PARTICIPANT EVALUATION OF SMART TRAINING PROGRAMMES FROM 2011 TO 2016

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INTRODUCTION

Since 2011 SMART and its partner institutions have trained over 1600 students on 90 courses. SMART courses focus on applied skills training for marine researchers, technologists and engineers on national and international research vessels, at shore based workshops and through mentored placements as scientific crew on research surveys in national waters and throughout the Atlantic Ocean. For a full list of SMART courses from 2011-2016 see Appendix 1.

To assess the impact of these programmes on the academic and career development of participants SMART circulated an evaluation questionnaire to course participants for this period.

The survey was designed to gauge the academic and career progression of respondents and to determine the extent to which participation in SMART training programmes had facilitated career and academic progression. The results of the survey are presented as indicators of SMART's success in building capacity in marine science, technology, research and marine economy development.

SUMMARY OF SURVEY RESULTS

The survey was launched on the 25th of October and gathered 111 complete responses until its closing date on the 2nd of November.

Changes in the occupational status of respondents from the date of first participation in a SMART programme to the time of responding strongly indicate that participation in SMART courses or programmes contribute importantly to the academic and career development of respondents.

Over 80% of respondents believed participation to be important to their development as marine scientists, technologists and professional personnel.

Respondents place particular value in the opportunity afforded by SMART programmes to gain offshore experience and receive training and mentoring in applied marine science and technology skill. Approval ratings for applied and transferrable skills training across all SMART routinely approach 80% and above.

These high approval ratings are strongly supported by personal statements attesting to the quality and transformative effect of participation in SMART programmes on the professional and academic development of respondents. Respondents in particular identify training on research vessels as a unique and valued opportunity.

We propose that this feedback from course participants is a strong indication that SMART has been successful in its brief of increasing capacity in line with the requirements for growth of a sustainable marine economic sector.

QUESTIONNAIRE DESIGN AND LAYOUT

The questionnaire was presented in three sections as follows:

Section1: Personal Details including Educational or professional status on first training with SMART and present educational or professional status

Section 2: This asked respondents to detail the type of SMART course or courses they attended and the actual courses attended.

Section 3: Respondents were asked to evaluate the importance of attending a course or courses to their development. Questions in this section were of two types, the first being likert scales of how important they believed the course to be to their development and the second short text opportunities to elaborate.

All fields in the questionnaire were marked as optional. Past experience has shown that questionnaires with all fields marked mandatory receive a lower response rate.

The full questionnaire is presented in Appendix 2.

CIRCULATING THE QUESTIONNAIRE

The primary means of circulating the questionnaire was through the SMART data base of email addresses of past participants which at time of circulation extended to over 1200. On the basis of failed delivery messages we estimate that just over eight hundred questionnaires were delivered. The majority of failed sends were attributable to college or institute registered email addresses no longer being valid due to graduation or change of occupation. To compensate for invalid addresses the questionnaire was made available through smart social media accounts on twitter, facebook and linkedin.

NUMBER OF RESPONDENTS AND RESPONSE RATE

From eight hundred successful deliveries we received 111 fully or partially completed questionnaires by the stated deadline of Tuesday 5th of November. This is a return rate of approximately 15% which is within the typical range reported online[1].

PROFILE OF RESPONDENTS

Year(s) of respondent's engagement with SMART

Figure 1 shows the number of respondents by year of first engagement with SMART with the total numbers trained each year. 2015 and 2016 return the highest number of respondents.

[1] https://www.surveygizmo.com
http://www.benchmarkemail.com/help-FAQ/answer/what-is-a-typical-survey-response-rate ,

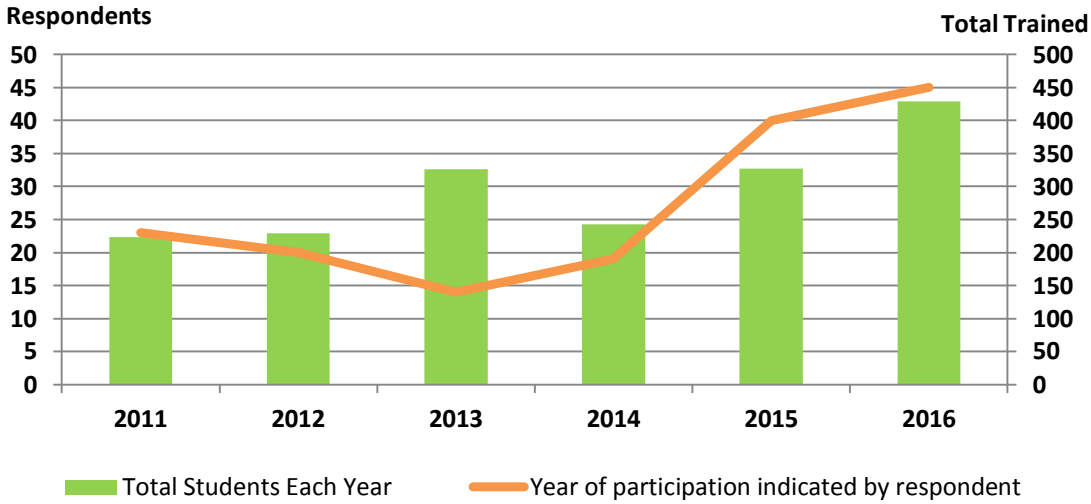

Figure 1. Participation year of respondents and total numbers participating each year.

Gender of respondents

There is no obvious bias in the gender response to the survey. Female and male respondents being 51 and 48% respectively (Table 1).

