

Curriculum Vitae ___ Gutierrez, Jose Antonio (Tony)

PERSONAL DETAILS

Name Jose Antonio (Tony) Gutierrez

Date and place of birth 17th December 1971, Sydney, Australia

Nationality Dual (Australian and Spanish)

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Work address and telephone number School of Life Sciences
Heriot-Watt University
Riccarton
Edinburgh EH14 4AS
United Kingdom

Qualifications Ph.D. completed at The University of NSW, Australia. 1995 – 1999. Major: Environmental Microbiology. Graduated in 2000 with Distinction. Thesis title: “Mechanisms conferring a *Rhodococcus* species with high resistance to benzene”.

B.Sc. (Honors with 1st class), University of NSW, Australia; 1990 – 1994. Majors: Microbiology & Immunology. Final-year major subjects: Environmental Microbiology, Virology, Immunology, Medical Bacteriology. Graduated in 1995.

POSITIONS HELD

2012 – present Associate Professor
School of Engineering and Physical Sciences
Heriot-Watt University
Edinburgh EH14 4AS
United Kingdom

2008 – 2011 Marie Curie Research Fellow.
Joint appointment between the University of North Carolina at Chapel Hill, USA, and the University of Lancaster, Lancaster, United Kingdom.
This Fellowship was awarded to me based on my own discoveries of novel bacterial groups living with primary

producers in the ocean. I wrote the fellowship and have led this research with international collaborators.

- 2003 – 2008 Postdoc (promoted to Research Associate in 2006).
Scottish Association for Marine Science (SAMS), Marine
Science Institute, Oban, Scotland.
At SAMS I was the Principal Biotechnologist on research to
discover novel marine emulsifying agents for commercial
development, and on academic research to elucidate the
functional roles of marine microbial exopolysaccharides and
oil-degrading marine bacteria. I was also involved in SAMS
core research on marine biorenewables.
- 2002 – 2003 Volunteer Researcher (subsequently became an employee) with
the company FLUOROTECHNICS, Ltd. This a spin-out
company located at Macquarie University in North Sydney,
Australia. I commenced as a volunteer to gain experience in the
commercial sector. My project was to scale-up the process of
producing a novel fluorophore for staining pico-gram quantities
of proteins on gels. Based on my research developments, I was
given employment status after only a few months.
- 2002 Senior Research Associate.
Centre for Marine Biofouling and Bio-Innovation, University of
NSW, Australia. This was a short-term appointment to join an
eminent team led by Prof. Staffan Kjelleberg. My research was
to develop a molecular screening method to identify marine
bacteria that produce bio-active agents.
- 1999 - 2001 Postdoc Researcher.
University of Florida, Department of Microbiology and Cell
Science, Gainesville, FL, U.S.A.
Here I joined a nationally-recognized research group led by
Distinguished Prof. Lonnie O. Ingram who is highly recognized
for his work in the metabolic engineering of *E. coli* and other
bacteria for converting lignocellulosic plant material into fuel
bioethanol. My research led to the discovery of a new
oxidoreductase enzyme involved in mitigating the toxic effects
of fufural during bioethanol production.
- 1996 – 1997 Course Coordinator (Microbiology undergraduate programme).
Department of Microbiology & Immunology, The University of
NSW, Sydney, Australia.
As Coordinator of this course comprising over 250 students, I
taught, set exams, managed several teaching instructors, and
participated in the conceptual framework of the course and its
curriculum.

Other Appointments or Duties

- 2016 – present Environmental specialists to the Armada Decommissioning project led by the BG Group.
- 2015 – present Member of the Scottish Microplastics Research Group. Heriot-Watt University, UK.
- 2014 – present MASTS EC committee member of the Oil & Gas Forum SG Committee. Heriot-Watt University, UK.
- 2014 – present Heriot-Watt Postgraduate Senate Committee Member; representing the School of Life Sciences, Heriot-Watt University, UK.
- 2014 – present Environment Department Postgraduate Student Coordinator at Heriot-Watt University; on the panel of the Heriot-Watt Postgraduate Research Review Committee.
- 2013 – 2015 Training Academy Committee member for the NERC Oil & Gas Doctoral Training Programme of the UK, Heriot-Watt University, UK.
- 2011 – 2012 UNC Special Appointment: external research advisor for MSc project of Ms. Sara Mishamandani in the School of Global Public Health, University of North Carolina at Chapel Hill, USA.
- 2006 – 2008 Chemical & Safety Laboratory Manager (Deputy) of the Molecular Biology Laboratory, SAMS, Oban, Scotland.
- 1997 – 1999 Safety Laboratory Officer at the Dept. of Microbiology & Immunology (environmental lab), Univ. of NSW, Australia.

PROFESSIONAL SOCIETIES

- 2014 – present Member, Bergey's International Society for Microbial Systematics (BISMIS)
- 2012 – present Member, Marine Alliance for Science & Technology Scotland (MASTS)
- 2012 – present Member, International Society for Microbial Ecology (ISME).
- 2012 – present Member, Society for Applied Microbiology (SfAM).

2009 – present	Member, American Society for Microbiology (ASM).
2009 – present	Associate Member, Marie Curie Fellows Association.
2007 – 2008	Member, Scottish Microbiology Society.
2003 – 2005	Member, European Society for Marine Biotechnology.
2000 - 2001	Member, American Society for Microbiology (ASM).
1991 – 1999	Member, Australian Society for Microbiology (ASM).

PUBLICATIONS

1. Gallego, A., O'Hara Murray, R., Berx, B., Turrell, B., Inall, M., Sherwin, T., Siddorn, J., Wakelin, S., Vlasenko, V., Hole, L.R., Dagestad, K.F., Rees, J., Short, L., Rønningen, P., Main, C.E., Beegle-Krause, C.J., Legrand, S., Gutierrez, T., Witte, U., Mulanaphy, N. (submitted) Deep water oil spill modeling status and challenges in the Faroe-Shetland Channel, northeast Atlantic. *Marine Pollution Bulletin*, (under peer-review).
2. Fossier Marchan, L., Lee Chang, K.J., Nichols, P.D., Polglase, J., Mitchell, W., Gutierrez, T. (submitted) Taxonomy, ecology and biotechnological applications of thraustochytrids: a review. *Biotechnology Advances*, (under peer-review).
3. Gutierrez, T. (accepted) Marine, aerobic hydrocarbon-degrading *Gammaproteobacteria* – overview. In: Handbook of Hydrocarbon and Lipid Microbiology. (Eds: T.J. McGenity and R. Prince); *Taxonomy, genomics and ecophysiology of hydrocarbon-degrading microbes*; Springer, Berlin; volume 6, section 6.10.
4. Gutierrez, T. (accepted) Aerobic hydrocarbon-degrading *Gammaproteobacteria* – *Porticoccus*. In: Handbook of Hydrocarbon and Lipid Microbiology. (Eds: T.J. McGenity and R. Prince); *Taxonomy, genomics and ecophysiology of hydrocarbon-degrading microbes*; Springer, Berlin; volume 6, section 6.10.
5. Gutierrez, T. (accepted) Aerobic hydrocarbon-degrading *Gammaproteobacteria* – *Xanthomonadales*. In: Handbook of Hydrocarbon and Lipid Microbiology. (Eds: T.J. McGenity and R. Prince); *Taxonomy, genomics and ecophysiology of hydrocarbon-degrading microbes*; Springer, Berlin; volume 6, section 6.14.
6. Gutierrez, T., William B. Whitman, Marcel Huntemann, Alex Copeland, Amy Chen, Neha Vargese, Nikos Kyrpides, Manoj Pillay, Natalia Ivanova, Natalia Mikhailova, Supratim Mukherjee, Dimitrios Stamatis, T.B.K. Reddy, Chew Yee Ngan, Mansi Chovatia, Chris Daum, Nicole Shapiro, Tanja Woyke. (2017) Genome sequence of *Roseovarius* sp. strain MCTG156(2b) isolated from a phytoplankton net trawl on the Scottish west coast. *Genome Announcements*, in press.
7. Gutierrez, T., William B. Whitman, Marcel Huntemann, Alex Copeland, Amy Chen, Neha Vargese, Nikos Kyrpides, Manoj Pillay, Natalia Ivanova, Natalia Mikhailova, Supratim Mukherjee, Dimitrios Stamatis, T.B.K. Reddy, Chew Yee Ngan, Mansi Chovatia, Chris Daum, Nicole Shapiro, Tanja Woyke. (2017) Genome sequence of

- Oceanicola* sp. strain MCTG156(1a) isolated from a Scottish coastal phytoplankton net sample. *Genome Announcements*, 5:doi:10.1128/genomeA.00796-17
8. Thompson, H., Angelova, A., Bowler, B., Jones, M., Gutierrez, T. (2017) Enhanced crude oil biodegradative potential of natural phytoplankton-associated hydrocarbonoclastic bacteria. *Environmental Microbiology*, 19: 2843-2861.
 9. Decho, A.W., Gutierrez, T. (2017) Microbial extracellular polymeric substances (EPSs) in ocean systems. *Frontiers in Microbiology*, 8:922. doi: 10.3389/fmicb.2017.00922
 10. Berry, D., Gutierrez, T. (2017) Evaluating the detection of hydrocarbon-degrading bacteria in 16S rRNA gene sequencing surveys. *Frontiers in Microbiology*, 8:896. doi: 10.3389/fmicb.2017.00896.
 11. Duran Suja, L., Summers, S., Gutierrez, T. (2017) Role of EPS, dispersant and nutrients on the microbial response and MOS formation in the subarctic northeast Atlantic. *Frontiers in Microbiology*, 8:676. doi: 10.3389/fmicb.2017.00676.
 12. Evans, L., Hennige, S.J., Willoughby, N., Adeloye, A.J., Skroblin, M., Gutierrez, T. (2017) Effect of organic carbon enrichment on the treatment efficiency of primary settled wastewater by *Chlorella vulgaris*. *Algal Research*, 24: 368-377.
 13. Fossier Marchan, L., Lee Chang, K.J., Nichols, P.D., Polglase, J.L., Mitchell, W.J., Gutierrez, T. (2017) Screening of new British thraustochytrid isolates for docosahexaenoic acid (DHA) production. *Journal of Applied Phycology*, 29: doi: 10.1007/s10811-017-1149-8.
 14. Gutierrez, T., William B. Whitman, Marcel Huntemann, Alex Copeland, Amy Chen, Nikos Kyrpides, Victor Markowitz, Manoj Pillay, Natalia Ivanova, Natalia Mikhailova, Galina Ovchinnikova, Evan Andersen, Amrita Pati, Dimitrios Stamatis, T.B.K. Reddy, Chew Yee Ngan, Mansi Chovatia, Chris Daum, Nicole Shapiro, Michael N. Cantor, Tanja Woyke. (2016) Genome sequence of *Marinobacter* sp. strain MCTG268 isolated from the cosmopolitan marine diatom *Skeletonema costatum*. *Genome Announcements*, 4(5):e00937-16. doi:10.1128/genomeA.00937-16.
 15. Evans, L., Hennige, S., Gutierrez, T., Adeloye, A.J., Willoughby, N. (2016) Effect of organic carbon enrichment on the treatment efficiency of primary settled wastewater by *Chlorella vulgaris*. *New Biotechnology*, 33: S56. doi:10.1016/j.nbt.2016.06.919
 16. Gutierrez, T., Berry, D., Teske, A., Aitken, M.D. (2016) Enrichment of *Fusobacteria* in sea surface oil slicks from the *Deepwater Horizon* oil spill. *Microorganisms*, 4(3), 24; doi:10.3390/microorganisms4030024
 17. Gutierrez, T., William B. Whitman, Marcel Huntemann, Alex Copeland, Amy Chen, Nikos Kyrpides, Victor Markowitz, Manormoney Pillay, Natalia Ivanova, Natalia Mikhailova, Galina Ovchinnikova, Evan Andersen, Amrita Pati, Dimitrios Stamatis, T.B.K. Reddy, Chew Yee Ngan, Mansi Chovatia, Chris Daum, Nicole Shapiro, Michael N. Cantor, Tanja Woyke. (2016) Genome sequence of *Arenibacter algicola* strain TG409, a hydrocarbon-degrading bacterium associated with marine eukaryotic phytoplankton. *Genome Announcements*, 4(4):e00765-16. doi:10.1128/genomeA.00765-16
 18. Yang, T., Nigro, L.M., Gutierrez, T., D'Ambrosio, L., Joye, S.B., Highsmith, R., Teske, A. (2016) Pulsed blooms and persistent oil-degrading bacterial populations in the water

