CURRICULUM VITAE

PERSONAL DETAILS

First Name	Joanna
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Postal Address	3 Queens Meadow Coaltown of Balgonie, KY7 6GZ Scotland, United Kingdom

EDUCATIONAL BACKGROUND AND QUALIFICATIONS

05.2014	Associate Fellow of the Higher Education Academy
12.2003	Ph. D. in Biological Sciences, with distinction (University of Gdansk, Poland)
06.1999	M. Sc. in Biotechnology (University of Gdansk and Gdansk Medical University, Poland)

EMPLOYMENT HISTORY

10.2015–Present	Freelance Substantive Science Editor (Nature Research Editing Service, Bioedit Ltd, Cofactor, Elevate Scientific, Cactus Global, Peerwith, University of London, private Clients)
06.2015–09.2015	Postdoctoral Research Fellow, University of Aberdeen, Scotland, UK
09.2010–04.2015	Postdoctoral Research Fellow, University of Aberdeen, Scotland, UK
09.2008–09.2010	Postdoctoral Fellow, Umeå University, Sweden
06.2005–07.2008	Postdoctoral Fellow, Dalhousie University, Canada
10.2004–09.2010	Research Associate, University of Gdansk, Poland
01.2004–10.2004	Research Specialist, University of Gdansk, Poland
01.2003–06.2003	Pre-doctoral Training Fellow, Rowett Research Institute, Scotland, UK
10.1999–10.2000	Research Assistant, University of Gdansk, Poland

AD HOC PEER REVIEW FOR SCIENTIFIC JOURNALS (Academic)

Acta Polonica Biochimica (Polish Biochemical Society), *Biochemistry* (ACS), *Biochemistry and Cell Biology* (NRC Research Press), *FEMS Yeast Research* (Wiley), *Journal of Applied Genetics* (Springer), *Medical Mycology* (Oxford University Press), *Microbiology* (SGM), *Proteomics* (Wiley-VCH), *Research in Microbiology* (Elsevier)

PUBLICATIONS (*: corresponding) (Potrykus=Mackie) [h-index: 15; i10-index: 17]

1 **Mackie, J.**, Kumar, H., Bearne, S.L. Changes in quaternary structure cause a kinetic asymmetry of glutamate racemase-catalyzed homocysteic acid racemization. *FEBS Letters* **592**:3399 [IF 2.67]

2 Ballou, E.R., Avelar, G.M., Childers, D.S., **Mackie, J**., Bain, J.M., Wagener, J., Kastora, S.L., Panea, M.D., Hardison, S.E., Walker, L.A., Erwig, L.P., Munro, C.A., Gow, N.A., Brown, G.D., MacCallum, D.M., Brown, A.J. Lactate signalling regulates fungal β-glucan masking and immune evasion (2016) *Nature Microbiology* **2**:16238 [IF 14.17]

3 **Mackie, J.***, Szabo, E.K., Urgast, D.S., Ballou, E.R., Childers, D.S., MacCallum, D.M., Feldmann, J., Brown, A.J. Host-imposed copper poisoning impacts fungal micronutrient acquisition during systemic *Candida albicans* infections (2016) *PLoS One* 11(6): e0158683. doi: 10.1371/journal.pone.0158683 [IF 2.76]

4 Childers, D.S., Raziunaite, I., Mol Avelar G., **Mackie, J**., Budge, S., Stead, D., Gow, N.A.R., Lenardon, M.D., Ballou, E.R., MacCallum, D.M., Brown, A.J.P. The rewiring of ubiquitination targets in a pathogenic yeast promotes metabolic flexibility, host colonization and virulence (2016) *PLoS Pathogens* 12(4): e1005566. doi:10.1371/journal.ppat.1005566 [IF 8.05]

5 **Potrykus J.*,** Ballou, E.R., Childers, D.S., Brown, A.J.P. Conflicting interests in the pathogen-host tug of war: Fungal micronutrient scavenging versus mammalian nutritional immunity (2014) *PLoS Pathogens* 10(3): e1003910. doi:10.1371/journal.ppat.1003910 [IF 8.05]