Table 1. Gender of Respondents

Q2. Gender of Respondents	**Number**	%
Female	57	51%
Male	53	48%
Prefer not to say	1	1%
Unanswered	0	0%
Total	**111**	**100%**

Age of respondents

All respondents completed this field. The most notable feature was that there was the relatively low number of responses from the under 23 group. The most responsive group was 23-29.The preponderance of the 23-29 age group probably reflects that the majority of undergraduate participants are taken from the final year their degree programmes and that for the first two years of the programme undergraduates were the dominant participating cohort. Age data is shown in Table 2.

Table 2. Age group of respondents

Q3. Age Group of respondents	**n**	**%**
23-29	49	44
Not completed	25	23
30-36	17	15
Older than 43	13	12
under 23	7	6
37-43	0	0
Prefer not to say	0	0
Unanswered	0	0
Total	**111**	**100**

Number of courses attended per respondent
The majority of respondents (71) attended one SMART training event while the maximum number of courses attended by a respondent was five. 40 respondents attended two or more courses, with ten respondents attending 3 courses or more. This information is shown in (Table 3).

Table 3. Number of courses attended by respondents

Respondents	Courses Attended
1	5
1	4
8	3
30	2
71	1
111	15

PROGRESSION FROM AT TIME OF FIRST PARTICIPATION TO TIME OF COMPLETING QUESTIONNAIRE

Questions 4 and 5 on the questionnaire show significant changes in the occupations of respondents between the time of participation in SMART and the time of completing the survey. This data is presented in Table 4 with numbers in each occupational category at the time of training arrayed dark blue cells at the top of the table with corresponding numbers and values for change in the light blue cells beneath these.

Respondents reported nine occupational categories at the time of their training with SMART with the most numerous being undergraduate student. The numbers in five out of these categories all show pronounced transformation at the time of survey completion with undergraduates being the most transformed category. 88% of respondents who were undergraduates at the time of training report changed occupational status at the time of survey response. Eight percent of undergraduates report unemployed occupational status at the time of completing the survey but the majority have progressed into postgraduate studies, employment, internship, or "other" occupation (78%). A counterpoint to unemployment (8%) reported by undergraduates is that respondents reporting this occupational category at the time of training with SMART all occupy employment or academic categories post training.

Postgraduate respondents (MSc and PhD) report a high rate of occupational retention over the time period which is in itself a positive sounding. The high retention rate of Postgrad categories in their starting categories is in itself a positive sounding and probably also reflects increasing postgraduate numbers in the most recent years. Parity of participation in SMART between undergraduates and postgraduates and was not achieved until 2013 (Figure 2). Ergo the majority are still in the process of completing academic programmes. Progression from these occupational categories is into

employment, postdoctoral, Postgrad PhD, or "other" occupational categories. Unemployment in the postgraduate categories is 12% post training and 3% of total respondents post training.

Occupational categories that remain unchanged from time of training to time of surveying are the employment categories of Postdoctoral, Marine Public Sector and Self Employed and may indicate the value placed on continuous professional development placed on training by the respondents.

Table 4. Academic or Career Progression for respondents from time of participation in SMART to time of Survey, (111 respondents).

Occupational Status at time of SMART Training		Under-graduate	Post-graduate MSc	Post-graduate PhD	Other	Un-employed	Marine Public Sector	Post-doctoral	Internship	Self employed
Nos. at time of SMART Course		48	26	22	5	3	2	2	2	1
Professional or Educational Status at time of Survey	Undergraduate	6								
	Postgraduate MSc	6	16	1	1	1			1	
	Postgraduate PhD	8	1	15						
	Other	9	2	2	4					
	Unemployed	4	3			0				
	Marine Public Secto	7	3				2			
	Postdoctoral	1		4				2		
	Internship	3							1	
	Self employed	4	1			2				1
% Unchanged Occupation at Survey		13%	62%	68%	80%	0%	100%	100%	50%	100%
% Change of Occupation at Survey		88%	38%	32%	20%	100%	0%	0%	50%	0%
% Occupation Progression at Survey		79%	27%	32%	20%	100%	0%	0%	50%	0%
% Other		19%	8%	9%	80%	0%	0%	0%	0%	0%
% Unemployed		8%	12%	0%	0%	0%	0%	0%	0%	0%
Grand Total		48	26	22	5	3	2	2	2	1

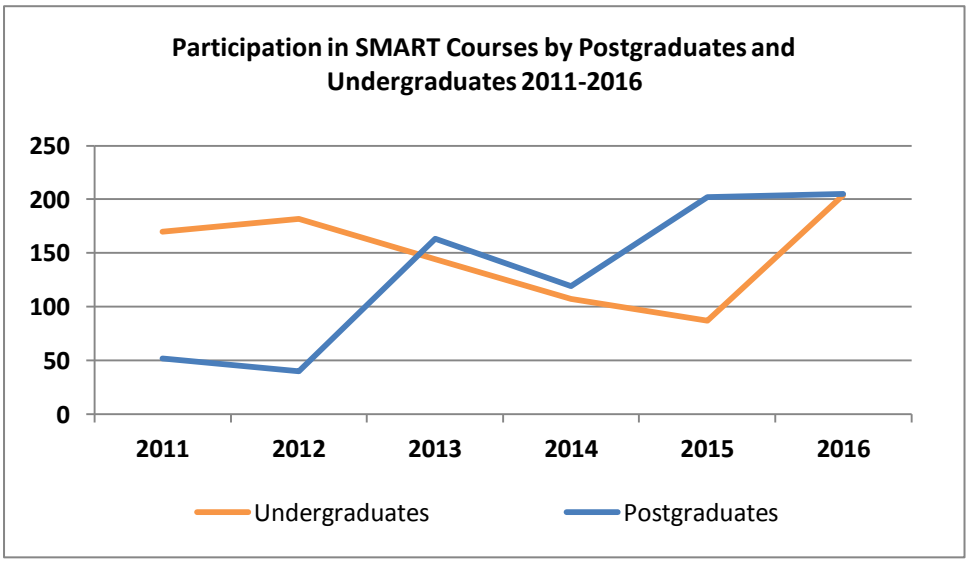

Figure 2. Postgraduates and Undergraduates trained 2011-2016

THE IMPORTANCE OF SMART PROGRAMMES TO RESPONDENTS

Question 12 asked respondents to ascribe the level of importance for participation in SMART to their academic or professional progression. 86% percent of respondents believed it to be either "very important" or "fairly important". These responses are shown in Table 5.

