of the FHLS Working Group on Development of a Technology Strategy and Author of report that led to the creation of the Technology Directorate.
- 2009-2011: Member of the People and Organizational Development Stakeholders Group.
- 2011-2017 Head of the Technology Directorate, Faculty of Health and Life Sciences (**Level 2** role)
- 2015-2016 Head of Department of Biochemistry, Institute of Integrative Biology (**Level 1** role)

## POSTGRADUATE STUDENTS (PRIMARY SUPERVISOR ROLE ONLY)

Name	Degree/year	Thesis topic
<i>Registered at Liverpool</i>		
Rachel F. Harland	Ph.D. 1983	Proteolytic activities of the muscle of mouse small intestine.
Graham A. Place	M.Sc. 1984	Limited proteolysis as a probe of enzyme structure and function.
Dorothy Fairhurst	Ph.D. 1984	Turnover of phosphorylase in normal /abnormal skeletal muscle.
Elaine Butler	Ph.D. 1985	Degradation of phosphorylase in mouse skeletal muscle.
Michael C.Y.J. Ning	M.Sc. 1986	Proteinase inhibitors from Streptomyces species.
Ian Durrant	Ph.D. 1986	Thermolysin-catalysed peptide bond synthesis.
Graham A. Place	Ph.D. 1988	Regulation of protein degradation by exogenous inhibitors.
Mark T. Mulligan	Ph.D. 1987	Protein degradation in normal and dystrophic skeletal muscle.
Victor Ojeanelo	Ph.D. 1988	Studies of the proteinase, meprin
Maggie Cusack	Ph.D. 1989	Structure function relationships of the sweet protein, thaumatin.
Deborah M. Leyland	Ph.D. 1990	Expression of phosphorylase in skeletal muscle.
Nick P. Tomkinson	Ph.D. 1989	Synthesis of new inhibitors of proteolytic enzymes.
Steven McConchie	Ph.D. 1991	Molecular heterogeneity of McArdle's disease.
Gillian Clarke	M.Sc. 1991	Metalloendopeptidases of the kidney brush border
Nick Rusbridge	Ph.D. 1992	Molecular mechanisms of protein degradation
Phillipa Dowswell	Ph.D. 1993	Epitope and protease mapping of thaumatin.
Arshad Ramzan	Ph.D. 1993	Limited proteolysis as a probe of protein folding
Andrew Stephen	Ph.D. 1993	Activation of cysteine proteases disulphide exchange processes.
Clare Bartram	Ph.D. 1994	Identification of molecular lesions in McArdle's disease
Derek Ellison	Ph.D. 1995	Construction and analysis of multiproteases.
<i>Registered at UMIST</i>		
Andrew Scott	Ph.D. 1997	Proteinase expression in skeletal muscle
Duncan Robertson	Ph.D. 1997	Identification of protein bound volatiles on MUPs
Chenyi Wu	Ph.D. 1999	Mechanisms of limited proteolysis of MUPs
Abdul Msalati	M.Sc. 1997	Expression of rat MUPs
Philip Garner	Ph.D. 1999	Expression of astacin domains (BBSRC special studentship)
Yuen-Ming Tan	M.Phil. 1999	Genotype:phenotype correlations in McArdle's disease.
Amr Marie	Ph.D. 2001	Ligand binding by MUPs
<i>Registered at Liverpool</i>		
Caroline Payne	Ph.D. 2001	Behavioural/biochemical parameters in olfactory communication (BBSRC)
Julia Hayter	Ph.D. 2001	Cytoplasmic domains of metalloproteinases (Industrial CASE)
Abdel El-Shafei	Ph.D. 2002	Study of the chicken muscle proteome (Egyptian Government)
Sarah Cheetham	M.Phil. 2003	Analysis of the pig salivary proteome (Private)
Rachel Spice	Ph.D. 2004	Proteomics characterisation of thiol receptors ((Private))
Philip Ball	Ph.D. 2004	Surface topology of hepatitis vaccines (Industrial CASE)
Sarah Cheetham	Ph.D. 2007	Role of protein polymorphisms in chemical communication (BBSRC)
Michael Turton	Ph.D. 2008	Molecular diversity of urinary lipocalins (Liverpool)
Ian Edwards	Ph.D. 2008	Analysis of proteome dynamics in growing chickens
Jenny Rivers	Ph.D. 2008	Quantitative proteomics (Genus Industrial CASE)
Rowan Moore	Ph.D. 2008	Biomarkers for ragwort toxicity (HRH)
James Wright	Ph.D. 2009	Bioinformatics strategies for cross-species matching (NERC)
Stuart Armstrong	Ph.D. 2009	Structure and function of urinary lipocalins (BBSRC)
Amy Claydon	Ph.D. 2009	Proteome dynamics (EPSRC)
Andie Pennington	M.Phil. 2011	Metabolic labeling strategies at the proteome level (BBSRC DTA)
Gemma Davidson	Ph.D. 2011	Targeted proteome simplification (BBSRC Strategic Studentship)
Jennifer Platt	Ph.D. 2011	Lipocalins in chemical communication (BBSRC DTA)
Beccy Cummings	Ph.D. 2012	Bovine sperm membrane proteomics (Genus Ind. CASE/BBSRC)
Vicky Harman	M.Phil. 2012	Optimization of QconCAT production
Mandy Peffers	Ph.D. 2013	Quantitative proteomics of cartilage degradation (Wellcome)
Yvonne Woolerton	Ph.D. 2014	CASE student on quantitative proteomics with Waters (CASE)
Jenny Unsworth	Ph.D. 2014	Proteomics of MUPs and proteome dynamics (BBSRC)
Victoria Lee	Ph.D. 2016	Quantitative proteomics/ETD (Industrial CASE, Waters)
Rebecca Pattison	Ph.D. 2018	New reagents for proteomics (BBSRC CASE, Avactis)
Richard Bennett	Ph.D. 2017	Quantification in proteomics (BBSRC)
Grace Loxley	Ph.D. 2019	Semiochemical proteins in mammalian scents
Iris Wagner	Ph.D. 2021	Engineering lipocalins to modulate pheromone control strategies
Rosie Maher	Ph.D. 2022	A new biomarker of reflux in severe disabilities
Natalie Koch	Ph.D.*	Novel approaches to ecological field sampling by mass spectrometry (BBSRC CASE)