6 Brown, A.J.P., Budge, S., Kaloriti, D., Tillman, A., Jacobsen, M., Yin, Z., Ene, I.V., Bohovych, I., Sandai, D., Kastora, S., **Potrykus, J.**, Ballou, E.R., Childers, D.S., Shahana, S., Leach, M.D. (2014) Stress adaptation in a pathogenic fungus. *Journal of Experimental Biology* **217**:144 [IF 2.89]

7 **Potrykus, J.**, Stead, D., MacCallum, D.M., Urgast, D.S., Raab, A., van Rooijen, N., Feldmann, J., Brown, A.J.P. (2013) Fungal iron availability during deep seated candidiasis is defined by a complex interplay involving systemic and local events. *PLoS Pathogens* 10.1371/journal.ppat.1003676 [IF 8.05]

8 Marakalala, M.J., Vautier, S., **Potrykus, J.**, Walker, L.A., Shepardson, K.M., Hopke, A., Mora-Montes, H.M., Lee, K.K., Kerrigan, A., Netea, M.G., Murray, G.I., MacCallum, D.M., Wheeler, R., Munro, C.A., Gow, N.A.R., Cramer, R.A., Brown, A.J., Brown, G.D. (2013) Differential adaptation of *Candida albicans in vivo* modulates immune recognition by Dectin-1. *PLoS Pathogens* 10.1371/journal.ppat.1003315 [IF 8.05]

9 Mangold, S., **Potrykus, J.**, Bjorn, E., Lovgren, L., Dopson, M. (2013) Extreme zinc tolerance of acidophilic microorganisms from the bacterial and archaeal domains. *Extremophiles* **17**:75 [IF 2.17]

10 Steeves, C.H., **Potrykus, J**., Barnett, D.A., Bearne, S.L. (2011) Oxidative stress response in the opportunistic oral pathogen *Fusobacterium nucleatum*. *Proteomics* **11**:2027 [IF 4.13]

11 **Potrykus, J.*,** Jonna, Rao V., Dopson, M. (2011) Iron homeostasis and responses to iron limitation in extreme acidophiles from the *Ferroplasma* genus. *Proteomics* **11**:52 [IF 4.13]

12 Scott, K.P., Martin, J.C., Chassard, C., Clerget, M., **Potrykus, J.,** Campbell, G., Mayer, C.D., Young, P., Rucklidge, G., Ramsay, A.G., Flint, H.J. (2011) Microbes and Health Sackler

Colloquium: Substrate-driven gene expression in *Roseburia inulinivorans*: Importance of inducible enzymes in the utilization of inulin and starch. *Proceedings of the National Academy of Sciences USA* **108** Suppl 1:4672 [IF 9.67]

13 Baker-Austin, C., **Potrykus, J.,** Wexler, M., Bond, P., Dopson, M. (2010) Biofilm development in the extremely acidophilic archaeon '*Ferroplasma acidarmanus'* Fer1. *Extremophiles* **14**:485 [IF 2.17]

14 **Potrykus, J.,** Flemming, J., Bearne, S.L. (2009) Kinetic characterization and quaternary structure of glutamate racemase from the periodontal anaerobe *Fusobacterium nucleatum*. *Archives of Biochemistry and Biophysics* **491**:16 [IF 3.01]

15 **Potrykus, J.,** White, R.L., Bearne, S.L. (2008) Proteomic investigation of amino acid catabolism in the indigenous gut anaerobe *Fusobacterium varium. Proteomics* **8**:2691 [IF 4.13]

16 **Potrykus, J.,** Mahaney, B., White, R.L., Bearne, S.L. (2007) Proteomic investigation of glucose metabolism in the butyrate-producing gut anaerobe *Fusobacterium varium. Proteomics* **7**:1839 [IF 4.13]

17 **Potrykus, J.,** Węgrzyn, G. (2004) The *ypdI* gene codes for a putative lipoprotein involved in the synthesis of colanic acid in *Escherichia coli. FEMS Microbiology Letters* **235**:265 [IF 2.12]

18 **Potrykus, J.,** Węgrzyn, G. (2003) The *acrAB* locus is involved in modulating intracellular acetyl coenzyme A levels in strain of *Escherichia coli* CM2555 expressing the chloramphenicol acetyltransferase (*cat*) gene. *Archives of Microbiology* **180**:362 [IF 1.66]

19 **Potrykus, J.*** (2002) (Antibiotic resistance and plasmid-encoded resistance determinants) (Review article, Polish). *KOSMOS* **51**:331 [non-indexed peer-reviewed publication]