Table 5: *Overall how important to your development as a marine scientist, technologist or engineer do you believe participation in SMART training was?*

Importance	**N**	**%**
Very Important	62	56
Fairly Important	26	23
Slightly Important	12	11
Not Important	3	3
Too early to say	6	5
No opinion	2	2
Total responses	**111**	**100**

Question 13 attempts to explore the rationale for the high value placed on SMART programmes by respondents. Responses to the different elements of question 13 are shown in Table 6.

Respondents were asked to place on a scale of value named benefits of participating in SMART courses. The highest values are given to the applied offshore and practical elements of SMART courses and programmes and this probably signals that access to research vessels is the most sought after and valued experience for this emerging cohort of marine scientists and technologists. In the three categories that reference shiptime and applied aspects between 80 and 90% of respondents choose attending courses as “definitely” or “very probably” important. Following from this it might be argued that the 70% of respondents who chose “definitely” or “very probably” giving a competitive edge in seeking employment and networking are signalling their belief that shiptime and exposure to the wider community of established researchers and marine professionals is critical to their development.

The value chosen for SMART courses as an influence of career choice of 52% may indicate that for many the choice has already been made. If this is so the high values attributed to aforementioned benefits of attending SMART courses are further enhanced.

With respect to the influence of attending SMART courses on securing interviews and employment “Definitely” and “very probably” choices are between 30 and 40% though when the understandably tentative “possibly” is added both rise to between 70 and 75%. Pessimistic choices, “probably not” and “definitely not” for both these elements are 14%. These values may reflect the high numbers of student respondents (47% of total) and a guarded confidence in the ability of the wider marine economy to absorb their skills. In both these areas of influence relatively high numbers of respondents elect “no opinion” which could be interpreted as “wait and see”.

Taking capacity building as an exercise in identifying and addressing obstacles to the academic and professional development of young marine scientists and technologists, respondents to this survey signal clearly that SMART programmes and the SMART brand is strongly associated with academic and career advancement.

Table 6. *How important was SMART training in influencing the following:*

Level of Importance	Definitely	Very Probably	Possibly	Probably Not	Definitely Not	No Opinion	Total
Increasing understanding of multidisciplinary sciences	75%	15%	8%	1%	0%	0%	110
Increasing confidence to work at sea	59%	23%	8%	4%	1%	5%	111
Increasing skills	59%	23%	14%	1%	1%	2%	111
Providing opportunities for networking	51%	25%	15%	6%	2%	1%	110
Providing a competitive 'edge' when seeking employment	31%	31%	25%	4%	2%	7%	110
Influencing career choice	29%	23%	28%	9%	5%	5%	111
Securing employment	16%	19%	38%	11%	4%	13%	111
Securing job interviews	16%	20%	35%	7%	6%	15%	110

The high values in Table 6 carry through to questions 15 and 16. Responses to these questions are shown in Tables 7 and 8 below. 97% respondents reported they were “very satisfied” or “satisfied” with the quality of the programme or programmes attended. Asked if they would recommend participation in SMART programmes to peers and colleagues 97% of respondents stated they “definitely” or “very probably” would recommend.

Table 7: *Q 15. How satisfied were you with the overall quality of SMART training?*

Satisfaction	N
Very Satisfied	72%
Satisfied	25%
Neutral	2%
Unsatisfied	1%
Very Unsatisfied	1%
Total responses	**110**

Table 8: *Would you recommend participation in SMART training events to others wishing to develop their skills and career in the marine sector?*

Important	N
Definitely	72%
Very Probably	25%
Possibly	2%
Probably Not	1%
Definitley Not	1%
No Opinion	0%
Total responses	**110**

RESPONDENTS REMARKS

Question 14 asked respondents to elaborate on the importance of participation in SMART programmes. The first three comments in Table 1 credit SMART with obtaining employment and commencing careers in marine science and technology. Virtually all submissions by respondents emphasise the importance of the opportunity provided by SMART to train on research vessels and to attend shore based workshops and summer schools lead by leading researchers and practitioners.

Training and becoming familiar with offshore platforms is identified as essential to respondent’s career and academic progression. SMART is recognised as being unique in developing applied and transferrable skills in the offshore marine environment that complement and extend marine science and technology programmes in third level institutions. These responses are presented in Tables 9 and 10 and we believe strongly attest to the high value placed on participation in SMART programmes by respondents.

Question 15a gathered brief submissions on the quality of the training programmes participated in and these explain in large part the high value placed on SMART training courses by survey respondents.