\* thesis submitted, awaiting viva

## POSTDOCTORAL FELLOWS/RESEARCH ASSISTANTS

*Past:*

Cookson, Elizabeth Jane	B.Sc. (Liverpool), Ph.D. (Liverpool), Senior Manager, Eli Lilly (ret)
Flannery, Angela V.	B.Sc. (Liverpool), Ph.D. (Liverpool), Senior manager, AstraZeneca (ret)
Shamil, Sayed H.	B.Sc. (Kingston Polytechnic) Ph.D. (Reading), Marketing, Sensory Perception
Heads, Richard J.	B.Sc (Portsmouth Polytechnic) Ph.D.(Portsmouth Polytechnic) -> Senior Lecturer KCL
Leyland, Deborah M.	B.Sc. (UMIST) Ph.D. (Liverpool) -> Research specialist, University of Liverpool
Bartram, Clare	B.Sc. (Liverpool), Ph.D. (Liverpool) – Veterinarian, Liverpool
Hubbard, Simon	B.Sc. (London), Ph.D. (London)-> Professor, University of Manchester
Pratt, Julie	B.Sc., Ph.D. -> Commercialisation specialist, Leicester University
Hayter, Julia,	B.Sc (Manchester), Ph.D (Liverpool) -> Bruker mass spectrometry
Doherty, Mary	B.Sc. (Edinburgh) Ph.D. (Edinburgh) -> Senior Lecturer, UHI
McDonald, Lucy	B.Sc. (Liverpool) M.Sc. (Liverpool) -> Waters, mass spectrometry
Armstrong, Stuart	B.Sc. PhD (Liverpool) -> Research Specialist, University of Liverpool
Rivers, Jenny	B.Sc PhD (Liverpool) -> Research Administrator, London
Robertson, Duncan	B.Sc. London, Ph.D. (UMIST) -> Research Administrator, University of Liverpool
Claydon, Amy	B.Sc. (Liverpool) PhD -> Researcher, fera, now Crawford Scientific, advanced trainer
Rebecca Miller	B.Sc (Liverpool), Ph.D. (Liverpool) Postdoctoral research, University of Oxford
Dean Hammond	B.Sc (Sheffield), Ph.D (Liverpool) -> TTFellow, University of Liverpool
Stephen Holman	B.Sc. (Southampton), Ph.D. (Manchester) ->Applications Specialist, Waters
Guadalupe Gomez-Baena	B.V.Sc. Ph.D (Cordoba, ES) -> Faculty TTF, University of Cordoba
Richard Bennett	B.Sc. (Leeds), PhD (Liverpool) -> Badrilla, Leeds
Catarina Franco	B.Sc. (Evora, PT), PhD (Lisbon, PT) -> University of Cambridge
Simpson, Deborah	B.Sc. (Salford), Ph.D. (Liverpool) -> ret
Brownridge, Philip	B.Sc. (UMIST) Ph.D. (Manchester)
Harman, Victoria	B.Sc (Southampton), M.Phil (Liverpool)
Joscelyn Sarsby	M.Chem (Reading), PhD (Birmingham)
Kareena Adair	Ph.D. (Liverpool)
Iris Wagner	Ph.D. (Liverpool)

