**Curriculum vitae - Dr. Martin Stephen Llewellyn**

**Personal details -**

**Nationality** – British **Date of Birth** – 13 August 1980

**Current Address** – Graham Kerr Building, University of Glasgow

**Current and previous employment:**

**31/7/2015 - current: Senior Lecturer** – School of Life Sciences, University of Glasgow

**2012 – 2015: Marie-Curie International Outgoing Research Fellow** Molecular Ecology and Fisheries Genetics Laboratory, Bangor University, North Wales / Universite de Laval, Quebec

**2009 – 2012: Post-doctoral Researcher** FP7 researcher, consortium coordinator and administrator – ChagasEpiNet – London School of Hygiene and Tropical Medicine

**2004 – 2008: PhD** London School of Hygiene and Tropical Medicine; Molecular epidemiology of *Trypanosoma cruzi*

**1999 – 2002: Honours Degree (2.i)**, Biological Sciences, Queen’s College,Oxford University

**Research grants since 2012**

**2018 – 2021-** SAIC PhD studentship: Environmental DNA for low-cost monitoring of disease in Salmonid aquaculture 60K GBP

**2017–2021** BEYOND 2020 (Burrishoole Ecosystem Observatory Network 2020) **Marine Institute, Ireland** Co-I 111,724 GBP

**2017–2019:** SalmoSim: A simulated in vitro Atlantic salmon intestinal microbiome system for pre-screening probiotics and feed additives. **Scottish Aquaculture Innovation Centre** PI.101,643 GBP

**2017-2020**: A microbial basis for Atlantic Salmon Energetics. **BBSRC-SFI.** PI 587,859 GBP

**2016–2018:** Mucosal health and microbiota during sea lice parasitism: effect of oral delivery of immunomodulants - Co-Investigator. **BBSRC-CONICYT** CoI 57,655 GBP

**2014 - 2017:** Landscape genetics of *Trypanosoma cruzi* in Southern Ecuador **NIH**, **CoI** 17,012 GBP

**2015-2017:** Leishmaniasis in the Brazilian Amazon: the role of accessory microbiota in disease progression, pathobiology and immunity – **MRC-CONFAP** CoI 17,012 GBP

**2012-2015:** Marie Curie Fellowship – Ecological genomics of Salmonid microbiomes in health and disease **EC** PI

**Invited speaker:**

Congreso Latinoamericano de Parasitología, Bogota, Colombia, 2011; XXII Brazilian Congress of Parasitology, 2011; 5th Paris Workshop on Genomic Epidemiology, 2013; British society of Parasitology Autumn meeting, 2015; 8° Symposium Eco-evolutionary dynamics, 2015; 1st Fish Microbiome conference, Trondheim, 2017; ARCH Aquaculture UK workshop, Aberdeen, 2018

**Journal Editor**

Frontiers in Microbiology, Proceedings of the Royal Society of London, Series B

**Journal Reviewer**

PLoS Pathogens, Trends in Parasitology, Fish & Fisheries, Molecular Ecology, Scientific Reports, PLoS Neglected Tropical Diseases, Parasites and Vectors, Infection Genetics and Evolution, Tropical Medicine and International Health, Memorias do Owaldo Cruz, American Journal of Tropical Medicine and Hygiene, Parasitology Research, Acta Tropica, Annals of Tropical Medicine and Hygiene

**Languages**

English – native. Spanish & French - fluent, Portuguese – conversational.

**Grant Reviewer**

BBSRC, University of Wisconsin Aquatic Sciences Center, USA; CONACIT, Chile; Research Foundation, Flanders, Belgium,

**PhD Examiner**

External: University of Stirling, 2016 (1); Royal Veterinary College, 2018 (1) Internal: School of Engineering 2016 (1), BAHCM 2016/17 (3))

**Recent Press**

2016 – BBC Radio Scotland prime time (7 am) live interview – SalmoSim; 2016 - Press and Journal – 300 word article – SalmoSim.