Table 9. Respondent's comments on the value of participating in SMART programmes

Q 14. If participation was important to you please feel free to comment:
"I am currently employed due to my participation in and contacts made during a SMART training programme. SMART has been hugely influential in my development as a marine scientist and the shaping of my current career path."
"SMART Training was the first and only way to experience offshore work as an undergraduate. The training opened my eyes to a whole new way to use my degree, gave me the practical insights and confidence to get through interviews, and I now have a career in marine science."
"Having spent a number of years abroad, participation allowed me to network and reconnect with other Irish professionals. some of the contacts made led directly to new opportunities to increase my skill sets which then gave me the platform from which I obtained my current employment at a third level research centre. "
"Participation in SMART training definitely provides a competitive edge especially in regard to individuals who are in the transition between graduate/post graduate and full time employment. It provides confidence in sea-going ability and knowledge of 'real-world' at sea operating procedures. It also provides a good level of networking within the marine sector (both public and private) which are useful in both job interviewing and employment in the marine sector itself".
"This is a fabulous training and everyone should get the chance to do this! I learned so much and when I started my PhD I was then able to organise myself for upcoming cruises, where I had no problem integrating at all. At the beginning of my PhD I got to join the SO245 cruise on the German FS Sonne research vessel with very renowned scientist from all over the world. I got very good feedback on my ability to work on boats, which I mainly gained through the SMART module. Also the module doesn't only practically prepare you, but also gives you insights into the economics of running a research vessel and ever since I was made aware of the costs and efforts put into having these vessels running I appreciated every minute I got to spend on a research vessel and always make sure to acquire as much and as accurate data as possible. I also want to use this to thank Paula and John as the two of them extend their help outside of the programme and have always been there to give career advice to everyone. "
"SMART training has been a great introduction to ocean going research. They have provided a unique opportunity in Ireland for students like me to get dedicated ocean based fieldwork with hands on experience using scientific equipment, through teamwork within a multidisciplinary environment. Also they have provided me with the opportunity to join the NoSoAT 2016 training cruise which I believe is going to be an invaluable training/learning experience".
"SMART is a great way to aid post graduates to gain essential sea going experience. Research surveys are a great way to increase skills across all marine science disciplinaries. I participated in the Nephrops underwater TV survey which I think is an excellent survey for graduates to gain an array of skills. I learned about how underwater TV works and how it provides a fishery independent approach to assessing population densities. As well as working in the dry lab a number of trawls were carried out and fish and benthic megafauna were identified and counted. I am experienced in the identification of benthic invertebrates which was very useful skill to apply to this survey. I realised the importance of this skill and how valued it is in the industry which increased my confidence. I also became familiar with different fish species which I think is an essential skill to have in the marine industry but can sometimes be hard to gain if it is difficult to get time at sea. The experience I gained on this survey has already opened several opportunities for me and has helped me to secure a place on the Groundfish survey this year and hopefully many more in the future. Participating in SMART training programmes provides a great opportunity to gain contacts in the marine science industry who offer excellent advice in making career choices. This networking is also a great way to hear about further opportunities and get your name across the industry".
"Yes participation was very important to me, I really appreciated the chance to get some hands on practical experience through ship based training during my undergraduate and more theoretical training during the Research Vessel Equipment and Instrumentation workshop. I was able to apply the knowledge and skills gained in following research surveys. "
"I attended a ship based Smart training at the onset of my PhD and found it extremely helpful. It set the stage for the coming years, allowed me to network and discuss areas parallel to my own research therefore broadening my knowledge base. It's a fantastic programme!"

Table 10. Respondent's comments on the value of participating in SMART training programmes continued.

Q 14. If participation was important to you please feel free to comment:
"Having the opportunity to conduct an Environmental Assessment based off-shore survey in Cork gave me the most competitive 'edge' for seeking employment after my degree. It was a module very well structured around all aspects completed in a survey of this type, going through background evaluation of the area, survey components (biological, acoustic and hydrographic), data analysis followed by report writing. It was the first module in the course that provided the full spectrum of a 'Start to Finish' procedure and this was invaluable to me as an undergraduate as it helped me prepare for my research project as well as for real world experience of environmental consultancy techniques. Additionally, I have made great connections through the SMART programmes which I never would have made if I wasn't part of the TTRS programme. These contacts have assisted me in my career progress as they are well-established players in the Marine sector and having a chance for them to vouch for my work ability in application processes is extremely advantageous. It was a brilliant opportunity for me and I would not have gotten it anywhere else. The SMART group were also extremely helpful and took a keen interest in my development which has given me great confidence in my choice to work in the marine sector as I hope to meet more people with the same ambition and enthrallment as they have."
"I learn by doing. I have since I was a child. The hands on experience we are given as students on board my research cruises changed the way how I presently approach science professionally. The experience working in a team, team dynamics, communication and follow through was the most important skills I learned though my experiences. As a marine researcher and professional I feel those skills are not learned or tested without experiences like these. "
"SMART is a great way to aid post graduates to gain essential sea going experience. Research surveys are a great way to increase skills across all marine science disciplines. I participated in the Nephrops underwater TV survey which I think is an excellent survey for graduates to gain an array of skills. I learned about how underwater TV works and how it provides a fishery independent approach to assessing population densities. As well as working in the dry lab a number of trawls were carried out and fish and benthic megafauna were identified and counted. I am experienced in the identification of benthic invertebrates which was very useful skill to apply to this survey. I realised the importance of this skill and how valued it is in the industry which increased my confidence. I also became familiar with different fish species which I think is an essential skill to have in the marine industry but can sometimes be hard to gain if it is difficult to get time at sea. The experience I gained on this survey has already opened several opportunities for me and has helped me to secure a place on the Ground fish survey this year and hopefully many more in the future. Participating in SMART training programmes provides a great opportunity to gain contacts in the marine science industry who offer excellent advice in making career choices. This networking is also a great way to hear about further opportunities and get your name across the industry".
"The course was very informative and run professionally by very knowledgeable and experienced scientists. I felt it was a great opportunity to put into practice a wide range of practices and techniques which I studied at an undergraduate level in a real-life environment. It gave me a good insight into working on a multi-disciplinary research vessel, how tasks are undertaken, the discipline involved regarding schedules and the high level of teamwork required. This is not something that can be learned in a class room. "
"Undergraduates can do a 4 year degree course without ever going to sea only to find that it isn't for them when they end up in a job at sea. This programme is vital for students in understanding what is expected of them and what to expect at sea."
"The offshore survey i did in Cork harbour and estuary was very useful because of the hands-on experience gained. This was invaluable since it gave an insight into preparation of samples and the associated paperwork. Whilst this can be taught in a class, the reasons why and how various research methods are employed is far more apparent within the confines of the actual work environment. "
"It is an amazing experience and opportunity to get to know and be confident with equipment and research methods out at sea. Not something you can learn in a classroom. "
"It was the main thing that got me interested in doing Marine Science in general. By far one of the most important and enjoyable experiences of my college career. "
"A fantastic experience to learn from real researchers in their chosen fields and see how each discipline comes together to give a big picture. Fantastic resources, passion and wonderful networking opportunities. "
"I was a law student seeking to specialise in maritime-environmental law. It explained so much to me and enabled a deeper understanding of EIA reporting "