## RESEARCH GRANTS AND CONTRACTS (UP TO 2000)

Start date	Awarding body	Amount (£)	Duration (years)
1979-82	MRC	£18,850	3
1979-82	Muscular Dystrophy Group	£18,302	3
1980-83	SERC	£21,840	3
1980	SERC	£2,750	1
1981-84	SERC	£32,067	3
1982-1987	NATO	£8,500	1
1982-85	Muscular Dystrophy Group	£28,657	3
1982 -85	MRC	£35,048	3
1983	Nuffield Foundation	£1,300	1
1983	Merseyside Assn for Kidney Research	£6,137	1
1985-1988	MRC	£49,887	3
1984-87	SERC	£47,440	3
1985-88	Muscular Dystrophy Group	£16,222	3
1985	UGC-Computers in Teaching Initiative	£80,000	2
1987-89	AFRC	£63,948	2
1988-91	MRC	£55,274	3
1989-91	AFRC	£54,027	3
1989-1992	SERC	£79,515	3
1989-92	MRC	£89,509	3
1990-92	SERC	£56,009	2
1990-93	Muscular Dystrophy Group	£33,011	3
1991-93	AFRC	£46,915	2
1991	AFRC	£61,000	-
1991	SERC	£30,000	-
1992	British Council	£2,000	1
1993	Wellcome Trust	£78,000	2
1993	Muscular Dystrophy Group	£31,000	1
1993	SERC	£83,000	2
1994	BBSRC	£21,000	1
1992	CIBA-GEIGY ACE Award	£3,100	2
1995-1996	BBSRC	£38,000	1
1995-1996	MRC	£25,000	1
1995-1997	Muscular Dystrophy Group	£84,000	2
1995-1995	Enterprise in Higher Education Scheme	£14,300	1
1996-99	EU	£220,000	3
1996-00	BBSRC	£170,000	3
1996-97	SHS International	£28,000	1
1997-98	Microferm	£26,000	1
1997-98	Wellcome Trust	£47,000	1
1998-99	UMIST	£80,000	1
1998	Wellcome Trust	£100,000	1
1998-99	EPSRC Q-TOF mass spectrometer	£135,000	1
1998-99	ERDF Use of proteomics in SME's	£78,000	1
1997-2000	BBSRC Committee studentship	£36,000	3
1998-2001	Aventis Industrial CASE Award	£36,000	3
2000-2003	RAM Research Ltd (RJB)	£54,000	3
2000-2003	Medeva Research and Development	£36,000	3