20 **Potrykus, J.,** Barańska, S., Węgrzyn, G. (2002) Inactivation of the *acrA* gene is partially responsible for chloramphenicol sensitivity of *Escherichia coli* CM2555 strain expressing the chloramphenicol acetyltransferase gene. *Microbial Drug Resistance* **8**:179 [IF 2.49]

21 **Potrykus, J.,** Węgrzyn, G. (2001) Chloramphenicol-sensitive *Escherichia coli* strain expressing the chloramphenicol acetyltransferase (*cat*) gene. *Antimicrobial Agents and Chemotherapy* **45**:3610 [IF 4.47]

22 Kędzierska, S., Staniszewska, M., **Potrykus, J.,** Węgrzyn, G. (1999) The effects of some antibiotic-resistance-conferring plasmids on the removal of heat-aggregated proteins from *Escherichia coli* cells. *FEMS Microbiology Letters* **176**:279 [IF 2.12]

MANUSCRIPTS IN PREPARATION

1 **Mackie, J.***, Stell, A.L., Dopson, M. A novel arsenate reductase family from the extremely arsenic resistant archaeon, '*Ferroplasma acidarmanus'* fer1

SCIENCE COMMUNICATION – CONFERENCE PRESENTATIONS

ORAL PRESENTATIONS (the presenting author is underlined) (12)

Potrykus, J., Szabo, E., Urgast, D.S., Ballou, E.R., MacCallum, D., Feldmann, J., Brown, A. J. (2015) Dynamic changes in renal copper trigger micronutrient adaptation in *Candida albicans* during systemic candidiasis. 51st British Society for Medical Mycology Meeting, Aberdeen (UK) (**OFFERED**)

Potrykus, J., Stead, D., MacCallum, D., Urgast, D.S., Ballou, E.R., Childers, D., Couté, Y., Feldmann, J., Brown, A. J. (2013) Probing the dynamics of pathogen-host interactions in disseminated candidiasis, 3rd PRIME-XS Annual Meeting, Split (Croatia) (**INVITED**)

Potrykus, J., Stead, D., MacCallum, D., Urgast, D.S., Raab, A., Feldmann, J., Brown, A. J. (2013) Local and systemic effects control fungal iron availability during disseminated candidiasis, 5th FEBS Advanced Lecture Course 'Human Fungal Pathogens: Molecular Mechanisms of Host-Pathogen Interactions and Virulence', La Colle sur Loup (France) (**OFFERED**)

Potrykus, J., Stead, D., Urgast, D.S., MacCallum, D., Raab, A., Feldmann, J., Brown, A. J. (2013) Nutrient immunity and systemic readjustment of metal homeostasis modulate fungal iron availability during the development of renal infections. 27th Fungal Genetics Conference, Asilomar (USA) (**OFFERED**)

Potrykus, J. (2012) The dynamic micronutrient landscape in systemic candidiasis - iron matters. WAYWO Seminar, Institute of Medical Sciences, University of Aberdeen, Aberdeen (UK) (**INVITED**)

Potrykus, J. (2012) Tracing the dynamics of pathogen-host interactions during disease progression. Post Doc Research Symposium, Institute of Medical Sciences, University of Aberdeen, Aberdeen (UK) (**INVITED**)

Potrykus, J. (2012) Tracking *Candida*-host interactions during developing systemic disease *in situ*. North East Fungal Forum, Newcastle (UK) (**INVITED**)

Potrykus, J., Stead, D., Raab, A., Urgast, D.S., Feldmann, J., MacCallum, D., Brown, A. J. (2012) The iron interface in a pathogen-host tug of war - spatial *in situ* analyses of developing *Candida albicans* lesions in the kidney. 11th ASM Conference on *Candida* and Candidiasis, San Francisco (USA) (**OFFERED**)

Potrykus, J. (2011) Dissecting the spatial and temporal dynamics of pathogen-host interactions in murine model of systemic candidiasis. VDC Seminar, National Institutes of Health, Bethesda (USA) (**INVITED**)

Potrykus, J. (2011) Laser capture microscopy for transcript profiling analyses - Dissecting fungal subpopulations in an infected host. Microscopy and Histology Core Facility Meeting, Institute of Medical Sciences, University of Aberdeen, Aberdeen, Aberdeen (UK) (**INVITED**)