Table 11. *Q 15a: Respondent's comments on the quality of training programmes*

Q 15a. Please feel free to comment:
"Very satisfied. I was fortunate to be a successful candidate for a TTRS survey. I was given the opportunity to network with professionals from another university (UCC) and gain exposure to the field of Geology and cold water corals. "
"The Imaging Marine Microorganisms workshop I attended near the end of my PhD studies gave me an opportunity to upskill my imaging capabilities and network as I entered the phase of job hunting and career advancement."
"I've recently participated in 2 SMART Skills shorebased workshops (2015 & 16) which were both given by instructors with an exceptional level of expertise in the course areas."
"All training provided to the students was in my opinion, professional, informative, well-structured and cogently conveyed."
"The SMART instructors are knowledgeable and passionate about both their respective scientific disciplines, and the passing on of these skills to early career scientists."
"I will also be taking part in SMART/AWI NoSoAT 2016: RV Polarstern, Cape Town which I found out through SMART"
"Great trainers - with a wealth of experience and all extremely personable - keep up the good work"
"Very satisfied "
"It helped to reinforce the lessons from University and the hands on experience was second to none."
"Good variety of material, good standard"
"They run all their courses and training opportunities with great professionalism and esteem. "
"see above - it couldn't be any better!"
"Excellent teaching!"
"This was excellent, due to the inclement weather it would of been nice to get a bit more experience"
"Very high quality and very enjoyable"
"The people running smart are genuinely smart people with experience and care for the work they do."
"very professional and efficient in their teaching methods and skills"
"Excellent experience "
"In the other section for employment: I currently work in freshwater fisheries"
"A great experience in life!"
"high quality training "
"Crew were always knowledgeable and approachable"
"John Boyd brought a lot to the experience."
"The feeling of responsibility and confidence in students on board was very satisfying"

THREE CASE STUDIES

SPOTLIGHT 1: SORCHA CRONIN O'REILLY

Education

2013: B.Sc. Hons in Marine Science NUI Galway

SMART Courses or Programmes

- 2013: SMART NUI Galway Marine Science Common Module
- 2014: SMARTSkills 2014: Developing Successful Shiptime Proposals and Survey Plans
- 2016: Training Through Research Surveys North West Herring and Boarfish Acoustic Survey NWHAS Leg 2

Current Position

Sorcha is currently a research assistant on benthic elements of Water Framework Directive with the Marine Ecosystems Research Group at NUI Galway and is IRC PhD candidate in Benthic Biology. Her sponsor is Dr Bob Kennedy of the Martin Ryan Institute and the Marine Ecosystems Research Group.

Influence of SMART Courses

Sorcha believes off shore training with SMART on the Common Module in multidisciplinary marine science and in particular the fisheries, benthos and environmental impact assessment elements of this accredited module element were instrumental in helping her secure a bursary with Fishery Ecosystem Advisory Services at the Marine Institute collecting assessment on demersal and nephrops stocks from May to August 2015. Sorcha leveraged this experience to secure a berth on the FEAS International Bottom Trawl Survey in November 2015 with

Following this Sorcha successfully applied for a berth with SMART on Training Through Research Surveys (TTRS) where she was responsible for plankton sampling components of the survey.

"Having the opportunity to conduct an Environmental Assessment based off-shore survey in Cork gave me the most competitive 'edge' for seeking employment after my degree. It was a module very well structured around all aspects completed in a survey of this type, going through background evaluation of the area, survey components (biological, acoustic and hydrographic), data analysis followed by report writing. It was the first module in the course that provided the full spectrum of a 'Start to Finish' procedure and this was invaluable to me as an undergraduate as it helped me prepare for my research project as well as for real world experience of environmental consultancy techniques. Additionally, I have made great connections through the SMART programmes which I never would have made if I wasn't part of the TTRS programme. These contacts have assisted me in my career progress as they are well-established players in the Marine sector and having a chance for them to vouch for my work ability in application processes is extremely advantageous. It was a brilliant opportunity for me and I would not have gotten it anywhere else. The SMART group were also extremely helpful and took a keen interest in my development which has given me great confidence in my choice to work in the marine sector as I hope to meet more people with the same ambition and enthrallment as they have".

