

# Postgraduate Certificate in Researcher Professional Development for Marine Science and Technology (MASTS PG Cert)

ENHANCING THE PERSONAL AND PROFESSIONAL DEVELOPMENT OF  
THE MASTS RESEARCHER COMMUNITY

[HTTP://WWW.MASTS.AC.UK/GRADUATE-SCHOOL/MASTS-PG-CERT/](http://www.masts.ac.uk/graduate-school/masts-pg-cert/)



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## Welcome

It gives me great pleasure to introduce the Postgraduate Certificate in Researcher Professional Development for Marine Science and Technology (MASTS PG Cert), delivered by MASTS with support from the University of Strathclyde.

MASTS is a consortium of collaborating universities and organisations, representing marine science research capacity and education in Scotland. Our Graduate School is at the heart of the community and we fund and support students across a wide variety of marine science and technology subjects. We want to ensure that our graduates get the best support possible to become world-class researchers, capable of realising their aspirations. Society will need leaders and influencers, innovators and creative minds if we are to tackle the challenges presented by an ever-changing world with a growing population. This requirement for leadership has never been greater for the care of our oceans which make us the blue planet that we are.

We depend on the marine environment for food and resources, and yet the oceans are also the eventual sink for so much of the planet's waste. Through research and education, MASTS' mission is to deliver healthy, clean, safe, productive, biologically diverse marine and coastal environments, which will continue to provide essential services for the planet and society into the future.

As a leading international research organisation, our postgraduates are very much part of our community. MASTS recognises the need to support the development of the next generation of researchers to be capable and equipped to work within and out with academia, and that is why we have introduced the MASTS PG Cert. Through contextualised support and development in both your day-to-day research and for your broader aspirations, this unique MASTS PG Cert programme allows you to continually reflect upon your developing skills and understand where your development needs lie, so that you can focus your learning at each stage of your studentship. By targeting your efforts towards professional development, the PG Cert allows you to create a flexible, bespoke programme of activities tailored specifically to support your growth into a highly skilled researcher, in high demand from a variety of employers. Acknowledging the variety of places in which learning and development occurs, the programme rewards a variety of the activities you undertake, including formal training as well as informal and experiential learning, and we hope you will take full advantage of the many opportunities afforded to you during your studentship.

MASTS is a close knit community, of which you are now part, and your supervisors and MASTS colleagues are here to support and guide you through your studentship. Discuss your personal and professional development, and your research, with those around you. Doctoral research can be a roller coaster of successes and failures. Both however, contribute to your development, strength and resilience as a person and a researcher. Your pro-active contribution means that you too will influence MASTS' research capacity, reputation and future.

I very much look forward to meeting you personally and wish your good luck for the coming years of your research studentship and the MASTS PG Cert.

Professor David Paterson, Executive Director of MASTS



# A Quick Guide to the MASTS PG Certificate

## What is the MASTS PG Cert?

A unique new MASTS Postgraduate Certificate in Researcher Professional Development for Marine Science and technology (MASTS PG Cert) designed to enhance your professional and personal skills, through a bespoke programme of activities chosen by you and contextualised to marine science and technology. The programme is validated by University of Strathclyde which will award the certificate. More information is available from the MASTS website (<http://www.masts.ac.uk/graduate-school/masts-pg-cert/>).

## Who is eligible?

All newly registering MASTS funded postgraduate researchers (PGRs) and current members of the MASTS Graduate School, who have been registered for a PhD for 12 months or less, are eligible for free enrollment. Other PGRs or those working in marine science relevant industries can apply for membership of the MASTS Graduate School and a place on the MASTS PG Cert.

## How much does it cost?

Fees for all MASTS funded PGRs are covered by MASTS. For others, please see <http://www.masts.ac.uk/graduate-school/masts-pg-cert/> for details of current fees for both membership of the MASTS Graduate School and enrolment on the MASTS PG Cert.

## How do I register?

When you begin your PhD with MASTS, or when you apply to join the MASTS PG Cert, MASTS will notify Strathclyde University. You will then receive a welcome email from the Course Coordinator with details of how to enrol. A guide to enrolment is also available at <http://www.masts.ac.uk/graduate-school/masts-pg-cert/the-masts-pg-cert/>. Once enrolled you will have access to a University of Strathclyde Virtual Learning Environment called 'MyPlace' which contains all the information you will need to complete the award.

