
DPR11F\1006

Andreas Josephides

New technologies such as computer games can be extremely useful interactive learning tools. This fellowship, proposes the development of a game/electronic interactive tool through which knowledge acquired during previous and current Darwin

Plus projects regarding invasive alien species, pollinators and mosquitoes will be disseminated electronically in an interactive fun way.

Section 1 - Contact Details

PRIMARY APPLICANT DETAILS

Title Dr
Name Kelly
Surname Martinou
Website (Personal) [REDACTED]
Tel (Mobile) [REDACTED]
Email (Personal) [REDACTED]
Address [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

GMS ORGANISATION

Type	Organisation
Name	Enalia Physis Environmental Research Centre
Phone (Work)	[REDACTED]
Email (Personal)	[REDACTED]
Website	[REDACTED]
Address	[REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED]

Section 2 - Title, Dates & Budget Summary

Q3. Name and official address of proposed Darwin Plus Fellow

Include email details where available.

Name	Andreas Josephides
Address	[REDACTED]
Email Address	[REDACTED]

Q4. Summary of proposed Fellowship i.e. Outcome

New technologies such as computer games can be extremely useful interactive learning tools. This fellowship, proposes the development of a game/electronic interactive tool through which knowledge acquired during previous and current Darwin

Plus projects regarding invasive alien species, pollinators and mosquitoes will be disseminated electronically in an interactive fun way.

Q5. UKOT involved

Q5a. Please state which UKOT(s) will be involved with the Fellowship?

Sovereign Base Areas Cyprus (Akrotiri, Dekheleia and Episkopi)


Q5b. Have you included a letter of support from the relevant OT Government(s) and/ or OT-based civil society organisation?


Yes


Please provide a combined PDF of all letters of support

 [DIO LETTER OF SUPPORT](#)


 14/10/2022

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 [20221006-JSHU HQ Darwin Letter](#)

 14/10/2022

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Q6. Project dates

Start date:

01 April 2023

End date:

31 March 2025

Duration (e.g. 1 year, 2 months):

2 years

Q7. Budget summary

	2023/24	2024/2025	2025/2026	Total
Darwin funding request (Apr - Mar)	27,660	21,840.00	0.00	£ 49,500.00


Please complete the template below which provides the Budget for this application.


[Budget form for projects under £100,000](#)

[Budget form for projects over £100,000](#)

NB: Please state all costs by financial year (1 April to 31 March) and in GBP. Darwin Plus cannot agree any increase in grants once awarded.

Please upload your completed Budget Form Excel spreadsheet using the field below.

 [Josephides BCF Budget under 100K MASTER 15102022](#)

 15/10/2022

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Section 3 - Principals

Q8. Principals in the Fellowship

Please give the details of the individuals from the applicant and host organisations (and other institutions if relevant) who would be directly involved in supervising/ working with the Darwin Plus Fellow.

Details	Project Leader	Other Expert	Other Expert	Other Expert
Surname	Martinou	August	Roy	Michael
Forename(s)	Kelly	Tom	Helen	Koula
Post held	Head Entomologist	Computational Ecologist (Co-Leader)	Individual Merit Scientist	Teacher
Organisation	Joint Services Health Unit/ Enalia Physis	UK Centre for Ecology and Hydrology UKCEH	UK Centre for Ecology and Hydrology UKCEH	Akrotiri Environmental Education Centre
Email	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

Do you require more fields?

Yes

Details	Other Expert	Other Expert	Other Expert
Surname	Angelidou	No Response	No Response
Forename(s)	Ioanna	No Response	No Response
Post held	Darwin Plus Fellow	No Response	No Response
Organisation	Enalia Physis/Joint Services Health Unit	No Response	No Response
Email	[REDACTED]	No Response	No Response

Please provide a one page CV for each of these named individuals, including the Fellow named at Question 3, uploaded as one PDF.

 [TEAM CVS NEW](#)

 15/10/2022

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Section 4 - Aims, Activities & Achievements

Q9. Describe briefly the aims, activities and achievements of the proposed Fellow's employing organisation.

Large institutions please note this should describe your unit or department.

Mr Andreas Josephides (proposed Darwin Plus Fellow) will be employed through Enalia Physis, a Cyprus-based non-profit organization which conducts and promotes environmental research and enhances education and ecological awareness to the general public.

