



CURRICULUM VITAE
MARCIN PENK
B.Sc., Dip. Stat., M.Sc., Ph.D.

EDUCATION

- 2010-2013 Trinity College Dublin
Ph.D. in Zoology/Freshwater Ecology
Thesis: "Facing multiple challenges at range margins: influence of climate change, nutrient enrichment and an introduced competitor on the glacial relict, *Mysis salemaa*".
- 2010-2011 Trinity College Dublin
Pg. Dipl. in Statistics
- 2004-2005 Trinity College Dublin
M.Sc. in Environmental Science
Thesis: "Investigations into the food sources of the cockle, *Cerastoderma edule* in Dublin Bay: multiple stable isotopes approach"
- 2000-2004 West Pomeranian University of Technology, Szczecin, Poland
B.Sc.
Thesis: "Marine biodiversity and fisheries"

CAREER HISTORY

Research Assistant, Trinity College Dublin 09/2013-present

I've been involved in numerous activities, including teaching and research within the School of Natural Sciences, including:

- Completion of an integration chapter on ecological functioning of turloughs (temporary lakes) based on completed work packages and consultations with primary investigators within the NPWS-funded 'Assessing the conservation status of turloughs' project (project website: http://www.tcd.ie/Botany/research/turlough_conservation/index.php).
- Identification of freshwater macroinvertebrate fauna samples from a mesocosm experiment within the EU-INTERREG-funded 'Development of targeted ecological modelling tools for lake management (DOLMANT)' project (project website: <http://www.afbini.gov.uk/index/research/hp-work-area-environment-land/dolmant.htm>)
- Marine Biology Field Course Instructor: teaching and supervision of undergraduate (3rd year) students in field and lab, logistic support.

Marine Taxonomist, BEC Consultants Ltd 11/2012

Identification of marine polychaete worms from the North Sea

Aquatic Ecologist, EcoServe Ltd 01/2009–03/2012 (part time)
05/2007–12/2009 (full time)

Assessment and mitigation of impacts of infrastructural and residential developments on ecosystem integrity and protected features. I was involved in all project stages, from tendering and project planning through to report-writing and dissemination of results and recommendations. This required regular liaison with government agencies (incl. Environmental Protection Agency, Inland Fisheries Ireland, Sea-Fisheries Protection Authority, National Parks and Wildlife Services) and authorities (incl. County and City Councils). I secured two research grants and, in total, I participated in the successful completion of 62 projects, leading 38 of them, including:

- Ecological Impact Assessments. This fed into the more general EIA and SEA processes for a wide range of activities, including: infrastructural (bridges, luas lines, roads, deep water port, marinas) and residential developments, water supply, waste water treatment and waste incineration schemes, quarries, wind farms, aquaculture and petroleum industry (pipelines, storage).
- Monitoring surveys of benthic invertebrate and fish fauna, as well as water and sediment quality in relation to infrastructural developments (bridges, roads), waste water treatment and waste incineration schemes, quarries, aquaculture, derelict toxic waste disposal sites (Haulbowline Island). Fulfilling monitoring obligations in marine implementation of the Water Framework Directive (Cork, Waterford and Wexford coasts), and in safeguarding of marine Special Areas of Conservation (Carnsore and Saltee Islands SAC), commercial shellfish health (Wexford Harbour) and habitat restoration (Stagrennan Polder Mudflat, part of Boyne Estuary SPA).
- Aquatic invertebrates and EPA Q-values. I carried out regular freshwater macroinvertebrate surveys and identification, which frequently included calculation of the long-established Q-values, in line with the EPA guidance, as bioindication of organic pollution in streams and rivers.
- Protected species surveys. I regularly carried out the White-Clawed Crayfish (*Austropotamobius pallipes*) and Freshwater Pearl Mussel (*Margaritifera margaritifera*) surveys, under NPWS licence, using snorkelling, bathyscope, refuge search and trapping. This included surveys of the critically endangered hard-water subspecies (*M. margaritifera durrovensis*). I frequently carried out Eurasian Otter (*Lutra lutra*) surveys using their spraints.
- Invasive species surveys, including an extensive county-wide survey of invasive riparian and in-stream macrophytes. This survey, covering 65 km of linear transects, generated over 400 records of invasive species, including the notorious Japanese Knotweed (*Fallopia japonica*), Giant Hogweed (*Heracleum mantegazzianum*), Himalayan Balsam (*Impatiens glandulifera*), Giant Rhubarb (*Gunnera tinctoria*). All field work always followed strict biosafety protocols to minimise the possibility of their spread.
- Research grants. I secured and executed two Heritage Council Wildlife Grants. In 2008 I carried out the first country-wide distribution survey of groundwater macroinvertebrates; understudied communities which harbour apparently the only species endemic to Ireland, the amphipod *Niphargus wexfordensis*, and an endemic subspecies *Niphargus kochianus irlandicus*. In 2009 I carried out the first country-wide distribution survey of an ecologically important relict crustacean in Irish lakes, *i.e.* its global southern distribution front. Results of both projects were published in peer-reviewed journals.
- Climate change study. I led the writing of a chapter of the joint Heritage Council/ Fáilte Ireland study on the effects of climate change on aquatic ecosystems functioning and services, which also involved extensive consultations. The resulting book was launched at a public event with the participation of the Minister for the Environment, Heritage and Local Government.

