



DARWIN INITIATIVE

APPLICATION FOR DARWIN SCHOLARSHIP PROGRAMME 2003

Please read the Guidance Notes before completing this form. Give a full answer to each section; applications will be considered on the basis of information submitted on this form. Please note the additional information requirements (CVs and letters of support as detailed in the Guidance for Applicants)

Submit by 22 April 2003

1. Contact Details

<i>Ref. (Defra/ECTF only):</i>
Name and address of UK applicant organisation Centre for Marine Biodiversity and Biotechnology, School of Life Sciences, John Muir Building, Heriot-Watt University, EDINBURGH EH14 4AS

2. Darwin Scholar. A one page CV must be enclosed.

Name and official address of proposed Darwin Scholar Mr Anthony Mitchell CORALINA, Via San Luis, Bight. Km 26, San Andres Island, COLOMBIA

3. Project summary (no more than 100 words)

<p>The proposed Darwin Scholar, Mr Anthony Mitchell, would collaborate with experts in the field of marine resource management and relate this work experience to his duties as Chief GIS Analyst and Researcher at CORALINA, Colombia.</p> <p>Mr Mitchell would be closely associated with staff at Heriot-Watt University and other institutions and would gain valuable insights into comparable, and new, procedures in biodiversity conservation management. The Scholarship would enable Mr Mitchell to become involved in, and help actively develop, the "Information and Experience Exchange" network of relevant Darwin projects being established as part of a new Darwin Initiative project (162/12/021) in Panama.</p>

4. Principals in Project. Please give the details of the individuals from the UK host organisations who would be directly involved in supervising/working with the Darwin Scholar. A 1 page CV on each must be enclosed.

Details	Main UK expert	Other UK expert	Other UK expert	Other UK expert
Surname	MAIR	YOUNG	MOORE	MIDGLEY
Forename(s)	James M.	James A.T.	Colin G.	Stephen P.

Post held	Lecturer	Lecturer	Senior Lecturer	Forum Secretary
Institution (if different to above)				Forth Estuary Forum
Department	School of Life Sciences	School of the Built Environment	School of Life Sciences	Secretariat
Telephone				
Fax				
Email				

5. Describe briefly the aims, activities and achievements of the UK applicant organisation. (Large institutions please note that this should describe your unit or department)

The Centre for Marine Biodiversity and Biotechnology (CMBB) was established in 1999 within Heriot-Watt University's School of Life Sciences (www.sls.hw.ac.uk). Its prime aim (www.sls.hw.ac.uk/cmbb/main.htm) is to promote the study of marine biodiversity by providing a centre of taxonomic excellence that focuses on the study of the state of the marine environment and conservation issues. Staff work closely with colleagues in the Geomatics Unit of the University's School of the Built Environment especially in GIS and remote sensing analysis of marine habitat mapping information. CMBB current research programmes include: long-term studies on the benthic communities of the Firth of Forth; genetics of fish parasites; speciation in bivalve molluscs using molecular genetics; biotope mapping and benthic community studies for conservation management purposes. Postgraduate training (40+ UK and overseas students per year) is also a major activity. Staff in CMBB are internationally recognised for research work on benthic system impacts and marine conservation studies. The School runs long-established undergraduate (30 years) and postgraduate (16 years) courses in applied aspects of Marine Resources. The postgraduate MSc course has been in receipt of annual NERC quota studentships since 1989 (www.sls.hw.ac.uk/courses/MSc_Marine_Resource_Development.htm). Staff in the School of Life Sciences have directed four completed Darwin Initiative projects and are directing two current Darwin projects.

6. Describe briefly the aims, activities and achievements of the proposed Darwin Scholar's organisation. (Large institutions please note that this should describe your unit or department)