Joint Services Health Unit is a military unit with environmental health, entomological and pest control expertise that runs integrated pest and vector management programs. The unit has military and civilian experts in terrestrial and freshwater ecosystems.

UKCEH is the UK's Centre for Excellence for integrated research in terrestrial and freshwater ecosystems. UKCEH science helps the UK meet strategic research needs underpinning their ability to undertake world-class environmental science.

Akrotiri Environmental Education Centre operates since 2004 promoting the unique environmental and cultural significance of the Akrotiri Peninsula through educational programmes and exhibits.

Q10. Describe briefly the proposed Fellow's current role within their organisation and what relevance this has to one or more of the main themes of Darwin Plus.

Mr Andreas Jodephides has been working alongside Dr Martinou on digitising The Three Mosquiteers characters (<https://alien-csi.eu/dissemination-materials>) developed through a COST European Network programme. Andreas has worked before on a voluntary basis with Darwin Fellow Ms Joanna Angelidou (DPlus Fellowship101) on raising awareness about pollinators through the three mosquiteers stories and on providing advice on developing an interactive learning tool of invasive alien insects. We believe that the current fellowship is very innovative and it will help towards achieving the biodiversity goals that we have for the Sovereign Base Areas in Cyprus including raising awareness to school children and stakeholders regarding important issues such as pollination, biological invasions and vectors such as mosquitoes. This project is a collaboration between computational scientists and ecologists from the UKCEH in UK and the teachers of the Akrotiri Environmental Centre and it will help build the capacity and capability of the Joint Services Health Unit and Enalia Physis towards raising awareness by using innovative tools and it will also highlight the importance of biodiversity to school children of the SBAs in Cyprus and beyond.

Section 5 - Outcomes & Objectives

Q11. Provide a concept note on the Fellowship. This should include:

Q11a. A clear outline of the aim and objectives of the Fellowship

The proposed fellowship aims to enhance children's knowledge and raise awareness about important topics such as mosquitoes, invasive alien species and pollinators through an interactive online tool (game) which will engage students inside the class but also from home

The proposed fellowship will complement projects that have been established with Darwin Plus funding (DPLUS 056; 088; 124; 175). The proposed fellowship will:

- Provide an electronic interactive gaming tool that will digitize The Three Mosquiteers stories and help primarily primary school children learn about mosquitoes, pollinators and invasive alien species inside and outside the class
- Investigate the perceptions of school children and teachers for using such an educational tool
- Investigate the needs and perceptions for novel technologies and tools for learning among the SBAs

The electronic interactive learning tool (game) will be communicated to relevant stakeholders within SBAs and also widely across the Republic of Cyprus, through public facing dissemination events at the Akrotiri Environmental Education Centre and publications in scientific journals. Having additional tools that appeal to children in order to promote and raise awareness about biodiversity and important drivers of change such as invasive species or vectors is very important and gamification can help familiarize children with such issues.

Q11b. The role of the applicant and/or host organisation, and others where relevant

Mr Andreas Jodephides, Computer Scientist will be responsible for undertaking the development of the electronic interactive tool (game) under the joint supervision of Dr Martinou, Dr Tom August and Prof Roy who co-lead the project. Dr Tom August's work focuses on the nexus between digital innovation, academic research and citizen science. He explores new and emerging technologies and how they can be applied in biodiversity research to improve data quality and quantity, and support the dissemination of biodiversity information to decision makers. Tom is the lead author of publications in the domains of computer vision, citizen science and technology and leads the development of research software including programming libraries, online tools and smartphone applications. Dr Martinou and Professor Roy have experience in developing informative material for children regarding invertebrates such as mosquitoes, pollinators but also invasive alien species for the Sovereign Base Areas and beyond. The current project presents a new challenge as some of the

material already (3 informative leaflets on mosquitoes, pollinators and invasive alien species) developed through The Three Mosquiteers project <http://alien-csi.eu/dissemination-materials> will now be transformed into an interactive learning tool. Where the three mosquiteers characters through interactive play will inform young children (primary school) regarding the mosquitoes, pollinators and invasive alien species.

Ms Joanna Angelidou is an experienced Darwin Plus fellow who knowledge about pollination, biological invasions and mosquitoes and will guide the proposed Fellow regarding biology and ecology. Ms Koula Michael is an experienced teacher at the Akrotiri Environmental Education Centre and she will make sure that the game that it will be produced is suitable for school children.