**Publications (3008 citations; H Index 29)**

**Jacobs, A, DE Noia, M, Praebel, K Kanstad-Hanssen, O Paterno, M Jackson, D McGinnity, P Sturm, A Elmer, KR Llewellyn MS (2018) Genetic fingerprinting of salmon louse (*Lepeophtheirus salmonis*) populations in the North-East Atlantic using a random forest classification approach. Scientific Reports *In Press***

**Dario, MA, da Rocha, RMM, Schwabl, P, Jansen, AM, Llewellyn MS Small subunit ribosomal metabarcoding reveals extraordinary trypanosomatid diversity in Brazilian bats. (2017) PLoS Neglected Tropical Diseases 11 (7), e0005790**

Khan, NH, **Llewellyn, MS** Schönian, G Sutherland CJ. Variability of Cutaneous Leishmaniasis Lesions Is Not Associated with Genetic Diversity of *Leishmania tropica* in Khyber Pakhtunkhwa Province of Pakistan **(2017) The American Journal Of Tropical Medicine And Hygiene** 97 (5), 1489-1497

Dario, MA Lisboa, CV Costa, LM Moratelli, R Nascimento, MP Costa, LP Leite, Y **Llewellyn, MS** das Chagas Xavier, SC Roque, A Jansen AM High Trypanosoma spp. diversity is maintained by bats and triatomines in Espírito Santo state, Brazil **(2017) PloS One** 12 (11), e0188412

**LE Hernandez-Castro, M Paterno, AG Villacís, B Andersson, JA Costales, M Grigalva, MS Llewellyn 2017 2b-RAD genotyping for population genomic studies of Chagas disease vectors: *Rhodnius ecuadoriensis* in Ecuador (2017) PLOS Neglected Tropical Diseases 11 (7), e0005710**

Messenger, LA Ramirez, JD **Llewellyn, MS** Guhl, F Miles MA **(2017)** Pan-American Migration Promotes The Spread Of Pathogenic Trypanosoma Cruzi Hybrid Strains **American Journal Of Tropical Medicine And Hygiene** 95 (5), 360-360

**Llewellyn, M.S., Leadbeater, S. Garcia, C., Sylvain F-E, Custodio, M. Ang, K. P. Powell, F., Carvalho, G. R., Creer, S. Elliot, J. Derome, N. 2017 Parasitism perturbs the mucosal microbiome of Atlantic Salmon. Scientific Reports. 7:43465**

**Acosta, N., López, E., Lewis, M., Llewellyn, M., Gómez, A., Román, F.,Yeo, M. (2017). Hosts and vectors of Trypanosoma cruzi discrete typing units in the Chagas disease endemic region of the Paraguayan Chaco. Parasitology In Press**

**Schwabl P, Llewellyn MS, Landguth EL, Andersson B, Kitron U, Costales JA, Ocaña S, Grijalva MJ. 2016 Prediction and Prevention of Parasitic Diseases Using a Landscape Genomics Framework. Trends Parasitol. S1471-4922(16)30191**

**Sylvain, François-Étienne, Bachar Cheaib, Llewellyn, MS Tiago Correia, Adalberto Luis Val, Nicolas Derome 1 2016 pH drop impacts differentially skin and gut microbiota of the Amazonian fish tambaqui (*Colossoma macropomum*)" Scientific Reports: 32032**

**Messenger LA, Ramirez JD, Llewellyn MS, Guhl F, Miles MA. 2016 Importation of Hybrid Human-Associated Trypanosoma cruzi Strains of Southern South American Origin, Colombia. Emerg Infect Dis. 22(8):1452-5. doi: 10.3201/eid2208.150786.**

**Llewellyn, MS**. McGinnity, P. Dionne, M. Letourneau, J. Thonier, F. Carvalho, GR. Creer, S. Derome, N. (2016) Biogeography of the of the Atlantic salmon (Salmo salar) microbiome. **ISMEJ** 10(5):1280-4.