CORALINA (www.coralina.org) is a public body responsible for administering the environment and natural resources of San Andres Archipelago and for promoting sustainable development in accord with legal norms and policies of the Colombian Ministry of the Environment. It is the sole representative and authority of the Colombian national environment system (SINA) for the region of its jurisdiction - Colombia's only oceanic department including the insular area of the San Andres Archipelago (approximately 57 km²) as well as the territorial waters and the exclusive economic zone of the islands (approximately 350,000 km²). Current or completed projects include a Darwin Initiative project (162/07/147) on marine habitat mapping, INCO-DC project of coastal and marine resource-user conflict resolution, sustainable tourism and industry greening programmes, reforesting degraded farmlands and mangrove areas, significant species inventory and management (sea turtles, lobster, conch, land crabs), introduction of GIS, establishing a regional mangrove park and wildlife refuge, strengthening the pre-existing marine reserve, realizing the land-use plan for Old Providence and Santa Catalina and the environmental management plan for the Archipelago, beach profiling and monitoring, designing and implementing the San Andres groundwater management plan, contributing to the UNESCO World Network of Biosphere Reserves (SAI Archipelago was, in 2000, designated as the MAB Seaflower Biosphere Reserve), and grass-roots organizing of environmental NGOs. On-going activities include environmental research and monitoring, issuing environmental licenses, water quality testing, community clean-ups, education and outreach programmes, enacting and enforcing protective regulations and liaison with the regional CARICOMP network and UNESCO COSALC project. Current projects include a Darwin Initiative Project (162/11/015) – "Sustainable Management of the Black Land Crab in Colombia", and a programme of establishing of a system of multiple-use marine protected areas.

7. Describe briefly the proposed Darwin Scholar's current role within their organisation.

Mr. Mitchell (a Colombian national and bilingual in Spanish and English) works for CORALINA as Head GIS Analyst and Researcher. He is presently particularly involved in marine habitat mapping for several projects especially on the follow-up to the Darwin Initiative project (162/07/147), and the Marine Protected Area project. His main work is to give technical assistance in digitally mapping the Archipelago, analyzing information received from various methods of data collection such as remote sensing, photo-transects, and conventional fieldwork. Mr. Mitchell carries out spatial analysis using ArcView Software. Maps that he has produced to date, amongst others, include mangrove swamps, vegetal cover, land-use planning and zoning, and marine communities of the Archipelago.

8. Provide a concept note on the Darwin Scholarship. This should include:

- a clear outline of the aim and objectives of the Scholarship
- the programme of work, including key milestones through the duration of the Scholarship and their timing
- the role of the UK applicant organisation, and others where relevant (including contacts)
- where appropriate, how the Scholarships will contribute towards sustainable development or sustainable livelihoods

The proposed Darwin Scholar works for a regional government agency (CORALINA) in Colombia that has as its main remit the sustainable management of the natural resources of the region of the San Andres Archipelago. In this sense the institution's remit is equivalent to the roles undertaken in the UK by SNH/EN and SEPA/EA, etc. The main aim of this Scholarship therefore would be to enable one of CORALINA's key staff (Mr Anthony Mitchell) to obtain work experience at relevant organisations in the UK (and Panama) which would broaden his experience and enable knowledge obtained and new techniques learned to be utilised and disseminated on his return to Colombia. Important objectives would be for Mr Mitchell and UK staff to be given enough time together in order to share experiences in marine biodiversity conservation work and to investigate how good practice in this area could be developed. During this Scholarship, Mr Mitchell would also be able to assist in substantially advancing the establishment of an "Information and Experience Exchange" network, in which CORALINA is keen to be involved, as part of the new Darwin Initiative project starting in Panama (162/12/021). On arrival in the UK, the Darwin Scholar would be based initially for several months at Heriot-Watt University. Mr Mitchell has had close working relationships already with University staff, Dr James Mair and Dr Jimmy Young, through their involvement in the previous Darwin Initiative project (Heriot-Watt University – CORALINA: 162/07/147). It is envisaged that Mr Mitchell could continue to carry out GIS work and some of his duties related to programmes underway in CORALINA, but with expert guidance and possible methodology improvement suggestions provided by Dr Jimmy Young. However, he would also be exposed to UK case studies that would provide a valuable comparison for him to see how approaches to marine resource conservation management in the UK are carried out. Once well established in Edinburgh, Mr Mitchell would have the opportunity to meet with staff from other organisations in the UK involved with managing marine and coastal resources. He would be introduced to key staff in these organisations and also provided with the opportunity of short-term (one to two months) work experience placements at some of these organisations. Timings of these placements are still under discussions and would remain flexible, but the best opportunities for suitable placement dates would be kept under review before and during his proposed visit to the UK. On completing his time in the UK, the Scholar would then proceed to Panama for a short (one-month) work experience visit to the Smithsonian Tropical Research Institute (STRI). A new Darwin Initiative project has just been established (collaboration between Heriot-Watt University and STRI) to assess the marine habitats and to assist in proposing the most appropriate area to be designated as a National Park within the boundaries of the Las Perlas Archipelago. Mr Mitchell's experience, from his work in Colombia's San Andres Archipelago, would provide much mutual benefit to workers both in Colombia and the new Darwin Initiative team in Panama.