Q11c. Where appropriate, how the Fellowship will contribute towards one or more of the four of the four themes of Darwin Plus in the OTs i.e. what the expected outcome of the Fellowships will be.

This innovative, collaborative fellowship contributes to three main themes of Darwin Plus:

Biodiversity: although this is not a fellowship that it is field based it will benefit biodiversity by educating young children in appreciating biodiversity, teaching them

Environmental quality: through this fellowship we anticipate that children will be inspired to respect nature even if they are not experiencing it in the field

Capability and capacity building: this fellowship will be supplementing and continuing the legacy of previous Darwin Plus projects by widely disseminating the knowledge regarding the fauna of the Sovereign Base Areas of Akrotiri Peninsula. Thus, enhancing the capacity within OTs to support the environment in the short- and long-term.

Simultaneously, the proposed fellowship seeks to address major ecological issues around Akrotiri such as invasive species, pollination and vectors of disease such as mosquitoes

Section 6 - Legacy & Collaboration

Q12. Legacy

Provide information on how the Fellow will utilise, promote and disseminate the benefits of the Fellowship. Will a strategy be developed during the Fellowship to ensure this is achieved?

To utilize and share the benefits of the Fellowship in the most efficient ways the Fellow will visit primary schools and promote the idea behind the project and the benefits that can be achieved through the use of alternative educational methodologies. As the project's development becomes consistently more controllable and stabilized, the Fellow will endeavour to gather a small community of testers both including either individuals that already participate in the project, or people who voluntarily seek to test new projects. The purpose of this small community will be to ensure a continuous genuine feedback that will aim to provide solutions and ideas that will solidify the quality of the educational project. Shortly before the final product is completed, the Fellow will vigorously advance into the marketing area and contemplate every beneficial and optimal way to take the project on the next level been published in websites and communities that relate with educational projects and interactive ideas.

Q13. Priorities

How will the Fellowship assist the OT's environmental priorities? Please refer to international or national environmental conventions, treaties, agreements, strategies and/or action plans relevant to the OT as appropriate.

The Akrotiri Peninsula includes a designated SBA and RAMSAR site of high ecological significance for the island. Nevertheless, it is currently threatened by land use change, climate change and INNS. The proposed fellowship seeks to raise awareness about important issues of the SBAs such as mosquitoes, pollinators and invasive alien species that the Joint Services Health Unit have been working intensively during the last 5 years as well as their biodiversity in Cyprus, where little scientific research has been carried and ants are mostly perceived as pests. The proposed work is in line with the Akrotiri Peninsula Environmental Management Plan (https://sbaadministration.org/home/docs/eeco/20121002_AKI_PEN_MGT_PLAN.pdf) which identifies INNS as one of the major threats to the Peninsula. In addition, it seeks to supplement its list of "invertebrate interest of the peninsula" (p. 47) including rare or endemic species inhabiting the region. The fellowship will also contribute to the scope of the White Paper (2012). The Overseas Territories: security, success and sustainability which set out the UK's commitment to work with the Territories to address the challenges of climate change together. The findings of this project and the methodological approaches could also be applied to other UKOTs.

Q14. Collaboration

What collaboration has there been with the proposed Fellow to date in developing the proposal, and what collaboration is planned for the duration of the Fellowship? Where relevant, describe any consultation or collaboration by the proposed Fellow within their own territory.

The proposal has been collaboratively drafted by all participants. Dr Martinou and Prof Roy have collaborated on numerous projects related to citizen-science, biodiversity-monitoring and Invasive Alien Species (IAS), including DPLUS 056; 088; 101; 123; 124; 171; 172; 175. While with Dr Tom August they have collaborated during a COST Alien CSI short term scientific mission.

Mr Josephides will engage with diverse stakeholders from the SBAs and the Republic of Cyprus including natural historians, civil servants in Ministries, NGOs and citizens. These collaborations will be maintained, expanded and utilized through a wider communication strategy of the interactive learning tool. Mr Josephides will also have the opportunity to visit the team of experts in their facilities in the UK for training.

The fellow will also closely collaborate with current Darwin Fellows e.g. Ms Ioanna Angelidou (DPlus172) and Ms Nicole Mavrovouniotti (DPlus 171).

Q15. Where will the Fellow be based?

