



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

September, 2024

www.phbuffers.org

Robert J Beynon BSc PhD FLSW

PERSONAL DETAILS

Name: Robert Jeffrey BEYNON
Place of Birth: Cardiff, U.K.
Nationality: British

Work Address: Centre for Proteome Research
Institute of Systems, Molecular and Integrative Biology
BioSciences Building
University of Liverpool,
Crown Street, Liverpool L69 7ZB, UK
mailto: r.beynon@liv.ac.uk

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 (RETIRED)

BIBLIOGRAPHY

Publications	337
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 Biochem. 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

	2024	Elected, Vice President STEMM, Learned Society of Wales
	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.
	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
	2013-2018	Chair, Education Committee, 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
	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.
	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)
Phillip 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. 2023	Novel approaches to ecological field sampling by mass spectrometry (BBSRC CASE)

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	£86,000
2000-2003	Purchase of equipment for COGEME programme BBSRC (RJB, SJG, SGO)	£410,000
2000-2004	Turnover profiling - an approach to proteome dynamics BBSRC (JLH, RJB)	£420,000
2000-2004	Molecular basis of chemical communication in rodents BBSRC (JLH, RJB)	£277,000
2000-2003	Chemical communication and navigation BBSRC (RJB, SJG, JLH)	£274,000
2001-2004	Purchase of an LC-QTOF mass spectrometer North West Science Review (RJB, Liverpool component)	£345,000
2001-2003	Third generation proteomics (total £2.1m) Wellcome Trust (RJB, SH, MB)	£150,000
2001-2004	Copper toxicity in Ronaldsay sheep BBSRC JREI (JLH, RJB, PS)	£15,000
2002 - 2007	Imaging of rodent scent marks Wellcome SRIF (JLH, RJB, MB + 4)	£3,200,000
2003 - 2006	Role of behaviour in disease transmission BBSRC JREI (JLH, RJB, PS)	£58,312
2003 - 2006	Automatic monitoring of small mammals BBSRC (RJB, SJG)	£342,000
2003 - 2007	Proteome dynamics in skeletal muscle BBSRC (JBM, RJB)	£210,000
2002 - 2005	Dictyocaulus antigen characterisation NERC (RJB, JLH, PS+MB)	£229,000
2003 - 2004	Proteomics cross-species identification 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)	£205,000
2004 - 2007	FPGAs to eliminate near—instrument bottlenecks in proteomics. BBSRC (JLH, RJB)	£575,000
2004 - 2007	Identification of mouse urine chemosignals. BBSRC (RJB, SJG)	£274,000
2004 - 2007	Proteomics of protein ubiquitination. Sygen now Genus (studentship)	£57,000
2005 - 2008	Quantitative proteomics BBSRC (RJB*, SJG*)	£600,000
2005 - 2008	Moving quantification to a proteome wide scale. 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) 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 Author: BBSRC Doctoral Training Grant (FVS) 24 studentships	£1,700,000
2007 - 2014	Author: BBSRC Doctoral Training Grant (FVS) 10 studentships	£1,100,000
2008 - 2013	BBSRC (RJB + Sheffield) FPGA supercomputing technology for high-throughput identification and quantitation in proteomics (Liverpool component of a £490K grant award) BBSRC SABR Proposal (MW*)	£68,000
2008 - 2010	Dynamics and function of the NF-kappaB signalling system (Approx. RJB component of a £3.4M grant award) BBSRC (Liv plus Manchester)	£400,000
2007 - 2014	Rapid proteome profiling using positional signature peptides (Liverpool component of a £445K grant award) BBSRC (LOLA with Manchester)	£220,000
	Global analysis of post-transcriptional control of protein expression (Liverpool component of a £4.9M grant award)	£2,100,000

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 TRFDF 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 Semiochemistry 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" Rheinhardtsbrunn, 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" Rheinhardtsbrunn, 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, Loughbrough
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

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
3. Kay, J., Carney, I.T. and Beynon, R.J. (1977) The susceptibility of glycogen phosphorylase to inactivation by endogenous and exogenous proteinases. *Acta. Biol. Med. Germ.*, 36, 1637-1644
4. Carney, I.T., Beynon, R.J., Kay, J. and Birket, N. (1978) A semi- continuous assay for glycogen phosphorylase. *Anal. Biochem.* 85, 321-324
5. Beynon, R.J. and Kay, J. (1978) The inactivation of native enzymes by a neutral proteinase from rat intestinal muscle. *Biochem. J.* 173, 291-298
6. Carney, I.T., Beynon, R.J., Kay, J. and Birket, N. (1978) The susceptibility of muscle phosphorylases a and b to digestion by a neutral proteinase from rat intestinal muscle. *Biochem. J.* 175, 105-113
7. Beynon, R.J. (1980) The role of protein modification in the control of enzyme degradation. in "The Enzymology of Post Translational Modifications" (R.B. Freedman and H. Hawkins, eds) Academic Press, London pp 363-385
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
10. Beynon, R.J., Brown, C.P. and Butler, P.E. (1981) The inactivation of Streptomyces - derived proteinase inhibitors by mammalian tissue preparations. *Acta. Biol. Med. Germ.*, 40, 1539-1546
11. Harland, R.F. and Beynon, R.J. (1981) Alkaline proteolytic activity in mouse intestinal smooth muscle. *Acta. Biol. Med. Germ.*, 40, 1473-1480.
12. Green, S., Field, J.K., Green, C.D. and Beynon, R.J. (1982) A microcomputer program for analysis of nucleic acid hybridisation data. *Nucleic Acid Research* 11, 1411-1421
13. Place, G.A. and Beynon, R.J. (1982) The effect of ionic environment on pig heart mitochondrial malate dehydrogenase. *Int. J. Biochem.* 14, 305-309
14. Place, G.A. and Beynon, R.J. (1982) The chymotrypsin catalysed activation of glutamate dehydrogenase. *Biochem. J.* 205, 75-80
15. Beynon, R.J. and Place G.A. (1982) Molecular graphics on a microcomputer. *Biochemical. Education.* 10, 104-107
16. Mulligan M.T., Bond J.S. and Beynon, R.J. (1982) Evidence for multiple metalloendopeptidases in mouse kidney. *Biochem. Int.* 5, 337-343
17. Bond, J.S., Shannon, J.S. and Beynon, R.J. (1983) Certain mouse strains are deficient in a kidney brush border metallo-endopeptidase activity. *Biochem. J.* 209, 251-255
18. Beynon, R.J. and Bond J.S., (1983) Deficiency of a kidney metallo- proteinase in inbred mouse strains. *Science* 219, 1351-1353
19. Brown, C.P. and Beynon, R.J. (1983) Tissue and subcellular distribution of enzymes inactivating leupeptin. *Bioscience Reports* 3, 179-184
20. Place G.A. and Beynon, R.J. (1983) Chymotryptic activation of glutamate dehydrogenase. *Biochim. Biophys. Acta* 747, 26-31
21. Grinde, B., Galpin, I., Wilby, A.H. and Beynon, R.J. (1983) Inhibition of hepatic protein degradation by synthetic analogues of chymostatin. *J. Biol. Chem.* 258, 10821-10824
22. Beynon, R.J. (1983) The potential of the microcomputer in biological research in "Computing in Biological Sciences". (M. Geisow and A.N. Barrett, eds) Elsevier-North Holland, Amsterdam pp395-437
23. Galpin, I., Wilby, A and Beynon, R.J. (1983) Analogues of chymostatin in "Peptides, 1982". (K. Blaha and P. Malon, eds) Walter de Gruyter, Berlin, pp649-652
24. Beynon, R.J. (1983) Basic Microcomputer models in Biology (review) *Biochem. Ed.* 11, 44
25. Galpin I., Wilby, A.H., Place, G.A. and Beynon, R.J. (1984) Analogues of the proteinase inhibitor, chymostatin. *Int. J. Prot. Pep. Res.* 23, 477-486
26. Butler, P.E., Fairhurst, D and Beynon, R.J. (1984) Rapid purification of glycogen phosphorylase from small samples of skeletal muscle. *Anal. Biochem.* 141, 494-498

27. Bond, J.S. Beynon, R.J., Reckelhoff, J. and David, C.S. (1984) Mep-I gene controlling a kidney metalloendopeptidase is linked to the major histocompatibility complex in mice. *Proc. Natl. Acad. Sci. USA* 81, 5542- 5545
28. Beynon, R.J. (1984) The error of our ways - an exercise in curve fitting. in "Microcomputers in Biochemical Education". (Wood, E.J. ed) Taylor and Francis, pp 125-142
29. Beynon, R.J. (1984) The microcomputer in biochemical education in "Microcomputers in Biochemical Education". (Wood, E.J. ed) Taylor and Francis pp 1-18
30. Beynon R.J. (1984) Communicating with microcomputers. in "Microcomputers in Biology-A Practical Approach". (Ireland, C.R. and Long, S.P. eds) IRL Press pp 17-42
31. Place, G.A. and Beynon, R.J. (1984) Microcomputer graphics. in "Microcomputers in Biology A Practical Approach". (Ireland, C.R. and Long, S.P. eds) IRL Press pp 67-105
32. Beynon RJ, Bond JS. Expression of the Mep-1 gene regulating meprin, a kidney brush border proteinase. (1985)*Prog Clin Biol Res.* 180,185-94.
33. Borland, I.A., Sells, R.A., Gosney, J.R. and Beynon, R.J. (1985) Strain- specific calcification of the heart in cyclosporin-treated mice. *Transplantation Proc.* 27, 1345-1348
34. Butler PE, Beynon RJ. (1985) Pyridoxal phosphate as a probe for the degradation products of skeletal muscle glycogen phosphorylase. *Prog Clin Biol Res.* 180, 499-501.
35. Mulligan, M.T., Galpin, I.G., Wilby, A.H. and Beynon, R.J. (1985) The effect of analogues of chymostatin upon protein degradation in isolated skeletal muscle. *Biochem J.* 230, 491-497
36. Beynon, R.J. (1985) A general purpose non-linear curve fitting program for the BBC Microcomputer. *Computer Applications in the Biosciences* 1, 111-115
37. Butler, P.E., Cookson, E.J. and Beynon, R.J. (1985) Turnover of skeletal muscle glycogen phosphorylase - use of the cofactor, pyridoxal phosphate as a specific label. *Biochim Biophys Acta.* 847, 316-323
38. Butler, P.E., Cookson, E.J. and Beynon, R.J. (1985) Accelerated degradation of glycogen phosphorylase in denervated and dystrophic skeletal muscle. *Bioscience Reports* 5, 567-572
39. Reckelhoff, J.F., Bond, J.S., Beynon, R.J., Savarirayon, S. and David, C.S. (1985) Proximity of the Mep-1 gene to H-2D on chromosome 17 in mice. *Immunogenetics* 22, 617-623
40. Place GA, Ning MC, Beynon RJ. (1985) A leupeptin inactivating enzyme from rat liver. *Prog Clin Biol Res.* 180, 269-71.
41. McKay, M.J., Garganta, C.L., Beynon, R.J. and Bond, J.S. (1985) Deficiency of a mouse kidney metallo-endopeptidase activity : immunological demonstration of an altered gene product. *Biochem. Biophys. Res. Commun.* 132, 171-177
42. Bond, J.S. and Beynon, R.J. (1985) Mammalian metalloendopeptidases. *Int. J. Biochem* 17, 565-574
43. Beynon, R.J. and Bond, J.S. (1985) Expression of the Mep-I gene regulating meprin, a kidney brush border proteinase. in "Intracellular Proteolysis". (Khairallah, E, Bond, J.S., and Bird, J.W.C., eds) Alan R. Liss Inc pp 185-194
44. Butler, P.E. and Beynon, R.J. (1985) Pyridoxal phosphate as a probe for the degradation products of skeletal muscle glycogen phosphorylase in "Intracellular Proteolysis". (Khairallah, E, Bond, J.S., and Bird, J.W.C., eds) Alan R. Liss Inc pp 499-501
45. Place, G.A., Ning, M.C.Y.J. and Beynon, R.J. (1985) A leupeptin- inactivating enzyme from rat liver in "Intracellular Proteolysis". (Khairallah, E, Bond, J.S., and Bird, J.W.C., eds) Alan R. Liss Inc pp 269-271
46. Beynon, R.J., Place G.A., and Butler, P.E. (1985) Limited proteolysis of enzymes : The generation of functionally modified derivatives in vitro and in vivo. *Biochem Soc Trans* 13, 306-308
47. Beynon, R.J. (1985) Computing in the biological sciences - A survey. *Computer Applications in the Biosciences* 1, 7-9
48. Beynon, R.J. (1985) Multiplan (review) *Comp. App. Biosci.* 1, 287
49. Beynon, R.J. (1985) Factfinder (review) *Comp. App. Biosci.* 1, 288
50. Beynon, R.J., Cookson, E.J. and Butler, P.E. (1985) Intracellular proteolysis - the elusive intermediates. *Biochem Soc Trans* 13, 1005-1007
51. Galpin, I.J., Beynon, R.J., Chetland, J., Mulligan, M.T. and Place, G.A. (1985) A new approach to the synthesis of peptide aldehyde inhibitors in "Peptides, Structure and Function" (Deber, C.M., Hruby, V.J. and Kopple, K.D., eds) Pierce Chemical Co., Illinois pp 799-802.
52. Ning, M.C.Y.J. and Beynon, R.J. (1986) Preparation and purification of the proteinase inhibitor leupeptin from culture filtrates of *Streptomyces lavendulae* *Int. J. Biochem.* 18, 813-820
53. Durrant, I.D., Rodgers, P.B. and Beynon, R.J. (1986) Effect of glycerol on thermolysin catalysed peptide bond synthesis. *Arch. Biochem. Biophys.* 250, 280-285
54. Bond, J.S. and Beynon, R.J. (1986) Meprin - a membrane-bound metalloendopeptidase. *Curr. Top Cell Regulation* 28, 263-290
55. Beynon, R.J. and Bond, J.S. (1986) Molecular mechanisms of protein degradation in mammalian systems. *Am. J. Physiol* 251, C141-C152