Staff at the proposed main UK institution (Dr James Mair, Dr Jimmy Young and Dr Colin Moore, Heriot-Watt University) would manage the programme of work experience for Mr Mitchell, both for his time based at Heriot-Watt University and for meetings and placements at other institutions. A 1-month secondment to the Forth Estuary Forum (www.forthestuaryforum.co.uk) has been discussed and arranged through the Forum's Secretary and Programme Manager, Mr Stephen Midgley (secretary@forthestuaryforum.co.uk). Several Heriot-Watt University MSc students have already worked with Mr Midgley and his colleagues on their MSc research dissertations. The Forum is developing a GIS database on estuary issues and this would lend itself to appropriate exchange experience for Mr Mitchell and the Forum. By working at the Forum's offices, Mr Mitchell would gain invaluable insight into the application in the UK and Europe of the concepts of Integrated Coastal Zone Management (the Forth Estuary is one of the demonstration sites in this European ICZM Programme). Another 1-month secondment has been provisionally arranged with staff at the Edinburgh office of Scottish Natural Heritage (www.snh.gov.uk) and discussions on the most beneficial arrangements for this will continue with Marine Section staff, Dr John Baxter (john.baxter@snh.gov.uk) and colleagues. SNH carry out much habitat mapping and monitoring on Marine SACs using large GIS databases. A 1-month work-experience visit to the Scottish Association for Marine Science, Dunstaffnage Laboratory (www.sams.ac.uk) has been discussed with the Director, Professor Graham Shimmiel (mail@dml.ac.uk), and staff. SAMS staff are carrying out much relevant work that would be of great interest to Mr Mitchell. The Geography Section at Edinburgh University (www.geo.ed.ac.uk) is another major unit where staff are involved in marine resource GIS work and a 2-month secondment to there is being planned with Dr Tim Malthus (tjm@geo.ed.ac.uk). Dr Malthus was involved in one of surveys carried out on the Darwin Initiative project in San Andres and so already has had experience working with Mr Mitchell. In addition to these placements, short visits and discussions have been tentatively suggested and would be arranged for Mr Mitchell with other key players in the area of marine resource management, e.g. Scottish Environment Protection Agency (www.sepa.org.uk) (Coastal Waters Section Manager, Anton.Edwards@SEPA.org.uk); Fisheries Research Services, Aberdeen Laboratory (www.marlab.ac.uk) (Dr Ron Stagg, Deputy Director, FRS, SEERAD, STAGGR@marlab.ac.uk); Marine Conservation Society (www.mcsuk.org) (Scottish Officer: Calum Duncan, MCS.scotland@care4free.net). The main contact for placement in STRI, Panama (www.stri.org) would be Dr Hector Guzman (GUZMANH@naos.si.edu) who is the Panama co-ordinator for the new Darwin Initiative project in collaboration with Heriot-Watt University (162/12/021).

As previously indicated, one of the main functions of CORALINA is to work towards sustainable development and sustainable livelihoods for the San Andres archipelago and its inhabitants. The work experience, therefore, gained during this proposed Darwin Scholarship for Mr Mitchell would, on his return, greatly assist CORALINA meet this function.

9. Legacy. Provide information on how the Darwin Scholar will utilise, promote and disseminate the benefits of the Scholarship on return to his/her home country. Will a strategy be developed during the Scholarship to ensure this is achieved?

The proposed Darwin Scholar, Mr Anthony Mitchell, would return to his post at CORALINA as Head GIS Analyst and Researcher and would therefore be able to take the experience gained, whilst on the Scholarship, and apply it directly and immediately to the work of CORALINA. An added advantage of the type of work that he is involved in (GIS and information analysis) is that much relevant information could be passed to and from CORALINA electronically during his stay in UK so that he could continue to work on some of his duties at CORALINA but with the benefit of having on-hand expert guidance on the analysis of the information that he would be processing. Mr Mitchell, in any case, is going to be involved in the "Information and Experience Exchange" network to be set up under the new Darwin Initiative project (162/12/021) but an added benefit of this is that, if he was to be awarded the Darwin Scholarship, then his experience on the Scholarship would automatically be promoted amongst the network group. A strategy to further define and best advance this aim would be developed with Mr Mitchell during his stay in UK. CORALINA has a joint programme with the newly founded Christian University of the Archipelago of San Andres, Old Providence and Santa Catalina, the programme is: ENVIRONMENT ADMINISTRATION AND SEA RESOURCES. It has 28 students and all of them are native islanders. Included in the syllabus, in the last trimester, is a six-week training course on System Information and part of the topics are GIS and Remote Sensing. CORALINA's contribution to this programme includes staff time to give the lectures on each of these topics. The plans are for Mr Mitchell to give the lectures on GIS and Remote Sensing, and this would mean that any training in the UK would further his expertise and would enable him to extend to others the knowledge acquired during the Scholarship.