## How do I accrue credits?

You decide on the programme of activities to undertake, relevant to your research, marine science and technology more broadly and your own personal and professional development. One credit is equivalent to a nominal 10 hours of active learning.

## What activities can be included?

Almost anything that allows you to develop your skills and knowledge can be included e.g. formal training courses, informal learning, conferences, placements, working in other organisations or locations, collaborative activities with colleagues, teaching, public engagement activities, volunteering, etc. If you are unsure if an activity can be included, please discuss with one of the course team.

### Where can I find out about courses, events and activities?

MASTS will e-mail information about events to the MASTS community and all students enrolled on the MASTS PG Cert. You can also go to the MASTS website to find information about MASTS organised activities and other events. Please see <http://www.masts.ac.uk/graduate-school/masts-pg-cert/researcher-development-opportunities-available-through-masts/>

### How will I be assessed?

Assessment is based on your reflective evaluation of activities and the credits awarded for each activity or group of activities will depend on you providing evidence of achievement of learning objectives. The Course Coordinator will review your submissions and if you are successful, credit accumulation is recorded in your personal record, accessed via 'MyPlace'.

### How many credits do I need and how long will it take?

You must successfully accrue 60 credits over approximately three years, aiming for around 20 credits per year.

### How do I record my progress?

All information about how to complete and submit assessments and record your progress is included in 'MyPlace'.

### Who can help?

The following people will be pleased to assist with any questions you have:

- o Course Coordinator, Dr Campbell Reid ([pgrcertprd-external@strath.ac.uk](mailto:pgrcertprd-external@strath.ac.uk)) T: 0141 548 4323
- o Dean of the MASTS Graduate School, Dr Lois Calder  
([lac210@st-andrews.ac.uk](mailto:lac210@st-andrews.ac.uk))
- o Deputy Dean of the MASTS Graduate School, Dr Emma Defew  
([ecd2@st-andrews.ac.uk](mailto:ecd2@st-andrews.ac.uk))

# Postgraduate Certificate in Researcher Professional Development for Marine Science and Technology

## Introduction

The Postgraduate Certificate in Researcher Professional Development for Marine Science and Technology (MASTS PG Cert) is a unique award in the UK. By introducing a training framework in MASTS we are ensuring each student receives a consistent researcher development experience, even though our postgraduate researchers are spread across Scotland. Offering high-quality and flexible training opportunities through a tailored programme specifically for marine scientists differentiates MASTS graduates to future employers, whilst supporting high-quality training relevant to completing your PhD effectively. Ultimately, this will take you one step closer to the career you want, in research and academia or elsewhere.

The MASTS PG Cert assists you to make appropriate choices during your doctoral studentship, with respect to aspects of personal and professional development. We want to help develop a wide range of skills whilst also giving you the freedom to explore professional development in a way that suits you. You will gain valuable skills during your research programme, beyond the in-depth knowledge and understanding of your research topic. These skills form an important part of your professional development and how you gain them will be as unique as your research. You can also significantly enhance your professional skills and employability by planning and undertaking specific training, or engaging in other activities, such as conferences, teaching, internships or voluntary work. You can learn from everything you do and through reflective analysis of experiences and activities undertaken during the programme, the MASTS PG Cert will help you to articulate your competencies and attributes, and convey these to others, including prospective employers.

Everybody learns in different ways and MASTS, supported by Strathclyde University, has created the MASTS PG Cert to ensure that each student can design a bespoke training programme that supports their research, career and personal goals. On completion of your PhD and the MASTS PG Cert you will have both expertise, skills and knowledge in your specific discipline and a broad and deep transferable skill set. You will also acquire the confidence, curiosity and creativity to contribute successfully wherever you work. The qualification formalises all the activities you undertake as a postgraduate researcher and ensures that you enter the employment market with a skill set which distinguishes you from other researchers. It also supports a culture of individual, life-long learning and adaptation to a rapidly changing marine sector and world. We believe the resulting impact for you, MASTS and for society, will be undoubtedly positive.

## The Handbook

This handbook gives you information on the MASTS PG Cert programme structure and requirements for award, as well as the people who can support you along the way. The programme can include workshops and specific activities organised by MASTS, and also opportunities organised by your university of registration and other organisations. These can all be recorded as contributions to your MASTS PG Cert, allowing you to gain credits for them. The handbook gives an overview of MASTS activities, a description of the Vitae Researcher Development Framework (RDF), against which you can assess your development, and a list of university contacts and links where you can access training and professional development activities from your registering university.