- column during and after the Deepwater Horizon blowout. *Deep-Sea Research Part II: Topical Studies in Oceanography*, 129: 282-291.
19. McKay, L.J., Gutierrez, T., Teske, A.P. (2016) Development of a group-specific 16S rRNA-targeted probe set for the identification of *Marinobacter* by fluorescence in situ hybridization. *Deep-Sea Research Part II: Topical Studies in Oceanography*, 129: 360-367.
 20. Mishamandani, T., Gutierrez, T., Berry, D., Aitken, M. (2016) Response of the bacterial community associated with a cosmopolitan marine diatom to crude oil shows a preference for the biodegradation of aromatic hydrocarbons. *Environmental Microbiology*, 18: 1817-1833.
 21. Dombrowski, N., Donaho, J.A., Gutierrez, T., Seitz, K.W., Teske, A.P., Baker, B.J. (2016) Reconstructing metabolic pathways of hydrocarbon-degrading bacteria from the Deepwater Horizon oil spill. *Nature Microbiology*, doi:10.1038/nmicrobiol.2016.57
 22. Keswani, A., Oliver, D.M., Gutierrez, T., Quilliam, R.S. (2016) Microbial hitchhikers of marine debris: human exposure risks at bathing waters and beach environments. *Marine Environmental Research*, 118: 10-19.
 23. Sałek, K., Gutierrez, T. (2016) Surface-active biopolymers from marine bacteria for potential biotechnological applications. *AIMS Microbiology*, 2(2): 92-107.
 24. Gutierrez, T., Banat, I.M. (2015) Isolation of glycoprotein bioemulsifiers produced by marine bacteria. . In *Hydrocarbon and Lipid Microbiology Protocols*, Springer Protocols Handbooks, Eds. McGenity, T.J. et al. DOI 10.1007/8623_2015_128, Springer-Verlag Berlin Heidelberg.
 25. Gutierrez, T., Biddle, J.F., Teske, A., Aitken, M.D. (2015) Cultivation-dependent and cultivation-independent characterization of hydrocarbon-degrading bacteria in Guaymas Basin sediments. *Frontiers in Microbiology*, <http://dx.doi.org/10.3389/fmicb.2015.00695>
 26. Gutierrez, T., William B. Whitman, Marcel Huntemann, Alex Copeland, Amy Chen, Nikos Kyrpides, Victor Markowitz, Manormoney Pillay, Natalia Ivanova, Natalia Mikhailova, Galina Ovchinnikova, Evan Andersen, Amrita Pati, Dimitrios Stamatis, T.B.K. Reddy, Chew Yee Ngan, Mansi Chovatia, Chris Daum, Nicole Shapiro, Michael N. Cantor, Tanja Woyke. (2015) Genome Sequence of *Halomonas* sp. strain MCTG39a, a hydrocarbon-degrading and exopolymer-producing bacterium. *Genome Announcements*, 3(4):e00793-15. doi:10.1128/genomeA.00793-15.
 27. Gutierrez, T., Couperwhite, I. (2015) Benzene-induced expression of proteins in a *Rhodococcus* species revealed by analysis of highly purified subcellular fractions. *Asian Journal of Microbiology, Biotechnology and Environmental Sciences*, 17:69-78.
 28. Gutierrez, T., William B. Whitman, Marcel Huntemann, Alex Copeland, Amy Chen, Nikos Kyrpides, Victor Markowitz, Manormoney Pillay, Natalia Ivanova, Natalia Mikhailova, Galina Ovchinnikova, Evan Andersen, Amrita Pati, Dimitrios Stamatis, T.B.K. Reddy, Chew Yee Ngan, Mansi Chovatia, Chris Daum, Nicole Shapiro, Michael N. Cantor, Tanja Woyke. (2015) Genome Sequence of *Porticoccus hydrocarbonoclasticus* strain MCTG13d, an obligate PAH-degrading bacterium associated with marine eukaryotic phytoplankton. *Genome Announcements*, 3(3):e00672-15. doi:10.1128/genomeA.00672-15.

29. Gutierrez, T., Haydn F. Thompson, Angelina Angelova, William B. Whitman, Marcel Huntemann, Alex Copeland, Amy Chen, Nikos Kyrpides, Victor Markowitz, Krishnaveni Palaniappan, Natalia Ivanova, Natalia Mikhailova, Galina Ovchinnikova, Evan Andersen, Amrita Pati, Dimitrios Stamatis, T.B.K. Reddy, Chew Yee Ngan, Mansi Chovatia, Chris Daum, Nicole Shapiro, Michael N. Cantor, Tanja Woyke. (2015) Genome Sequence of *Polycyclovorans algicola* strain TG408, an obligate PAH-degrading bacterium associated with marine eukaryotic phytoplankton. *Genome Announcements*, 3(2):e00207-15. doi:10.1128/genomeA.00207-15.
30. Gutierrez, T. (2014) Cultivating aerobic hydrocarbon-degrading bacteria from microalgae. In *Hydrocarbon and Lipid Microbiology Protocols*, Springer Protocols Handbooks, Eds. McGenity *et al.* DOI 10.1007/8623_2014_1, Springer-Verlag Berlin Heidelberg.
31. Gutierrez, T., Aitken, M.D. (2014) Role of methylotrophs in the degradation of hydrocarbons during the Deepwater Horizon oil spill. *The ISME Journal*, 8:2543-2545.
32. Mishamandani, S., Gutierrez, T., Aitken, M.D. (2014) DNA-based stable isotope probing coupled with cultivation methods implicates *Methylophaga* in hydrocarbon degradation. *Frontiers in Microbiology*, 5:76 doi: 10.3389/fmicb.2014.00076
33. Gutierrez, T., Rhodes, G., Mishamandani, S., Berry, D., Whitman, W.B., Nichols, P.D., Semple, K.T., Aitken, M.D. (2014) Polycyclic aromatic hydrocarbon degradation of phytoplankton-associated *Arenibacter* and description of *Arenibacter algicola* sp. nov., an aromatic hydrocarbon-degrading bacterium. *Applied and Environmental Microbiology*, 80:618-628.
34. Gutierrez, T., Singleton, D.R., Berry, D., Yang, T., Aitken, M.D., Teske, A. (2013) Hydrocarbon-degrading bacteria enriched by the *Deepwater Horizon* oil spill identified by cultivation and DNA-SIP. *The ISME Journal*, 7:2091-2104.
35. Gutierrez, T., Berry, D., Yang, T., Mishamandani, S., McKay, L., Teske, A., Aitken, M. (2013) Role of bacterial exopolysaccharides (EPS) in the fate of the oil released during the *Deepwater Horizon* oil spill. *PLoS ONE*, doi: 10.1371/journal.pone.0067717.
36. Gutierrez, T., Green, D.H., Whitman, W.B., Nichols, P.D., Semple, K.T., Aitken, M.D. (2013) *Polycyclovorans algicola* gen. nov., sp. nov., an aromatic hydrocarbon-degrading marine bacterium found associated with laboratory cultures of marine phytoplankton. *Applied and Environmental Microbiology*, 79:205-214.
37. Gutierrez, T., Biller, D., Shimmield, T., Green, D.H. (2012) Metal binding properties of the EPS produced by *Halomonas* sp. TG39 and its potential in enhancing trace element bioavailability to eukaryotic phytoplankton. *BioMetals*, 25:1185-1194.
38. Gutierrez, T., Green, D.H., Nichols, P.D., Whitman, W.B., Semple, K.T., Aitken, M.D. (2012) *Algiphilus aromaticivorans* gen. nov., sp. nov., an aromatic hydrocarbon-degrading bacterium isolated from a culture of the marine dinoflagellate *Lingulodinium polyedrum*, and proposal of *Algiphilaceae* fam. nov. *International Journal of Systematic & Evolutionary Microbiology*, 62:2743-2749.
39. Gutierrez, T., Nichols, P.D., Whitman, W.B., Aitken, M.D. (2012) *Porticoccus hydrocarbonoclasticus* sp. nov., an aromatic hydrocarbon-degrading bacterium identified in laboratory cultures of marine phytoplankton. *Applied and Environmental Microbiology*, 78:628-637.

40. Gutierrez, T., Singleton, D.R., Aitken, M.D., Semple, K.T. (2011) Stable-isotope probing of an algal bloom identifies uncultivated members of the *Rhodobacteraceae* associated with low molecular-weight PAH degradation. *Applied & Environmental Microbiology*, 77:7856-7860.
41. Gutierrez, T. (2011) Identifying polycyclic aromatic hydrocarbon-degrading bacteria in oil-contaminated surface waters at *Deepwater Horizon* by cultivation, stable isotope probing and pyrosequencing. *Reviews in Environmental Science & Bio/Technology*, 10:301-305.
42. Gutierrez, T. (2010) Searching for new bacterial species that break down polyaromatic hydrocarbons in coastal and oceanic waters. *Reviews in Environmental Science & Bio/Technology*, 9:205-209.
43. Pete, R., Davidson, K., Hart, M., Gutierrez, T., Miller, A.E.J. (2010) Diatom derived dissolved organic matter as a driver of bacterial productivity: the role of nutrient limitation. *Journal of Experimental Marine Biology & Ecology*, 391:20-26.
44. Gutierrez, T., Leo, V.V., Walker, G.M., Green, D.H. (2009) Emulsifying properties of a glycoprotein extract produced by a marine *Flexibacter* species strain TG382. *Enzyme and Microbial Technology*, 45(1): 53-57.
45. Gutierrez, T., Learmonth, R., Couperwhite, I. (2009) Analysis of benzene-induced effects on *Rhodococcus* sp. 33 reveals that constitutive processes play a major role in conferring tolerance. *The Scientific World Journal*, 9, 209-223. DOI 10.1100/tsw.2009.29.
46. Gutierrez, T., Morris, G. and Green, D.H. (2009) Yield and physicochemical properties of EPS from *Halomonas* sp. Strain TG39 identifies a role for protein and anionic residues (sulfate and phosphate) in emulsification of *n*-hexadecane. *Biotechnology & Bioengineering*, 103(1): 207-216.
47. Gutierrez, T., Shimmield, T., Haidon, C., Black, K. and Green, D.H. (2008) Emulsifying and metal ion binding activity of a glycoprotein exopolymer produced by *Pseudoalteromonas* species TG12. *Applied and Environmental Microbiology*, 74(15): 4867-4876.
48. Gutierrez, T., Mulloy, B., Bavington, C., Black, K., and Green, D. H. (2007) Partial purification and chemical characterization of a glycoprotein (putative hydrocolloid) emulsifier produced by a marine *Antarctobacter* species. *Applied Microbiology and Biotechnology*, 76(5): 1017-1026.
49. Gutierrez, T., Mulloy, B., Black, K. and Green, D.H. (2007) Glycoprotein emulsifiers from two marine *Halomonas* species: chemical and physical characterization. *Journal of Applied Microbiology*, 103(5): 1716-1727.
50. Green, D. H., Bowman, J. P., Smith, E. A., Gutierrez, T. and Bolch, C. J. S. (2006) *Marinobacter algicola* sp. nov., isolated from laboratory cultures of paralytic shellfish toxin-producing dinoflagellates. *International Journal of Systematic and Evolutionary Microbiology*, 56: 523-527.
51. Gutierrez, T., Ingram, L. O. and Preston, J. F. (2006) Purification and characterization of a furfural reductase (FFR) from *Escherichia coli* strain LY01 - An enzyme important in the