56. Beynon, R.J., Fairhurst, D. and Cookson, E.J. (1986) Turnover of skeletal muscle glycogen phosphorylase. *Biomed. Biochim. Acta* 45, 1619-1625
57. Bond, J.S., Butler, P.E. and Beynon, R.J. (1986) Metalloendopeptidases of the mouse kidney brush border: meprin and endopeptidase 24.11. *Biomed. Biochim. Acta* 45, 1515-1521
58. Cookson, E.J. and Beynon, R.J. (1987) Degradation artefacts during sample preparation for sodium dodecyl sulphate polyacrylamide gel electrophoresis. *Bioscience Reports* 7, 209-215
59. Place, G.A., Chetland, J.A., Galpin, I.J. and Beynon, R.J. (1987) The effect of analogues of chymostatin on lysosomal and non-lysosomal components of protein degradation in isolated hepatocytes. *Biochim. Biophys. Acta* 925, 185-193
60. Reckelhoff, J.F., Butler, P. E., Bond, J.S., Beynon, R.J. and Passmore, H.C. (1987) Mep-1, the gene regulating meprin activity, maps between Pkg-2 and Ce-2 on mouse chromosome 17. *Immunogenetics* 27, 298-300
61. Beynon, R.J. and Bond, J.S. (1987) Proteolysis and physiological regulation. *Mol. Aspects. Medicine* 9, 173-287
62. Beynon, R.J. (1987) Prevention of unwanted proteolysis. in "Methods in Molecular Biology" (Walker, J, ed.) Humana Press, Clifton, N.J. pp 1-23
63. Rodgers, P.B., Durrant, I. and Beynon, R.J. (1987) Effect of water miscible solvents on activity and thermostability of thermolysin in "Biocatalysis in Organic Media" (Laane, C., Tranper, J. & Lilly, M.D.) Elsevier, Amsterdam pp 405-409
64. Beynon, R.J. (1987) Computer-based learning in biochemistry. *Biochem. Soc. Trans* 15, 349-351
65. Beynon, R.J. (1988) A Macintosh Hypercard stack for calculation of thermodynamically-corrected buffer recipes. *Computer Applications in the Biosciences* 4, 487-490
66. Reckelhoff, J.F., Craig, S., Beynon, R.J. and Bond, J.S. (1988) Meprin phenotype and cyclosporin A toxicity in mice in "Proteases II: Potential Role in Health and Disease", Horl, W. & Heidland, eds. Plenum Press pp 293 - 304
67. Beynon, R.J. (1989) Control of proteolysis during protein purification in "Protein Purification, A Practical Approach" (Angal, S. & Harris, E.L., eds) Oxford University Press pp 40-51
68. Cusack, M. and Beynon, R.J. (1989) Use of immobilised oxirane beads in protein purification in "Protein Purification, A Practical Approach" IRL Press (Angal, S. & Harris, E.L., eds) Oxford University Press pp 262-268
69. Bond, J.S., Stroupe, T., Macadam, G.C., Hall, J.L. & Beynon, R.J. (1988) Properties and regulation of meprin - a kidney brush border metallo-endopeptidase in "Mammalian Brush Border Membrane Proteins" (Lentze, M.J. & Sterchi, E., eds) pp 139-147, Stuttgart
70. Cookson, E. J. & Beynon, R.J. (1989) The role of cofactor in the turnover of glycogen phosphorylase. *Int. J. Biochem.* 21, 975-982
71. Stroupe, S.T., Butler, P.E., Bond, J.S., Macadam, G.C. & Beynon, R.J. (1989) Proteolytic activity of a plasma membrane proteinase. in "Intracellular proteolysis" (Katunuma, N. & Kominami, E., eds) Japan Scientific Society Press. pp 178-187
72. Flannery, A.V., Bond, J.S. & Beynon, R.J. (1989) "Peptide mapping and partial hydrolysis of proteins for sequence analysis. in "Proteolytic Enzymes - A Practical Approach" IRL Press. Beynon, R.J. & Bond, J.S. (eds) pp 145-162
73. Beynon, R. J. & Salvesen, G. (1989) Commercially available protease inhibitors - compilation of properties in "Proteolytic Enzymes - A Practical Approach" IRL Press. Beynon, R.J. & Bond, J.S. (eds) pp 241-249
74. Flannery, A.V. & Beynon, R. J. (1989) PIR accession numbers to sequences of commercially available proteases and inhibitors in "Proteolytic Enzymes - A Practical Approach" IRL Press. Beynon, R.J. & Bond, J.S. (eds) pp 250-251
75. Bond, J.S., Butler, P.E., Macadam, G. & Beynon, R.J. (1989) Regulation of a membrane-bound proteinase in mammalian cells. in "Current Topics in Protein Degradation" (Knecht, E. & Grisolia, S., eds) Rev. Cell Biol. 20, 125-137
76. Macadam, G.C., Bond, J.S. & Beynon, R.J. (1990) A cryptic meprin-like proteinase in kidney brush borders of Mep-1a and Mep-1b mice. *Int. J. Biochem.* 22, 989-996
77. Flannery, A.V., Dalzell, G.N & Beynon, R.J. (1990) Proteolytic activity in mouse urine: relationship to the kidney metallo-endopeptidase, meprin. *Biochim. Biophys. Acta* 1041, 64-70
78. Shamil, S., Cusack, M.R. & Beynon, R.J. (1990) Effects of proteolysis on the sensory properties of the sweet protein, thaumatin. *J. Sci. Fd. Agric.* 53, 73-84
79. Shamil, S. & Beynon, R.J. (1990) A structure-activity study of thaumatin using pyridoxal 5'-phosphate (PLP) as a probe. *Chem. Senses* 15, 457-469
80. Rusbridge, N.M. & Beynon, R.J. (1990) Inactivation of glycogen phosphorylase b by 3,4 dichloroisocoumarin, a serine protease inhibitor. *FEBS Lett* 268, 133-136
81. Leyland, D.M., Turner, P.C. & Beynon, R.J. (1990) Expression of glycogen phosphorylase in denervated skeletal muscle. *Biochem. J.* 272, 231-237
82. Beynon, R.J. (1990) Plasmid Artist (review) *Comp. App. Biosci.* 6, 421
83. Beynon, R.J. (1990) Powerpoint 2.0 (review) *Comp. App. Biosci.* 6, 429-430
84. Cusack, M. Stephen, A., Powls, R. & Beynon, R.J. (1991) Purification and characterisation of thaumatopain, a cysteine proteinase from the arils of *Thaumatococcus daniellii*. *Biochem. J.* 274, 231-236

85. McConchie S.M., Coakley, J., Edwards, R.H.T. & Beynon, R.J. (1991) Molecular heterogeneity in McArdle's disease. *Biochim. Biophys. Acta* 1096, 26-32
86. Flannery, A.V., Macadam, G.C. & Beynon, R. J. (1991) Immunological characterisation of meprin species. *Biochim. Biophys. Acta* 1079, 119-122
87. Leyland, D.M., & Beynon, R.J. (1991) Expression of glycogen phosphorylase in dystrophic skeletal muscle. *Biochem J.* 278, 113-117
88. Dumermuth, E, Sterchi, E, E., Jiang, W., Wolz, R.L., Bond, J.S. Flannery, A.V. & Beynon, R.J. (1991) The Astacin family of Metalloendopeptidases. *J. Biol. Chem.* 266, 21381-21385
89. Tomkinson, N.P., Galpin, I.J. & Beynon, R.J. (1991) Analogues of the proteinase inhibitor chymostatin - inhibition of chymotrypsin and *Streptomyces griseus* protease A. *Biochem. J.* 286, 475-480
90. Flannery, A.V. & Beynon, R.J. (1991) Genetic factors influence the degradation of glycogen phosphorylase in chicken skeletal muscle *Biochem. Biomed. Acta* 50, 361-363
91. Beynon, R.J., Macadam, G.C. & Flannery, A.V. (1991) Metalloendopeptidase activity in the urine of rodents *Biochem. Biomed. Acta* 50, 795-797
92. Nevin, D.E. & Beynon, R.J. (1991) Effect of organic co-solvents of peptide synthesis and hydrolysis by thermolysin. *Biochem. Biomed. Acta* 50, 118-121
93. Jiang, W., Gorbea, C.M., Flannery, A.V., Beynon, R.J., Grant, G.A. & Bond, J.S. (1992) The a-subunit of meprin A: molecular cloning and sequencing, differential expression in inbred mouse strains, and evidence for divergent evolution of the a and b subunits. *J. Biol. Chem* 267, 9185-9193
94. Flannery, A.V. & Beynon, R.J. (1992) Turnover of glycogen phosphorylase in the pectoralis of broiler and layer chickens. *Biochem J.* 286, 915-922
95. Cookson, E.J., Flannery, A.V., Cidlowski, J.A. and Beynon, R.J. (1992) Degradation intermediates of skeletal muscle glycogen phosphorylase in vivo and in vitro. Identification by a monoclonal antibody to the cofactor, pyridoxal phosphate. *Biochem. J.* 287, 291-296.
96. Leyland, D.M., Evershed, R.P. Edwards, R.H.T & Beynon, R.J. (1992) Application of GC/MS with selected ion monitoring to the urinalysis of 4-pyridoxic acid. *J Chromatog:Biomed.* 581, 179-185
97. Beynon, R.J., Flannery, A.V. & Leyland, D.M. (1993) Degradation of glycogen phosphorylase in normal and abnormal skeletal muscle in "Intracellular Protein Catabolism" (Bond, J.S. & Barrett, A.J, eds) Portland Press pp157-162
98. Robertson, D.H, Beynon, R.J. & Evershed, R.P. (1993) Extraction, characterization and binding analysis of two pheromonally-active ligands associated with the major urinary proteins of the mouse. *J. Chem Ecol* 19, 1405-1416
99. Stephen, A.G., Powls, R. & Beynon, R. J. (1993) Activation of oxidised cysteine proteinases by thioredoxin-mediated reduction in vitro. *Biochem. J.* 291, 345-347
100. Bartram, C., Edwards, R.H.T., Clague, J. & Beynon, R.J. (1993) McArdle's disease: a nonsense mutation in exon 1 of the muscle glycogen phosphorylase gene explains some but not all cases. *Human Molecular Genetics* 2, 1291-1293
101. Evershed, R.P., Robertson, D.H.L., Beynon, R.J. & Green, B.N. (1993) Application of electrospray ionization mass spectrometry with maximum entropy analysis to allelic fingerprinting of major urinary proteins. *Rap. Comm. Mass Spec.* 7, 882-886
102. Stephen, A.G., Powls, R. & Beynon, R. J. (1994) Cysteine protease activity in arils of *Thaumatococcus daniellii*: relationship between the sweet protein thaumatin and cysteine protease activity. *Int. J. Biochem* 26, 879-884
103. Bartram, C., Edwards, R.H.T., Clague, J. & Beynon, R.J. (1994) McArdle's disease: A rare frameshift mutation in exon 1 of the muscle glycogen phosphorylase gene. *Biochim. Biophys. Acta* 1226, 341-343
104. Beynon, R.J. Stephen, A.G., Dowswell, P.D. & Tomkinson, N.P. (1994) Structure and properties of thaumatin in "Thaumatococcus" (Witty, M. & Higginbotham, J., eds) CRC Press, Boca Raton, Fla. (in press)
105. Beynon, R.J. Edwards, R.H.T. & Bartram, C.B. (1994) McArdle's disease - molecular basis and implications for therapy. *Biochim. Biophys Acta*, 1272, 1-13
106. Gorbea, C.M., Beynon, R.J. & Bond, J.S. (1994) Meprins: activation, subunit interactions and anchoring. in "Mammalian Brush Border membrane proteins II" (eds Lentze, M.J., Naim, H.Y. & Grand, R.J.) pp89-97 Thieme, Stuttgart
107. Beynon, R.J., Bartram, C., Hopkins, P., Toescu, V., Gibson, H., Phoenix, J., & Edwards, RHT (1995) McArdle's disease: Molecular genetics and metabolic consequences of the phenotype. *Muscle and Nerve* 18, S18-S22
108. Ellison, D., Hinton, J., Hubbard, S.J. & Beynon, R.J. (1995) Limited proteolysis of native proteins: The interaction between avidin and proteinase K. *Protein Science* 4, 1337-1345
109. Bartram, C., Edwards, R.H.T. & Beynon, R.J. (1995) McArdle's disease-muscle glycogen phosphorylase deficiency *Biochimica et Biophysica Acta* 1272, 1-13
110. Bond, J.S. & Beynon, R.J. (1995) The astacin family of metalloendopeptidases. *Protein Science* 4, 1247-1261
111. Coughlan, A. D., Carter, S. D., Robertson, D. H. L., Kelly, D. F., Bennett, D., May, C. & Beynon, R. J. (1995). Zymographic analysis of synovial fluid metalloproteinases in canine arthritis. *Vet. Comp. Orthopaed. Traum.* 8, 62.