**Ramírez, J.D., and Llewellyn, M.S. (2015) Response to Tibayrenc and Ayala: reproductive clonality in protozoan pathogens - truth or artefact? Molecular Ecology, 24(23), pp. 5782-5784.**

**Ramírez, JD Llewellyn MS 2015 Response to Tibayrenc and Ayala: reproductive clonality in protozoan pathogens–truth or artefact? Molecular Ecology 24 (23), 5782-5784**

Costales, JA Kotton CN Zurita-Leal AC Garcia-Perez J **Llewellyn MS** Messenger, LA Bhattacharyya T Burleigh BA 2015 Chagas disease reactivation in a heart transplant patient infected by domestic Trypanosoma cruzi discrete typing unit I (TcI DOM) **Parasites & Vectors** 8:435

Pennington PM, Messenger LA, Reina J, Juárez JG, Lawrence GG, Dotson EM, **Llewellyn MS,** Cordón-Rosales C. 2015 The Chagas disease domestic transmission cycle in Guatemala: Parasite-vector switches and lack of mitochondrial co-diversification between Triatoma dimidiata and Trypanosoma cruzi subpopulations suggest non-vectorial parasite dispersal across the Motagua valley. **Acta Trop.** 151:80-7.

Costales JA, Jara-Palacios MA, **Llewellyn MS,** Messenger LA, Ocaña-Mayorga S, Villacís AG, Tibayrenc M, Grijalva MJ. 2015 ***Trypanosoma cruzi*** population dynamics in the Central Ecuadorian Coast. **Acta Trop**. 151:88-93

**Llewellyn, MS** Messenger, LA Luquetti A, Garcia L, Torrico F, Tavares, S Cheaib, B Derome, N Delepine, M Baulard, C Deluze, JF Sauer, S Miles, MA 2015 Deep sequencing of the Trypanosoma cruzi GP63 surface proteases reveals diversity and diversifying selection among chronic and congenital Chagas disease patients.**PLoS NTDs** 7;9(4):e0003458

Messenger, LA; Garcia, AL; Vanhove, M; Huaranca, C; Bustamante, M; Torrico, M; Torrico, F; Miles, MA; **Llewellyn, MS** 2015 Ecological host fitting of Trypanosoma cruzi TcI in Bolivia: mosaic population structure, hybridization and a role for humans in Andean parasite dispersal. **Molecular Ecology.** ;24(10):2406-22

Messenger LA, Yeo M, Lewis MD, **Llewellyn MS**, Miles MA. 2014 Molecular Genotyping of Trypanosoma cruzi for Lineage Assignment and Population Genetics. **Methods Mol Biol**. 1201:297-337.

Diosque P, Tomasini N, Lauthier JJ, Messenger LA, Monje Rumi MM, Ragone PG, Alberti-D’Amato AM, Pérez Brandán C, Barnabé C, Tibayrenc M, Lewis MD, **Llewellyn MS**, Miles MA, Yeo M. 2014 Optimized multilocus sequence typing (MLST) scheme for Trypanosoma cruzi. **PLoS Negl Trop Dis**. 8:e3117

Ramírez JD, **Llewellyn MS.** 2014 Reproductive clonality in protozoan pathogens – truth or artefact? **Molecular Ecology** 23: 4195–4202,

Baleela, R **Llewellyn MS** Fitzpatrick, S Kuhls, K Schönian, G Miles MA Mauricio IL 2014 Leishmania donovani populations in Eastern Sudan: temporal structuring and a link between human and canine transmission. **Parasites and Vectors** 7:496

**Llewellyn MS** Boutin, SA. Hossein, S, Derome, N 2014 Teleost microbiomes: progress towards characterisation, manipulation and applications in aquaculture and fisheries. **Frontiers in Microbiology.** 5:207

Lima, V. Jansen, AM, Messenger, LM. Miles, MA. **Llewellyn, MS**. 2014 Wild Trypanosoma cruzi I genetic diversity in Brazil suggests admixture and disturbance in parasite populations from the Atlantic Forest region. **Parasites and Vectors 7**:263

Segovia M, Carrasco HJ, Martínez CE, Messenger LA, Nessi A, Londoño JC, Espinosa R, Martínez C, Alfredo M, Bonfante-Cabarcas R, Lewis MD, de Noya BA, Miles MA, **Llewellyn MS**. 2013 Molecular epidemiologic source tracking of orally transmitted Chagas disease, Venezuela. **Emerg Infect Dis**. 19:1098-101

Tomasini N, Lauthier JJ, **Llewellyn MS**, Diosque P. 2013 MLSTest: novel software for multi-locus sequence data analysis in eukaryotic organisms. **Infect Genet Evol**. 20:188-96.