- detoxification of furfural during ethanol production. *Journal of Biotechnology*, 121: 154-164.
52. Gutierrez, T., Learmonth, R. P., Nichols, P. D. and Couperwhite, I. (2003) Comparative benzene-induced fatty acid changes in a *Rhodococcus* species and its benzene-sensitive mutant: possible role of myristic and oleic acids in tolerance. *Journal of Chemical Ecology*, 29: 2369-2378.
 53. Gutierrez, T., Buszko, M. L., Ingram, L. O. and Preston, J. F. (2002) Reduction of furfural to furfuryl alcohol by ethanologenic strains of bacteria and its effect on ethanol production from xylose. *Applied Biochemistry and Biotechnology*, 98-100: 327-340.
 54. Gutierrez, J.A., Nichols, P. and Couperwhite, I. (1999) Changes in whole-cell derived fatty acids induced by benzene and occurrence of the unusual 16:1w6c in *Rhodococcus* sp. 33. *FEMS Microbiology Letters*, 176: 213-218.

Commissioned Published Reports

1. Gutierrez, T. (2016) Feature article in the *Microbiologist* (a magazine of the Society for Applied Microbiology (SfAM)), entitled “Unprecedented nature and microbial response of the Deepwater Horizon oil spill”; June 2016, vol. 17, No. 2.
2. Hartl, M.G.J., Gubbins, E., Gutierrez, T. and Fernandes, T.F. (2015) Review of existing knowledge – Emerging contaminants: Focus on nanomaterials and microplastics. *In* Scotland’s Centre of Expertise for Waters, www.crew.ac.uk/publications
3. Gutierrez, T. (2008) Fermentation processes: the production of bioethanol. *In* M.S. Kelly and S. Dworjanyan, The potential of marine biomass for anaerobic biogas production, pp. 14-15. The Crown Estate.
4. Gutierrez, T. (2008) Bioconversion of seaweeds: ethanol. *In* M.S. Kelly and S. Dworjanyan, The potential of marine biomass for anaerobic biogas production, pp. 39-41. The Crown Estate.

Booklet, Newsletter & Other Publications

1. Gutierrez, T. (2013) New evidence reveals the important role bacteria played during the Deepwater Horizon oil spill. *In* Kelpie – Newsletter of the Marine Alliance for Science & Technology for Scotland (MASTS), Issue No. 11 (Aug.), pp. 4-5.
2. Heriot-Watt Hires Deepwater Horizon Researcher. 2012 Annual Review of Heriot-Watt University.
3. Gutierrez, T. and Green, D. (2007-2008) “Biogeochemical insights from biotechnology”. SAMS Annual Report.
4. Gutierrez, T. and Green, D. (2006-2007) “The development and commercial exploitation of bioemulsifiers”. SAMS Annual Report, p. 20-21.
5. Green, D., Gutierrez, T. & Hart, M. (2005-2006) “SAMS scientists name a new bacterium and sequence its genome”. SAMS Annual Report, p. 22.
6. Gutierrez, T. & Green, D. (2005) Meeting surFace to surFace: biosurfactants bring the world closer together. SAMS Newsletter Publication, vol. 30, p.12.
7. Gutierrez, T. & Green, D. (2004-2005) New marine surface-active agents clearing a path to market. SAMS Annual Report, p. 20.

8. Gutierrez, T., Berthe-Corti, L. & Green, D. “Fishing for food additives, paints and plastics”. In Life Science Success Story, Innovation Research Centre, Scotland. Ref. TTT 1821. Published 28th Feb. 2006.

Media Reports / Public Engagement

1. Article featured on the Gulf of Mexico Research Initiative website: “Study Analyzes Metabolic Pathways of Oil-Degrading Bacteria”; Aug. 1, 2017:
http://gulfresearchinitiative.org/study-analyzes-metabolic-pathways-oil-degrading-bacteria/?utm_source=GoMRI+eNews+Subscribers&utm_campaign=549c2c4f5c-GoMRI_eNews&utm_medium=email&utm_term=0_03075965d8-549c2c4f5c-398371881
2. Article on the front page news portal of the Heriot-Watt website, entitled “Marine microbes washed down with a pint of ale”; May 30, 2017:
<https://www.hw.ac.uk/about/news/marine-microbes-washed-down-with-a-pint-of.htm>
3. Article featured in *The Scotsman* entitled “Atlantic oil spill could repeat Deepwater Horizon ‘dirty blizzard’, study warns”; April 12, 2017;
<http://www.scotsman.com/news/atlantic-oil-spill-could-repeat-deepwater-horizon-dirty-blizzard-study-warns-1-4418053>
4. Article featured in *The National* entitled “A disaster worse than BP’s Deepwater Horizon could happen in Scotland if we aren’t prepared”; April 12, 2017;
http://www.thenational.scot/news/15220613.A_disaster_worse_than_BP_s_Deepwater_Horizon_could_happen_in_Scotland_if_we_aren_t_prepared/
5. Article featured in *The Herald* entitled “Atlantic oil spill could repeat Deepwater Horizon ‘dirty blizzard’, study finds”; April 12, 2017;
http://www.heraldscotland.com/news/15220220.Atlantic_oil_spill_could_repeat_Deepwater_Horizon_dirty_blizzard_study_finds/
6. Article featured in the *Evening Press* entitled “Atlantic oil spill could repeat Deepwater Horizon ‘Dirty Blizzard, study warns’”. April 12, 2017;
<https://www.eveningexpress.co.uk/pipe/news/scotland/atlantic-oil-spill-could-repeat-deepwater-horizon-dirty-blizzard-study-warns/>
7. Article featured in *Offshore Oil & Gas* magazine entitled “Dispersants could worsen Atlantic Margin spill clean-up, researchers claim”; April 12, 2017;
<http://www.offshore-mag.com/articles/2017/04/dispersants-could-worsen-atlantic-margin-spill-clean-up-researchers-claim.html>
8. Oil dispersant research, *Shetland News*, 14/04/2017;
<http://www.shetnews.co.uk/newsbites/14427-oil-dispersant-research>
9. Researchers warn of oil spill complexities *Western Morning News (Devon) (Main)*, 13/04/2017, p.22, Lucinda Cameron; [Article](#)
10. 'Dirty blizzard' fears if oil spill hits north-west of UK *The Scotsman (Main)*, 13/04/2017, p.14, Lucinda Cameron; [Article](#)
11. Scientists warn of oil spill risk in Atlantic *The Herald (Main)*, 13/04/2017, p.8, Unattributed; [Article](#)
12. Atlantic oil spill may be very difficult to combat, warns study *The Courier (Main Edition) (Main)*, 13/04/2017, p.5, Unattributed; [Article](#)
13. Atlantic oil spill could repeat Deepwater Horizon 'dirty blizzard', study finds *Herald Scotland (Web) (News)*, 12/04/2017, p.1, Unattributed; [Article](#)

14. Atlantic oil spill could repeat Deepwater Horizon 'dirty blizzard', study warns *Stornoway Gazette (Web)*, 12/04/2017, Unattributed; [Article](#) | [Link](#)
15. Atlantic oil spill could repeat Deepwater Horizon 'dirty blizzard', study warns *Donside Piper & Herald (Web)*, 12/04/2017, Unattributed; [Article](#) | [Link](#)
16. Atlantic oil spill could repeat Deepwater Horizon 'dirty blizzard', study warns *Kirriemuir Herald (Web)*, 12/04/2017, Unattributed; [Article](#) | [Link](#)
17. Atlantic oil spill could repeat Deepwater Horizon 'dirty blizzard', study warns *Selkirk Today (Web)*, 12/04/2017, Unattributed; [Article](#) | [Link](#)
18. Atlantic oil spill could repeat Deepwater Horizon 'dirty blizzard', study warns *Falkirk Herald (Web)*, 12/04/2017, Unattributed; [Article](#) | [Link](#)
19. Atlantic oil spill could repeat Deepwater Horizon 'dirty blizzard', study warns *Buchan Observer (Web)*, 12/04/2017, Unattributed; [Article](#) | [Link](#)
20. Atlantic oil spill could repeat Deepwater Horizon 'dirty blizzard', study warns *Brechin Advertiser (Web)*, 12/04/2017, Unattributed; [Article](#) | [Link](#)
21. Atlantic oil spill could repeat Deepwater Horizon 'dirty blizzard', study warns *Montrose Today (Web)*, 12/04/2017, Unattributed; [Article](#) | [Link](#)
22. Atlantic oil spill could repeat Deepwater Horizon 'dirty blizzard', study warns *Arbroath Today (Web)*, 12/04/2017, Unattributed; [Article](#) | [Link](#)
23. Atlantic oil spill could repeat Deepwater Horizon 'dirty blizzard', study warns *Galloway Gazette (Web)*, 12/04/2017, Unattributed; [Article](#) | [Link](#)
24. Atlantic oil spill could repeat Deepwater Horizon 'dirty blizzard', study warns *Milngavie Herald (Web)*, 12/04/2017, Unattributed; [Article](#) | [Link](#)
25. Atlantic oil spill could repeat Deepwater Horizon 'dirty blizzard', study warns *Cumbernauld Today (Web)*, 12/04/2017, Unattributed; [Article](#) | [Link](#)
26. Atlantic oil spill could repeat Deepwater Horizon 'dirty blizzard', study warns *Kirkintilloch Herald (Web)*, 12/04/2017, Unattributed; [Article](#) | [Link](#)
27. Atlantic oil spill could repeat Deepwater Horizon 'dirty blizzard', study warns *Carrick Gazette (Web)*, 12/04/2017, Unattributed; [Article](#) | [Link](#)
28. Atlantic oil spill could repeat Deepwater Horizon 'dirty blizzard', study warns *Deeside Piper & Herald (Web)*, 12/04/2017, Unattributed; [Article](#) | [Link](#)
29. Atlantic oil spill could repeat Deepwater Horizon 'dirty blizzard', study warns *Buteman (Web)*, 12/04/2017, Unattributed; [Article](#) | [Link](#)
30. Atlantic oil spill could repeat Deepwater Horizon 'dirty blizzard', study warns *Guide Gazette (Web)*, 12/04/2017, Unattributed; [Article](#) | [Link](#)
31. Atlantic oil spill could repeat Deepwater Horizon 'dirty blizzard', study warns *Kincardineshire Observer (Web)*, 12/04/2017, Unattributed; [Article](#) | [Link](#)
32. Atlantic oil spill could repeat Deepwater Horizon 'dirty blizzard', study warns *The Courier and Advertiser (Web)*, 12/04/2017, Unattributed; [Article](#) | [Link](#)
33. by Press Association, *Evening Express (Web)*, 12/04/2017, Unattributed; [Article](#) | [Link](#)
34. Atlantic oil spill could repeat Deepwater Horizon 'dirty blizzard', study warns *Inverurie Herald (Web)*, 12/04/2017, Unattributed; [Article](#) | [Link](#)
35. Atlantic oil spill could repeat Deepwater Horizon 'dirty blizzard', study warns *Linlithgow Gazette (Web)*, 12/04/2017, Unattributed; [Article](#) | [Link](#)
36. Atlantic oil spill could repeat Deepwater Horizon 'dirty blizzard', study warns *Fraserburgh Herald (Web)*, 12/04/2017, Unattributed; [Article](#) | [Link](#)