Information contained in this handbook, including course booking details, is also available at <http://www.masts.ac.uk/graduate-school/masts-pg-cert/>. New information on activities will be emailed regularly to you and will also be added to the MASTS PG Cert web pages, so please do check regularly for updates.

## Meet the Team

Find out more about the team responsible for coordinating, developing and delivering the MASTS PG Cert programme.

University of Strathclyde

**DR CAMPBELL REID**

**Course Coordinator**, PG Certificate in Researcher Professional Development for Marine Science and Technology (MASTS PG Cert)



Campbell is the primary point of contact for enquiries about the MASTS PG Cert programme. He oversees the academic content and quality assurance of the programme, which is supported and managed by Strathclyde University, and helps students and staff to understand the ethos behind the award. Campbell also consults with all our stakeholders (students, staff, employers and funders) to ensure the MASTS PG Cert constantly evolves to meet the needs of our students and effectively complements your PhD programme with MASTS and your host university. Before taking up his current role, Campbell completed a PhD at Strathclyde and conducted 10 years of postdoctoral research. He is a Fellow of the Higher Education Academy.

MASTS

**DR LOIS CALDER**

**Dean of the MASTS Graduate School**

Lois is responsible for leadership of the MASTS Graduate School which provides a locus for specialised professional development and support of postgraduate students, and alumni, in marine science across Scotland. Lois provides support to postgraduate students undertaking the PG Cert, advising on career development and training activities. Lois maintains links with stakeholders and activity providers, MASTS researchers, partner universities and organisations, to characterize the skills and attributes of a MASTS postgraduate and ensure that MASTS professional development meets the evolving needs of employers and graduates, enhancing employability. After completing a PhD through University of London, Lois worked as a marine science researcher for 17 years before moving into higher education management, leading SAMS Education Department until April 2016. She developed and led Graduate Schools in SAMS and UHI before joining MASTS.



**DR EMMA DEFEW**

**MASTS Programme Co-ordinator and Deputy Dean of the MASTS Graduate School**

Emma co-ordinates the activities of the Directorate, and assists members of the MASTS community, including the Grad School. She has a key communications role in MASTS and provides a central contact for support and advice to postgraduate students undertaking the MASTS PG Cert. Emma also liaises with MASTS researchers, partners and stakeholders to support the development and delivery of activities for the MASTS PG Cert. Emma completed a PhD at University of St Andrews, and worked as a marine science researcher for 10 years before joining the MASTS team in 2011, supporting the development of the current MASTS structure and operation.



## Why is Skills Development Important?

No matter where you are in your research career, whether at the very start of your PhD, an established researcher or somewhere in the middle, skills development has a critical part to play in your employability and career development. Whilst your PhD is in itself an outstanding academic qualification, it may not be enough to prepare you for the career you aspire to and the MASTS PG Cert aims to enhance your skills and competencies. When thinking about skills development, it is often helpful to think about dividing development into 'discipline specific' and 'transferable' professional skills. Developing both supports you to be a more effective researcher, ultimately improving the quality of your research, and enhancing your employability in many different sectors. Employers in academia and elsewhere recognise and place high value on transferable skills in prospective employees. Your research and professional skills development will have relevance to marine science and technology, giving you broad social, economic and political perspectives, and together with your transferable skills development, will allow you to take on innovation, leadership and influencing roles across many sectors, in and out with academia.