Please be specific with organisational details and dates (where more than one location).

The fellow will be based at Enalia Physis NGO and the JSHU headquarters in Akrotiri.

The fellowship involves collaboration among experts based at UKCEH, Wallingford, UK, the Joint Services Health Unit, British Forces Cyprus at the Akrotiri Headquarters, Enalia Physis Environmental Research Center, and teachers from the Akrotiri Environmental Education Centre. Mr Josephides will travel to UKCEH and his supervisor from UKCEH will travel to Cyprus to check on his progress and run jointly activities.





Section 7 - Programme of Work

Q16. Provide a programme of work, including key milestones, through the duration of the Fellowship.

Provide a project implementation timetable that shows the key milestones in project activities.

[Implementation Timetable Template](#)

For each activity (add/remove rows as appropriate) indicate the number of quarters it will last, and fill/shade only the quarters in which an activity will be carried out.

 [BCF Implementation Timetable Template 2022-23 FI NAL15102022](#)
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Section 8 - Certification

Certification

On behalf of the

Company

of

I apply for a grant of







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.

(This form should be signed by an individual authorised by the applicant institution to submit applications and sign contracts on their behalf.)

- I enclose one page CVs for project principals, cover letter, budget, implementation timetable, and letters of support as requested in the Guidance Notes.

Checked

Name	Angeliki Martinou
Position in Organisation	Head Entomologist
Signed	 signature new  15/10/2022  12:08:11  pdf 111.8 KB
Dated	15 October 2022

Section 9 - Submission Checklist

I have read the Guidance documents, including the “Guidance Notes for Applicants” and “Finance Guidance”.	Checked
I have read, and can meet, the current Terms and Conditions for this fund.	Checked
I have provided actual start and end dates for my project.	Checked
I have provided a budget based on UK government financial years i.e. 1 April - 31 March and in GBP.	Checked
The application has been signed by a suitably authorised individual (clear electronic or scanned signatures are acceptable).	Checked
I have checked the Darwin Plus website immediately prior to submission to ensure there are no late updates.	Checked
I have provided the relevant letters of support, cover letter, implementation timetable, and CVs with this application.	Checked
I have read and understood the Privacy Notice on the Darwin Plus website.	Checked

We would like to keep in touch!

Please check this box if you would be happy for the lead applicant (Flexi-Grant Account Holder) and project leader (if different) to be added to our mailing list. Through our mailing list we share updates on upcoming and current application rounds under the Darwin Initiative, Darwin Plus and our sister grant scheme, the IWT Challenge Fund. We also provide occasional updates on other UK Government activities related to biodiversity conservation and share our quarterly project newsletter. You are free to unsubscribe at any time.

Checked

Data protection and use of personal data

Information supplied in the application form, including personal data, will be used by Defra as set out in the Privacy Notice, available from the [Forms and Guidance Portal](#).

This **Privacy Notice** must be provided to all individuals whose personal data is supplied in the application form. Some information may be used when publicising Darwin Plus including project details (usually title, lead partner, project leader, location, and total grant value).

Project Title: Andreas Josephides Developing an Interactive Educational Game for teaching about pollinators, invasive species and mosquitoes.

	Activity	No. of months	Year 1 (23/24)				Year 2 (24/25)			
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Output 1	Education, Research and Brainstorm	6	3	3						
1.1	Study the literature of every topic that would possibly be included as an in-game education material	2	2							
1.2	Research in books and online material and discuss with Teachers and other Experts about educational strategy methodologies	1		1						
1.3	Brainstorm to obtain and adjust the foundational appropriation of game ideas and objectives	6	1	2	1	1	1			
1.4	Prepare a questionnaire and visit primary schools in Cyprus to gather information and ideas on features, tools and designs that would interest our audience	1		1						
Output 2	Game Prototype no.1	3		3						
2.1	Create samples of Basic Concept Art of main Character(s), Insectoids and game World/Environment	2		2						
2.2	Implement Basic Code on game features and tools	2		2						
2.3	Create samples of Basic Animations of main Three Mosquiteers Character(s), environment, structures and insectoids	1		1						
2.4	Short-time playtesting, maintenance, bug exploit/fixing . Listing possible future problems (if there are any)	1		1						

Project Title: Andreas Josephides Developing an Interactive Educational Game for teaching about pollinators, invasive species and mosquitoes.