37. Atlantic oil spill could repeat Deepwater Horizon 'dirty blizzard', study warns *Glasgow South and Eastwood Extra (Web)*, 12/04/2017, Unattributed; [Article](#) | [Link](#)
38. Atlantic oil spill could repeat Deepwater Horizon 'dirty blizzard', study warns *Mearns Leader (Web)*, 12/04/2017, Unattributed; [Article](#) | [Link](#)
39. Atlantic oil spill could repeat Deepwater Horizon 'dirty blizzard', study warns *Hawick News (Web)*, 12/04/2017, Unattributed; [Article](#) | [Link](#)
40. Atlantic oil spill could repeat Deepwater Horizon 'dirty blizzard', study warns *Ellon Times (Web)*, 12/04/2017, Unattributed; [Article](#) | [Link](#)
41. Atlantic oil spill could repeat Deepwater Horizon 'dirty blizzard', study warns *Forfar Today (Web)*, 12/04/2017, Unattributed; [Article](#) | [Link](#)
42. A disaster worse than BP's Deepwater Horizon could happen in Scotland if we aren't prepared *The National (Scotland) (Web)*, 12/04/2017, Unattributed; [Article](#) | [Link](#)
43. Atlantic oil spill could repeat Deepwater Horizon 'dirty blizzard', study warns *Midlothiantoday (Web)*, 12/04/2017, Unattributed; [Article](#) | [Link](#)
44. Atlantic oil spill could repeat Deepwater Horizon 'dirty blizzard', study warns *Motherwell Times (Web)*, 12/04/2017, Unattributed; [Article](#) | [Link](#)
45. Atlantic oil spill could repeat Deepwater Horizon 'dirty blizzard', study warns *Energy Voice (Web)*, 12/04/2017, Unattributed; [Article](#) | [Link](#)
46. Public talk for the *Pint of Science* event of Planet Earth, sponsored by the British Ecology Society (BES); talk entitled “Behind the scenes look at the science to the Deepwater Horizon oil spill”; this is a ticketed event held on 17 May, 2017; <https://pintofscience.co.uk/event/larger-than-life> ; also advertised at https://www.hw.ac.uk/uk/events/pint-of-science-larger-than-life.htm?utm_source=newsletter&utm_medium=email&utm_campaign=staff
47. Article featured in the magazine *Oilfield Technology*, entitled “Oil-degrading microbes: the unsung heroes of oil spill remediation”; December, 2016.
48. Article featured in *The Conversation*, entitled “Deepwater Horizon: scientists are still trying to unravel mysteries of the spill”; Oct. 19, 2016. <https://theconversation.com/deepwater-horizon-scientists-are-still-trying-to-unravel-mysteries-of-the-spill-66878>
49. Article featured in the Energy Academy Newsletter of Heriot-Watt University, entitled “The Deepwater Horizon mysteries that scientists are still trying to unravel”; October, 2016.
50. Article featured in the magazine *InnovOil*, entitled “Bacter reality: the future of oil spill response”; July, 2016. <http://bit.ly/29mTtYX>
51. Article featured in the *Business Insider UK*, entitled “Marine bacteria could help us clean up after oil spills”; June 22, 2016. <http://uk.businessinsider.com/marine-bacteria-could-help-us-clean-up-after-oil-spills-2016-6?r=US&IR=T>
52. Article featured in *The Conversation*, entitled “Can we harness bacteria to help clean up future oil spills?”; June 22, 2016. <https://theconversation.com/can-we-harness-bacteria-to-help-clean-up-future-oil-spills-59358>
53. Article featured in the *Scottish Energy News* entitle “Six years after disastrous BP Deepwater Horizon blow-out, Scots university experts discover green marine bacteria that can ‘eat up’ oil spills”. May 17, 2016. <http://www.scottishenergynews.com/six-years-after-disastrous-bp-deepwater-horizon-blow-out-scots-university-experts-discover-green-marine-bacteria-that-can-eat-up-oil-spills/>

54. BBC Radio Scotland interview on 09/05/2016 based on my work published in the journal *Nature Microbiology*: <http://www.bbc.co.uk/programmes/b07916j6>
55. Article in *Engineer Live* entitled “Oil-hungry bacteria could clean up the next big oil spill”; May 12, 2016: <http://www.engineerlive.com/content/oil-hungry-bacteria-could-clean-next-big-oil-spill>
56. Article in *Upstream: The Global Oil & Gas News Source* entitled “Scientists crack oil-hungry bacteria”; May 10, 2016: <http://www.upstreamonline.com/incoming/1182226/scientists-crack-oil-hungry-bacteria>
57. *The National* (front cover story) with full coverage on pages 4-5, entitled “Oil-eating microbes can cure future spills”: <http://www.thenational.scot/>
58. The *Science Daily*, entitled “Genetic potential of oil-eating bacteria from the BP oil spill decoded”: <https://www.sciencedaily.com/releases/2016/05/160509115556.htm>
59. Article in *GEN (Genetic Engineering & Biotechnology News)* entitled "Deepwater Horizon Cleanup Aided by Bacterial Teamwork, Says Genomic Analysis": <http://www.genengnews.com/gen-news-highlights/deepwater-horizon-cleanup-aided-by-bacterial-teamwork-says-genomic-analysis/81252710/>
60. *The Herald*, entitled “Answer to oil spills in study of microbes” (no link to article online)
61. *The Times*, entitled “How Deepwater spill helped find oil-eating bacteria” (access online only to subscribers; half page feature on page 3)
62. *The Press and Journal* newspaper, entitled “Appliance of science could germinate oil-spill solution”: <https://www.pressandjournal.co.uk/fp/business/uk-and-abroad/914075/oil-munching-bacteria-clear-future-spills/>
63. Article in magazine *Offshore*, entitled “Bacteria more effective on oil spills without dispersants, study finds”: <http://www.offshore-mag.com/articles/2016/05/bacteria-more-effective-on-oil-spills-without-dispersants-study-finds.html>
64. Article posted online and in the magazine *Energy Voice* on 09/05/2016, entitled “Scientists crack code of oil guzzling bacteria”: <https://www.energyvoice.com/other-news/trainingtechnology/109082/scientists-crack-code-oil-guzzling-bacteria/>
65. Article on the front page News portal of the Heriot-Watt website, entitled “Oil-hungry bacteria could clean up the next big oil spill”: <http://www.hw.ac.uk/news/oil-hungry-bacteria-could-clean-up-the-next.htm>
66. Article featured on the Shetland Oil Terminal Environmental Advisory Board (SOTEAG) website, entitled “Heriot-Watt University: Oil-hungry bacteria could clean up the next big oil spill”: <http://www.soteag.org.uk/2016/05/16/heriot-watt-university-oil-hungry-bacteria-could-clean-up-the-next-big-oil-spill/>
67. Community post in ‘behind the paper’ article on the *Nature Microbiology* website, written by Andreas Teske: <https://naturemicrobiologycommunity.nature.com/users/10050-brett-baker/posts/6389-the-genomic-hunt-for-oil-degrading-bacteria-after-the-deepwater-horizon-blowout-more-than-the-usual-suspects>
68. Article in *The Christian Science Monitor* entitled “How an army of oil-eating bacteria can clean up the Gulf”: <http://www.csmonitor.com/Science/2016/0510/How-an-army-of-oil-eating-bacteria-can-clean-up-the-Gulf>

69. Article in *The Daily Mail* entitled “Oil-eating bacteria came to the rescue after BP spill”: <http://www.dailymail.co.uk/wires/afp/article-3581578/Oil-eating-bacteria-came-rescue-BP-spill.html>
70. Article in *eNCA* entitled “Oil-eating bacteria rescued BP after oil spill”: <https://www.enca.com/technology/oil-eating-bacteria-rescued-bp-after-oil-spill>
71. Article in *University of Texas* website entitled “Genetic potential of oil-eating bacteria from the BP oil spill decoded”: <https://cns.utexas.edu/news/genetic-potential-of-oil-eating-bacteria-from-the-bp-oil-spill-decoded>
72. Article in *Nano Werk News* entitled “What effect do plastic nanoparticles have on the marine environment? Nov. 27, 2015: <http://www.nanowerk.com/nanotechnology-news/newsid=41982.php>
73. Article featured on Heriot-Watt University website: “Nano particles, major problem?” Nov. 2015; <http://www.hw.ac.uk/news/nano-particles-major-problem.htm>
74. Article featured in *Scottish Energy News* entitled “Scottish Energy Minister highlights innovation and enterprise at 2015 Heriot-Watt Scottish Energy News Researcher of the Year Awards”. May 15, 2015: <http://www.scottishenergynews.com/scottish-energy-minister-highlights-innovation-and-enterprise-at-2015-heriot-watt-scottish-energy-news-researcher-of-the-year-awards/>
75. Article featured on Heriot-Watt University website: “Scottish Energy News Researcher of the Year Awards”; May 2015; <http://www.hw.ac.uk/news/scottish-energy-news-researcher-of-the-year.htm>
76. Special issue on the Heriot-Watt Scottish Energy News Researcher of the Year Awards Ceremony, featured in the HW Energy Academy newsletter; Vol. 2, Issue 7; <https://list-serve.hw.ac.uk/pipermail/heriot-watt-energy-academy/attachments/20150519/30196dd8/week17-0001.pdf>
77. Article featured on the Centre for Marine Biodiversity and Biotechnology (CMBB) website: “Horizon 2020 Funding Success for CMBB”; May, 2015; <http://www.cmbb.hw.ac.uk/news/horizon-2020-funding-success.html>
78. Article on front page of Heriot-Watt University website: “Green, Clean Marine Microbes with largest School of Life Sciences award”; April, 2015; <http://www.hw.ac.uk/news/clean-green-marine-microbes-with-largest.htm>
79. Article featured in *Scottish Energy News* entitled: “CMBB gives presentations at the 2014 Oil and Gas UK Environment Seminar at Heriot Watt” Nov. 2014; <http://www.scottishenergynews.com/cmbb-gives-presentations-at-the-2014-oil-and-gas-uk-environment-seminar-at-heriot-watt/>
80. Article featured on Heriot-Watt University website: “Centre for Marine Biodiversity and Biotechnology gives presentations at the 2014 Oil and Gas UK Environment Seminar”; Nov. 26th, 2014; <http://www.hw.ac.uk/news-events/news/centre-marine-biodiversity-biotechnology-gives-19588.htm>
81. Article featured on the Gulf of Mexico Research Initiative website: “Study Identifies Oil Degraders that Stand Ready for Hydrocarbon Inputs”; Sep. 2014; <http://gulfresearchinitiative.org/study-identifies-oil-degraders-stand-ready-hydrocarbon-inputs/>
82. Feature article by science journalist Peter Barr in the Science Scotland magazine of The Royal Society of Edinburgh: “The bacteria that clean the deep blue sea”; Issue 15, Summer 2014; <http://www.sciencescotland.org/feature.php?id=222>