112. Bond, J.S. & Beynon, R.J.(1995) The astacin family of metalloendopeptidases. *Protein Science* 4,1247-1261
113. Robertson, D.H.L., Gaskell, S.J., Cox, K., Evershed, R.P. & Beynon, R.J. Analysis of molecular heterogeneity in Major Urinary Proteins of the house mouse, *Mus musculus* (1996) *Biochem. J.* 316, 265-272
114. Beynon, R.J., Oliver, S. & Robertson, D.H.L. (1996) Characterisation of the soluble secreted form of mouse meprin *Biochem. J.* 315, 461-466
115. Tikku, P.E., Gracey, A.Y., Macartney, A.I., Beynon, R.J. & Cossins, A.R. (1996) Cold-induced expression of delta-9 desaturase in carp by transcriptional and posttranslational mechanisms. *Science* 271, 815-863
116. Beynon, R.J., Leyland, D.M., Evershed, R.P., Edwards, R.H.T. & Coburn, S.P. (1996) Measurement of the turnover of glycogen phosphorylase by gas chromatography/mass spectrometry using stable isotope derivatives of pyridoxine (Vitamin B6) *Biochem J* 317, 613-619
117. Beynon, R.J. & Oliver, S. (1996) Prevention of unwanted proteolysis, in "Protein Purification Protocols" (Doonan, S., ed) Humana Press. pp 81-102
118. Beynon, R.J., Bartram, C., Flannery, A.V. Evershed, R.P., Leyland, D.M., Hopkins, P., Toescu, V., Phoenix, J. & Edwards, R.H.T. (1996) Interrelationships between metabolism and glycogen phosphorylase and pyridoxal phosphate-implications in McArdle's disease. *Food & Nutrition* 40, 135-147
119. Robertson, D.H.L., Hurst, J.L., Bolgar, M.S., Gaskell, S.J. & Beynon, R.J. (1997) Molecular heterogeneity of urinary proteins in wild house mouse populations. *Rap. Comm. Mass Spec.* 11, 786-790
120. Beynon, R.J., Oliver, S., Stateva, L., Evershed, R.P. & Robertson, D.H.L. (1997) Soluble forms of kidney meprin alpha. in 'The Astacins' (R Zwillig & W Stocker, eds) Verlag DR Kovac, Hamburg, 1997
121. Hubbard, S.J., Beynon, R.J. & Thornton, J.M. (1998) Prediction of limited proteolytic sites in native protein structures from conformational parameters. *Prot. Eng.* 11, 349-359
122. Robertson, D., Hurst, J.L., Hubbard, S.J., Gaskell, S.J. & Beynon, R.J. (1998) Ligands of urinary lipocalins from the mouse -uptake of environmentally-derived chemicals. *J. Chem. Ecol.* 24, 1127-1140
123. Hurst, J.L., Robertson, D.H.L., Tolladay, U. & Beynon, R.J. (1998) Proteins in scent marks of male house mice extend the emission of olfactory signals. *Anim. Behav.* 55, 1285-1297
124. Phoenix, J., Hopkins, P.G., Bartram, C., Beynon, R.J., Quinlivan, R.C.M. & Edwards, R.H.T. (1998) Effect of vitamin B6 supplementation in McArdle's disease: a strategic case study. *Neuromuscular Disorders.* 8, 210-212
125. Coughlan, A. R., Robertson, D. H. L., Burke, R., Beynon, R.J., Carter, S. D. (1998) Isolation and identification of canine matrix metalloproteinase-2 (MMP-2). *Vet J.* 155, 231-237
126. Coughlan, A. R., Robertson, D. H. L., Bennett, D., May, C., Beynon, R.J., Carter, S.D. (1998) Matrix metalloproteinases 2 and 9 in canine rheumatoid arthritis. *Vet. Record* 143, 219-223
127. Beynon, R.J. & Beaumont, A. (1998) M4 proteases: thermolysins. in "Handbook of Proteolytic Enzymes" (Barrett, A.J. Rawlings, N. & Woessner, F., eds) Academic press 1037-1046
128. Beynon, R.J. & Beaumont, A. (1998) M4 proteases: bacillolysins. in "Handbook of Proteolytic Enzymes" (Barrett, A.J. Rawlings, N. & Woessner, F., eds) Academic press 1046-1050
129. Wu, C., Robertson, D.H.L., Hubbard, S.J. Gaskell, S.J. & Beynon, R.J. (1999) Limited proteolysis of native enzymes: Isolation of a reaction intermediate. *J. Biol. Chem.* 274: 1108-1115
130. Humphries, R. E., Robertson, D. H., Beynon, R. J. & Hurst, J. L. (1999). Unravelling the chemical basis of competitive scent marking in house mice. *Anim Behav* 58, 1177-1190.
131. Beynon, R.J., Robertson, D.H.L., Hubbard, S. J., Gaskell, S.J. & Hurst, J.L. (1999) The role of protein binding in chemical communication: major urinary proteins in the house mouse. in "Chemical Signals in Vertebrates" (R.E. Johnston, D. Müller-Schwarze and P.W.Sorensen eds) Plenum Press pp 137-147
132. Pes, D., Robertson, D.H.L., Hurst, J.L., Gaskell, S.J. & Beynon, R.J. (1999) How many Major Urinary Proteins are produced by the house mouse *Mus domesticus*? in "Chemical Signals in Vertebrates" (R.E. Johnston, D. Müller-Schwarze and P.W.Sorensen eds) Plenum Press 149-161
133. Nevison, C.M., Barnard, C.J., Beynon, R.J. & Hurst, J.L. (2000) The consequences of inbreeding for recognizing competitors. *Proceedings of the Royal Society* 267, 687-694.
134. Coughlan AR, Robertson DH, Burke R, Beynon RJ, Carter SD. (2000) Isolation and identification of canine matrix metalloproteinase-2 (MMP-2). *Vet J.* 155:231-237
135. Quinlivan, R. & Beynon, R.J. (2000) McArdle's disease: an overview. *BIMDG Bulletin*, 18, 40-46
136. Brancia, F.L., Butt, A., Beynon, R.J., Hubbard, S.J., Gaskell, S.J. & Oliver, S.G. (2001) A combination of chemical derivatisation and improved bioinformatic tools optimises protein identification for proteomics. *Electrophoresis*, 22, 552-559
137. Butt, A., Davison, M.D., Smith, G.J., Young, J.A., Gaskell, S.J., Oliver, S.G. & Beynon, R.J. (2001) Chromatographic separations as a prelude to two-dimensional electrophoresis in proteomics analysis. *Proteomics*, 1, 42-53.