**RECENT RESEARCH GRANTS AND CONTRACTS (SINCE APPOINTMENT AT LIVERPOOL, 2000-)**

2000	BBSRC Purchase of equipment for COGEME programme	£86,000
2000-2003	BBSRC (RJB, SJG, SGO) Turnover profiling - an approach to proteome dynamics	£410,000
2000-2004	BBSRC (JLH, RJB) Molecular basis of chemical communication in rodents	£420,000
2000-2004	BBSRC (JLH, RJB) Chemical communication and navigation	£277,000
2000-2003	BBSRC (RJB, SJG, JLH) Purchase of an LC-QTOF mass spectrometer	£274,000
2001-2004	North West Science Review (RJB, Liverpool component) Third generation proteomics (total £2.1m)	£345,000
2001-2003	Wellcome Trust (RJB, SH, MB) Copper toxicity in Ronaldsay sheep	£150,000
2001-2004	BBSRC JREI (JLH, RJB, PS) Imaging of rodent scent marks	£15,000
2002 - 2007	Wellcome SRIF (JLH, RJB, MB + 4) Role of behaviour in disease transmission	£3,200,000
2003 - 2006	BBSRC JREI (JLH, RJB, PS) Automatic monitoring of small mammals	£58,312
2003 - 2006	BBSRC (RJB, SJG) Proteome dynamics in skeletal muscle	£342,000
2003 - 2007	BBSRC (JBM, RJB) Dictyocaulus antigen characterisation	£210,000
2002 – 2005	NERC (RJB, JLH, PS+MB) Proteomics cross-species identification	£229,000
2003 - 2004	Home of Rest for Horses (RJB, JBM, CP)	£45,000
2003 - 2006	Antigen characterization in cyathostomes Home of Rest for Horses (RJB, JBM, PW, DK)	£50,000
2004 – 2008	Development of a new assay for ragwort poisoning BBSRC (JLH, RJB, PS, WO)	£615,000
2003 – 2006	The role of MUPs and MHC in mate choice Sygen, now Genus (studentship)	£57,000
2004 – 2007	Proteome dynamics in muscle growth BBSRC (with Dr D Coca, Sheffield)	
2004 – 2007	FPGAs to eliminate near-instrument bottlenecks in proteomics. BBSRC (JLH, RJB)	£205,000
2004 – 2007	Identification of mouse urine chemosignals. BBSRC (RJB, SJG)	£575,000
2004 – 2007	Proteomics of protein ubiquitination. Sygen now Genus (studentship)	£274,000
2005 – 2008	Quantitative proteomics BBSRC (RJB*, SJG*)	£57,000
2005 – 2008	Moving quantification to a proteome wide scale.	£600,000
2005 – 2008	BBSRC (RJB*, JBM)	£350,000
2005 – 2008	Antigen discovery in Teladorsagia circumcincta (Liverpool £88K) EPSRC (RJB*, SJG*)	£492,000
2005 – 2008	A convergent strategy for high efficiency quantitative proteomics (Liverpool component of a £1.5M grant award)	
2005 – 2008	CRUK (MC*, RJB)	£180,000
2005 – 2008	SILAC analysis of HGF signaling BBSRC (PDW*, RJB, JLH, JMW, JFI)	£220,000
2005 – 2012	A high performance GC-MS platform for metabolome research	
2007 -2014	Author: BBSRC Doctoral Training Grant (FVS) 24 studentships	£1,700,000
2008 - 2013	Author: BBSRC Doctoral Training Grant (FVS) 10 studentships BBSRC (RJB + Sheffield)	£1,100,000
2008 - 2013	FPGA supercomputing technology for high-throughput identification and quantitation in proteomics (Liverpool component of a £490K grant award)	£68,000
2008 - 2013	BBSRC SABR Proposal (MW*)	£400,000
2008 - 2010	Dynamics and function of the NF-kappaB signalling system (Approx. RJB component of a £3.4M grant award)	£220,000
2007 - 2014	BBSRC (Liv plus Manchester)	
2008 - 2010	Rapid proteome profiling using positional signature peptides (Liverpool component of a £445K grant award)	£220,000
2007 - 2014	BBSRC (LOLA with Manchester)	£2,100,000
	Global analysis of post-transcriptional control of protein expression (Liverpool component of a £4.9M grant award)	

2007 - 2012	BBSRC (Liv + Manchester, SJH, JEM) Quantitative characterisation of the eukaryotic translatosome (Liverpool component of a £931K grant award)	£317,000
2007 – 2009	DTI KTP/Genus Quantitative biomarkers of sperm health	£190,000
2009	BBSRC Industrial Interchange Award. Convergent strategies for quantitative proteomics	£32,000
2009 - 2012	NERC (JLH*, RJB, PS + 1) Kin recognition mechanisms in female house mice	£641,000
2009 - 2012	Wellcome Trust (PC*, RJB +1) Investigating cartilage matrix turnover in health and disease using a quantitative proteomics approach	£417,800
2009 – 2012	European Union. Novel strategies for biomarker quantification	£181,000
2010 - 2013	BBSRC Industrial Interchange Award. Development of new MS approaches to proteomics	£28,000
2010 - 2014	BBSRC (MW*, RJB + 1) A systems biology study of E2F and NF-kappaB cross-talk	£765,000
2011 - 2014	NERC (PS*, RJB, JLH) The role of seminal fluid proteins in mammalian sperm competition	£644,000
2011-2012	BBSRC Industrial Interchange Award. New quantitative proteomics strategies	£65,000
2011-2014	Royal Society Industrial Fellowship	£170,000
2013-2014	BBSRC TRDF Grant. Next gen proteomics.	£38,000
2013-2014	BBSRC ALERT 13 MS Imaging	£665,183
2015-2016	BBSRC/Newton/CONFAP. Schistosome proteomics	£41,000
2015-2016	BBSRC TRDF DOSCAT	£136,000
2015-2016	BBSRC ALERT 14 (CE, others, Col)	£741,000
2014-2016	NWCRF. Myofibroblast invasion (Col)	£107,000
2017-2017	BBSRC ITAS award (travel award)	£3,200
2014-2016	BBSRC PPP labels (Col)	£157,000
2011-2017	BBSRC (JLH*, RJB, Others) BBSRC Strategic LOLA proposal Semochemistry in rodent control strategies	£3,800,000 (Liv)
2015-2018	BBSRC ERA-IB	£481,000
2015-2019	BBSRC Bayesian Quantitative Proteomics (Col, AD+)	£331,000
2017-2019	KTP programme on advanced DOSCAT technology with Badrilla plc (PI)	£175,000
2015-2018	MRC Enabling technologies (MP, others, Col)	£4,976,000
2017-2018	Royal Society of New Zealand, possum semiochemistry (Col, JLH)	£45,000
2019-2021	ALACAT technology for bespoke QconCAT creation (PI, Liv, SJH PI, Man)	£692,000
2020-2022	Leverhulme Trust (PI, neonatal protein turnover)	£98,000
2021-2022	IVCC (REIMS for age grading mosquitos)	£180,000
2023	Analytical Chemistry Trust Fund, Royal Society of Chemistry (phbuffers.org)	£1,500