Potrykus, J., Dopson, M. (2010) Molecular insights into archaeal survival strategies in extreme environments, Molecular Biology Retreat, Lycksele (Sweden) (**INVITED**)

Potrykus, J., Węgrzyn, G. (1999) Chloramphenicol sensitivity of an *Escherichia coli* CM2555 strain carrying *cat*, a chloramphenicol resistance gene, VII Students' Conference, Gdansk (Poland) (**INVITED**)

POSTER PRESENTATIONS (the presenting author is underlined) (21)

Potrykus, J., Ballou, E.R, Urgast, D.S., MacCallum, D., Feldmann, J., Brown, A.J. (2014) The interplay between host-imposed copper overload, nutritional immunity and micronutrient adaptation in *Candida albicans* during the development of systemic candidiasis, 12th ASM Conference on *Candida* and Candidiasis, New Orleans, LA (USA)

Potrykus, J., Stead, D., MacCallum, D., Urgast, D.S., Ballou, E.R., Childers, D., Couté, Y., Feldmann, J., Brown, A. J. (2013) Probing the dynamics of pathogen-host interactions in disseminated candidiasis, 3rd PRIME-XS Annual Meeting, Split (Croatia)

Potrykus, J., Stead, D., MacCallum, D., Urgast, D.S., Raab, A., Feldmann, J., Brown, A. J. (2013) Local and systemic effects control fungal iron availability during disseminated candidiasis, 5th FEBS Advanced Lecture Course 'Human Fungal Pathogens: Molecular Mechanisms of Host-Pathogen Interactions and Virulence', La Colle sur Loup (France)

Potrykus, J., Stead, D., Urgast, D.S., MacCallum, D., Raab, A., Feldmann, J., Brown, A. J. (2013) Nutrient immunity and systemic readjustment of metal homeostasis modulate fungal iron availability during the development of renal infections. 27th Fungal Genetics Conference, Asilomar (USA)

Potrykus, J., Stead, D.A., MacCallum, D.M., Brown, A.J.P. (2012) Probing the dynamics of the host proteome in a murine model of systemic candidiasis by MALDI MS imaging, 6th European Proteomics Association and British Society for Protein Research Meeting, Glasgow (UK)

Potrykus, J., Stead, D.A., MacCallum, D.M., Brown, A.J.P. (2012) MALDI Imaging in systemic fungal infections, SU2P Workshop on Imaging and Sensing in Medicine and Life Sciences, Glasgow (UK)

Potrykus, J., Stead, D.A., Davidson, I., MacCallum, D.M., Brown, A.J.P. (2011*) In situ* proteomics of murine model of systemic candidiasis, Proteome Awareness Day, Aberdeen (UK)

Martin, J.C., Chassard, C., **Potrykus, J.,** Campbell, G., Mayer, C.-D., Ramsay, A., Flint, H.J., Scott, K.P. (2008) Gene expression changes in response to prebiotic utilisation by butyrate-producing commensal gut bacteria, VI Joint RRI-INRA Gut Microbiology Meeting, Clermont-Ferrand

Potrykus, J., Bearne, S.L., White, R.L. (2006) Proteomics-based investigation of major metabolic pathways of a human gut anaerobe, *Fusobacterium varium,* V Joint RRI-INRA Gut Microbiology Meeting, Aberdeen

Scott, K.P., Martin, J., **Potrykus, J.,** Campbell, G., Rincon, M.T., Rucklidge, G., Mayer, C.D., Flint, H.J. (2006) Transcritptome analysis of the cluster XIVa human colonic anaerobe *Roseburia inulinivorans,* V Joint RRI-INRA Gut Microbiology Meeting, Aberdeen

Potrykus, J., Węgrzyn, G. (2004) The *ypdI* gene product as a potential target for drugs impairing formation of bacterial biofilm, IV Multidisciplinary Conference on Drug Research, Sobieszewo (Poland)

Potrykus, J., Węgrzyn, G. (2004) The *acrA* gene product as a potential target for drugs sensitising chloramphenicol-resistant bacteria to this antibiotic, IV Multidisciplinary Conference on Drug Research, Sobieszewo (Poland)