The names of DEFRA, the Darwin Initiative, the Darwin Scholarship and the Darwin Logo would be promoted as widely as possible within UK institutional newsletters, and those of CORALINA and their partners in Colombia. The Darwin Scholar's work would also be promoted more widely through his involvement in the "Information and Experience Exchange" network of Darwin projects previously mentioned. Mr Mitchell presented some of his work at a Darwin (162/06/029) conference in Guayaquil, Ecuador (2000). He has already published work on the Darwin project (162/07/147) at a COLACMAR conference held on San Andres in 2001. It would be the intention, during his time in the UK on the proposed Scholarship, for Mr Mitchell to collaborate with UK staff to prepare a paper on related Darwin project work from San Andres for submission to an international, peer-reviewed, science journal – again, full acknowledgement of Darwin Initiative support would be made here. Provisionally, it would be hoped that Mr Mitchell could also participate in the planned Darwin project (162/12/021) conference in Panama in 2005.

10. How will the Scholarship assist the Scholar's organisation and/or local communities and/or home country in working towards the objectives (or implementation) of the Convention on Biological Diversity? References to the Convention should be specific, for example, by referring to articles, cross-cutting or thematic issues¹.

"Exceedingly high diversity coupled with the high degree of threat posed by unchecked human development and commercial resource exploitation places Colombia among the highest conservation priorities on earth. Colombia is one of the world's richest countries in terms of species diversity per unit area and is second only to Brazil in overall species numbers" (Conserving the World's Biological Diversity, McNeely et al., 1990). San Andres Archipelago has recently (2000) been designated by the UNESCO programme MAB as the "Seaflower" Biosphere Reserve. CORALINA is the main organisation charged with managing this reserve. The training and work experience that would be gained by Mr Mitchell on this Darwin Scholarship Programme would therefore assist the appropriate authorities in Colombia in advising on policy, monitoring, assessment and scientific research within the system of the country's protected areas. The combination and collaboration of UK, Colombian and other (Darwin network) expertise on this proposed scholarship should therefore ensure that the implementation of several aspects of the Convention on Biological Diversity would be assisted, mainly (and in proportional order): Articles 12 (research and training); 18 (technical and scientific co-operation); 17 (exchange of information); 13 (public education/awareness); 7 (identification and monitoring); and 6 (measures for conservation). This proposed Scholarship would be relevant to the CBD thematic programme on 'marine and coastal biological diversity'.

11. What collaboration has there been with the Darwin Scholar to date in developing the proposal, and what collaboration is planned for the duration of the Scholarship? Where relevant, describe any consultation or collaboration by the proposed Scholar within his/her own country.

As soon as this new Darwin Scholarship Programme was fully announced in March 2003, information on it was sent by Dr James Mair at Heriot-Watt University to Darwin Fellows with whom he had been involved on previous projects. Mr Mitchell immediately expressed great interest in this scheme and promoted and discussed it with the Director of CORALINA. Mr Mitchell has the full support of the Director of CORALINA should he be awarded a Scholarship, and all concerned can see the long-term benefits of the experience that would be obtained. Drafts of the application for the Scholarship have been prepared jointly, through email communications, by Dr James Mair and Mr Anthony Mitchell. The development of the Scholarship programme for Mr Mitchell would be further discussed and jointly agreed before, and during, any Scholarship that was to be awarded. The longer-term continuation of the benefits of any Scholarship would also be able to be developed to the mutual benefit of participating parties.

¹ Refer to the Guidance Notes for Applicants for sources of further information

12. Provide details of the Darwin Initiative project that the proposed Scholar was involved in, including his/her role in that project and any ongoing involvement.