83. Feature article by journalist Julia Horton in the national periodical *Scotland on Sunday*: “Deepwater Horizon disaster: Bugs ‘ate’ BP slick”; Aug. 5th, 2013; <http://www.scotsman.com/news/scottish-news/top-stories/deepwater-horizon-disaster-bugs-ate-bp-slick-1-2973913>
84. Report by T. Gutierrez featured on front page of Heriot-Watt website: “The vital role of bacteria during oil spills”; Aug. 2nd, 2013; http://www.hw.ac.uk/news-events/news/oil-spills-research-12998.htm?utm_source=newsletter&utm_medium=email&utm_campaign=staff
85. Report by T. Gutierrez featured on the front page of CMBB website, July 2013: <http://www.cmbb.hw.ac.uk/news/244-deepwater-horizon.html>

RESEARCH (over £6M)

Grant Capture (currency given respective of the country where the grant was awarded)

- 2017 MASTS Oil & Gas Environmental Research Forum (O&G ERF) grant – £4,000. “Development of natural bio-based dispersants”. Heriot-Watt University, UK.
- 2017 EPS-DTP PhD Studentship – £92,000 UK. Marine oil snow (MOS) formation and its role in the fate of crude oil in northeast Atlantic waters. Heriot-Watt University, UK.
- 2017 US Department of Energy – Joint Genome Institute (DOE-JGI) grant – \$117,000 USD. Project ID: CSP 503341 “Genomic reconstruction to resolve the functional potential of oil-degrading bacteria in deep and surface waters of the Faroe-Shetland Channel”. Heriot-Watt University, UK. (PI, T. Gutierrez; Co-Is, B. Baker, N. Dombrowski).
- 2017 OGIC-IBioIC grant – £20,000 UK. “Feasibility study on Enhanced Oil Recovery (EOR) – Use of microbes for the recovery of oil from older/recalcitrant reservoirs”. Heriot-Watt University, UK. (PI, T. Gutierrez).
- 2017 OGIC-IBioIC grant – £20,000 UK. “Feasibility study on Oil Spill Remediation on Land and in Ocean”. Heriot-Watt University, UK. (PI, T. Gutierrez).
- 2016 NERC – £100,168 UK. “Development of natural and sustainable bio-dispersants for the Oil & Gas industry”. Heriot-Watt University, UK. (PI, T. Gutierrez; Co-I, Sara Kleindiest) and in collaboration with Oil & Gas UK.
- 2015 NERC – £717,346 UK. “Distinguishing the realistic environmental risks of nanoplastics by investigating fate and toxicology in real-world scenarios (RealRiskNano)” – Project NE/N006526/1. Heriot-Watt University, UK. Total value of grant, £1,100,000; PIs: T. Henry, T. Gutierrez (Heriot-Watt University), and R. Thompson, S. Rowland (Plymouth University).

- 2015 *Universiti Malaysia Terengganu PhD Scholarship – £125,313 UK*. “Resilience of oil-degrading microbes in a changing ocean: evaluating the effect of ocean acidification on natural bioremediation processes”. Heriot-Watt University, UK (PIs, T. Gutierrez & S. Hennige).
- 2015 *NERC – £92,436 UK*. “Evaluating the resilience of deepwater systems to recover from oil spills”. Heriot-Watt University, UK. (PI, T. Gutierrez; Co-Is, I. Head & J. Polton).
- 2015 *MASTS Technology, Platforms & Sensors Small Grant – £1,200 UK (TPSSG3)*. “Understanding microbial oil-degradation processes in the ocean using an in-situ based microbial chamber”. Heriot-Watt University, UK (Dr. A. Gallego of MSS as collaborator).
- 2014 *Horizon-2020 European Union Grant – €1,292,131 (Euros)*. “Novel, Sustainable Marine Bio-surfactants / Bio-emulsifiers for Commercial Exploitation (MARISURF)” – Project 635340. Heriot-Watt University, UK. Total value of grant, €4,749,649 (Euros); Coordinator and HWU PIs: T. Gutierrez, M. Panagiotidis, S. Euston.
- 2014 *Society for Applied Microbiology (SfAM) New Lecturer Research Grant – £9,750 UK*. “Understanding the microbial response to a major oil spill in the Faroe-Shetland Channel: toward improved bioremediation strategies in deep water provinces”. Heriot-Watt University, UK.
- 2014 *Royal Society Research Grant – £14,997 UK*. “Investigating eukaryotic phytoplankton as a reservoir of oil-degrading bacteria in the ocean”. Heriot-Watt University, UK.
- 2014 *MASTS Marine Energy Forum Small Grant – £1000 UK*. “Advancing our understanding of oil-spill biodegradative processes using an in-situ based system”. Heriot-Watt University, UK (Dr. A. Gallego of MSS as collaborator).
- 2014 *MASTS Marine Energy Forum Small Grant – £999 UK*. “Diversity of sponge-associated microbes under modified flow and sedimentation”. University of the Highlands & Islands (PI, Dr. Marie-Lise Schläppy); Heriot-Watt University, UK (Dr. T. Gutierrez as collaborator).
- 2014 *Royal Society International Exchange grant – £12,000 UK*. “Creating a NE Atlantic Microbial Observatory (NEAMO)”. Heriot-Watt University, UK.
- 2014 *MASTS Visiting Fellowship grant – £5,600 UK*. “Improving the classification of key marine microorganisms for biogeography and ecophysiology studies”. Heriot-Watt University, UK.
- 2014 *MASTS PECRE grant – £3,700 UK*. “North-East Atlantic baseline on the Microbiology of oil-degrading communities (NEADMICRO)”. Heriot-Watt University, UK.

- 2013 US Department of Energy – Joint Genome Institute (DOE-JGI) grant – \$500,721 USD. Project ID: CSP 696 “Whole genome sequencing of oil-degrading bacteria isolated during the Deepwater Horizon oil spill in the Gulf of Mexico”. Heriot-Watt University, UK. (PI, J. Kostka; Co-Is, A. Teske, T. Gutierrez).
- 2013 *James-Watt PhD Scholarship* – £83,000 UK. “Investigating the potential of a little known group of marine microorganisms for food, energy production and other biotechnological applications”. Heriot-Watt University, UK.
- 2013 *James-Watt PhD Scholarship* – £83,150 UK. “Investigating the diversity, abundance and function of oil-degrading microbial populations in the North-East Atlantic”. Heriot-Watt University, UK.
- 2012 US Department of Energy – Joint Genome Institute (DOE-JGI) grant – \$10,235.44 USD. Project ID: JGI CSP 2013 Q1 Proposal 1163: “Whole genome sequencing of novel marine hydrocarbon-degrading bacteria”. Heriot-Watt University, UK.
- 2012 *James-Watt PhD Scholarship* – £83,000 UK. “Understanding the relationship between PAH-degrading bacteria and marine eukaryotic phytoplankton”. Heriot-Watt University, UK.
- 2012 *Water Academy / James-Watt PhD Scholarship* – £60,000 UK. “Water neutral development: how to successfully integrate micro-algae systems into wastewater management”. Heriot-Watt University, UK.
- 2012 *MASTS Small grant* – £500 UK. “High-resolution probing of the microbiota associated with the cold-water coral *Lophelia pertusa* in the North Atlantic”. Heriot-Watt University, UK.
- 2012 *CREW grant* – £30,000 UK. “Review the impacts/risks of the water related known unknowns, such as nano-materials, micro-plastics and other priority hazardous substances, and review and evaluate monitoring methodologies to identify the sources and impacts of water related known unknowns”. Heriot-Watt University, UK.
- 2010 *NSF Rapid Response grant* - \$199,953 USD, “The Microbial Response to the Deepwater Horizon Oil Spill”. University of North Carolina, Chapel Hill, USA.
- 2008 *Marie Curie Research Fellowship* – €333,744.53. “Marine Micro-Algae as Global Reservoir of Polycyclic Aromatic Hydrocarbon Degraders”. European Commission.
- 2008 *INTERREG IV consortium grant* - £2,858,812 UK. “BioMara – Sustainable Fuels from Marine Biomass”. SAMS, Oban, Scotland.
- 2007 *INTERREG IV grant* - £15,000 UK. SAMS’ Blue Energy group. “BioMara project – 1st round funds for further consultation”. SAMS, Oban, Scotland.

- 2007 *Crown Estate grant - £30,000 UK*. “The Potential of Marine Biomass for Biofuel: a feasibility study with recommendation for further research”. SAMS, Oban, Scotland.
- 2006 *Natural Environment Research Council (NERC) grant (NE/E523272/1) - £101,562 UK*. Follow-On Fund grant for “The Development of Bioemulsifier Production to Advance Commercial Exploitation”. SAMS, Scotland.
- 2005 *Highlands & the Islands Enterprise (AIE) grant - £192,500 UK*. “Characterization and Development of New Marine Bioemulsifiers for Commercial Application”. SAMS, Oban, Scotland.
- 1998 *Special School of Microbiology & Immunology grant - \$25,000 AUS*. Mechanisms conferring high solvent-tolerance to soil bacterial strains. UNSW, Sydney, Australia.

Other grant contributions

- 2014 *MASTS PhD Studentship grant*. Microbial hitch-hikers of marine plastic debris: vectors for global oceanic dissemination? Total value = £70,972 UK (Gutierrez, T as collaborator with Stirling University).
- 2014 *NERC Follow-On Parthfinder grant - £20,000 UK*. “Assessing novel microorganisms for exploitability”. Heriot-Watt University, UK. (Gutierrez, T as collaborator).
- 2013 *Natural Environment Research Council (NERC) Doctoral Training Partnership in Oil & Gas*. “UK Oil and Gas Collaborative Doctoral Training Centre”. £2.7M from NERC. Total value of investment = £7.9M. (J. Underhill, PI; T. Gutierrez *et al.*, collaborators).
- 2013 *Natural Environment Research Council (NERC) Added-Value Supplemental Award to NE grant code NE/H017305/1*. “UK Ocean Acidification Research Programme Added-Value Activities: Scheme C (National Research Collaboration)”. Benthic Consortium Deep-water Biogenic Reef Research”. Total value to Heriot-Watt = £49,253. (J.M. Roberts, PI; T. Gutierrez *et al.*, collaborators).
- 2013 *Natural Environment Research Council (NERC) Added-Value Supplemental Award to NE grant code NE/H017305/1*. “UK Ocean Acidification Research Programme Added-Value Award Scheme C (National Activities)”. Benthic Consortium Deep-water Biogenic Reef Research”. Total value to Heriot-Watt = £53,498. (J.M. Roberts, PI; T. Gutierrez *et al.*, collaborators).

PROFESSIONAL SERVICE ACTIVITIES

Academic mentoring

Mentor to Dr. Clayton Macgill, a Research Fellow in the Charles Lyell Centre of Heriot-Watt University.

Editorial:

- 2015 – present Guest Associate Editor for *Frontiers in Microbiology* for the Special Research Topic “Microbial exopolymers: sources, chemico-physiological properties, and ecosystem effects in the marine environment”.
- 2013 – present Academic Editor for the journal *Annual Research & Review in Biology*.

Grant reviewing activities for:

King Abdullah University of Science and Technology (KAUST), Saudi Arabia.

Other professional activities:

Co-coordinator of the Oil & Gas NERC-CDT Training Academy Working Group – 2013-2014.

Judge for 2017 Photography Competition of the School of Engineering & Physical Sciences, Heriot-Watt University.