\* PI , SH: Dr Sue Haywood; JH: Prof Jane Hurst, SJG: Prof Simon Gaskell, SJH: Prof Simon Hubbard, DK: Dr Derek Knottenbelt; JBM: Prof Jacqui Matthews; SGO: Prof Steve Oliver; CP: Dr Chris Proudman; PS: Prof Paula Stockley; PW: Prof Phil Whitfield; WO: Prof W Ollier; JFI: Prof John Innes; MC: Prof Mike Clague; MP: Prof Sir Munir Pirmohammed, JEM: Prof John McCarthy. PC: Prof Pete Clegg, MW: Prof Mike White., AV: Prof Andrea Varro. AD: Dr Andrew Dowsey.

## REPRESENTATIVE OVERSEAS VISITS AND LECTURES PRESENTED AT CONFERENCES

May, 1977	Presentation of invited lecture "Inactivation of native enzymes by an intestinal muscle proteinase" at the "3rd International Symposium on Intracellular Protein Catabolism" Rheinardsbrunn, East Germany.
Jul-Sep 1979	Sabbatical Leave, Department of Biochemistry, Virginia Commonwealth University, Richmond, VA, USA.
Jul, 1979	Presentation of invited lecture at Dept. of Biochemistry, Vanderbilt University, Tennessee.
May, 1981	Presentation of invited lecture "Metabolic inactivation of protease inhibitors" at "IVth International Symposium on Intracellular Protein Catabolism" Rheinardsbrunn, East Germany.
Jul-Sep 1982	Visiting Professor, Department of Biochemistry, Virginia Commonwealth University, Richmond, VA, USA.
Sep-Oct 1983	NATO Exchange Visitor, Department Biochemistry, Virginia Commonwealth University, Richmond, VA, USA.
Apr, 1984	Presentation of invited lecture "Expression of the Mep-1 gene regulating meprin, a kidney brush border metallo-endopeptidase" at Vth International Conference on "Intracellular Protein Catabolism", Washington, D.C.
Sep, 1984	Presentation of invited lecture "Limited proteolysis as a tool to generate functionally modified proteins" at Biochemical Society Molecular Enzymology Colloquium on "Proteolysis as a tool to study functional domains in enzymes" Stirling, U.K.
Mar, 1985	Presentation of invited lecture "Protein degradation: the elusive intermediates" at Biochemical Society Host Colloquium on "Intracellular Proteolysis" Cardiff, U.K.
Aug, 1985	Visiting Professor, Department of Biochemistry, Virginia Commonwealth University, Richmond, VA, USA.
Apr, 1986	Presentation of invited lecture "Degradation of glycogen phosphorylase in normal and dystrophic muscle" at VIth International Symposium on Intracellular Protein Catabolism. Buchenberg, GDR.
Jul, 1986	Presentation of invited lecture "Degradation of glycogen phosphorylase in normal and abnormal muscle" at International Symposium on 'Adaptive responses in muscle' Szeged, Hungary.
Dec, 1986	Presentation of invited lecture at Biochemical Society Colloquium on 'Learning Aids', London, U.K.
Jan-Feb, 1987	Visiting Professor, Department of Biochemistry, Virginia Commonwealth University, Richmond.
Sept-Oct, 1987	NATO Exchange Visitor, Department of Biochemistry, Virginia Commonwealth University, Richmond, VA, USA.
June, 1988	NATO Exchange Visitor, Department of Biochemistry, Virginia Commonwealth University, Richmond, VA, USA.
Oct 1990	Presentations at the VIIIth International Symposium on Intracellular Protein Catabolism", Tegernsee, Germany
May 1991	Presentation of invited lecture at Jacques Monod Conference on "Structure, function and biosynthesis of membrane ectopeptidases" Aussois, France
Sept 1991	Presentation of poster at International Conference on "Enzymes in Peptide Synthesis" Bogensee, Germany
Sept 1992	Visit to laboratory of Prof B P Roques, Paris, to establish collaboration and give a seminar
Oct 1992	Presentation of invited lecture at "9th International Conference on Proteolysis and Protein Turnover" Williamsburg, VA, USA
July, 1994	Presentation of plenary lecture on McArdle's disease at the Conferences on Glycolytic and Mitochondrial Myopathies in Osaka, Japan
July, 1994	Presentation of invited lecture in the 8th International Conference on Neuromuscular Diseases, Kyoto, Japan
August, 1994	Presentation of an invited lecture at an International Conference on "Astacins" at Heidelberg Germany
January, 1996	Presentation of the Faculty Lecture at the University of Berne, Switzerland
April, 1996	Presentation of invited lecture at an International Conference on 'Mathematical modelling in nutrition" Fort Wayne, USA.
July, 1997	Presentation of invited lecture at conference on 'Chemical Communication in Vertebrates', Ithaca, USA
February, 1998	Organiser and chair of the 57th ENMC/CARMEN meeting on "Metabolic Myopathies", Naarden, The Netherlands
August, 1998	Workshop organiser, and presentation of two invited lectures in the 9th International Conference on Neuromuscular Diseases, Adelaide, Australia
March 1999	Organiser and chair of the 57th ENMC/CARMEN meeting on "Mitochondrial Myopathies", Italy
July 2000	Presentation of invited lecture at conference on 'Chemical Communication in Vertebrates', Krakow, Poland
November, 2000	Invited Presentation in Rome on 'Chemical communication and rodent control'
September, 2002	Invited Presentation in Pensacola, USA at a meeting on 'Post genomics technologies in environmental monitoring'
April, 2003	Invited Lecture in University of Berne 'Proteomics: old fashioned protein chemistry meets new fangled technology'
April, 2003	Invited Lecture at World Poultry Science Association, York, UK "Proteomics approaches to muscle protein dynamics"