Zumaya-Estrada FA, Messenger LA, Lopez-Ordonez T, Lewis, MD , Flores-Lopez CA, Martínez-Ibarra JA, Pennington PM, Cordon-Rosales C, Carrasco HJ, Segovia M, Miles MA,  **Llewellyn MS** 2012 North American import? Charting the origins of an enigmatic Trypanosoma cruzi domestic genotype. **Parasites and Vectors.** 5:226 doi:10.1186/1756-3305-5-226

Franzén, O. Talavera-López, C. Ochaya, S. Butler, CE.  Messenger, LA.  Lewis, MD. **Llewellyn, MS**. Marinkelle, CJ Tyler, KM  Miles MA, Andersson BA (2012) Comparative genomic analysis of human infective Trypanosoma cruzi lineages with the bat-restricted subspecies T. cruzi marinkellei. **BMC Genomics.** **13**:531

**\*\*FOUR STAR PAPER\*\*** Ramírez, JD, Guhl, F, Messenger, LA, Lewis, MD, Montilla, M, Cucunuba, Z, Miles, MA; **Llewellyn, MS**. (2012) Contemporary cryptic sexuality in Trypanosoma cruzi. **Molecular Ecology**. 21: 4216–4226,

Carrasco HJ, Segovia M, **Llewellyn MS**, Morocoima A, Urdaneta-Morales S, et al. (2012) Geographical Distribution of Trypanosoma cruzi Genotypes in Venezuela. **PLoS Negl Trop Dis** 6(6): e1707.

Lauthier JJ, Tomasini N, Barnabé C, Rumi MM, D’Amato AM, Ragone PG, Yeo M, Lewis MD, **Llewellyn MS**, Basombrío MA, Miles MA, Tibayrenc M, Diosque P. (2012) Candidate targets for Multilocus Sequence Typing of Trypanosoma cruzi: validation using parasite stocks from the Chaco Region and a set of reference strains. **Infect Genet Evol**. 12(2):350-8

Messenger LA, **Llewellyn MS**, Bhattacharyya T, Franzén O, Lewis MD, et al. (2012) Multiple Mitochondrial Introgression Events and Heteroplasmy in Trypanosoma cruzi Revealed by Maxicircle MLST and Next Generation Sequencing. **PLoS Negl Trop Dis** 6(4): e1584  doi:10.1371/journal.pntd.0001584

Zingales B, Miles MA, Campbell DA, Tibayrenc M, Macedo AM, Teixeira MM, Schijman AG, **Llewellyn MS**, Lages-Silva E, Machado CR, Andrade SG, Sturm NR.(2012) The revised Trypanosoma cruzi subspecific nomenclature: rationale, epidemiological relevance and research applications. **Infect Genet Evol**.12:240-53

**Llewellyn, M.S**.,Rivett-Carnac, J.B., Fitzpatrick, S., Lewis, M. D., Yeo, M., Gaunt M.W., Miles M.A., Extraordinary Trypanosoma cruzi diversity within single mammalian reservoir hosts implies a mechanism of diversifying selection. **Int J Parasitol.** 41(6):609-14.

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Yoshida, N. Tyler K.M., **Llewellyn, M.S**.2011 Invasion mechanisms among emerging food borne protozoan parasites. **Trends in Parasitology**. 27(10):459-66

Yeo M, Mauricio IL, Messenger LA, Lewis MD, **Llewellyn MS,** Nidia Acosta1,Tapan Bhattacharyya, Patricio Diosque, Hernan J. Carrasco, Michael A. Miles (2011) Multilocus Sequence Typing (MLST) for Lineage Assignment and High Resolution Diversity Studies in Trypanosoma cruzi. **PLoS Negl Trop Dis** 5(6): e1049.