Ad-hoc reviewer for the following journals:

Proceedings of the National Academy of Sciences (PNAS) of the USA; The ISME Journal; Applied & Environmental Microbiology; Environmental Microbiology; Frontiers in Microbiology; Nature Scientific Reports; FEMS Microbiology Ecology; FEMS Microbiology Letters; Critical Reviews in Biotechnology; Journal of Applied Microbiology; Antonie van Leeuwenhoek; Biochemical Systematics and Ecology; Bioresource Technology; Chemosphere; Journal of Chemical Ecology; Marine Biotechnology; Process Biochemistry; The Scientific World Journal; British Biotechnology Journal.

FIELD RESEARCH

- 2015: Investigation of microbial populations and their oil-degrading activities in the Faroe-Shetland Channel. Research cruise on *MRV Scotia*; Chief Scientist: Rory O’Hara Murray.
- 2009: Isolating hydrocarbon-degrading bacteria and phytoplankton field sampling on the North Carolina coast.
- 2004: Isolating biosurfactant-producing bacteria in Oban Bay.

DETAILS OF TEACHING EXPERIENCE

Undergraduate and Post-Graduate Teaching

- 2016 – present Erasmus Mundus module Convener for “Marine Microbial Diversity and Ecology”; taught remotely or in person to students in Italy and Spain.

2015 – present	Lecturer of Honours Unit A10MB-2 “Microbial Ecology & Biotechnology”; Heriot-Watt University, Edinburgh, UK.
2015 – present	Coordinator of the course A11PL “Practical Skills in Marine Biotechnology” for MSc students; Heriot-Watt University, Edinburgh, UK.
2014 – present	Lecturer in course A19MY “Microbial Physiology” for 3 rd year undergraduates; Heriot-Watt University, Edinburgh, UK.
2013 – present	Lecturer in course A11BT “Biotechnology” for 2 nd year undergraduates; Heriot-Watt University, Edinburgh, UK.
2010 – 2011	Guest lecturer in ENVR 412 “Ecological Microbiology” for 1 st year undergraduates at the University of North Carolina, Chapel Hill, USA.
2005 – 2008	Lecturer, tutor and project assessor in H3 Marine Biotechnology for 3 rd year undergraduates at the Scottish Association for Marine Science, Scotland.
2002 - 2003	Lecturer for Environmental Biotechnology course to 3 rd year undergraduates at the University of NSW, Australia.
1995 – 1997	Coordinator of the course “Introductory Microbiology” for 1 st year undergraduates at the University of NSW, Australia.
1995 – 1997	Undergraduate Course Instructor and Teaching Assistant in various microbiology courses at the University of NSW, Australia. Courses included ‘Environmental Microbiology’, ‘HIV and Other Great Epidemics in History’. Also taught ‘Forensic Science’ in a course for gifted children.

Other Undergraduate Teaching

2012 – present	Course VA5A59RS: Life Sciences – Support for Postgraduate Research Students; Heriot-Watt University, Edinburgh, UK.
2012 – present	Course A19RS: Research Studies in Biology; Heriot-Watt University, Edinburgh, UK.
2012 – present	Course A57IU: Information and Communication Skills in Life Sciences; Heriot-Watt University, Edinburgh, UK.

Supervision and Mentoring

2016 – present	Erasmus MSc project undertaken by Sufian Bin Hudari at Heriot-Watt University, Edinburgh, UK. Project title: “Investigating hydrocarbon-degrading bacteria associated with
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- marine phytoplankton using DNA-SIP”. (1st Supervisor, T. Gutierrez).
- 2016 – present Erasmus MSc project undertaken by Valerio Masteo at Heriot-Watt University, Edinburgh, UK. Project title: “Screening and characterisation of marine bacterial surface-active biopolymers”. (1st Supervisor, T. Gutierrez).
- 2016 – present PhD project undertaken by Christina Nikolova at Heriot-Watt University, Edinburgh, UK. Project title: “Development of natural and sustainable bio-dispersants for the Oil & Gas industry”. (1st Supervisor, T. Gutierrez).
- 2015 – present PhD project undertaken by Afiq Mohd Fahmi at Heriot-Watt University, Edinburgh, UK. Project title: “Marine microbial response to oil pollution under future ocean conditions”. (1st Supervisor, T. Gutierrez).
- 2015 – present PhD project undertaken by Laura Duran Suja at Heriot-Watt University, Edinburgh, UK. Project title: “Evaluating the resilience of deepwater systems to recover from oil spills”. (1st Supervisor, T. Gutierrez).
- 2014 – 2016 PhD project undertaken by Anisha Keswani at Stirling University, Stirling, UK. Project title: “Microbial hitch-hikers of marine plastic debris: vectors for global oceanic dissemination”. (2nd Supervisor, T. Gutierrez).
- 2013 – 2014 Visiting Scholar Lindsay Fulton at Heriot-Watt University, Edinburgh, UK. Project: “Studying the physiological constraints of micro-algal symbiotic bacteria”.
- 2013 – 2017 PhD project undertaken by Angelina Angelova at Heriot-Watt University, Edinburgh, UK. Project title: “Constructing a baseline for the oil-degrading microbiota in the North-East Atlantic”. (1st Supervisor, T. Gutierrez).
- 2013 – 2017 PhD project undertaken by Loris Fossier Marchan at Heriot-Watt University, Edinburgh, UK. Project title: “Investigating the potential of a little known group of marine microorganism for food, energy production and other biotechnological applications”. (2nd Supervisor, T. Gutierrez).
- 2013 – 2017 PhD project undertaken by Laurence Evans at Heriot-Watt University, Edinburgh, UK. Project title: “Water Neutral Developments: How to successfully integrate micro-

- algal systems into wastewater management”. (1st Supervisor, T. Gutierrez).
- 2013 PhD project undertaken by Karina Salek at Heriot-Watt University, Edinburgh, UK. Project title: “Surface and enzymatic properties of marine bacteria that degrade petroleum hydrocarbons: towards improving bioremediation strategies for treating marine polluted sites”. (2nd Supervisor, T. Gutierrez).
- 2013 MSc project undertaken by Donal McGee at Heriot-Watt University, Edinburgh, UK. Project title: “Isolating oil-degrading bacteria from marine micro-algae”. (1st Supervisor, T. Gutierrez).
- 2012 – 2016 PhD project undertaken by Haydn Thompson at Heriot-Watt University, Edinburgh, UK. Project title: “Understanding the relationship between PAH-degrading bacteria and marine eukaryotic phytoplankton”. (1st Supervisor, T. Gutierrez).
- 2013 Internship undertaken by Brice Lefevre of the La Rochelle university in France. Project title: “Hydrocarbon-degrading potential of marine bacterial strains isolated from pristine and contaminated waters around the world.”
- 2011 – 2012 M.Sc. project undertaken by Sara Mishamandani at the University of North Carolina, Chapel Hill, USA. Project title: “The Role of Eukaryotic Micro-Plankton in the Removal of Crude Oil from Marine Surface Waters: dynamics of algal-bacterial communities in oil-simulated mesocosm experiments.” (1st Supervisor, T. Gutierrez).
- 2009 - 2010 Summer Research Fellowship awarded to Sara Mishamandani at the University of North Carolina, Chapel Hill, USA. Project title: “Identification of marine PAH-degrading bacteria by stable-isotope probing”.
- 2009 - 2010 Honors project undertaken by Sara Mishamandani (a Senior) at the University of North Carolina, Chapel Hill, USA. Project title: “Isolation and identification of PAH-degrading bacteria associated with marine particulate matter”. (1st Supervisor, T. Gutierrez).
- 2007 M.Sc. project undertaken by Vincent Leo at SAMS in collaboration with the University of Abertay at Dundee, UK. Project title: “Screening of emulsifiers from marine bacterial

- strains for potential biotech applications”. (1st Supervisor, T. Gutierrez).
- 2006 Honors project undertaken by Tracy White at SAMS. Project title: “Algae are a reservoir for hydrocarbon degrading bacteria in the ocean”. (1st Supervisor, T. Gutierrez).
- 2005 Summer Studentship project undertaken by Tracy White at SAMS. Project title: “Screening for marine bacterial biosurfactants and their characterization: a view to potential application in bioremediation processes.”
- 1995 - 1996 Supervised and trained various undergraduate students undertaking research projects in environmental microbiology at the University of NSW in Sydney, Australia.

REVIEW PANEL ACTIVITIES

- 2015 On the review panel to Ms. Karina Salek’s PhD thesis. “Surface and enzymatic properties of marine and terrestrial bacteria involved in biodegradation of petrochemical hydrocarbons: a comparative study towards improving bioremediation strategies for treating hydrocarbon-polluted sites”. Poznan University of Technology, Faculty of Chemical Technology.
- 2013 On the review panel to Ms. Wejdan T. Alghafari’s PhD thesis. “Metabolic diversity in *Campylobacter jejuni*.” The Moredun Research Institute, Edinburgh, Scotland.
- 2012 On the review panel to Mr. Brian McGonagle’s M.Sc. thesis. “A case study of renewable energy and energy efficiency initiatives on small rural islands off the Scottish and Irish coasts with the aim of identifying the initiatives with the greatest potential for replication on similar island communities.” School of Life Sciences, Heriot-Watt University, Edinburgh, Scotland.
- 2012 On the review panel to Ms. Ciara Clarke’s M.Sc. thesis. “The potential for advancing bioenergy in the western region of Ireland.” School of Life Sciences, Heriot-Watt University, Edinburgh, Scotland.
- 2012 – 2013 On the review panel to Ms. Maritza Cardenas Calle’s Ph.D. thesis. “Effects of Hydrocarbon Pollution on Community Structure of Benthic Macroinvertebrates in Sediment of the Estero Salado Estuary in Guayaquil, Ecuador.” School of Life Sciences, Heriot-Watt University, Edinburgh, Scotland.

- 2012 On the review panel to Mr. Naief Al-Makishah's MSc. Thesis. "Chitin Hydrolysis and N-acetylglucosamine Utilization by *Clostridium beijerinckii*". School of Life Sciences, Heriot-Watt University, Edinburgh, Scotland.
- 2011 – 2012 On the review panel to Ms. Sara Mishamandani's MSc. thesis (Masters in the School of Public Health, UNC). "The Role of Eukaryotic Micro-Plankton in the Removal of Crude Oil from Marine Surface Waters: dynamics of algal-bacterial communities in oil-simulated mesocosm experiments." University of North Carolina, Chapel Hill, USA.
- 2010 – 2011 On the review panel to Ms. Sara Mishamandani's Honors thesis. "Isolation and identification of PAH-degrading bacteria associated with marine particulate matter". University of North Carolina, Chapel Hill, USA.
- 2007 On the review panel to Mr. Vincent Leo's M.Sc. thesis. "Screening of emulsifiers from marine bacterial strains for potential biotech applications". Scottish Association for marine Science (SAMS) Oban, Scotland; in partnership with the University of Abertay at Dundee.

EXAMINER OF PH.D. THESES

2015 – PhD thesis of Hirak Ranjan Dash entitled "Distribution, genetic analysis and bioremediation potential of mercury resistant marine bacteria". National Institute of Technology, Department of Life Sciences, Rourkela, Odisha, India.

2014 – PhD thesis of Gregory Poi entitled "Translation and scale-up for the bioremediation of petroleum hydrocarbon pollutants in water, soil and sludge under field conditions". Flinders University, Adelaide, Australia.

AWARDS

- 2015 Winning finalist of the 2015 SfAM Image Competition for an image entitled "Not a long time ago, not in a galaxy, and not far, far away..."; <http://www.sfam.org.uk/en/news-features/calendar-competition/sfam-photography-competition-winners.cfm> The image was featured on the 2016/2017 SfAM calendar.
- 2015 Heriot-Watt Scottish Energy News Researcher of the Year Award. Awarded in the category *Energy and the Marine Environment* for outstanding research in the field of marine microbiology and the Deepwater Horizon oil spill; presented by Scotland's Minister for Business, Energy and Tourism; award ceremony hosted by the Green Investment Bank.
- 2014 Society for Applied Microbiology (SfAM) New Lecturer Award.