August, 2003	Plenary at Chemical Signals in Vertebrates X, Oregon "Strategies for analysis of scent-related proteins in semiochemistry"
March, 2004	Invited Lecture on "Proteomics across species boundaries" to Environmental Agency meeting, York, UK
April, 2004	Invited Lecture on "Protein expression changes in muscle growth in the chicken" Conference on the chicken genome, Storrs Institute, Kansas City
September, 2004	Invited Lecture on "Proteome dynamics" British Society for Mass Spectrometry, Derby UK
September, 2004	Invited Lecture on "Proteome quantification and dynamics" Consortium for Post-Genomics Science, Manchester UK
September, 2005	Invited Lecture Society for General Microbiology, Keele "Protein turnover in the regulation of proteome expression"
November 2005	Invited lecture, "N-terminal strategies for qualitative and quantitative mapping of proteolysis" Metallproteinases 2005, Berne
January, 2006	Invited lecture, "absolute quantification in proteomics using artificial QCAT proteins of concatenated signature peptides" Austrian Proteomic Platform, Seefeld
January, 2006	Invited lecture, Indian Society for Mass Spectrometry, Munnar
February, 2006	Invited lecture, "Proteomics as a tool for genome annotation" Pig Genome I, Lodi, Italy
July, 2006	Invited Lecture, "Quantification of the dynamic proteome" British Society for Proteome Research, Cambridge
July, 2006	Invited lecture, " Chemical Signals in Vertebrates CSIV 11, Chester
August, 2006	Invited lecture, International Congress of Parasitology, Glasgow
September, 2006	Invited lecture, Congress on McArdle's disease, Naarden
February, 2007	Visiting Professor, Bioinformatics Institute, Singapore (including 2 lectures)
September, 2007	Invited lecture, "QconCAT based strategies for quantification" Proteomics Europe, Amsterdam
January, 2008	Invited Lecture, "Stable isotope strategies for quantitative proteomics " BMSS, Edinburgh
February, 2008	Invited lecture, "'Proteome dynamics - parameterising protein turnover on a global level'" Biophysical Society, Long Beach, USA
April, 2008	Invited Lecture, Association of Comparative Clinical Pathologists, Liverpool
December, 2008	Invited Lecture, "Quantitative Proteomics using QconCAT" Danish Proteomics Society, Odense
June, 2009	Invited Lecture, "To Label or Not to Label, That is the Quantification" Italian Proteome Society, Milan
September, 2009	Invited Lecture, "To Label or Not to Label, That is the Quantification" Irish Proteomics Society, Dublin
October, 2009	Invited Lecture, "To Label or Not to Label, That is the Quantification" Waters Technology Summit Meeting, Amsterdam
November, 2009	Invited lecture, "Strategies for quantitative proteomics" Proteomics Europe, Barcelona
December, 2009	Invited lecture, "Novel approaches to proteome quantification" Brazilian Mass Spectrometry Society, Campinas
February, 2010	Invited lecture, Centre for Genome Regulation, Barcelona "QconCATs - what's the CATch?"
February, 2010	University of Nottingham "Putting the Q in proteomics: strategies for quantitative proteomics"
April, 2010	Aberdeen Proteomics Forum "Quantitative Proteomics by Mass Spectrometry"
July, 2010	British Society for Proteome Research, Cambridge, Plenary Lecture "Quantitative proteomics: what's the point?"
August, 2010	Waters Danish Proteomics Forum, Copenhagen "Quantitative proteomics"
September, 2010	Distinguished Lectureships in Proteomic Science, UCLA "Quantitative proteomics (confessions of a bean counter)"
September, 2010	Conference on Time of Flight Mass Spectrometry, Long Beach, CA "Making Sense of Scents: Quantification of Protein Polymorphism by Mass Spectrometry"
October, 2010	Waters SUMMIT meeting, Atlas Park, Manchester
November, 2010	East Midlands Proteomics Conference, Loughborough
February, 2011	RSE/SIRCAMS Meeting on "QTof and ToF MS", Edinburgh
March, 2011	Waters International Conference, Manchester, UK
July, 2011	Conference on Analytical Proteomics, Ourense, Spain
February, 2012	Conference in 'Protein Degradation in Health and Disease' San Diego. Plenary Lecture/Prize lecture (Golden Globe Award from IFP). Lecture on proteome dynamics
May, 2012	ASMS, Vancouver (two invited lectures at satellite meetings)