Sorcha Cronin O'Reilly 25/10/2016

SPOTLIGHT 2: DIARMUID O CONCHUBHAIR

Education:
2009: BA Hons Geography, Cartography and English (1:1). NUI Galway
2011: MA Coastal Management & Geographic Information Systems. UCC
Present Position: Team Lead: Marine Infastructure Projects at Marine Institute

SMART Courses or Programmes

- 2011:SMART Postgrad HMRC/MaREI Marine Renewable Energy
- 2012: SMART GMIT Applied Marine Biological Sampling and Data Collection
- 2013: SMARTSkills 2013: Access to Research Funding and Marine Data

Current Position

Diarmuid is team Leader for Marine Infrastructure Projects at the Marine Institute and Principal Investigator (PI) in [2]COOP+

Influence of SMART Courses

After graduation in 2011 Diarmuid joined the Residues Section of the Marine Environment and Food Safety (MEFS) division at the Marine Institute. From this he went on to become Strategic Funding & Project Co-ordinator at SmartBay Ireland and is now team lead for Marine Infrastructure Projects at the Marine Institute. Diarmuid believes participation in SMART was very important in gaining the confidence to work at sea and that the skills and exposure gained was instrumental in his successful transition from graduate student to his current management position.

"Participation in SMART training definitely provides a competitive edge especially in regard to individuals who are in the transition between graduate/post graduate and full time employment. It provides confidence in sea-going ability and knowledge of 'real-world' at sea operating procedures. It also provides a good level of networking within the marine sector (both public and private) which are useful in both job interviewing and employment in the marine sector itself".

"Excellent courses. I have recommended SMART courses to friends and colleagues and I know of 2 individuals who undertook courses based on this and who provided positive feedback on concluding their respective courses".
Diarmuid O Conchubhair 04/11/2012

[2] http://www.coop-plus.eu/

SPOTLIGHT 3: ALINA WIECZOREK

Education

2014: B.Sc. Hons in Marine Science NUI Galway

SMART Courses or Programmes

- 2014: SMART NUI Galway Marine Science Common Module

Current Position

Alina is a PhD student at the Martin Ryan Institute of NUI Galway researching the uptake of microplastics by marine phytoplankton under the supervision of Professor Peter Croot.

Influence of SMART Courses

After graduation Alina took successfully applied for a bursary at the Marine Institute and worked as a research assistant before accepting her PhD scholarship. She cites her experience training with SMART as an excellent preparation for the data collection activities her PhD is founded on.

"This is a fabulous training and everyone should get the chance to do this! I learned so much and when I started my PhD I was then able to organise myself for upcoming cruises, where I had no problem integrating at all. At the beginning of my PhD I got to join the SO245 cruise on the German FS Sonne research vessel with very renowned scientists from all over the world. I got very good feedback on my ability to work on boats, which I mainly gained through the SMART module. Also the module doesn't only practically prepare you, but also gives you insights into the economics of running a research vessel and ever since I was made aware of the costs and efforts put into having these vessels running I appreciated every minute I got to spend on a research vessel and always make sure to acquire as much and as accurate data as possible. I also want to use this to thank Paula and John as the two of them extend their help outside of the programme and have always been there to give career advice to everyone".

Alina Wieczorek 25/10/2016

APPENDIX 1: SMART PROGRAMMES 2011-2016

Year	Programme	Students	Days
2011	SMART Led NUI Galway & GMIT UG Training 2011	60	6
2011	SMART Science@Sea 2011	50	8
2011	SMART Led GMIT UG 2011	40	4
2011	SMART Led EMBC Training Survey 2011	28	4
2011	SMART Led UCC UG Geosciences 2011	22	4
2011	SMART Led IT Tralee 2011	12	2
2011	Eurofleets RV Salme 2011	11	7
2012	SMART NUI Galway & GMIT Training 2012	93	8
2012	SMART Common Module NUI Galway and UCC combined	41	8
2012	SMART GMIT Undergraduate 2012	30	3
2012	SMART Science@Sea 2012	28	6
2012	SMART Applied Marine Biological Sampling 2012	18	7
2012	SMART UCC Exploration Geology 2012	12	2
2012	SMART HMRC Ocean Energy Training 2012	7	1
2013	SMARTSkills to Research Funding and Marine Data 2013	63	1
2013	SMART NUI Galway & UCC Common Module 2013	58	10
2013	SMART NUI Galway UG Training 2013	50	8
2013	SMART Science@Sea 2013	32	6
2013	SMART AIT Energy & Infrastructure 2013	27	4
2013	SMART UCC Offshore Geo Exploration 2013	24	4
2013	SMART UU Common Module 2013	20	4
2013	SMART GMIT AMBS Observer Programme 2013	19	7
2013	SMART Led UCC MSC Marine Biology 2013	12	2
2013	SMART DCU Sensing & Biofouling 2013	10	2
2013	TTRS Mackerel Egg & Larval Survey 2013	2	42
2013	TTRS Developing Geotechnical Stratigraphies 2013	2	12
2013	TTRS Ocean Climate & Geology 2012	1	15
2013	TTRS Transatlantic Surveys Outward 2013	1	14
2013	TTRS Transatlantic Surveys Return 2013	1	10
2013	TTRS North West Herring Acoustic Survey 2013	1	21
2013	TTRS Ground Fish Survey Leg 1 2013	1	11
2013	TTRS Ground Fish Survey Leg 2 2013	1	11
2013	TTRS Ground Fish Survey Leg 3 2013	1	11
2014	CPD Science @ Sea 2014	36	6
2014	SMART UCC Common Module 2014	35	6
2014	SMART UCC MSc Geological Exploration 2014	24	4
2014	SMART NUI Galway Common Module 2014	23	4
2014	SMART UU BSc Common Module 2014	22	4
2014	SMARTSkills Workshop: Successful Shiptime Proposals and Survey Plans 2014	21	1
2014	SMART Applied Marine Biological Sampling 2014	14	7
2014	International SMART/AWI Atlantic Summer School 2014	13	9
2014	SMART AIT MEng MECI 2014	12	2
2014	SMART HMRC MSc Ocean Energy 2014	11	2
2014	EUROFLEETS Urania Oceanography 2014	11	6
2014	SMART NUI Galway BSc Common Module Earth & Ocean Sciences 2014	10	2
2014	SMART NUI Galway SEMRU MSc Common Module 2014	9	2
2014	TTRS North West Herring Acoustic Survey 2014	1	21
2014	TTRS West of Ireland Coring Programme, UCC and partners 2014	1	13