- 2013 Post Doctoral and Early Career Researcher Exchange Award; awarded by the Marine Alliance for Science and Technology for Scotland.
- 2010 Vice Chancellor's *Postdoc Scholar Award* for Excellence in Mentoring Undergraduates – University of North Carolina at Chapel Hill, USA.
- 2008 Marie Curie Research Fellowship (MCRF) – European Commission.
- 1995 Australian Post-Graduate Scholarship (APS) – Australian government.

Competition Finalist

Microscale Imaging Competition, as part of the Scottish Microscopy Group Symposia 2016.

Student Advisee Awards

Supervisor to Laura Duran Suja, 2nd prize winner of the 2017 EPS Photography Competition at Heriot-Watt University for the microscopy photo entitled '*Star Blues*'; £100; 19 May., 2017.

Supervisor to Afiq Mohd Fahmi, winner of a Heriot-Watt Annual Fund Grant for the project '*Revolutionising Public Engagement with Virtual Reality*'; £1,060; 2 Dec., 2016.

Supervisor to Laura Duran, accepted to attend the NERC-MDIBL Environmental Genomics course at the University of Birmingham; 5-10 March, 2017.

Supervisor to Laura Duran, winner of a fully-funded place on the Ocean Gliders Advanced Training Short Course held at the University of East Anglia; Feb. 6-10, 2017.

Supervisor to Loris Fossier, winner of a Heriot-Watt Annual Alumni Fund Grant 2016; £295; HWU, Edinburgh, UK.

Supervisor to Loris Fossier, winner of a British Psychological Society grant in 2016; £315; HWU, Edinburgh, UK.

Supervisor to Laura Duran, co-winner of a MASTS Small Research Grant in 2016 for work with Johanne Vad to study the effects of crude oil on cold-water corals.

Supervisor to Lisa Gibson, winner of the Dr. Maia Strachan Prize in 2016 for the best Honours marine project; HWU, Edinburgh, UK.

Supervisor to Laurence Evans, winner of a Heriot-Watt Annual Alumni Fund Grant 2016; £380; HWU, Edinburgh, UK.

Supervisor to Laurence Evans, winner of a British Psychology Society award in 2016; £580; HWU, Edinburgh, UK.

Supervisor to James Iremonger, winner of a SfAM Student into Work Grant in 2015 for £2,500; HWU, Edinburgh, UK.

Supervisor to Loris Fossier, winner of a Gen Foundation Travel Grant in 2015; £1,700; HWU, Edinburgh, UK.

Supervisor to Loris Fossier, winner of a Heriot-Watt Annual Alumni Fund Grant 2015; £700; HWU, Edinburgh, UK.

Supervisor to Laurence Evans, winner of a British Phycology Society award in 2014; £500; HWU, Edinburgh, UK.

Supervisor to Sara Mishamandani, winner of a 2009 UNC Small Research grant award; \$500 USD; University of North Carolina at Chapel Hill, USA.

Supervisor to Sara Mishamandani, winner of a 2010 UNC Summer Undergraduate Research Fellowship (SURF). "Identification of PAH-degrading bacteria found living associated with marine phytoplankton"; \$3000 USD; University of North Carolina at Chapel Hill, USA.

PATENTS

International Patent Application No. PCT/GB2005/003421 (WO2006027561). Gutierrez, T. & Green, D.H. The Scottish Association for Marine Science. IP Title: "Production and Use of Surface Active Agents".

CONFERENCES, MEETINGS, WORKSHOPS

Keynote speaker

2017 *Gulf of Mexico Oil Spill & Ecosystem Science Conference (GOMOSES)* – Session 013: Impacts and Recovery of Benthic Marine Environments in the Aftermath of the DWH Event. Talk title: MOS formation in contrasting Atlantic waters: what, where and why. Conference at New Orleans, LA, Feb 6-9; Session Chairs: Patrick Schwing, David Hollander, Paul Montagna, Peter Santschi.

2015 *2015 Oil Spill and Ecosystem Science Conference* – Session 007: Making a Living on Hydrocarbons: Diversity, Metabolic Potential, and Regulation of Microbial Hydrocarbon Oxidation. Talk title: New biotopes and novel taxa of oil-degrading bacteria in the ocean, and what we can do to prepare for oil spills in new frontiers of deepwater oil exploration. *Presented at the 2015 Gulf of Mexico Oil Spill and Ecosystem Conference in Houston, Texas, Feb 16-19, Chaired by Samantha Joye and Olivia Mason.*

Chaired / Facilitator of Conference Sessions

- 2017 Gulf of Mexico Oil Spill & Ecosystems Science (GoMOSES) conference; Facilitator of the “*Marine Oil Snow Formation*” session; New Orleans, 6 Feb., 2017.
- 2013 Marine Alliance for Science & Technology Scotland (MASTS) Annual Scientific Meeting; Chair for the session on “*Marine Microbes*”; Edinburgh, 27-29 Aug., 2017.

Conference Presentations

- 2017 Summers, S., Henry, T., Gutierrez, T. Agglomeration of nano- and micro-plastic debris in seawater by bacterial exopolymers. The Lives and Afterlives of Plastic conference – a nearly carbon neutral conference.
- 2017 Mohd Fahmi, A., Gutierrez, T., Hennige, S. *Emiliania huxleyi* and associated bacterial response to oil pollution under projected atmospheric CO₂. Poster presented at the Microbiology Society Annual Conference in Edinburgh; 3-6 April, 2017.
- 2017 MOSSFA Workshop at the Gulf of Mexico Oil Spill & Ecosystem Science (GoMOSES) Conference; New Orleans, Louisiana, USA; March 6, 2017. Talk presented entitled: *Bacterial EPS in MOS formation: the role of oil-degraders*.
- 2016 Fossier Marchan, L., Lee Chang, K.J., Nichols, P.D., Polglase, J.L., Mitchell, W.J., Gutierrez, T. (2016) Screening fatty acid composition of British heterotrophic microalgae thraustochytrids for production of omega-3 oils and biodiesel. *Poster presentation at the European Congress in Biotechnology*; Krakow, Poland; July, 2016.
- 2016 Evans, L., Hennige, S., Willoughby, N., Adeyoye, A., Gutierrez, T. (2016) Effect of organic carbon enrichment on the treatment efficiency of primary settled wastewater by *Chlorella vulgaris*. *Oral presentation at the European Congress in Biotechnology*; Krakow, Poland; July, 2016.
- 2016 Summers, S., Al-Sid-Cheikh, M., Catarino, A.I., Henry, T.B., Thompson, R.C., Gutierrez, T. (2016) Pristine Micro- and Nano-Plastics Readily Form Microorg-Agglomerations in a Lab-Simulated Marine Environment. *Poster presented at the 2016 SETAC conference; Session on Challenges in Testing and Monitoring of Micro- and Nano-Plastic Effects and Environmental Distribution*; Orlando, Florida; Nov. 2016.
- 2016 Gutierrez, T. (2016) New insights into oil biodegradation processes of deep water provinces. SfAM Award Lecture presented at the SfAM Summer Conference in Edinburgh; 4-7 July, 2016.
- 2015 Gutierrez, T., Polton, J., Harle, J. (2015) Preparedness for a major oil spill in the Faroe-Shetland Channel: lessons learnt from Deepwater Horizon. *Talk presented at the 2015 Marine Alliance for Science & Technology Scotland (MASTS) Annual Scientific Meeting, Glasgow, Scotland; Sep. 30 to Oct. 2.*
- 2015 Salek, K., Gutierrez, T., Kaczorek, E. (2015) *Pseudomonas stutzeri* vs *Pseudoalteromonas* sp. strain TK-105 – a comparative study of the bacterial enzymatic activity and surface properties – the factors greatly contributing to the biodegradation of petrochemical hydrocarbons.

- Chemistry, Environment and Nanotechnology International Science Conference, April 15-17 at the University of Gdańsk.
- 2015 Salek, K., Sheehan, E., Gutierrez, T. (2015) Exopolymeric substances (EPS) isolated from marine bacterial strains enhance the biodegradation of petroleum hydrocarbons. Chemistry, Environment and Nanotechnology International Science Conference, April 15-17 at the University of Gdańsk.
- 2014 Gutierrez, T. (2014) Microbial sentinels of oil pollution in the ocean. *Presented at the Oil & Gas UK Environmental Seminar meeting in Aberdeen, Scotland, Nov 19.*
- 2014 Yang, T., Gutierrez, T., Speare, K., Ziervogel, K., Joye, S., Teske, A. (2014) Integrated molecular and cultivation-based bacterial dynamics in oil-contaminated seafloor sediment after the Deepwater Horizon oil spill. *Presented at the ISME-15 conference in Seoul, South Korea, Aug 24-29.*
- 2014 Gutierrez, T. (2014) Bergey's International Society of Microbial Systematics (BISMIS-2014) conference, *Edinburgh, Apr 7-10.*
- 2014 Gutierrez, T., Yang, T., Singleton, D.R., Berry, D., McKay, L., Aitken, M.D., Teske, A. (2014) Dynamics and influence of hydrocarbon-degrading bacteria on the fate of oil released at Deepwater Horizon. *Oral presentation at the MedREM-2014 International Conference on "Microbial Resource Management for Polluted Marine Environments and Bioremediation" held in Hammamet, Tunisia, Jan 16-18.*
- 2013 Gutierrez, T. (2013) The importance of microbial systems in oil-spill cleanup and as indicators of oil contamination. *Abstract presented at the Deepwater Oilspill Modelling Workshop in Aberdeen, 18-19 Sep.*
- 2013 Gutierrez, T., Mishamandani, S., Teske, A., Aitken, M.D. (2013) Application of DNA-based stable-isotope probing to revealing novel taxa of oil-degrading bacteria in the ocean: Highlights from coastal and deep sea experiments. *Abstract presented at the 2013 Marine Alliance for Science & Technology Scotland (MASTS) Annual Scientific Meeting, Edinburgh, Aug 27-29.*
- 2013 Thompson, H.F., Gutierrez, T. (2013) Assessing the dynamics of natural marine algal-bacterial consortia during enrichment with crude oil. *Abstract presented at the 2013 Marine Alliance for Science & Technology Scotland (MASTS) Annual Scientific Meeting, Edinburgh, Aug 27-29.*
- 2013 Gilbert, J., Gibbons, S., Larsen, P., Woyke, T., Malmstrom, R., Gutierrez, T., Yang, T., Nigro, L.M., Joye, M., Teske, A. (2013) Creating a predictive model of microbially mediated carbon remediation in the Gulf of Mexico. *Abstract presented at the 2013 Gulf of Mexico Oil Spill and Ecosystem Science Conference, New Orleans, Jan 21-23.*
- 2013 Yang, T., Gutierrez, T., Nigro, L.M., Teske, A. (2013) Bacterial 16S rRNA pyrosequencing analysis of the Gulf of Mexico water column, and initial sediment survey results. *Abstract presented at the 2013 Gulf of Mexico Oil Spill and Ecosystem Science Conference, New Orleans, Jan 21-23.*