July, 2012	European Proteomics Association 2012 conference: invited lecture on quantitative proteomics. (Glasgow)
December, 2012	LBMSDG, London (invited lecture)
April, 2013	HUPO Proteomics Standards Meeting, Liverpool
April, 2013	Distinguished Lectures in Proteomics, UCLA
February, 2014	University of Warwick, invited seminar
March, 2014	Moredun Research Institute, invited seminar
June, 2014	University of Edinburgh, invited seminar
June, 2013	MED MSII (invited lecture) Siena
July, 2014	Biochemical Society Focus Meeting 'Protein Moonlighting', invited speaker
February, 2015	BBSRC Veterinary Vaccinology (invited lecture), Birmingham
July, 2015	British Society of Proteome Research (keynote lecture) Reading
March, 2016	Microbiology Society (invited lecture), Liverpool
June, 2016	ASMS, San Antonio (invited lecture, satellite meeting)
July, 2016	British Society of Proteome Research (plenary lecture) Glasgow

**I was the nominated annual lecturer for BSPR in 2016 and early 2017, and delivered the following lectures.**

September, 2016	Caltech, Pasadena, California (invited lecture)
November, 2016	Research Triangle Mass Spec Group, North Carolina (invited lecture)
December, 2016	London Biological Mass Spectrometry Discussion Group (invited lecture)
December, 2016	University of Southampton (invited lecture)
March, 2017	University of Dundee (invited lecture)
June 2017	Ehime University, Japan (invited lecture) Part of the BBSRC ITAS trip to develop MEERCAT
June, 2017	"Biology of the wild mouse" Lecture at the University of Zurich (invited lecture)
August, 2017	Proteomics in Biology and Medicine, San Francisco (invited lecture)
September, 2017	Chemical Signals in Vertebrates, Cardiff, UK (invited lecture)
January, 2018	RSC Hyphenated technologies conference (plenary) "Of mice, sex and mass spectrometry" Cardiff, UK
July 2019	BSPR, Southampton (plenary lecture) "Making proteomics add up – the hard challenge of adding hard numbers to hard proteomes"
September 2019	HUPO, Adelaide. Lecture: "The degrading business: Measurement of proteome turnover in intact animals"
December 2019	NAPA3, Ghent Lecture: "Making proteomics add up – the challenge of adding hard numbers to proteomes"
January – 2020	Iwate University, Morioka-conference and research collaboration

## BIBLIOGRAPHY

H-index =71 (Google Scholar, 18,049 citations), 55 (Web of Knowledge, 11,112 citations)

343 Publications in Web of Science	11,112 Sum of Times Cited	55 H-Index
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## PUBLICATIONS (46 WITH >100 CITATIONS, MAX 685)