APPENDIX 1 CONTINUED: SMART PROGRAMMES 2011-2016

Year	Programme	Students	Days
2015	SMARTSkills Workshop IMAGING MARINE MICROORGANISMS 2015	65	1
2015	SMART Science @ Sea CPD Course 2015	34	6
2015	SMART NUI Galway Common Module BSc Marine Science 2015	30	6
2015	International RV Polarstern NoSoAT Survey 2015	27	35
2015	SMART AIT MECI Training Survey 2015	23	4
2015	SMART NUI Galway Common Module BSc EOS 2015	22	4
2015	SMART UCC MSc Exploration Field Geology 2015	22	4
2015	SMART UU BSc Common Module Marine Science 2015	21	4
2015	SMART UCC Agri-Food Graduate Prog 2015	20	2
2015	EUROFLEETS RV Dana Floating University 2015	18	10
2015	SMART MSc Natural Resource Economics Training 2015	10	2
2015	SMART NUI Galway MSc Coastal and Marine Env. 2015	10	2
2015	SMART UCC HMRC Ocean Energy Training 2015	9	1
2015	SMART Halpin Research Institute 2015	9	1
2015	EUROFLEETS Ocean Climate & Geology Sections 2015	1	9
2015	TTRS Blue Whiting Acoustic Survey 2015	1	21
2015	TTRS Transatlantic Added Value 2015	1	14
2015	TTRS Northwest Herring Acoustic Survey 2015	1	21
2015	TTRS QuERCi - Quantifying Environmental Controls on Cold-water coral reef growth 2015	1	15
2015	TTRS Celtic Sea Herring Acoustic Survey 2015	1	21
2015	TTRS Irish Groundfish Survey 2015	1	10
2016	SMARTSkills Workshop: Vessel Equipment and Instrumentation 2016	59	1
2016	SMART UCC BSc Common Module Geoscience 2016	48	4
2016	SMART Led GMIT Undergraduate Training 2016	48	5
2016	International Workshop: Ocean Climate Scholars Programme 2016	26	8
2016	SMART UU Common Module Spring 2016	24	4
2016	SMART NUI Galway EOSCommon Module Winter 2016	24	4
2016	International SMART/AWI North South Atlantic Training Transect 2016	24	62
2016	SMART Science at Sea 2016	17	4
2016	SMART MaREI Ocean Energy 2016	12	1
2016	SMART NUI Galway SEMRU 2016	12	1
2016	SMART GMIT AMBS 2016	9	4
2016	TTRS Mackerel and Horse Mackerel Egg Survey 2016	1	21
2016	TTRS Anglerfish and Megrim SSB Survey 2016	1	10
2016	TTRS Transatlantic Added Value 2016	1	21
2016	TTRS Coldwater Corals and Biogeochemical Survey 2016	1	5
2016	TTRS North West Herring Acoustic Survey Leg 1 2016	1	14
2016	TTRS North West Herring Acoustic Survey Leg 1 2016	1	14
2016	TTRS Boarfish Acoustic Survey 2016	1	14
2016	TTRS UWTV Nephrops Survey Leg 3 2016	1	14
2016	TTRS Hydrological Survey 2016	1	8
2011-2016	90 Programmes Totals	1666	793

APPENDIX 2. SMART 2011-2016 QUESTIONNAIRE

SMART Student Training Feedback

Since its inception in 2011 the Strategic Marine Alliance for Research and Training (SMART) has trained over 1400 third-level students, researchers and marine industry professionals in marine offshore operations, both nationally and internationally.

This survey attempts to capture the impacts of this training and how it has influenced the career progression of early stage marine scientists, technologists or engineers. We would be grateful if you could take the time to complete this short questionnaire. All information will be treated in confidence. We look forward to receiving your impressions and insights.

Section 1: Personel Details

Q 1. Name (optional)

First Last

Q 2. Please indicate your gender:

- (•) Male
- ( ) Female
- ( ) Prefer not to say

Q 3. Please indicate your age group:

- (•) Under 23
- ( ) 23 to 29
- ( ) 30 to 36
- ( ) 37-43
- ( ) Older than 43
- ( ) Prefer not to say

Q 4. Please indicate your educational or professional status when you first participated in SMART training programmes:

- (•) Internship
- ( ) Unemployed
- ( ) Undergraduate
- ( ) Postgraduate MSc
- ( ) Postgraduate PhD
- ( ) Postdoctoral
- ( ) Self employed
- ( ) Marine Private Sector
- ( ) Marine Public Sector
- ( ) Other

Q 5. Please indicate your present educational or professional status:

- (•) Internship
- ( ) Unemployed
- ( ) Undergraduate
- ( ) Postgraduate MSc
- ( ) Postgraduate PhD

- Postdoctoral
- Self employed
- Marine Private Sector
- Marine Public Sector
- Other

Section 2: SMART Training Programmes

Q 6. Which of the following types of SMART training programmes have you participated in:

	2011	2012	2013	2014	2015	2016
Undergraduate Ship-based Training	1	2	3	4	5	6
Postgraduate Ship-based Training	1	2	3	4	5	6
International Ship-based Training	1	2	3	4	5	6
Training through Research Surveys Scheme (on-board internships)	1	2	3	4	5	6
Shore-based Workshops and Summer Schools	1	2	3	4	5	6