- 2013 Gutierrez, T. (2013) The Deepwater Horizon oil spill: importance of the microbiology to understanding the fate of the oil. Talk given at the Deep Water Oil Spill Modelling Workshop at the University of Aberdeen, 18-19 Sep.
- 2012 Gutierrez, T., Singleton, D., Berry, D., Yang, T., Aitken, M.D., Teske, A. (2012) Stable isotope probing of hydrocarbon-degrading bacteria during the Deepwater Horizon oil spill. *Abstract presented at the 2012 MASTS Annual Science Meeting, Edinburgh, Scotland, Sep. 11-13.*
- 2012 Euroscience Open Forum (ESOF-2012) Dublin, Ireland, 11-15 July.
- 2012 Society for Applied Microbiology (SfAM) Summer Conference, Edinburgh, Scotland, July 2-5.
- 2012 Cotton, A. T. E., Cook, G. M., Gutierrez, T., Osborne, A. M. (2012) A comparative analysis of microbial communities associated with *Lophelia pertusa* inhabiting the NE Atlantic Ocean: characterizing bacterial diversity, function, biogeography and affiliations with host genotypes. *Poster presented at the 5th International Symposium on Deep-Sea Corals 2012, Amsterdam, The Netherlands, 1-6 Apr.*
- 2012 Yang, T., Nigro, L. M., Gutierrez, T., D'Ambrosio, L., Joye, S. B. Highsmith, R., Teske, A. (2012) Water column microbial community structure before, during and after the *Deepwater Horizon* blowout. *Abstract presented at the 2012 ASLO Ocean Sciences meeting, Salt Lake City, Utah, 19-24 Feb.*
- 2010 Yang, T., Nigro, L., McKay, L.J., Ziervogel, K., Gutierrez, T., Teske, A. (2010) Bacterial communities of surface and deep hydrocarbon-contaminated waters of the deepwater horizon oil spill. *Abstract OS22B-05 presented at 2010 Fall Meeting, AGU, San Francisco, Calif., 13-17 Dec.*
- 2010 Ziervogel, K., McKay, L., Yang, T., Rhodes, B., Nigro, L., Gutierrez, T., Teske, A., Arnosti, C. (2010) Formation of marine snow and enhanced enzymatic activities in oil-contaminated seawater. *Abstract OS22B-05 presented at 2010 Fall Meeting, AGU, San Francisco, Calif., 13-17 Dec.*
- 2010 The Society of Environmental Toxicology & Chemistry (SETAC) Europe Annual Meeting, Seville, Spain.
- 2009 “Novel bacterial processes influencing the fate and cycling of PAHs and metals in marine waters”. Talk presented at the Institute of Marine Sciences, Morehead City, USA.
- 2009 “Green Gas Guzzling Marine Machines – key players in the bioremediation of the sea”. Departmental ENVR 400 series seminar at UNC, Chapel Hill, USA.
- 2007 Gutierrez, T., Hart, M., Shimmield, T., Black, K., Mulloy, B. and Green, D. “Marine microbial bioemulsifiers and biosurfactants: potential use for bioremediation of hydrocarbons and metals?” SMS Industrial Microbiology meeting, Napier University, Edinburgh, UK.
- 2006 Gutierrez, T., Hart, M., Shimmield, T., Black, K., Mulloy, B. and Green, D. “Marine microbial bioemulsifiers and biosurfactants: potential use for bioremediation of hydrocarbons and metals?” Microbes & Aquatic Pollution conference, Totnes, Devon, UK.

- 2006 Gutierrez, T. & Green, D. “Marine bacterial emulsifiers”. AlgiNet conference meeting – Microalgae as Cell Factories for Chemical and Biochemical Products. SAMS, Oban, UK.
- 2006 IRC Scotland International Life Science Partnering Event (in association with BioDundee), Apex Hotel, Dundee, Scotland. [Networking].
- 2005 BioMicroWorld, International Conference on Environmental, Industrial and Applied Microbiology, Badajoz, Spain.
- 2005 BlueBioNet Congress & Brokerage event, Bremerhaven, Germany.
- 2005 Invited to the Scottish Food & Drink Netherlands Learning Journey, Wageningen, Netherlands.
- 2005 Biotech – Andalucia 2005 meeting, Malaga, Spain.
- 2005 “Surfactants & Emulsifiers”. SAMS’ Annual AwayDay, Oban, UK. Invited speaker.
- 2004 Gutierrez, T. & Green, D. “Marine Biotechnology at SAMS: marine biosurfactants – a new market?” BlueBioNet Conference and Brokerage event, Corran Halls, Oban, UK.
- 2004 Gutierrez, T., Smith, J. and Green, D. Bacteria associated with marine surfaces as a source of novel surface-active agents. The XI International Symposium on Marine Natural Products, Sorrento, Italy.
- 2004 European Symposium on Environmental Biotechnology (ESEB), Oostende, Belgium.
- 2002 “The biotransformation of furfural and its effect on ethanol production by the ethanologenic bacterium *E. coli* LY01”. Seminar series at the Department of Fisheries, Faculty of Agriculture, Kinki University, Nara, Japan.
- 2002 “Biotransformation of furfural and its effects on ethanol production by ethanologenic *E. coli*: purification and characterization of a furfural reductase”. CSIRO Molecular Science department, North Ryde, NSW, Australia.
- 2001 Gutierrez, J. A., Buszko, M. L., Ingram, L. O., Preston, J.F. “Biotransformation of furfural by ethanologenic bacteria and its effect on ethanol production”. American Society for Microbiology (101st General Meeting), Orlando, Florida, U.S.A.
- 2001 Gutierrez, J. A., Buszko, M. L., Ingram, L. O., Preston, J.F. “Biotransformation of furfural by ethanologenic bacteria and its effect on ethanol production”. The 23rd Symposium on Biotechnology for Fuels and Chemicals, Breckenridge, Colorado, U.S.A.
- 2000 Gutierrez, J. A., Learmonth, R., Nichols, P., and Couperwhite, I. “Mechanisms conferring a Gram positive bacterium with resistance to high concentrations of benzene”. The Sixth International Conference on Advanced Oxidation Technologies (AOTs-6) for Water and Air Remediation, London, Ontario, Canada.

- 1999 Gutierrez, J. A., March, P., Nichols, P., Learmonth, R., and Couperwhite, I. "Tolerance to high concentrations of benzene by *Rhodococcus* sp. 33". In *Situ and On-Situ Bioremediation: The Fifth International Symposium*, San Diego, California, U.S.A.
- 1998 Gutierrez, J. A., March, P., and Couperwhite, I. "Mechanisms that confer *Rhodococcus* sp. 33 with its tolerance to high concentrations of benzene". The Australian Society for Microbiology Annual Scientific Meeting and Exhibition, Hobart, Tasmania.
- 1998 Gutierrez, J. A. The Australian Society for Microbiology Annual Scientific Meeting and Exhibition, Hobart, Tasmania. "A novel bacterium that thrives on toxic levels of benzene".
- 1997 Gutierrez, J. A., Couperwhite, I., and March, P. "Tolerance to benzene by *Rhodococcus* sp. 33". The Australian Society for Microbiology Annual Scientific Meeting and Exhibition, Adelaide, South Australia.
- 1996 Gutierrez, J. A., Paje, M. L., and Couperwhite, I. "Simultaneous degradation of benzene and toluene under aerobic conditions using *Rhodococcus* sp. 33 and *Pseudomonas arvilla*". The Australian Society for Microbiology Annual Scientific Meeting and Exhibition, Christchurch, New Zealand.

Invited Presentations

- 2017 Gutierrez, T. Invited speaker to the *Pint of Science* event in Edinburgh; invitation and sponsored by the British Ecological Society. May 17, 2017.
- 2017 Gutierrez, T. Bacter reality, gene genies and dispersing knowledge: insights into the sentinels of ocean oil-spill response. Centre for Applied Geosciences, University of Tübingen, Germany; Feb. 4, 2017.
- 2016 Gutierrez, T. New insights into oil biodegradation processes of deep water provinces. SfAM Award Lecture presented at the SfAM Summer Conference in Edinburgh; 4-7 July, 2016.
- 2016 Uncovering new taxa and processes in microbial hydrocarbon degradation in the ocean, and applying lessons learnt from Deepwater Horizon to a deepwater oil exploration site in the NE Atlantic. School of Civil Engineering & Geosciences, Newcastle University, 22 Jan. 2016.
- 2013 Oily aggregates, pulsed blooms and persistent oil-degrading bacteria at Deepwater Horizon. Talk given as part of the seminar series at the University of Edinburgh, 15 April, 2013.

Workshops & Training Events

- 2017 Workshop on Commercialisation: the Impacts of Research Beyond Academia; 31 August, 2017.

- 2017 COSHH Module Workshop at Heriot-Watt University; 21 June, 2017.
- 2017 MASTS Oil and Gas Environmental Research Forum's workshop on the OSPAR 98/3 decision on decommissioning; 23 May, 2017.
- 2017 Edinburgh Genomics: Linux for Genomics workshop at the University of Edinburgh; 18 May, 2017.
- 2017 NERC-MDIBL Environmental Genomics course at the University of Birmingham; 5-10 March, 2017.
- 2017 MOSSFA Workshop at the Gulf of Mexico Oil Spill & Ecosystem Science Conference; New Orleans, Louisiana, USA; March 6, 2017. Talk presented entitled: *Bacterial EPS in MOS formation: the role of oil-degraders*.
- 2016 Doctoral Supervisor Workshop, Heriot-Watt University; this is a course in training for how to be a good doctoral supervisor.
- 2016 Managing Our Information online training course, Heriot-Watt University.
- 2016 Information Security online training course, Heriot-Watt University.
- 2016 Privacy and Data Protection online training course, Heriot-Watt University.
- 2016 Freedom of Information online training course, Heriot-Watt University.
- 2016 Armada Hub Decommissioning Workshop at the Edinburgh Exhibition and Conference Centre, Aberdeen; 26th October, 2016.
- 2016 Enhanced Oil Recovery Technology Workshop at the Gordon Highlanders Museum, Aberdeen; 24th June, 2016.
- 2016 Armada Hub Decommissioning Workshop at the Hilton Treetops Hotel, Aberdeen; 14th June, 2016.
- 2016 Biotechnology in Oil and Gas: Art of the Possible Workshop. Abertay University, Dundee, Scotland; 1st June, 2016.
- 2012 Supervising Doctoral Students Training Programme, Heriot-Watt University, Nov 2012.
- 2012 Heriot-Watt Crucible Alumni Meeting with Vivienne Parry, Edinburgh, Feb to Mar 2012.

- 2012 AssessRite online training course, Heriot-Watt University.
- 2012 FireRite online training course, Heriot-Watt University.
- 2012 FeelRite online training course, Heriot-Watt University.
- 2012 Office Health & Safety Awareness online training course, Heriot-Watt University.
- 2010 International FISH Course, Department of Microbiology and Ecology (DOME), Vienna, Austria.
- 1998 Molecular Biology workshop, University of Sydney, Australia.

NOMINATIONS

- 2014 Nominated to serve on the Judicial Commission of the International Committee on Systematics of Prokaryotes (ICSP).
- 2010 Nomination by the Marie Curie Fellows Association and then nominated to attend the 60th annual Meeting of Nobel Laureates in Lindau, South Germany (June-July 2010).

TECHNICAL RESEARCH SKILLS

Stable-isotope probing	Bioinformatics
Microscopy	HPLC, FPLC, and GC
Lipid extraction and analysis	Protein purification techniques
Bacterial kinetic studies	SDS-PAGE / DGGE
Fluorescence photometry	NMR spectroscopy
Cell fractionation techniques	Molecular biology, 454/MiSeq sequencing
Biosurfactant analysis	Fermentation
Polymer characterization	FISH / CARD-FISH