138. Marie, A.D., Veggerby, C., Robertson, D.H.L., Gaskell, S.J., Hubbard, S.J., Martinsen, L., Hurst, J.L. & Beynon, R.J. (2001) The effect of protein polymorphisms on ligand binding by Major Urinary Proteins. *Protein Science* 10, 411-417
139. Hurst, J. L., Payne, C. E., Nevison, C. M., Marie, A. D., Humphries, R. E., Robertson, D. H., Cavaggioni, A. & Beynon, R. J. (2001). Individual recognition in mice mediated by major urinary proteins. *Nature* 414, 631-634.
140. Beynon, R.J., Hurst, J.L., Gaskell, S.J., Hubbard, S.J., Humphries, R.E., Malone, N., Marie, A.D., Martinsen, L., Nevison, C.M., Payne, C.E., Robertson, D.H.L. & Veggerby, C. (2001) Mice, MUPs and myths – structure-function relationships of the major urinary proteins. In: *Chemical Signals in Vertebrates* (Ed. A. Marchlewska-Koj, D. Muller-Schwarze & J. Lepri) pp149-156. New York: Plenum Press.
141. Hurst, J.L., Beynon, R.J., Humphries, R.E., Malone, N., Nevison, C.M., Payne, C.E., Robertson, D.H.L. & Veggerby, C. (2001) Information in scent signals of status: the interface between behaviour and chemistry. . In: *Chemical Signals in Vertebrates* (Ed. A. Marchlewska-Koj, D. Muller-Schwarze & J. Lepri) pp43-50. Plenum Press, New York.
142. Humphries, R.E., Robertson, D.H.L., Nevison, C.M., Beynon, R.J. & Hurst, J.L. (2001) The role of urinary proteins and volatiles in competitive scent marking among male house mice. . In: *Chemical Signals in Vertebrates* (Ed. A. Marchlewska-Koj, D. Muller-Schwarze & J. Lepri) pp353-360. Plenum Press, New York.
143. Malone, N., Payne, C.E., Beynon, R.J. & Hurst, J.L. (2001) Social status, odour communication and mate choice in wild house mice. . In: *Chemical Signals in Vertebrates* (Ed. A. Marchlewska-Koj, D. Muller-Schwarze & J. Lepri) pp217-224. Plenum Press, New York.
144. Nevison, C.M., Barnard, C.J., Beynon, R.J. & Hurst, J.L. (2001) Effects of inbreeding and social status on individual recognition in mice. . In: *Chemical Signals in Vertebrates* (Ed. A. Marchlewska-Koj, D. Muller-Schwarze & J. Lepri) pp225-232. Plenum Press, New York.
145. Payne, C.E., Malone, N., Humphries, R., Bradbrook, C., Veggerby, C., Beynon, R.J. & Hurst, J.L. (2001) Heterogeneity of major urinary proteins in house mice: population and sex differences. . In: *Chemical Signals in Vertebrates* (Ed. A. Marchlewska-Koj, D. Muller-Schwarze & J. Lepri) pp233-240. Plenum Press, New York.
146. Robertson, D.H.L., Marie, A.D., Veggerby, C., Hurst, J.L. & Beynon, R.J. (2001) Characteristics of ligand binding and release by major urinary proteins. . In: *Chemical Signals in Vertebrates* (Ed. A. Marchlewska-Koj, D. Muller-Schwarze & J. Lepri) pp169-176. Plenum Press, New York.
147. Veggerby, C., Payne, C.E., Gaskell, S.J., Robertson, D.H.L., Hurst, J.L. & Beynon, R.J. (2001) Polymorphic variants of mouse major urinary proteins. . In: *Chemical Signals in Vertebrates* (Ed. A. Marchlewska-Koj, D. Muller-Schwarze & J. Lepri) pp157-168. Plenum Press, New York.
148. Beynon, R. J. & Salvesen, G. (2001). Commercially available proteinase inhibitors. In *Proteolytic Enzymes. A Practical Approach* (Beynon, R. J. & Bond, J. S., eds.), pp. 317-330. OUP, Oxford.
149. Hubbard, S. J. & Beynon, R. J. (2001). Proteolysis of native proteins as a structural probe. In *Proteolytic Enzymes. A Practical Approach* (Beynon, R. J. & Bond, J. S., eds.), pp. 233-264. OUP, Oxford.
150. Beynon, R. J., Veggerby, C., Payne, C. E., Robertson, D. H., Gaskell, S. J., Humphries, R. E. & Hurst, J. L. (2002). Polymorphism in major urinary proteins: molecular heterogeneity in a wild mouse population. *J Chem Ecol* 28, 1429-46.
151. Pratt, J. M., Petty, J., Riba-Garcia, I., Robertson, D. H., Gaskell, S. J., Oliver, S. G. & Beynon, R. J. (2002). Dynamics of protein turnover, a missing dimension in proteomics. *Mol Cell Proteomics* 1, 579-91.
152. Pratt, J. M., Robertson, D. H., Gaskell, S. J., Riba-Garcia, I., Hubbard, S. J., Sidhu, K., Oliver, S. G., Butler, P., Hayes, A., Petty, J. & Beynon, R. J. (2002). Stable isotope labelling in vivo as an aid to protein identification in peptide mass fingerprinting. *Proteomics* 2, 157-63.
153. Beynon, R. J., Quinlivan, R. C. & Sewry, C. A. (2002). Selected disorders of carbohydrate metabolism. In *Structural and Molecular Basis of Skeletal Muscle Diseases* (Karpatis, G., ed.), pp. 182-188. ISN Neuropathology Press, Basle.
154. Hayter J.R., Robertson, D.H.L., Gaskell, S.J. & Beynon, R.J. (2003) Proteome analysis of intact proteins in complex mixtures. *Mol. Cell. Proteomics* 2, 85-95
155. Nevison, C.M., Armstrong, S.; Beynon, R.J. Humphries, R.E. & Hurst, J.L. (2003) The ownership signature in mouse scents marks is involatile. *Proc. R. Soc. Lond. B. Proceedings of the Royal Society series B*, 270, 1957-1963
156. Beynon, R. J. (2003) Stable isotope labelling with amino acids (SILAA) as an aid to protein identification in peptide mass fingerprinting. In "Proteomics Methods and Reviews" Humana Press, Totowa, NJ, pp129-143
157. Beynon, R.J. & Hurst, J.L. (2003) Multiple roles of major urinary proteins in the house mouse, *Mus musculus*. *Biochemical Journal Transactions*, 31, 142-146
158. Beynon RJ, Doherty M, Hayter J, El-Shafei A, McLean L, Robertson DHL, Gaskell S (2003) Muscle growth in the chicken: a proteome-based approach. *Brit. Poultry. Sci.* 44, S9-S11
159. Quinlivan, R M & Beynon, R.J. (2003) Tarui's disease, Glycogenosis VII. In *Encycopaedic Reference of Molecular Mechanisms of Disease* (Lang, F., ed) pp
160. Beynon, R.J. & Quinlivan, R M. (2003) McArdle's disease, Glycogenosis V. disease. In *Encycopaedic Reference of Molecular Mechanisms of Disease* (Lang, F., ed) pp
161. Beynon, R.J. (2004) Specification of a proteomics workbench. *Cellular and Functional Genomics* 5, 52-55

162. Beynon, R.J. (2004) Sequential exoproteolysis as a structural probe: a cautionary note. *J. Mass. Spec.* 39, 188-192.
163. Simpson, D.M., Beynon, R.J., Robertson, D.H.L., Loughran, M.J. & Haywood, S. (2004) Copper associated liver disease: a proteomics study of copper challenge in a sheep model. *Proteomics* 4, 524-536.
164. Beynon, R.J. & Hurst, J.L. (2004) Urinary proteins and the modulation of chemical scents in rodents. *Peptides* 25, 1553-1563
165. McLean, L., Doherty, M.K., Deeming, C.D. & Beynon, R.J. (2004) A proteomics characterization of the subcutaneous gel in avian hatchlings. *Mol. Cell. Proteomics* 3, 250-256
166. Doherty, M.K., McLean, L., Hayter, J.R., Pratt, J.M., Robertson, D.H.L., El-Sahfei, A.E., Gaskell, S.J. & Beynon, R.J. (2004) Analysis of the proteome of chicken skeletal muscle: changes in protein expression during growth in a layer strain. *Proteomics* 4, 2082-2093
167. Hurst, J.L. & Beynon, R.J. (2004) Scent Wars: The chemobiology of competitive signaling in mice. *BioEssays* 26, 1288-1298
168. Beynon, R.J. (2004) A simple tool from drawing proteolytic peptide maps. *Bioinformatics* 21, 674-675
169. Quinlivan, R & Beynon, R.J. (2004) Pharmacological and nutritional treatment for McArdle's disease (GSD V). *Cochrane Database Syst. Rev.* 3, CD003458
170. Robertson, D.H.L., Cheetham, S.A., Armstrong, S.D., Hurst, J.L. & Beynon, R.J. (2004) Characterisation of proteins in scent marks: proteomics meets semiochemistry. In *Chemical Signals in Vertebrates* (Ed. R Mason) pp... Plenum Press, New York.
171. Matthews JB, Davidson AJ, Beynon RJ. (2004) The application of mass spectrometry to identify immunogenic components of excretory/secretory products from adult *Dictyocaulus viviparus*. *Parasitology*. 2004;128 S43-7.
172. Beynon RJ & Oliver S. (2004) Avoidance of proteolysis in extracts. *Methods Mol Biol.* 244, 75-84.
173. Doherty, M.K., Whitehead, C., McCormack, H., Gaskell, S.J. & Beynon, R.J. (2005) Proteome dynamics in complex organisms: using stable isotopes to monitor individual protein turnover rates. *Proteomics* 5, 522-533
174. Haywood, S. Simpson, D.M, Ross, G. & Beynon, R.J., (2005) The Unique Response of North Ronaldsay Sheep to Copper Challenge compared with Cambridge Sheep: Oxidative Stress, Mitochondrial Damage and Hepatic Stellate Cell Activation. *Journal of Comparative Pathology* 133, 114-27.
175. Beynon, R.J. & Pratt, J.M. (2005) Metabolic labeling of proteins for proteomics. *Mol Cell Proteomics* 4, 857-872
176. Beynon, R.J. (2005) The dynamics of the proteome: strategies for measuring protein turnover on a proteome wide scale. *Briefings in Functional Genomics*, 3, 382-390.
177. Hayter, R., Doherty, M.K., Whitehead, C., McCormack, H., Gaskell, S.J. & Beynon, R.J. (2005) The subunit structure and dynamics of the 20S proteasome in chicken skeletal muscle. *Mol Cell Proteomics* 4, 1370-1381
178. Beynon, R.J., Doherty, M.K., Pratt, J.M. & Gaskell, S.J. (2005) Multiplexed absolute quantification in proteomics: expression and use of artificial QCAT proteins containing concatenated signature peptides. *Nature Methods* 2, 587-589
179. Hurst, J.L., Thom, M., Nevison, C.M., Humphries, R.E. & Beynon, R.J. (2005) MHC odours are not required or sufficient for recognition of individual scent owners. *Proc Royal Soc* 272, 715 - 724
180. Armstrong SD, Robertson DH, Cheetham SA, Hurst JL, Beynon RJ. (2005) Structural and functional differences in isoforms of Major Urinary Proteins: a male specific protein that preferentially binds a male pheromone. *Biochem J.* 391, 343-50.
181. McDonald, L., Robertson, D.H.L., Hurst, J.L. & Beynon, R.J. (2005) Positional proteomics: selective recovery and analysis of N-terminal peptides for identification proteomics. *Nature Methods* 2, 955-957
182. Whitfield PD, Noble PJ, Beynon RJ, Major H, Burrow R, Freeman A, German. Metabonomics as a diagnostic tool for hepatology: validation in a naturally-occurring canine model. *Metabolomics* 2005; 1, 215-225
183. Beynon, R.J. & Pratt, J.M. (2005) Strategies for measuring dynamics: the temporal component of proteomics in "Microbial Proteomics" (Humphery-Smith, I, ed). Wiley, NY pp 15-25
184. Doherty MK, Beynon RJ. (2006) Protein turnover on the scale of the proteome. *Expert Rev Proteomics.* 3, 97-110.
185. McCullough, J., Row, P.E. Lorenzo, O, Doherty, M., Beynon, R.J., Clague, M.J. and Urbé, S (2006) Activation of the Endosome-Associated Ubiquitin Isopeptidase AMSH by STAM, a Component of the Multivesicular Body-Sorting Machinery *Current Biology* 16, 160-165
186. Simpson DM, Mobasher A, Haywood S, Beynon RJ. (2006) A proteomics study of the response of North Ronaldsay sheep to copper challenge. *BMC Vet Res.* 27, 36
187. McDonald, L. & Beynon, R.J. (2006) Positional proteomics: preparation of amino-terminal peptides as a strategy for proteome simplification and characterization. *Nature Protocols* 1, 1790 – 1798
188. Beynon RJ, Pratt JM. (2006) Strategies for measuring dynamics: the temporal component of proteomics. *Methods Biochem Anal.* 49, 15-25.
189. Doherty MK, Beynon RJ. (2006) Protein turnover on the scale of the proteome. *Expert Rev Proteomics.* 3, 97-110.
190. Pratt JM, Simpson DM, Doherty MK, Rivers J, Gaskell SJ and Beynon RJ. (2006) Multiplexed absolute quantification for proteomics using concatenated signature peptides encoded by QconCAT genes. *Nature Protoc.* 1, 1029-1043.