Research Technician, Trinity College Dublin

06/2006–01/2007

- Extraction of lake invertebrates from littoral and profundal samples
- Field collection of the bivalve *Angulus tenuis* and growth analysis

SKILLS AND ADDITIONAL INFORMATION

- Freshwater Invertebrates identification (IdQ certificate from the Natural History Museum, London)
- Extensive research vessel experience (BIM Personal Survival Techniques certificate)
- Powerboat handling (Irish National Powerboat Certificate Level 1 & 2)
- Driving licence (cat. B, full clean)
- Computer:
 - statistics (R, DataDesk, PRIMER)
 - GIS mapping (MapInfo)
 - vector (Inkscape) and raster (Gimp) graphics

PUBLICATIONS

Peer-reviewed articles

- Brophy, J.T. & Penk, M.R. (2008) A new record for *Mysis relicta* Loven, 1862 from Lough Allen, Co. Leitrim. *Irish Naturalist's Journal* **29** (2): 122–124. (I collected data, contributed to writing)
- Dick, J.T.A., Gallagher, K., Avlijas, S., Clarke, H.C., Lewis, S.E., Leung, S., Minchin, D., Caffrey, J., Alexander, M.E., Maguire, C., Harrod, C., Reid, N., Haddaway, N.R., Farnsworth, K.D., Penk, M. & Ricciardi, A. (2012) Ecological impacts of an invasive predator explained and predicted by comparative functional responses. *Biological Invasions* **15**: 837–846. (I collected experimental organisms, contributed to writing)
- Knight, L. & Penk, M.R. (2010) Groundwater Crustacea of Ireland: a survey of the stygobitic Malacostraca in caves and springs. *Biology and Environment: Proceedings of the Royal Irish Academy* **110** (1): 211–235. (I collected and analysed data, contributed to writing)
- Penk, M.R. (2011). A review of the current distribution of the freshwater opossum shrimp *Mysis salemaai* Audzijonyte and Väinölä, 2005 in Ireland. *Biology and Environment: Proceedings of the Royal Irish Academy* **111** (2): 107–115.
- Penk, M.R. & Minchin, D. (2014) Seasonal migration of a glacial relict mysid (Crustacea) into the littoral zone and its co-occurrence with an introduced competitor in Lough Derg (Ireland). *Hydrobiologia* **726**: 1–11.

Edited book chapter

- Penk, M.R., Brophy, J.T. & Nash, R. (2009) The implications of climate change for the natural heritage of Ireland's coast and inland waterways. In: *Climate change, heritage and tourism: implications for Ireland's coast and inland waterways* (eds Kelly B & Stack M) pp: 55–81. The Heritage Council, Kilkenny, Ireland.

Press articles

- Penk, M.R. (2012) Glacial relict fauna: ecology and future prospects. *Trinity Centre for Biodiversity Research Newsletter* **7**: 6–7. University of Dublin, Trinity College, Ireland.
- Penk, M.R. & Nash, R. (2009) Dublin City Council leads the way in recording invasive species. *Local Authority News* **30** (4): 30.

Internet articles

- Penk, M.R. (2009). Marine ecosystems: estuaries. *Marine Biodiversity Wiki*. Marine Biodiversity and Ecosystem Functioning, EU FP6 Network of Excellence. URL <http://www.marbef.org/wiki/Estuaries>
- Penk, M.R. (2009). Threats to marine biodiversity: non-native species invasions. *Marine Biodiversity Wiki*. Marine Biodiversity and Ecosystem Functioning EU FP6 Network of Excellence. URL http://www.marbef.org/wiki/Non-native_species_invasions