2.5	Create and present Documentation (short video or/and slide presentation): 1. Explaining all the development approach that will be carried out 2. Providing a visualization on the first game prototype 3. New features and tools that are implemented 4. What should be expected on the next presentations	1		1						
Output 3	Asset Library Showcase	3			3					
3.1	Expanding Game Assets Library - Design Terrain Art and insectoids that will be used in each Game level	3			3					
3.2	Expanding Game Assets Library - Design Main Home location (possibly A digital recreation of Akrotiri)	3			3					
3.3	Expanding Game Assets Library - Design Decorative objects for Game Levels (plants, trees, other animals), the Main home location (buildings, furniture, interactive objects) etc.	3			3					
3.4	Update and present Documentation on the: 1. Game Assets that were created, and what purpose they serve 2. How much asset development is expected in the future, new ideas and approaches	1			1					
Output 4	UI/UX Prototypes	11		1	1	3	3	1	1	1
4.1	Brainstorm ideas and designs and evaluate time constraints to decide the level of UI variety and quality that will be manufactured. State and configure the methods that will be used in game cutscenes and dialogues	7		1	1	1	1	1	1	1

Project Title: Andreas Josephides Developing an Interactive Educational Game for teaching about pollinators, invasive species and mosquitoes.

4.3	Design the Art of the Main Menu UI and other game features UI (progression UI, interactive tool menu UI, interactive map)	3				3			
4.4	Implement code for the functionality of the Main Menu UI	2				2			
	Implement basic code for the functionality of other game features UI	3				1	2		
4.5	Create Interactive triggering animations for each UI that is developed	3				1	2		
4.6	Create and present Documentation providing images and animations of the first UI prototype ideas of Game menu, dialogues and other features that have a unique separate UI (tools, progress bar, map)	1					1		
Output 5	Finalizing Game Scenario and Content	4		1		1		2	
5.1	Create a Documentation including the structure of the Game Scenario and Storyline including the Design, Educational Content and functionalities of: 1. Each Game level (insectoids, environment) 2. Main Location features (tools, rooms, map, progression) 3. Player tools and features (portable map, exploring tools, new progression abilities) 4. New ideas (discussion on approach)	4		1		1		2	
Output 6	Music, Visual and Sound Effects Prototypes	4						2	2
6.1	Brainstorm and discuss ideas of Game music that will be composed and where it could be used in game (environment/locations/Main Menu) as also for Visual and Sound effects	1						1	
6.2	Compose short clips of music and SFX and apply them in locations and game features/tools	2						1	1

Project Title: Andreas Josephides Developing an Interactive Educational Game for teaching about pollinators, invasive species and mosquitoes.

6.3	Provide prototype samples of music and sound/visual effects and present a Documentation describing the reasons and achievements behind their development	1							1	
Output 7	Game Prototype no.2	9		1		3		2	3	
7.1	Implement a more advanced Code in game for functionalities of features and tools . Bring the game in a state ready to add all the Content	5		1		1		1	2	
7.2	Add all the educational content including dialogues, images and animated clips	3							3	
7.3	Make necessary improvements in animations of Characters, insectoids, UI etc	2				1		1		
7.4	Make necessary improvements in Art Design of Characters, insectoids, UI etc	1				1				
7.5	Create and present clips and Documentation to showcase the Game Prototype no.2 describing: 1. Improvements and Adjustments that were made and what was achieved 2. New game additions (features, animations, music, visual or sound effects, UI, transitions etc) 4. Any feature casualties (if there are any) followed by a reasonable explanation	1							1	
Output 8	Regression Test, Bug Exploit/Solving	3								3
8.1	Create and present the Documentation for Regression Test (Checking everything in game) and Bug Exploit methodologies that will take place.	3								3
8.2	Complete Regression Test List and Bug Exploit Methodologies	3								3

Project Title: Andreas Josephides Developing an Interactive Educational Game for teaching about pollinators, invasive species and mosquitoes.

8.3	Fix problems found and make game adjustments . Create a documentation with the necessary changes that were made, alternativesolutions that were provided and how much they affected the user's whole game experience	3								3
Output 9	Final Product and Marketing	6								3
9.1	Final Improvements and adjustments . Create a build of the game that can be added to the Website	5								3
9.2	Present the game and a documentation on marketing ideas and suggestions	1								1