191. Bogdan I, Coca D, Rivers J and Beynon R J (2007) Hardware acceleration of processing of mass spectrometric data for proteomics. *Bioinformatics*, 23, 724-731
192. Robertson D H, Hurst J L, Searle J B, Gunduz I and Beynon R J (2007) Characterization and Comparison of Major Urinary Proteins from the House Mouse, *Mus musculus domesticus*, and the Aboriginal Mouse, *Mus macedonicus*. *J Chem Ecol* 33, 613-630
193. Burniston J G, McLean L, Beynon R J and Goldspink D F (2007) Anabolic effects of a non-myotoxic dose of the beta2-adrenergic receptor agonist clenbuterol on rat plantaris muscle. *Muscle Nerve* 35, 217-23
194. Rivers, J. Simpson, D.M., Robertson, D.H.L., Gaskell, S.J. & Beynon, R.J. (2007) Absolute multiplexed quantitative analysis of protein expression during muscle development using QconCAT. *Molecular Cellular Proteomics* 6, 1416-1427
195. McLean, L., Young, I.S. Doherty, M.K., Robertson, D.H.L., Cossins, A.R., Gracey, A. Y., Beynon, R.J. & Whitfield, P.D. (2007) Global cooling: Cold acclimation and the expression of soluble proteins in carp skeletal muscle. *Proteomics* 7, 2667-2681.
196. Doherty, M.K., McLean, L. & Beynon, R.J. (2007) Avian Proteomics: Advances, Challenges and New Technologies. *Cytogenetic and Genome Research*. 117, 358-369
197. Vasilaki A., Simpson D., McArdle F., McLean L., Beynon R.J., Van Remmen H., Richardson A. G., McArdle A., Faulkner J. A., Jackson M. J. (2007) Formation of 3-nitrotyrosines in carbonic anhydrase III is a sensitive marker of oxidative stress in skeletal muscle. *Proteomics Clinical Applications* 1, 362-372
198. Myers JE, Hart S, Armstrong S, Mires GJ, Beynon R, Gaskell SJ, Baker PN. (2007) Evidence for multiple circulating factors in preeclampsia. *Am J Obstet Gynecol*. 196, 266.e1-6.
199. McLean, L., Hurst, J.L., Gaskell, C.J., Lewis, J. C. M & Beynon, R.J. (2007) Characterization of Cauxin in the Urine of Domestic and Big Cats (2007) *J. Chem. Ecol* 3, 1997-2009
200. Sherborne AL, Thom MD, Paterson S, Jury F, Ollier WE, Stockley P, Beynon RJ, Hurst JL. (2007) The genetic basis of inbreeding avoidance in house mice. *Curr. Biol*. 17, 2061-2066.
201. Cheetham SA, Thom MD, Jury F, Ollier WE, Beynon RJ, Hurst JL. (2007) The genetic basis of individual-recognition signals in the mouse. *Curr. Biol*. 17, 1771-1777.
202. Quinlivan RM, Beynon RJ. (2007) Pharmacological and nutritional treatment trials in McArdle disease. *Acta Myol*. 26, 58-60.
203. Robertson DH, Wong SC, Beynon RJ, Hurst JL, Gaskell SJ. (2008) Observation of heterogeneous gene products by FT-ICR MS. *J. Am. Soc. Mass Spectrom*. 19, 103-110.
204. Rivers J, McDonald L, Edwards IJ, Beynon RJ. (2008) Asparagine deamidation and the role of higher order protein structure. *J. Proteome Res*. 7, 921-7.
205. Doherty, MK; Beynon, RJ; Whitfield, PD (2008): Proteomics and naturally occurring animal diseases: Opportunities for animal and human medicine. *Proteomics: Clinical Applications* 2, 135-141
206. Cheetham, SA , Thom, MD, Beynon, RJ & Hurst, JL (2008) The effect of familiarity on mate choice. *Chemical Signals in Vertebrates* 11, 271-280
207. Thom, MD , Stockley, P, Beynon, RJ & Hurst, JL (2008) Scent, mate choice and genetic heterozygosity *Chemical Signals in Vertebrates* 11, 291-301
208. Beynon, RJ, Hurst, JL, Turton, MJ , Robertson, DHL , Armstrong, SD, Cheetham, SA, Simpson, D, MacNicol, A, Humphries, RE (2008) Urinary lipocalins in rodent: is there a generic model? *Chemical Signals in Vertebrates* 11, 37-49
209. Johnson, H, Wong, S CC Simpson, D.M., Beynon, R. J. and Gaskell, S.J. (2008) . Protein quantification by selective isolation and fragmentation of isotopic pairs using FT-ICR MS. *J Am Soc Mass Spectrom* 19, 973-977
210. Moore RE, Knottenbelt D, Matthews JB, Beynon RJ, Whitfield PD. (2008) Biomarkers for ragwort poisoning in horses: identification of protein targets. *BMC Vet Res*. 4, 30.
211. Evers CE, Simpson DM, Wong SC, Beynon RJ, Gaskell SJ. (2008) QCAL-a Novel Standard for Assessing Instrument Conditions for Proteome Analysis. *J Am Soc Mass Spectrom*. 19, 1275-1280.
212. Mudge JM, Armstrong SD, McLaren K, Beynon RJ, Hurst JL, Nicholson C, Robertson DH, Wilming LG, Harrow JL. (2008) Dynamic instability of the major urinary protein gene family revealed by genomic and phenotypic comparisons between C57 and 129 strain mice. *Genome Biol*. 9, R91.
213. Bogdán IA, Rivers J, Beynon RJ, Coca D. (2008) High-performance hardware implementation of a parallel database search engine for real-time peptide mass fingerprinting. *Bioinformatics*. 24, 1498-1502.
214. Quinlivan R, Beynon RJ, Martinuzzi A. (2008) Pharmacological and nutritional treatment for McArdle disease (Glycogen Storage Disease type V). *Cochrane Database Syst Rev*.16, CD003458.
215. Thom MD, Stockley P, Jury F, Ollier WE, Beynon RJ, Hurst JL. (2008) The direct assessment of genetic heterozygosity through scent in the mouse. *Curr Biol*. 18, 619-623.
216. Cheetham SA, Smith AL, Armstrong SD, Beynon RJ, Hurst JL. (2009) Limited variation in the major urinary proteins of laboratory mice. *Physiol Behaviour* 96(2):253-61
217. Doherty, M.K., Hammond, D., Clague, M. J., Gaskell, S.J. & Beynon, R.J. (2009) Turnover of the human proteome: determination of protein intracellular stability by dynamic SILAC. *J. Proteome Res*. 8(1):104-112.

218. Ramm, S.A., McDonald, L.M., Hurst, J.L., Beynon, R.J. & Stockley, P.S. (2009) Comparative proteomics reveals evidence for evolutionary diversification of rodent seminal fluid and its functional significance in sperm competition. *Mol. Biol. Evol.* 26, 189-198
219. Smith, S.K., Nisbet, A.J., Meikle, L.I., Inglis, N.F., Sales, J., Beynon, R.J. & Matthews, J.B. (2009) Proteomic analysis of excretory/secretory products released by *Teladorsagia circumcincta* larvae early post-infection. *Parasite Immunology* 31, 10-19
220. Wright JC, Sugden D, Francis-McIntyre S, Riba-Garcia I, Gaskell SJ, Grigoriev IV, Baker SE, Beynon RJ, Hubbard SJ (2009) Exploiting proteomic data for genome annotation and gene model validation in *Aspergillus niger* *BMC Genomics*. 10, 61.
221. Johnson, H., Evers, C.E., Evers, P.A., Beynon, R.J., Gaskell S.J. (2009) Rigorous determination of the stoichiometry of protein phosphorylation using mass spectrometry. *J. Amer. Soc. Mass Spec.* 20, 2211-2220
222. Coca D, Bogdan I, Beynon RJ. (2010) A high-performance reconfigurable computing solution for Peptide mass fingerprinting. *Methods Mol Biol.* 604:163-185.
223. Simpson, D.S. & Beynon, R.J. (2010) Acetone precipitation of proteins and the modification of peptides, *J Proteome Research* 9, 444-450
224. Nisbet, A.J., Smith, S.K., Armstrong, S.D., Murrie, L.I., Wildblood, Beynon, R.J. & Matthews, J.B. (2010) *Teladorsagia circumcincta*: Activation-associated secreted proteins in excretory/secretory products of fourth stage larvae are targets of early IgA responses in infected sheep. *Exp. Parasitol.* 125:329-337
225. Wright JC, Beynon RJ, Hubbard SJ (2010) Cross species proteomics. *Methods Mol Biol.* 604:123-135.
226. Hurst, J.L. & Beynon, R.J. (2010) Making progress in genetic kin recognition among vertebrates. *Journal of Biology* 2010, 9:13
227. Roberts S.A., Simpson D.M., Armstrong S.D., Davidson A.J., Robertson D.H., McLean L., Beynon R.J. & Hurst J.L. (2010) Darcin: a male pheromone that stimulates female memory and sexual attraction to an individual male's odour. *BMC Biology* 8:75
228. Turton, M.J., Robertson, D.H.L., Hayter J.R., Hurst, J.L. & Beynon, R.J. (2010) Roborovskini: a lipocalin in the urine of the Roborovski hamster, *Phodopus roborovskii* *Chemical Senses* 35:675-684
229. Phelan MM, McLean L, Simpson DM, Hurst JL, Beynon RJ, Lian LY. (2010) (1)H, (15)N and (13)C resonance assignment of darcin, a mouse major urinary protein. *Biomol NMR Assign.* 4:239-241
230. Hammond DE, Hyde R, Kratchmarova I, Beynon RJ, Blagoev B, Clague MJ. (2010) Quantitative analysis of HGF and EGF-dependent phosphotyrosine signaling networks *J Proteome Res.* 9:2734-2742.
231. Claydon, A. M & Beynon, R.J. (2010) Methods to measure proteome dynamics. In, (Castrillo J. I. and Oliver S. G., Eds.) 'Yeast Systems Biology'. *Methods in Molecular Biology (MiMB)* series. (Series Ed: Walker, John M. ISSN: 1064-3745). Humana Press. Springer, New York..
232. Rivers, J., Hughes, C., McKenna, T., Woolerton, Y., Vissers, J.P. C., Langridge, J.I. & Beynon, R.J. (2011) Asymmetric proteome equalization of tissue samples using a combinatorial hexapeptide library. *PLOS One*. 6:e28902
233. Carroll KM, Simpson DM, Evers CE, Knight CG, Brownridge P, Dunn W, Winder CL, Lanthaler K, Pir P, Malys N, Kell DB, Oliver SG, Gaskell SJ, Beynon RJ. (2011) Absolute quantification of a metabolic pathway in yeast: deployment of a complete QconCAT approach *Mol. Cell Proteomics* 10, M111.007633
234. Sundberg, T., Darricarrere, N., Cirone, P., Li, X. McDonald, L., Mei, X., Westlake, C., Slusarski, D., Beynon, R, Crews, C. (2011) Disruption of Wnt Planar Cell Polarity by Aberrant Accumulation of the MetAP-2 Substrate Rab37. *Chemical Biology*, 18: 1200-1311
235. Brownridge, P., Holman, S.W., Gaskell, S.J., Grant, C.M., Harman, V.M., Hubbard, S.J., Lanthaler, K., Lawless, C., O'cuailain, R., Sims, P., Watkins, R, Beynon, R.J. (2011). Global absolute quantification of a proteome: Challenges in the deployment of a QconCAT strategy. *Proteomics* 11, 2957-2970
236. Drummond, Sheona; Hildyard, John; Firczuk, Helena; Reamtong, Onrapak; Li, Ning; Kannambath, Shichina; Claydon, Amy; Beynon, Robert; Evers, Claire, McCarthy, J.E.G. (2011) Diauxic-shift-dependent relocalisation of decapping activators Dhh1 and Pat1 to polysomal complexes *NAR*. 39, 7764-7774
237. Castro-Borges, W; Simpson, D.M; Dowle, A; Curwen, RS; Thomas-Oates, J; Beynon, RJ; & Wilson, R.A. (2011) Abundance of tegument surface proteins in the human blood fluke *Schistosoma mansoni* determined by QconCAT proteomics. *J Proteomics*. 74, 1519-1533
238. Brownridge, P & Beynon, R.J. (2011) The importance of the digest: proteolysis and absolute quantification in proteomics. *Methods* 54, 351-360
239. Catherine Arden, John L.Petrie, Susan J.Tudhope, Ziad Al-Oanzi, Amy J. Claydon, Robert J. Beynon, Howard C.Towle and Lorraine Agius (2011) Elevated glucose represses liver glucokinase and induces its regulatory protein to safeguard hepatic phosphate homeostasis *Diabetes Journal* 60, 3110-3120
240. Garratt, .M, Stockley, P., Armstrong, S.D., Beynon, R. J. & Hurst, J.L. (2011) The scent of senescence: sexual signalling and female preference in house mice. *J. Evol. Biol.* 24, 2398-2409
241. Garratt, .M, McArdle, F., Stockley, P., Vasilaki, A., Beynon, R. J., Jackson, M & Hurst, J.L. (2011) Tissue dependent changes in oxidative damage with male reproductive effort in house mice. *Functional Ecology* (in press)