Ocaña-Mayorga S, **Llewellyn MS**, Costales JA, Miles MA, Grijalva MJ, 2010 Sex, Subdivision, and Domestic Dispersal of Trypanosoma cruzi Lineage I in Southern Ecuador. **PLoS Negl Trop Dis** 4(12): e915.

Hamilton, P.B., Lewis, M.D., Cruickshank, C., Gaunt, M.W., Yeo, M., **Llewellyn, M.S.,**Valente, S.A., Maia da Silva, F., Stevens, J.R., Miles, M.A., Teixeira, M.M., 2010 Identification and lineage genotyping of South American trypanosomes using fluorescent fragment length barcoding. **Infect Genet Evol** 11, 44-51.

Bhattacharyya, T., Brooks, J., Yeo, M., Carrasco, H.J., Lewis, M.D., **Llewellyn, M.S.**, Miles, M.A., 2010 Analysis of molecular diversity of the Trypanosoma cruzi trypomastigote small surface antigen reveals novel epitopes, evidence of positive selection and potential implications for lineage-specific serology. **Int J Parasitol.** 40(8):921-8

**Llewellyn, M.S**.,Miles, M.A., Carrasco, H.J., Lewis, M.D., Yeo, M., Vargas, J., Torrico, F., Diosque, P., Valente, V., Valente, S.A., Gaunt, M.W., 2009. Genome-scale multilocus microsatellite typing of Trypanosoma cruzi discrete typing unit I reveals phylogeographic structure and specific genotypes linked to human infection. **PLoS Pathog** 5, e1000410.

**Llewellyn, M.S.,** Lewis, M.D., Acosta, N., Yeo, M., Carrasco, H.J., Segovia, M., Vargas, J., Torrico, F., Miles, M.A., Gaunt, M.W., 2009. Trypanosoma cruzi IIc: Phylogenetic and Phylogeographic Insights from Sequence and Microsatellite Analysis and Potential Impact on Emergent Chagas Disease. **PLoS Negl Trop Dis** 3, e510.

Lewis, M.D., **Llewellyn, M.S.,** Gaunt, M.W., Yeo, M., Carrasco, H.J., Miles, M.A., 2009. Flow cytometric analysis and microsatellite genotyping reveal extensive DNA content variation in Trypanosoma cruzi populations and expose contrasts between natural and experimental hybrids. **Int J Parasitol** 39, 1305-1317.

Lewis, M.D., Ma, J., Yeo, M., Carrasco, H.J., **Llewellyn, M.S**., Miles, M.A., 2009. Genotyping of Trypanosoma cruzi: systematic selection of assays allowing rapid and accurate discrimination of all known lineages. **Am J Trop Med Hyg** 81, 1041-1049.

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Miles, M.A., **Llewellyn, M.S.**, Lewis, M.D., Yeo, M., Baleela, R., Fitzpatrick, S., Gaunt, M.W., Mauricio, I.L., 2009. The molecular epidemiology and phylogeography of Trypanosoma cruzi and parallel research on Leishmania: looking back and to the future. **Parasitology** 136, 1509-1528.

Yeo, M., Lewis, M.D., Carrasco, H.J., Acosta, N., **Llewellyn, M**., da Silva Valente, S.A., de Costa Valente, V., de Arias, A.R., Miles, M.A., 2007. Resolution of multiclonal infections of Trypanosoma cruzi from naturally infected triatomine bugs and from experimentally infected mice by direct plating on a sensitive solid medium**. Int J Parasitol** 37, 111-120

Yeo, M., Acosta, N., **Llewellyn, M**.,Sanchez, H., Adamson, S., Miles, G.A., Lopez, E., Gonzalez, N., Patterson, J.S., Gaunt, M.W., Arias, A.R., Miles, M.A., 2005. Origins of Chagas disease: Didelphis species are natural hosts of Trypanosoma cruzi I and armadillos hosts of Trypanosoma cruzi II, including hybrids. **Int J Parasitol** 35, 225-233.

Kassen, R., **Llewellyn, M**.,Rainey, P.B., 2004. Ecological constraints on diversification in a model adaptive radiation. **Nature** 431, 984-988.