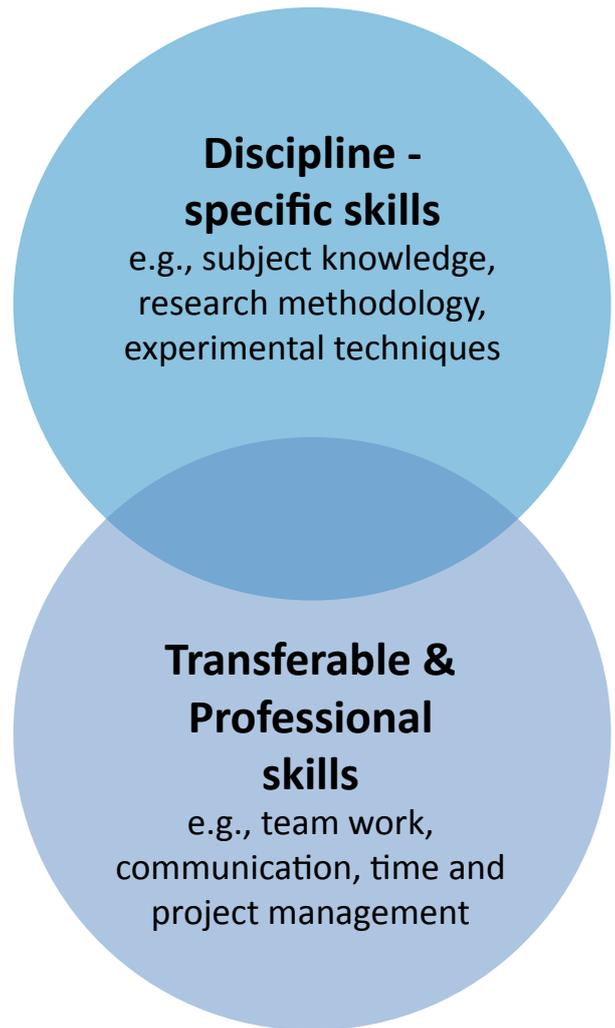


Figure 1: Examples of discipline-specific and transferable skills

The MASTS PG Cert provides opportunities to:

- Get the most from your current research activities as part of MASTS and for your future career
- Build your confidence through the development of research-related and transferable skills
- Identify and plan your own personal training and development package
- Help fulfil your potential and succeed in a highly competitive employment market

## Your Bespoke Development Programme

You should regularly discuss your training and professional development requirements with your supervisor(s), making them aware of the training you are undertaking and ensuring their support. The MASTS PG Cert team are happy to help with this if needed.

Through discussion with supervisors, MASTS Graduate School and the management team in Strathclyde, MASTS encourages you to create a bespoke development programme that best meets your needs and aspirations, undertaking activities at the right time in your PhD studentship. Your host university may also require that you complete specific training and professional development. The exact details will vary according to your university, department, school or faculty and information will be available from your university's graduate school or researcher professional development staff. Please discuss your local opportunities and any mandatory requirements with your

supervisor, researcher developer or university graduate school contact. However, engagement in such activities can also be recorded as a contribution to the MASTS PG Cert, provided you meet the assessment criteria and provide appropriate evidence for development of particular skills or competencies.

## Tools to Help You Plan

As a researcher, you are responsible for your own skills development. There are a variety of personal development tools (see below) to help you identify what opportunities are most appropriate for your development needs. In all cases, regular review will help keep you on track, as well as accommodating the inevitable changes that occur in your research, personal development and aspirations for the future.

### The Researcher Development Framework (RDF)

This is a competency-based framework that describes the knowledge, behaviours, skills and attributes required by successful researchers. You can use the RDF to measure yourself against each competency and plan how to advance to the next competency level. You can purchase, at your own expense, a personal subscription to the RDF planner, an interactive online tool that describes the skill level required at all career stages.

### Training Needs Analysis

To help you focus on your PhD and first job, we have developed a training needs analysis based on the RDF. The tool is a simple way to judge your own skill levels and it can be linked to the MASTS PG Cert. Once you have identified what competencies you would like to develop, you can explore activities that will help you develop those competencies, recording achievements as part of your own MASTS PG Cert programme.

### Personal Development Plan

To help you decide on appropriate training, your department, school or faculty may also have a personal development plan (PDP) in place which you are strongly encouraged to use. Using the available resources at an early stage of your PhD will allow you to focus on your training needs. Knowing this, you will then be able to create a tailored training package from all the opportunities available to you, selecting appropriate activities at the optimal time to support your research or career needs, which can also fulfil the requirements of your MASTS PG Cert.

### Postgraduate Progress Monitoring

You will also have regular meetings with either your supervisors, sponsors or others, as prescribed by your university's postgraduate policy. At these meetings, your skills and progress can be discussed. Formal progress reports should happen at least annually, using PGR monitoring systems at your registering university. As well as discussing your research, your supervisor will review your training progress with you and this can help to inform the bespoke programme of development you undertake as part of the MASTS PG Cert.