Potrykus, J., Węgrzyn, G. (2003) *ypdI* gene is involved in exopolysaccharide production in *Escherichia*

coli K-12 CM2555 mutant, XIII European Congress of Clinical Microbiology and Infectious Diseases, Glasgow

Potrykus, J., Węgrzyn, G. (2002) Mutations in a bacterial host affecting CAT-mediated chloramphenicol resistance mechanism, III Joint RRI-INRA Gastrointestinal Tract Microbiology Symposium, Aberdeen

Potrykus, J., Węgrzyn, G. (2002) Chloramphenicol sensitivity of some *Escherichia coli cat*-expressing strains, XII European Congress of Clinical Microbiology and Infectious Diseases, Milan

Potrykus, J., Benetkiewicz, M., Węgrzyn, G. (2002) Effects of a major *Escherichia coli* efflux pump alterations on intrinsic and plasmid-borne antibiotic resistance, IV European Congress of Chemotherapy and Infection, Paris

Potrykus, J., Węgrzyn, G. (2001) Overexpression of genes encoding components of membrane efflux system can complement chloramphenicol sensitivity phenotype of an *Escherichia coli* CM2555 strain carrying *cat* gene on a multicopy plasmid, XIV Meeting of the Polish Genetics Society, Poznan (Poland)

Potrykus, J., Węgrzyn, G. (2001) A chloramphenicol-sensitive *Escherichia coli* strain expressing the chloramphenicol acetyltransferase (*cat*) gene, Society for Applied Microbiology Summer Conference, Swansea

Potrykus, J., Węgrzyn, G. (2000) What can cause bacteria carrying *cat*, the chloramphenicol resistance gene, become sensitive to this antibiotic?, XXXVI Meeting of the Polish Biochemical Society, Poznan (Poland)

Benetkiewicz, M., **Potrykus, J.,** Węgrzyn, G. (2000) Impact of tetracycline resistance on chloramphenicol sensitivity of an *Escherichia coli* CM2555 strain carrying *cat* and *tetA* genes, XXXVI Meeting of the Polish Biochemical Society, Poznan (Poland)

Potrykus, J., Węgrzyn, G. (1999) Chloramphenicol sensitivity of an *Escherichia coli* CM2555 strain carrying *cat* resistance gene, XXXV Meeting of the Polish Biochemical Society, Olsztyn (Poland)

TEACHING

Molecular Biology Course Laboratory demonstrator (University of Gdansk), one semester with up to 20 students/group
ME2013 tutorials (Biochemistry for Medical students, University of Aberdeen), two sessions with up to 20 students
BI25M7 tutorials (Energy For Life course, University of Aberdeen), three sessions with up to 20 students

SUPERVISORY EXPERIENCE

Supervision of undergraduate (Umeå University) and Master students (University of Gdansk and Dalhousie University) and training of Honours Programme students (Dalhousie University) in molecular biology, genetics, microbiology and proteomics; *ad hoc* training of undergraduate and postgraduate students (over 20) in molecular biology and microbiology techniques at the University of Aberdeen

KNOWLEDGE DISSEMINATION AND ORGANIZATIONAL ACTIVITIES

Interviewed and quoted in the *Science* magazine special issue 'Education: Rethinking Europe's Universities' (Clery D. (1996) 'Overview: European Universities in Transition' *Science* **271**:681; DOI:10.1126/science.271.5249.681)
Interactive presentations on bacterial mechanisms of drug resistance during the Gdansk-Sopot-Gdynia Tri-City Science Fair (May 2004); participant of Proteome Awareness Day (March 2011, Aberdeen, Scotland, UK)
Co-organizer of Aberdeen Fungal Group Reading Party 'The Burn' (years: 2012, 2013, 2014, 2015; Edzell House, Scotland, UK); coordinator of MMFI-AFG seminars (years: 2013, 2014; University of Aberdeen, Scotland, UK)

PROFESSIONAL BODY MEMBERSHIP

Full contributing member of the following:
American Society for Microbiology (2011–2015), **Biochemical Society (2011–present)**, British Mycological Society (2011–2015), British Society for Medical Mycology (2011–2015), **Polish Genetics Society (2000–present), Society for Applied Microbiology (2011–present)**
European Association of Science Editors (2016–present)

Joanna Mackie November 2019