242. Brownridge, P., Harman, V.M., Simpson, D.M. & Beynon, R.J. Absolute Multiplexed Protein Quantification Using QconCAT technology. *Methods in Molecular Biology (MiMB) series*. Vol. XXX. (Series Ed: Walker, John M. ISSN: 1064-3745) 893: 267-293. Humana Press. Springer, New York.
243. Davidson, G., Armstrong, S.D & Beynon, R.J. (2011) Positional proteomics at the N-terminus as a means of proteome simplification. *Methods in Molecular Biology (MiMB) series*. Vol. XXX. (Series Ed: Walker, John M. ISSN: 1064-3745) pp. xxx-xxx. Humana Press. Springer, New York. Accepted, in press.
244. Claydon, A.J., Thom., M. Hurst, J.L. & Beynon, R.J. (2012) Protein turnover: measurement of proteome dynamics by whole animal metabolic labelling with stable isotope labelled amino acids. *Proteomics* 12:1194-1206
245. Qi D, Brownridge P, Xia D, Mackay K, Gonzalez-Galarza FF, Kenyani J, Harman V, Beynon RJ, Jones AR. (2012) A Software Toolkit and Interface for Performing Stable Isotope Labeling and Top3 Quantification Using Progenesis LC-MS. *OMICS*. 16:489-495.
246. Simpson DM, Beynon RJ. (2012) QconCATs: design and expression of concatenated protein standards for multiplexed protein quantification. *Anal Bioanal Chem*. 404:977-989. doi: 10.1007/s00216-012-6230-1
247. Bislev SL, Kusebauch U, Codrea MC, Beynon RJ, Harman VM, Røntved CM, Aebersold R, Moritz RL, Bendixen E. (2012) Quantotypic properties of QconCAT peptides targeting bovine host response to *Streptococcus uberis*. *J Proteome Res*. 11:1832-1843.
248. Claydon AJ, Beynon RJ. (2012) Proteome dynamics: revisiting turnover with a global perspective. *Mol Cell Proteomics*. 2012 11:1551-1565
249. Claydon AJ, Ramm SA, Pennington A, Hurst JL, Stockley P, Beynon R. (2012) Heterogenous turnover of sperm and seminal vesicle proteins in the mouse revealed by dynamic metabolic labeling. *Mol Cell Proteomics*. 11:M111.014993. doi: 10.1074/mcp.M111.014993.
250. Roberts, S.A., Davidson, A.J., Mclean, L., Beynon, R.J. & Hurst, J.L. (2012) Pheromonal induction of spatial learning in mice. *Science* 338:1462-1465
251. Brownridge P, Lawless C, Payapilly AB, Lanthaler K, Holman SW, Harman VM, Grant CM, Beynon RJ & Hubbard SJ. (2013) Quantitative analysis of chaperone network throughput in budding yeast. *Proteomics*. 13, 1276-1291
252. Phelan MM, McLean L, Armstrong SD, Hurst JL, Beynon RJ, Lian LY. The structure, stability and pheromone binding of the male mouse protein sex pheromone darcin. *PLoS One*. 2014 Oct 3;9(10):e108415. doi: 10.1371/journal.pone.0108415
253. Firczuk, H., Kannambath, S., Pahle, J., Claydon, A., Beynon, R.J. Duncan, J., Westerhoff, H., Mendes, P., & McCarthy, J.E.G. (2013) An in vivo control map for the eukaryotic mRNA translation machinery. *Mol. Sys. Biol* 9: 635 (13pp)
254. Beynon, R.J., Armstrong, S.D., Roberts, S.A., Davidson, A, Simpson, D.M., Turnton, M.J., Unsworth, J & Hurst, J.L. (2013) The application of proteomics to the discovery and quantification of proteins in scent signals *Chem Sig Vertebrates*
255. Peffers MJ, Beynon RJ, Clegg PD. (2013) Absolute quantification of selected proteins in the human osteoarthritic secretome. *Int J Mol Sci*. 14:20658-81
256. Hammond, D., Claydon, A.J. & Beynon, R.J (2014) Experimental and Analytical Approaches to the Quantification of Protein Turnover on a Proteome-wide Scale in "Quantitative Proteomics" (Eyers, C.E., & Gaskell, S.J., eds) RSC Publishing (in press)
257. Martín-Sánchez A, McLean L, Beynon RJ, Hurst JL, Ayala G, Lanuza E, Martínez-García F. (2014) From sexual attraction to maternal aggression: When pheromones change their behavioural significance. *Horm Behav*. Aug 23. pii: S0018-506X(14)00164-0. doi: 10.1016/j.yhbeh.2014.08.007
258. Kumar JD, Holmberg C, Kandola S, Steele I, Hegyi P, Tiszlavicz L, Jenkins R, Beynon RJ, Peeney D, Giger OT, Alqahtani A, Wang TC, Charvat TT, Penfold M, Dockray GJ, Varro A. (2014) Increased expression of chemerin in squamous esophageal cancer myofibroblasts and role in recruitment of mesenchymal stromal cells. *PLoS One*. 9(7):e104877. doi: 10.1371/journal.pone.0104877
259. Gómez-Baena G, Armstrong SD, Phelan MM, Hurst JL, Beynon RJ. (2014) The major urinary protein system in the rat. *Biochem Soc Trans*. Aug;42(4):886-92
260. Phelan MM, McLean L, Hurst JL, Beynon RJ, Lian LY. (2014) Comparative study of the molecular variation between 'central' and 'peripheral' MUPs and significance for behavioural signalling. *Biochem Soc Trans*. 42(4):866-72. doi: 10.1042/BST20140082
261. Beynon RJ, Armstrong SD, Gómez-Baena G, Lee V, Simpson D, Unsworth J, Hurst JL. (2014) The complexity of protein semiochemistry in mammals. *Biochem Soc Trans*. 42(4):837-45. doi: 10.1042/BST20140133
262. Ternent T, Csordas A, Qi D, Gómez-Baena G, Beynon RJ, Jones AR, Hermjakob H, Vizcaino JA. (2014) How to submit MS proteomics data to ProteomeXchange via the PRIDE database. *Proteomics*, 14, 2233-2241
263. Beynon RJ, Hammond D, Harman V, Woolerton Y. (2014) The role of proteomics in studies of protein moonlighting. *Biochem Soc Trans*. 42(6):1698-703. doi: 10.1042/BST20140277.
264. Bundgaard L, Jacobsen S, Dyrland TF, Sørensen MA, Harman VM, Beynon RJ, Brownridge PJ, Petersen LJ, Bendixen E. (2014) Development of a method for absolute quantification of equine acute phase proteins using concatenated peptide standards and selected reaction monitoring. *J Proteome Res*. 13(12):5635-47
265. Hoffman E, Pickavance L, Thippeswamy T, Beynon RJ, Hurst JL. (2105) The male sex pheromone darcin stimulates hippocampal neurogenesis and cell proliferation in the subventricular zone in female mice. *Front Behav Neurosci*. 2015 Apr 29;9:106. doi: 10.3389/fnbeh.2015.00106.

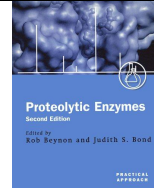
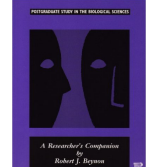
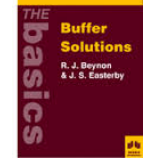
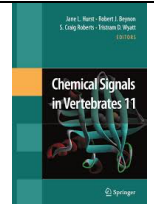
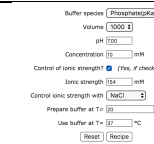
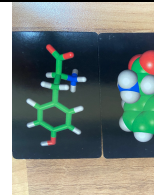
266. Balabanova S, Holmberg C, Steele I, Ebrahimi B, Rainbow L, Burduga T, McCaig C, Tizlavicz L, Lertkowitz N, Giger OT, Oliver S, Prior I, Dimaline R, Simpson D, Beynon R, Hegyi P, Wang TC, Dockray GJ, Varro A. (2015) The neuroendocrine phenotype of gastric myofibroblasts and its loss with cancer progression. *Carcinogenesis* 35,1798-1806
267. Ramm SA, Edward DA, Claydon AJ, Hammond DE, Brownridge P, Hurst JL, Beynon RJ, Stockley P. (2015) Sperm competition risk drives plasticity in seminal fluid composition. *BMC Biol.* 13:87. doi: 10.1186/s12915-015-0197-2.
268. Robert J. Beynon1,*, Stuart D. Armstrong1, Amy J. Claydon1, Amanda J. Davidson2, Claire E. Evers1, James I. Langridge3, Guadalupe Gómez-Baena1, Victoria M. Harman1, Jane L. Hurst2, Victoria Lee1, Lynn McLean1, Rebecca Pattison1, Sarah A. Roberts2, Deborah M. Simpson1, Jenny Unsworth1, Matthias Vonderach1, Jonathan Williams3 and Yvonne E. Woolerton1 (2015) Mass spectrometry for structural analysis and quantification of the Major Urinary Proteins of the house mouse. *International Journal of Mass Spectrometry* 391 (2015) 146–156
269. Kramer G, Woolerton Y, van Straalen JP, Vissers JP, Dekker N, Langridge JI, Beynon RJ, Speijer D, Sturk A, Aerts JM (2015) Accuracy and Reproducibility in Quantification of Plasma Protein Concentrations by Mass Spectrometry without the Use of Isotopic Standards. *PLoS One.* 10(10):e0140097. doi: 10.1371/journal.pone.0140097
270. Green JP, Holmes AM, Davidson AJ, Paterson S, Stockley P, Beynon RJ, Hurst JL (2015) The Genetic Basis of Kin Recognition in a Cooperatively Breeding Mammal. *Curr Biol.* 9;25(20):2631-41. doi: 10.1016/j.cub.2015.08.045
271. Sheehan MJ, Lee V, Corbett-Detig R, Bi K, Beynon RJ, Hurst JL, Nachman MW. (2016) Selection on Coding and Regulatory Variation Maintains Individuality in Major Urinary Protein Scent Marks in Wild Mice. *PLoS Genet.* doi: 10.1371/journal.pgen.1005891.
272. Bundgaard L, Bendixen E, Sørensen MA, Harman VM, Beynon RJ, Petersen LJ, Jacobsen S. A (2016) selected reaction monitoring based analysis of acute phase proteins in interstitial fluids from experimental equine wounds healing by secondary intention. *Wound Repair Regen.* doi: 10.1111/wrr.12425.
273. Hammond DE, Claydon AJ, Simpson DM, Edward D, Stockley P, Hurst JL, Beynon RJ. (2016) Proteome dynamics: tissue variation in the kinetics of proteostasis in intact animals. *Mol Cell Proteomics.* 2016 mcp.M115.053488
274. Bayram HL, Claydon AJ, Brownridge PJ, Hurst JL, Mileham A, Stockley P, Beynon RJ, Hammond DE. (2016) Cross-species proteomics in analysis of mammalian sperm proteins. *J Proteomics.* 135:38-50. doi: 10.1016/j.jprot.2015.12.027
275. Lawless C, Holman SW, Brownridge P, Lanthaler K, Harman VM, Watkins R, Hammond DE, Miller RL, Sims PF, Grant CM, Evers CE, Beynon RJ, Hubbard SJ. (2016) Direct and Absolute Quantification of over 1800 Yeast Proteins via Selected Reaction Monitoring. *Mol Cell Proteomics.* mcp.M115.054288.
276. Angi, M., Kalirai, H, Prendegast, S., Simpson, D.M., Hammond, D.E., Madigan, M. C., Beynon, R.J. & Coupland, S.E. (2016) In-depth proteomic profiling of the uveal melanoma secretome. *Oncotarget* doi: 10.18632/oncotarget.10418
277. Absolute protein quantification of the yeast chaperome under conditions of heat shock (2016) Mackenzie RJ, Lawless C, Holman SW, Lanthaler K, Beynon RJ, Grant CM, Hubbard SJ, Evers CE. *Proteomics* 16(15-16): 2128–2140. doi: 10.1002/pmic.201500503
278. Arecco N, Clarke CJ, Jones FK, Simpson DM, Mason D, Beynon RJ, Pisconti A. (2016) Elastase levels and activity are increased in dystrophic muscle and impair myoblast cell survival, proliferation and differentiation. *Sci Rep.* 31:24708. doi: 10.1038/srep24708.
279. Holman SW, Hammond DE, Simpson DM, Waters J, Hurst JL, Beynon RJ. Protein turnover measurement using selected reaction monitoring-mass spectrometry (SRM-MS). (2016) *Phil Trans A.* 374:.. doi: 10.1098/rsta.2015.0362.
280. Hurst JL, Beynon RJ, Armstrong SD, Davidson AJ, Roberts SA, Gómez-Baena G, Smadja CM, Ganem G. (2017) Molecular heterogeneity in major urinary proteins of *Mus musculus* subspecies: potential candidates involved in speciation. *Scientific Reports* doi: 10.1038/srep44992
281. María del Carmen Muñoz-Marín, Guadalupe Gómez-Baena, Jesús Díez, Robert J. Beynon, David González-Ballester, Mikhail V. Zubkov and José M. García-Fernández (2017) Glucose Uptake in *Prochlorococcus*: Diversity of Kinetics and Effects on the Metabolism <http://journal.frontiersin.org/article/10.3389/fmicb.2017.00327/full>
282. Jennifer Unsworth, Grace M. Loxley, Amanda Davidson, Jane L. Hurst, Guadalupe Gómez-Baena, Nicholas I. Mundy, Robert J. Beynon, Elke Zimmermann and Ute Radespiel. (2017) Characterisation of urinary WFDC12 in small nocturnal basal primates, mouse lemurs (*Microcebus* spp.) *Scientific Reports* | 7:42940 | DOI: 10.1038/srep42940
283. Colomb, F., Wang, W., Simpson, D.M., Zafar, M., Beynon, R.J., Rhodes, J.M. & Yu, L-G (2017) Galectin-3 interaction with cell surface CD146 (MCAM, MUC18) induces secretion of metastasis-promoting cytokines by vascular endothelial cells. *J. Biol. Chem* 292, 8381-8389
284. Bennett RJ, Simpson DM, Holman SW, Ryan S, Brownridge P, Evers CE, Colyer J & Beynon RJ. DOSCATs: Double standards for protein quantification. *Sci Rep.* 2017 7:45570. doi: 10.1038/srep45570.
285. Faulkner M, Rodríguez-Ramos J, Dykes GF, Owen SV, Casella S, Simpson DM, Beynon RJ, Liu LN. (2017) Direct characterization of the native structure and mechanics of cyanobacterial carboxysomes. *Nanoscale* 3, 10662-10673 doi: 10.1039/c7nr02524f. [PMID: 28616951]
286. Domínguez-Martín MA, Gómez-Baena G, Díez J, López-Grueso MJ, Beynon RJ, García-Fernández JM. Quantitative Proteomics Shows Extensive Remodeling Induced by Nitrogen Limitation in *Prochlorococcus marinus* SS120. *mSystems.* 2017 May 30;2(3). pii: e00008-17. doi: 10.1128/mSystems.00008-17. eCollection 2017 May-Jun. PubMed PMID: 28593196; PubMed Central PMCID: PMC5451487.