SMART National Undergraduate Ship-based Training Programmes

Q 7. Please select which, if any, of the following national undergraduate ship-time training programmes you participated in:

	2011	2012	2013	2014	2015	2016
BSc UU Marine Science	1	2	3	4	5	6
BSc NUIG Marine Science	1	2	3	4	5	6
BSc NUIG Earth and Ocean Sciences	1	2	3	4	5	6
BSc UCC Earth Sciences	1	2	3	4	5	6
BSc GMIT Applied Marine and Freshwater Biology (SMART Assisted)	1	2	3	4	5	6
Other	1	2	3	4	5	6

SMART National Postgraduate Ship-based Training Programmes

Q 8. Please select which, if any, of the following national postgraduate ship-time training programmes you

participated in:

	2011	2012	2013	2014	2015	2016
AIT MEng Energy Communications & Infrastructure	1	2	3	4	5	6
AIT PgDip Green Engineering	1	2	3	4	5	6
MEcon.Sci NUI Galway Natural Resource Economics and Policy	1	2	3	4	5	6
MSc UCC Exploration Geology	1	2	3	4	5	6
Postgrad & Undergrad UCC HMRC/MaREI Marine Renewable Energy	1	2	3	4	5	6
Postgrad Agri-Food Graduate Development Programme	1	2	3	4	5	6
Postgrad DCU Marine Sensors	1	2	3	4	5	6

SMART Continuous Professional Development (CPD) Ship-based Training Programmes

Q 9. Please select which, if any, of the following Continuous Professional Development ship-time training programmes you participated in:

	2011	2012	2013	2014	2015	2016
CPD: Science@Sea	1	2	3	4	5	6
CPD: Applied Marine Biological Module	1	2	3	4	5	6
CPD: Training through Research Surveys Fisheries	1	2	3	4	5	6
CPD: Training through Research Surveys Oceanography	1	2	3	4	5	6
CPD: Training through Research Surveys Seabed Mapping	1	2	3	4	5	6
CPD: Training through Research Surveys Other	1	2	3	4	5	6

SMART International Ship-based Training Programmes

Q 10. Please select which, if any, of the following International Shiptime Programmes you participated in:

- [ ] Eurofleets 2010: RV Celtic Voyager, Cork
- [ ] Eurofleets 2011: RV Salme, Talinn, Estonia
- [ ]

Eurofleets 2014: RV Urania, Sicily

- [ ] SMART/AWI Atlantic Summer School 2014: RV Celtic Explorer, Ireland
- [ ] Eurofleets 2015: RV Dana, Tromso
- [ ] SMART/AWI NoSoAT 2015: RV Polarstern, Cape Town
- [ ] Eurofleets 2016: RV Polarstern, Svalbard
- [ ] Eurofleets 2016: RV L'Atalante, Cadiz
- [ ] None

SMART Shorebased Workshops and Courses

Q 11. Please select which, if any, of the following SMART workshops and summer schools you participated in:

- [ ] SMARTSkills 2013: Access to Research Funding and Marine Data
- [ ] SMARTSkills 2014: Developing Successful Shiptime Proposals and Survey Plans
- [ ] SMARTSkills 2015: Imaging Marine Microorganisms
- [ ] SMARTSkills 2016: Research Vessel Equipment and Instrumentation
- [ ] SMART AWI 2016: Atlantic Ocean Climate Scholars Programme
- [ ] None

Section 3: How Important was attending a SMART training programme to you?

Did the skills you learned, the contacts you made help you choose a career or research direction, get an interview or job? Your evaluation of these impacts and comments are especially important to us.

Q 12. Overall how important to your development as a marine scientist, technologist or engineer do you believe participation in SMART training was?

	Very Important	Fairly Important	Slightly Important	Not Important	Too early to say	No opinion
Importance	○ 1	○ 2	○ 3	○ 4	○ 5	○ 6

Q 13. How important was SMART training in influencing the following:

	Definitely	Very Probably	Possibly	Probably Not	Definitley Not	No Opinion
Increasing skills	○ 1	○ 2	○ 3	○ 4	○ 5	○ 6
Securing job interviews	○ 1	○ 2	○ 3	○ 4	○ 5	○ 6
Securing employment	○ 1	○ 2	○ 3	○ 4	○ 5	○ 6
Providing a competitive 'edge' when seeking employment	○ 1	○ 2	○ 3	○ 4	○ 5	○ 6
Influencing career choice	○ 1	○ 2	○ 3	○ 4	○ 5	○ 6

Providing opportunities for networking	Definitely 1	Very Probably 2	Possibly 3	Probably Not 4	Definitley Not 5	No Opinion 6
Increasing confidence to work at sea	1	2	3	4	5	6
Increasing understanding of multidisciplinary sciences	1	2	3	4	5	6

Q 14. If participation was important to you please feel free to comment:

Q 15. How satisfied were you with the overall quality of SMART training?

	Very Satisfied	Satisfied	Neutral	Unsatisfied	Very Unsatisfied
Importance	1	2	3	4	5

Q 15a. Please feel free to comment:

Q 16. Would you recommend participation in SMART training events to others wishing to develop their skills and career in the marine sector?

	Definitely	Very Probably	Probably	Possibly	Probably Not	Definitley Not
Importance	1	2	3	4	5	6

Thank you very much!

We very much appreciate that you took the time to complete this questionnaire. If you have any further comments or suggestions please don't hesitate to contact us at smart@gmit.ie. For training updates please follow our website www.smartseaschool.com and linked social media at Twitter and Facebook.