1. Beynon, R.J. and Kay, J. (1976) The chymotrypsin-catalyzed activation of glutamate dehydrogenase. *Int. J. Biochem.* 7, 449-453
2. Beynon, R.J. and Kay, J. (1977) A neutral proteinase from rat intestinal muscle. A possible role in the degradation of native enzymes. *Acta. Biol. Med. Germ.*, 36, 1625-1635
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8. Beynon, R.J. (1980) Microcomputers in biochemistry. *Trends in Biochemical Sciences*, 6, VI-VII
9. Beynon, R.J., Shannon, J.D. and Bond, J.S. (1981) Purification and characterisation of a metalloproteinase from mouse kidney. *Biochem. J.* 199, 591-598
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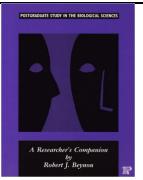
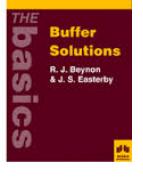
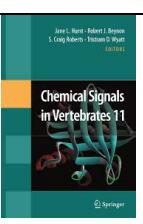
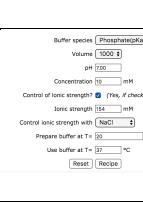
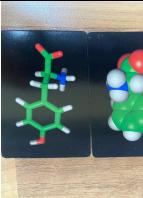
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## BOOKS/WEBSITES

 <p><b>Postgraduate Study in the Biological Sciences</b> <b>A Researcher's Companion</b> by Robert J. Beynon</p>	<p>Beynon, R.J. (1993) <i>Postgraduate Study in the Biological Sciences - A Researcher's Companion</i>, Portland Press, London (159pp)</p> <p>One of my main achievements at Liverpool from 1985-1993 was to establish a formal programme of instruction for graduate students. This comprises limited coursework, report production, poster presentations and lectures. As part of this exercise, I compiled/wrote a 200+ page guide for graduate students that encompassed a good deal of the information that they would be expected to 'assimilate' during their three year period of study. This guide was re-written and published in early 1993 by Portland Press as a low cost guidebook, and received highly favourable reviews. Over 6000 copies were sold. The book primarily addressed the practical issue of becoming a research student, and collated a great deal of the information that students are expected to assimilate without the benefit of formal instruction. Now remaindered on Amazon for £2.65!</p>
 <p><b>THE basics</b> <b>Buffer Solutions</b> R. J. Beynon &amp; J. S. Easterby</p>	<p>Beynon, R.J. &amp; Easterby, J.S. (1996) "Buffers for pH Control-The basics" Bios Scientific Publishers (87pp)</p> <p>This book, one of 'The basics' series, covers the fundamental principles of methods for control of the hydrogen ion in biological systems. It departs radically from the traditional, mathematical approach favoured by other books, and explains in a 'user-friendly' fashion why issues such as temperature and ionic strength are important. To complement this book, I have written Web-based software to automate buffer calculations (see below). Astonishingly, available in a Kindle edition for £36!</p>
 <p>Jane L. Hurst - Robert J. Beynon J. Craig Roberts - Wyatt TD (eds) <b>Chemical Signals in Vertebrates 11</b> Springer</p>	<p>Hurst JL, Beynon RJ, Roberts SC, &amp; Wyatt TD (2008) (eds) <i>CHEMICAL SIGNALS IN VERTEBRATES 11</i></p> <p>This edited volume records the science discussed at the meeting organized by Jane Hurst, myself and colleagues at the University of Chester in 2006. The chapters in the book were peer-reviewed and the volume stands as a high quality snapshot of research in this fascinating area.</p>
 <p>Buffer species: Phosphate (<math>pK_a=7.25</math>) Volume: 1000 mL pH: 7.00 Concentration: 0.1 mM Control ionic strength: Yes, if checked Ionic strength: 0.1 mM Correct ionic strength with: NaCl Prepare buffer at T: 25 °C Use buffer at T: 25 °C Reset   Recipe</p>	<p>To complement the buffer book, I have written Web-based software to automate buffer calculations. In 2022, this calculator was moved to mypersonal web site, as the CPR web site was being replaced with a much less functional, corporate, university format.</p> <p>See: <a href="http://www.phbuffers.org">www.phbuffers.org</a>. This site has recorded over <b>1,250,000</b> hits (much more than an Olympic swimming pool). Since the only purpose in visiting this site is to prepare buffers, this is by far my most 'read' or 'impactful' output!</p>
 <p>F Phenylalanine, Phe Proline, Pro</p>	<p>I developed a new venture, as a not-for-profit exercise, to print and distribute my amino acid playing card set. This was printed and distributed in 2022 onwards. <a href="http://phbuffers.org/AAIIntro/Zwitter.html">http://phbuffers.org/AAIIntro/Zwitter.html</a></p>