287. Gómez-Baena G, Bennett RJ, Martínez-Rodríguez C, Wnęk M, Laing G, Hickey G, McLean L, Beynon RJ, Carrol ED. (2017) Quantitative Proteomics of Cerebrospinal Fluid in Paediatric Pneumococcal Meningitis. *Sci Rep.* 2017 Aug 1;7(1):7042. doi: 10.1038/s41598-017-07127-6. PubMed PMID: 28765563.
288. Grace M Loxley, Jennifer Unsworth, Michael J. Turton, Alexandra Jebb, Kathryn S Lilley, Deborah M Simpson, Daniel J. Rigden, Jane L. Hurst & Robert J. Beynon (2017) Glareosin: a novel sexually dimorphic urinary lipocalin in the bank vole, *Myodes glareolus* *Open Biology* 2017 Sep;7(9). pii: 170135. doi:10.1098/rsob.170135.
289. Nobuaki Takemori, Ayako Takemori, Yuki Tanaka, Yaeta Endo, Jane L Hurst, Guadalupe Gómez-Baena, Victoria M Harman and Robert J Beynon (2017) MEERCAT: Multiplexed efficient cell free expression of recombinant QconCATs for large scale absolute quantification of proteomes. *Mol Cell Proteomics* 16, 2169-2183
290. Clarke K, Ricciardi S, Pearson T, Bharudin I, Davidsen PK, Bonomo M, Brina D, Scagliola A, Simpson DM, Beynon RJ, Khanim F, Ankers J, Sarzynski MA, Ghosh S, Pisconti A, Rozman J, Hrabec de Angelis M, Bunce C, Stewart C, Egginton S, Caddick M, Jackson M, Bouchard C, Biffo S, Falciani F. (2017) The Role of Eif6 in Skeletal Muscle Homeostasis Revealed by Endurance Training Co-expression Networks. *Cell Rep.* 2017 Nov 7;21(6):1507-1520. doi: 10.1016/j.celrep.2017.10.040.
291. Apps, J.R.....Beynon, R.J.....Martinez-Barbera, J.P (2018). Tumour compartment transcriptomics demonstrates the activation of inflammatory and odontogenic programmes in human adamantinomatous craniopharyngioma and identifies the MAPK/ERK pathway as a novel therapeutic target. *Acta neuropath.* [oi.org/10.1007/s00401-018-1830-2](https://doi.org/10.1007/s00401-018-1830-2)
292. Roberts, SA, Prescott, MC, Davidson, AJ, McLean, L, Beynon, RJ & Hurst, JL (2018) Specialised binding proteins (MUPs) shape the individually-distinctive odour signatures that mice learn *BMC Biology* 16(1):48 (19pp)
293. Hammond, D.E., Kumar, D. J., Raymond, L., Simpson, D.M., Beynon, R.J., Dockray, G.J., Varro, A. (2018) Stable isotope dynamic labeling of secretomes (SIDLS) identifies authentic secretory proteins released by cancer and stromal cells. *Mol Cell Proteomics* 17, 1837-1849
294. Garalla, HM , Lertkowitz, N , Tiszlavicz, L , Reisz, Z, Holmberg, C , Beynon, R , Simpson, D (Simpson, Deborah), Varga, A, Kumar, JD , Dodd, S , Pritchard, DM , Moore, AR , Rosztoczy, AI , Wittman, T , Simpson, A , Dockray, GJ , Varro, A (2018) Matrix metalloproteinase (MMP)-7 in Barrett's esophagus and esophageal adenocarcinoma: expression, metabolism, and functional significance. *Physiol. Reports* 6(10) e13683 DOI: 10.14814/phy2.13683
295. Jacobsen MD, Beynon RJ, Gethings LA, Claydon AJ, Langridge JI, Vissers JPC, Brown AJP, Hammond DE. (2018) Specificity of the osmotic stress response in *Candida albicans* highlighted by quantitative proteomics. *Sci Rep.* 8(1):14492. doi: 10.1038/s41598-018-32792-6.
296. Tse, K., Simpson, D., Beynon, R.J., Beamer, E., Tymianski, M, Salter, M, Sills, G., Thippeswamy, Y (2018) Proteomic profile of the hippocampus in the male C57BL/6J mouse model of kainate-induced epileptogenesis: Intervention with post-synaptic density 95 blocking peptide (Tat-NR2B9c) and an iNOS inhibitor, 1400W *J NeuroSci Res* May 15. doi: 10.1002/jnr.24441. [Epub ahead of print]
297. Chapman, E., Lyon, M., Simpson, D.M., Mason, D., Beynon, R.J., Moots, R.J. & Wright, H L. (2019) Proteomic analysis of neutrophil extracellular traps reveals differences in antigen exposure in rheumatoid arthritis and systemic lupus erythematosus. *Frontiers in Immunology* doi: 10.3389/fimmu.2019.00423
298. Róża Szatkowska, Manuel Garcia-Albornoz, Katarzyna Roszkowska, Stephen Holman, Simon Hubbard, Robert Beynon, Malgorzata Adamczyk (2019) Glycolytic flux in *Saccharomyces cerevisiae* is dependent on RNA polymerase III and its negative regulator Maf1 *Biochemical Journal* (DOI: 10.1042/BCJ20180701)
299. Guadalupe Gómez-Baena, Stuart D. Armstrong, Josiah O. Halstead, Mark Prescott1 Sarah A. Roberts, Lynn McLean, Jonathan M. Mudge, Jane L. Hurst, Robert J. Beynon (2019) Molecular complexity of the major urinary protein system of the Norway rat, *Rattus norvegicus*. *Scientific Reports*, Jul 24;9(1):10757. doi: 10.1038/s41598-019-46950-x.
300. Nunes QM, Su D, Brownridge PJ, Simpson DM, Sun C, Li Y, Bui TP, Zhang X, Huang W, Rigden DJ, Beynon RJ, Sutton R, Fernig DG (2019). The heparin-binding proteome in normal pancreas and murine experimental acute pancreatitis. *PLoS One.* Jun 18;14(6):e0217633. doi: 10.1371/journal.pone.0217633.
301. Ian Goodhead; Frances Blow; Philip Brownridge; Margaret Hughes; John Kenny; Ritesh Krishna; Lynn McLean; Pisut Pongchaikul; Rob Beynon; Alistair C Darby (2019) Large scale and significant expression from pseudogenes in *Sodalis glossinidius* - a facultative bacterial endosymbiont *Microbial Genomics* (in press)
302. Nicola Davidson, Natalie I Koch, Joscelyn Sarsby, Emrys Jones, Jane L Hurst and Robert J Beynon (2019) Rapid Identification Of Species, Sex And Maturity By Mass Spectrometric Analysis Of Animal Faeces *BMC Biology* 17(1):66. doi: 10.1186/s12915-019-06869.
303. Neves, Leandro; Wilson, R. Alan; Brownridge, Philip; Harman, Victoria; Holman, Stephen; Beynon, Robert; Eysers, Claire; DeMarco, Ricardo; Castro-Borges, William (2019) Quantitative Proteomics of Enriched Esophageal and Gut Tissues from the Human Blood Fluke *Schistosoma mansoni* Pinpoints Secreted Proteins for Vaccine Development *J Prot Res* (in press)
304. Danielle F. Vileiga*, Victoria M. Harman, Paula P. Freire, Cecília L. C. Marciano, Paula G. Sant'Ana, Sérgio L. B. Souza, Gustavo A. F. Mota, Vitor L. Silva, Dijon H. S. Campos, Carlos R. Padovani, Katashi Okoshi, Robert J. Beynon, Lucilene D. Santos, Antonio C. Cicogna (2019) Landscape of heart proteome changes in a diet-induced obesity model. *Sci Rep.* 2019 Dec 2;9(1):18050. doi: 10.1038/s41598-019-54522-2.
305. Sarsby J, McLean L, Harman VM, Beynon RJ.(2019) Monitoring recombinant protein expression in bacteria by rapid evaporative ionisation mass spectrometry. *Rapid Commun Mass Spectrom.* e8670. doi: 10.1002/rcm.8670.