# Postgraduate Certificate in Researcher Professional Development: The MASTS Approach

## Who can take part in the MASTS PG Cert?

All new MASTS funded PhD students can take part and programme fees will be covered by MASTS. Other PGRs who are already members of the MASTS Graduate School prior to 1st September 2017, including those in receipt of a MASTS Bursary and those who have paid to become members of the Graduate School, are also eligible for free enrollment, provided they have been registered for a PhD for 12 months or less. Other postgraduate students in marine or related disciplines can apply to MASTS to become Associate Members of the Graduate School and take part in the PG Cert on payment of the current Graduate School and PG Cert programme fees. Please see the MASTS website for information on current fees (<http://www.masts.ac.uk/graduate-school/masts-pg-cert/>).

## How do I enrol in the programme?

There are four intakes to the PG Cert programme each year in January, March, June and Oct. All new MASTS funded students are automatically put forward for enrolment when they register with their host university. MASTS will notify Strathclyde of your contact details and you will be invited to create an application account and complete the enrolment process for the PG Cert programme. Other interested parties should contact MASTS Directorate (by email at [masts@st-andrews.ac.uk](mailto:masts@st-andrews.ac.uk)) in the first instance to ensure a place is available and any fee payments are made. You will then be sent a hyperlink to the on-line application page. A guidance document on the enrolment process is available on the MASTS website (<http://www.masts.ac.uk/graduate-school/masts-pg-cert/>).

Once enrolled you will have access to 'PEGASUS', which is your student record and will show your contact details, and also to 'MyPlace', Strathclyde's Virtual Learning Environment. This contains programme information, assessment details, progress monitoring and other helpful documents to guide you. You will also receive a Strathclyde email address. This will be the default email used to contact you regarding the MASTS PG Cert unless you provide an alternative e-mail address during the on-line application process.

## How does the MASTS PG Cert programme work?

In order to receive an award, PhD students are required to undertake 60 credits worth of appropriate development activities over the duration of their research degree studentship. Each credit is notionally equivalent to 10 hours of study. Credits can be accumulated across five classes, each with a distinct focus, recognised as important to your research and career:

- Knowledge and intellectual abilities
- Personal effectiveness
- Research governance and organization
- Engagement, influence and impact
- Elective encompassing one or more of the above classes



Figure 2. Name, code and credit value of the five MASTS PG Cert classes.

Four of the classes in Figure 2 are aligned to the Vitae Researcher Development Framework’s domains (see Fig. 4), whilst the fifth class is an elective to allow you to explore any of these areas in more detail.

In addition, MASTS is a community of researchers who possess highly developed intellectual abilities, knowledge, skills, behaviours and competencies relevant to marine research, as well as a breadth of transferable skills and we encourage professional development of our postgraduate researchers contextualised to marine science and technology. MASTS has therefore defined a number of core activities that support development of skills and attributes specifically for the marine sciences and these can contribute to credit accumulation in different classes.

## How do I Achieve Credits?

The MASTS PG Cert is not designed as an additional workload for students, but is a formalisation of the existing research and researcher development training that eligible PhD students will undertake as part of their doctoral programme. How each student accumulates the credits for each class is unique, and therefore **there is no formal curriculum and no timetable**. With consideration to your own research, the Vitae RDF, the skills and attributes of a marine science professional and your aspirations for the future, you select the activities that meet your needs, at a time that suits you. You can take part in MASTS core activities and also undertake training in your department or faculty at your registering university or in other institutions and organisations. The real innovation behind the MASTS PG Cert is the ability for you to include experiential learning opportunities in the programme, offering great flexibility in how you evidence your continuing personal and professional development. Almost anything can contribute to the MASTS PG Cert, providing you can demonstrate learning that benefits your research or career. Each activity is mapped to one of the five PG Cert classes and assigned a notional number of credits. One credit is equivalent to a nominal 10 hours of active learning, regardless of the type of activity. You can discuss the credit allocation of any activity with the Course Coordinator prior to undertaking an activity and when you submit a reflective assessment, you should indicate how many credits you believe you have achieved. The final allocation will be made by the Course Coordinator when you submit a successful reflective assessment together with associated evidence.

## How Do I Record My Progress?

Students enrolled on the MASTS PG Cert will have a personal record in Strathclyde's PEGASUS system, and will see classes RD901 to RD905 (see Figure 2) on their PEGASUS record. These classes will remain on your record throughout the duration of your enrolment on the MASTS PG Cert, and a mark will be returned within 12 weeks once you have completed the assessment for each class.