The proposed Scholar was a Darwin Fellow on the project entitled: "Marine Habitat Mapping Development in San Andres Archipelago, Colombia". This was an Institutional Capacity Building project (162/07/147) which ran between 1998 and 2001. Its aim was to establish a comprehensive and systematic mapping programme of the marine habitat areas of the San Andres, Providencia and Santa Catalina Archipelago. The objectives were to establish a unit within CORALINA (the host institution) to: specialise in the development of new, and modification of established, techniques of marine habitat mapping in the Archipelago; to train Colombian researchers on the techniques and methodology of remote sensing, sonar mapping, diving survey and the resulting data analysis of habitat information; to initiate a programme of data collection and description of the current state of the main marine habitats; to assist CORALINA in its responsibilities for promoting and ensuring sustainable management of the islands' resources and to preserve their biodiversity; to attract additional funding for the continuation of the unit's work. The main outputs were: capacity built within the CORALINA institute to interpret remote sensing and sonar scanning data, and conduct habitat mapping using dive survey and GPS methods; database of marine habitats in the San Andres archipelago enhanced; 2 Darwin Fellows trained; 80+ staff in host country trained by Darwin-trained CORALINA staff; database established; 4 management plans completed. Mr Mitchell played a pivotal role in this project and collated all relevant information onto CORALINA's GIS database. Results from the Darwin project continue to form the basis for current and future information input into the system that allows CORALINA to develop and adapt management plans. Mr Mitchell continues to be particularly active in transferring skills obtained during his time as a Darwin Fellow to other staff members of CORALINA and also local island students.

13. Duration of the Scholarship: what is the intended start and finish date.

Proposed duration of 12 Months: Start date - 5 January 2004; Finish date – 24 December 2004

14. Where will the Darwin Scholar be based? Please be specific with organisational details and dates (where more than one location).

For the first four months (and intermittently throughout his stay), the Darwin Scholar would be based at Heriot-Watt University, Riccarton Campus, Edinburgh. There he would be hosted jointly by the School of Life Sciences (Centre for Marine Biodiversity and Biotechnology) and the School of the Built Environment (Geomatics Unit). High powered, and networked, computers would be available for his use in the GIS Suite of the Geomatics Unit. One-month secondments would take place at the following organisations (timings as yet provisional and subject to further discussions with regards to optimal times): Forth Estuary Forum, Rosyth – May; Scottish Natural Heritage, Anderson Place, Edinburgh – June; SAMS Dunstaffnage Marine Laboratory, Oban – August; Geography Unit, School of Geosciences, University of Edinburgh – October to November (2-months); and Naos Laboratory, Smithsonian Tropical Research Institute (STRI), Panama City – December. Suitable accommodation would be arranged for the Scholar in Edinburgh for most of his visit and for placement at the organisations described above, apart from the 1-month placement at SAMS, near Oban on the Scottish west coast where separate accommodation would be arranged, and similarly for the 1-month visit to STRI, Panama City.

15. Financial Aspects.

Scholar payment		
London: £1200/month	Number of months -	Total £ -
UK (outside London): £1000/month	Number of months	Total £
Overseas location £800/month*	Number of months	Total £
Host Organisations' costs		
UK: £200/month	Number of months	Total £
Overseas location: £/month*	Number of months	Total £
A. Total Scholar & Host Organisation Costs		£

* Figures available from Darwin at darwin@defra.gsi.gov.uk

Actual travel costs		
Return airfare.	SAI, Colombia – Edinburgh Return, SAI, Colombia – Panama Return	£
Travel to/from airports.	Taxis to and from the various airports plus transfers at Bogota	£
Visas etc.	UK Visa (confirmed with Nicola Stewart, FCO)	
B. Total Scholarship Travel Costs (Actual costs up to £2000 will be paid)		£

TOTAL SCHOLARSHIP COSTS (A + B)	£
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16. Other sources of funding: provide details and amounts

There are no additional sources of funds but any further opportunities to obtain supplementary funding to enhance the work experience of the proposed Darwin Scholar will be investigated as and when they arise.

FCO NOTIFICATION

Please check the box if you think that there are sensitivities that the Foreign and Commonwealth Office will need to be aware of should they want to publicise details of the Darwin Scholarship and the resultant work in the UK or the Darwin Scholar's home country

CERTIFICATION

I certify that, to the best of our knowledge and belief, the statements made by us in this application are true and the information provided is correct. I am aware that this application form will form the basis of the project schedule should this application be successful.

I enclose a copy of the organisation's most recent audited accounts and annual report, CVs for project principals and letters of support.

Name (block capitals)	
Position in the organisation	

Signed

Date:

Please return completed form to The Edinburgh Centre for Tropical Forests (ECTF) by **22 April 2003** by e-mail to stefanie.halfmann@ed.ac.uk

Where it is not possible to send the full application in electronic form (for example if signed references are not available electronically), a hard copy of the full application should also be sent to ECTF, Darwin Monitoring & Evaluation Project, Stefanie Halfmann, John Muir Building, Kings Buildings, University of Edinburgh, Mayfield Rd, Edinburgh EH9 3JK.