306. Ebru Demir, Kenneth Li , Natasha Bobrowski-Khoury, Joshua I. Sanders, Robert J. Beynon , Jane L. Hurst , Adam Kepecs and Richard Axel (2020) Darcin activates a neural circuit that mediates behaviors optimizing mate encounters. *Nature*. Feb;578(7793):137-141. doi: 10.1038/s41586-020-1967-8
307. Garcia-Albornoz M, Holman SW, Antonisse T, Daran-Lapujade P, Teusink B, Beynon RJ, Hubbard SJ (2020) A proteome-integrated, carbon source dependent genetic regulatory network in *Saccharomyces cerevisiae*. *Mol Omics*. 2020 Feb 17;16(1):59-72. doi: 10.1039/c9mo00136k
308. Karen Tse, Edward Beamer, Deborah Simpson, Robert J Beynon, Graeme J Sills, and Thimmasettappa Thippeswamy (2020) The Impacts of Surgery and Intracerebral Electrodes in C57BL/6J Mouse Kainate Model of Epileptogenesis: Seizure Threshold, Proteomics, and Cytokine Profiles *Front in Neuroscience* (in revision)
309. Yang M, Simpson DM, Wenner N, Brownridge P, Harman VM, Hinton JCD, Beynon RJ, Liu LN.(2020)Decoding the stoichiometric composition and organisation of bacterial metabolosomes. *Nat Commun*. 2020 Apr 24;11(1):1976. doi: 10.1038/s41467-020-15888-4.
310. Takemori A, Butcher DS, Harman VM, Brownridge P, Shima K, Higo D, Ishizaki J, Hasegawa H, Suzuki J, Yamashita M, Loo JA, Loo RRO, Beynon RJ, Anderson LC, Takemori N (2020) PEPPI-MS: Polyacrylamide-Gel-Based Prefractionation for Analysis of Intact Proteoforms and Protein Complexes by Mass Spectrometry. *J Proteome Res*. 2020 Jul 11. doi: 10.1021/acs.jproteome.0c00303.
311. Paula Stockley, Catarina Franco, Amy J. Claydon, Amanda Davidson, Dean E. Hammond, Philip J. Brownridge, Jane L. Hurst, Robert J. Beynon (2020) Revealing mechanisms of mating plug function under sexual selection *Proc Natl Acad Sci U S A*. Oct 19:201920526. doi: 10.1073/pnas.1920526117
312. Helen L. Bayram, Catarina Franco, Philip Brownridge, Amy J. Claydon, Natalie Koch, Jane L. Hurst, Robert J. Beynon, Paula Stockley (2020) Social status and ejaculate composition in the house mouse. *Philos Trans R Soc Lond B Biol Sci*. 2020 Dec 7;375(1813):20200083. doi: 10.1098/rstb.2020.0083
313. Emma Wall, Philip Brownridge, Gavin Laing, Vanessa S Terra, Veronica Mlozowa, Brigitte Denis, Elisa Ramos-Sevilliano, Enitan Carrol, Andrea Collins, Stephen B Gordon, David G Lalloo, Brendan Wren, Robert J Beynon, Robert S Heyderman, Jeremy S Brown (2020) CSF levels of Elongation Factor Tu is associated with increased mortality in human *Streptococcus pneumoniae* meningitis *Frontiers Infectious Diseases* (in press)
314. Grace M. Loxley, David O. Hooks, Aristotelis Antonopoulos, Anne Dell, Stuart M. Haslam, Wayne L. Linklater, Jane L. Hurst & Robert J. Beynon (2020) Vulpeculin: A novel and abundant lipocalin in the urine of the common brushtail possum, *Trichosurus vulpecula* *Open Biol*. 2020 Oct;10(10):200218. doi: 10.1098/rsob.200218
315. Iris Wagner, Natalie I. Koch, Joscelyn Sarsby, Nicola White, Tom A. R. Price, Sam Jones, Jane L. Hurst, Robert J. Beynon (2020) The application of rapid evaporative ionisation mass spectrometry (REIMS) to analyse insects – a potential new tool for insect identification. *Open Biology* 10(11):200196. doi: 10.1098/rsob.200196.
316. Jonathan P. Green, Catarina Franco, Amanda J. Davidson, Vicki Lee, Paula Stockley, Robert J. Beynon & Jane L. Hurst (2020) Cryptic kin discrimination during communal rearing favours cooperation between relatives. *Nature Comms* (*under review*)
317. Reiko Uenoyama, Tamako Miyazaki, Jane L. Hurst, Robert J. Beynon, Masaatsu Adachi, Takanobu Murooka, Ibuki Onoda, Yu Miyazawa, Rieko Katayama, Tetsuro Yamashita, Shuji Kaneko, Toshio Nishikawa, and Masao Miyazaki (2021) The euphoric response of domestic cats to plant iridoids allows them to gain chemical defense against mosquitoes. *Science Advances*7(4):eabd9135. doi: 10.1126/sciadv.abd9135
318. Oldstone MBA, Ware BC, Davidson A, Prescott MC, Beynon RJ, Hurst JL. (2021) Lymphocytic Choriomeningitis Virus Alters the Expression of Male Mouse Scent Proteins. *Viruses*. 2021 Jun 21;13(6):1180. doi: 10.3390/v13061180.
319. Huokko T, Ni T, Dykes GF, Simpson DM, Brownridge P, Conradi FD, Beynon RJ, Nixon PJ, Mullineaux CW, Zhang P, Liu LN. (2021) Probing the biogenesis pathway and dynamics of thylakoid membranes. *Nat Commun*. 12(1):3475. doi: 10.1038/s41467-021-23680-1.
320. James Johnson, Victoria M Harman, Catarina Franco, Edward Emmott, Nicola Rockliffe, Yaqi Sun, Lu-Ning Liu, Ayako Takemori, Nobuaki Takemori & Robert J. Beynon (2021) Synthetic biology meets proteomics: Construction of à la carte QconCATs for absolute protein quantification. *BMC Biology*;19(1):195. doi: 10.1186/s12915-021-01135-9
321. Karen Tse, Edward Beamer, Deborah Simpson, Robert J Beynon, Graeme J Sills, Thimmasettappa Thippeswamy (2021) The Impacts of Surgery and Intracerebral Electrodes in C57BL/6J Mouse Kainate Model of Epileptogenesis: Seizure Threshold, Proteomics, and Cytokine Profiles. *Front Neurol* 12:625017. doi: 10.3389/fneur.2021.625017
322. Elsemman IE, Rodriguez Prado A, Grigaitis P, Garcia Albornoz M, Harman V, Holman SW, van Heerden J, Bruggeman FJ, Bisschops MMM, Sonnenschein N, Hubbard S, Beynon R, Daran-Lapujade P, Nielsen J, Teusink B. (2022) Whole-cell modeling in yeast predicts compartment-specific proteome constraints that drive metabolic strategies. *Nat Commun*. 13(1):801. doi: 10.1038/s41467-022-28467-6.
323. Yaqi Sun, Victoria M. Harman, James R. Johnson, Philip J Brownridge, Taiyu Chen, Gregory F. Dykes, Yongjun Lin, Robert J. Beynon, Lu-Ning Liu (2022) Decoding the absolute stoichiometric composition and structural plasticity of α -carboxysomes. *mBio* (in press)
324. Jasmine Morgan, J. Enrique Salcedo-Sora, Iris Wagner, Robert J Beynon, Omar Triana-Chavez, Clare Strode (2022) Rapid evaporative ionisation mass spectrometry (REIMS): A potential and rapid tool for the identification of insecticide resistance in mosquito larvae *bioRxiv* 2022.02.10.479854; doi: <https://doi.org/10.1101/2022.02.10.479854>

325. Rosemary E Maher, Merita Määttä, Robert J Beynon, Henna Laurila, Paul S McNamara, Minna M Rajamäki (2022) Quantitative proteomic analysis of bronchoalveolar lavage fluid in West Highland white terriers with canine idiopathic pulmonary fibrosis. *BMC Vet Res BMC Vet Res.* 18(1):121.
326. Dean E Hammond, Deborah Simpson, Catarina Franco, Martina Wright-Muelas, John Waters, R W Ludwig, Mark Prescott, Jane Hurst, Robert Beynon, Edward Lau. (2022) Harmonizing labeling and analytical strategies to obtain protein turnover rates in intact adult animals (*Molecular and Cellular Proteomics* 21(7), 100252
327. Jasmine Morgan, J. Enrique Salcedo-Sora, Iris Wagner, Robert J Beynon, Omar Triana-Chavez and Clare Strode (2022) Rapid evaporative ionisation mass spectrometry (REIMS): A potential and rapid tool for the identification of insecticide resistance in mosquito larvae. *J. Insect. Sci* 22(5):5. doi: 10.1093/jisesa/ieac052
328. Rosemary E Maher, Emma Barrett, Robert J Beynon, Victoria M Harman, Andrew M Jones, Paul S McNamara, Jaclyn A Smith, Robert W Lord (2022) The relationship between lung disease severity and the sputum proteome in cystic fibrosis. *Resp Med.* DOI:<https://doi.org/10.1016/j.rmed.2022.107002>
329. Natalie Koch, Amanda J. Davidson, Catarina Franco, Rachel Spencer, Jennifer Unsworth, Guadalupe Gomez Baena, Philip Brownridge, Jane L. Hurst, Robert J. Beynon (2021) Identification and characterisation of major urinary proteins in the mound-building mouse, *Mus spicilegus* (targetted to Open Biology)
330. Iris Wagner, Linda Grigoraki, Peter Enevoldson Michael Clarkson, Sam Jones, Jane L Hurst, Robert J Beynon and Hilary Ranson (2021) Rapid identification of mosquito species, sex and age by mass spectrometric analysis *BMC Biol.* 2023 Jan 24;21(1):10. doi: 10.1186/s12915-022-01508-8.
331. Green JP, Franco C, Davidson AJ, Lee V, Stockley P, Beynon RJ, Hurst JL. (2023) Cryptic kin discrimination during communal lactation in mice favours cooperation between relatives. *Commun Biol.* 2023 Jul 15;6(1):734. doi: 10.1038/s42003-023-05115-3.
332. Gómez-Baena G, Pounder KC, Halstead JO, Roberts SA, Davidson AJ, Prescott M, Beynon RJ, Hurst JL. (2023) Unraveling female communication through scent marks in the Norway rat. *Proc Natl Acad Sci U S A.* 2023 Jun 20;120(25):e2300794120. doi: 10.1073/pnas.2300794120
333. Neves LX, Wilson RA, Brownridge P, Holman SW, Harman VM, Evers CE, Beynon RJ, Castro-Borges W. (2023) Dissection of schistosome tissues under LC-MS compatible preservative conditions for quantitative proteomics. *Rapid Commun Mass Spectrom.* 2023 Apr 17:e9523. doi: 10.1002/rcm.9523.
334. Ventura I, Harman V, Beynon RJ, Santos (2023) Glycoproteins Involved in Sea Urchin Temporary Adhesion. *R.Mar Drugs.* 2023 Feb 24;21(3):145. doi: 10.3390/md21030145.
335. Rusilowicz M, Newman DW, Creamer DR, Johnson J, Adair K, Harman VM, Grant CM, Beynon RJ, Hubbard SJ. (2023) AlacatDesigner—Computational Design of Peptide Concatamers for Protein Quantitation. *J Proteome Res.* 2023 Feb 3;22(2):594-604. doi: 10.1021/acs.jproteome.2c00608
336. Creamer DR, Beynon RJ, Hubbard SJ, Ashe MP, Grant CM. (2024) Isoform-specific sequestration of protein kinase A fine-tunes intracellular signaling during heat stress. *Cell Rep.* 43(6):114360. doi: 10.1016/j.celrep.2024.114360.
337. Coombes HA, Prescott MC, Stockley P, Beynon RJ, Hurst JL. (2024) The role of male scent in female attraction in the bank vole, *Myodes glareolus*. *Sci Rep.* 14(1):4812. doi: 10.1038/s41598-024-55235-x.

BOOKS/WEBSITES

	Beynon, R.J. & Bond, J.S. (1989) Proteolytic enzymes, A Practical Approach. Oxford University Press, Oxford, 253pp This volume was one of a successful series of 'methodology' books, and addresses the techniques of manipulation of an important class of enzymes. The first print run was sold out, and a second run made good progress. A second edition was commissioned. Beynon, R.J. & Bond, J.S. (2001) Proteolytic enzymes, A Practical Approach. Oxford University Press, Oxford, The second edition of this book was a major rewrite, and focused on new developments in the field.
	Beynon, R.J. (1993) Postgraduate Study in the Biological Sciences - A Researcher's Companion, Portland Press, London (159pp) 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!
	Beynon, R.J. & Easterby, J.S. (1996) "Buffers for pH Control-The basics" Bios Scientific Publishers (87pp) This book, one of 'The basics' series, covers the fundamental principles of methods for control o 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!
	Hurst JL, Beynon RJ, Roberts SC, & Wyatt TD (2008) (eds) CHEMICAL SIGNALS IN VERTEBRATES 11 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.
	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 elss functional, corporate, university format. See: www.phbuffers.org. This site has recorded over 1,250,000 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!
	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. http://phbuffers.org/AAIntro/Zwitter.html