You can go to 'MyPlace' to record activities you have completed, upload supporting evidence and access the assessment exercise and review your progress. Once you have submitted your reflective review of an activity, and this has been assessed as successfully demonstrating that you meet criteria for development, credits accumulation is recorded in your personal record. The credits awarded to each activity will be dependent on the reflective analysis provided and evidence of achievement of learning objectives.

## How Many Credits Should I Aim for in a Year?

Students are expected to achieve at least 20 credits in each year and this can be split over any of the five classes. You should undertake training most appropriate to your development needs, making use of the wide range of opportunities available to you. You should discuss your training plan with your supervisor, and present your progress during any review meetings you have with your supervisory team. You must complete all five classes successfully in order to achieve the MASTS PG Cert award.

Please Note: This is an example only and there is no set curriculum.

	RD901	RD902	RD903	RD904	RD905	
Year 1	Research methodologies training (3) Arc GIS courses (3) External Modelling Training Course (4)	MASTS ASM and Induction (2) Effective researcher course (1)	Research Project Management course (2)	Teaching (3)	Contribution to a science festival (2)	20 credits
Year 2	MASTS Forum workshops/ activities (2) Research conducted at another institution (2) MASTS Policy and Practice workshops (3)	MASTS PGR Retreat (2) Time/ Self-Management training or activity (1)	Research Data Management course and plan (2) MASTS Forum contribution to policy consultation (3) Research Integrity course (1)	Presentation at MASTS ASM (3)	Voluntary work with an environmental community group (1)	20 credits
Year 3	Peer reviewing for a journal (1) Collaborative research with a colleague in industry (2)	Internship (4)	Reviewing abstracts for a conference (1) MASTS small grant award (1)	Presentation at International conference (2) Supervising an undergraduate project (1) Contribution to a science radio broadcast (1)	Peer reviewed publication (7) Or participation in a research cruise (7)	20 credits
	20 credits	10 credits	10 credits	10 credits	10 credits	

Figure 3. Example of activities undertaken to complete the MASTS PG Cert

## How do I Book a Workshop, Course or Event?

This handbook contains a list of workshops, training and activities offered by MASTS. Details of these, together with other activities arising through the year and how to book, are included in the listing of the activity on the MASTS website <http://www.masts.ac.uk/graduate-school/masts-pg-cert/researcher-development-opportunities-available-through-masts/>. Some activities may only be offered once or have limited places so please book well in advance to avoid disappointment. If you need to cancel, please give the activity organiser as much notice as possible.

MASTS activities run throughout the year and range from half day sessions through to more intensive one or two-day residential workshops. There are intensive events which occur annually, such as the PGR Retreat and the MASTS Annual Science Meeting, which you are strongly encouraged to attend. Event dates and descriptions are listed in each activity descriptor. For some activities however, dates are confirmed during the year and information for all relevant activities will be provided on the MASTS website, so please check this regularly. Activity information will also be e-mailed directly

to you. You can also source other courses, training and activities which are not listed but which have relevance to you. Details of any such activity should be discussed with the Course Coordinator and/or the Dean/Deputy Dean of the MASTS Graduate School before assuming they can be included in the PG Cert.

Your university graduate school or postgraduate skills development programme will also offer training, events and professional development activities, including on-line courses which you can work through at your own pace. You can access information and book these through the normal processes defined by your university. MASTS students wishing to attend a workshop at a university, other than their registering university, can request a place by contacting that university directly and attendance will be confirmed by the hosting organization (course fees may apply).

All courses listed in the handbook are free to attend for MASTS PG Cert enrolled students, unless otherwise stated.

Please do pass on details of opportunities for training or other relevant activities that you come across to Dr Emma Defew who will share these with the MASTS PGR community.

## Where Do I Found Out More?

The course handbook, guidance documents and activities information are available from the MASTS website (<http://www.masts.ac.uk/graduate-school/masts-pg-cert/>). 'MyPlace' also contains guidance documents and additional resources, together with answers to frequently asked questions. The documentation provides details of the programme structure and content, and a step-by-step guide to completion of the award.

If you can't find the answer to your question after reviewing all the documentation and FAQs, you can contact the MASTS PG Cert course coordinator, Dr Campbell Reid at [pgrcertrpd-external@strath.ac.uk](mailto:pgrcertrpd-external@strath.ac.uk). You can also contact Campbell by phone without an appointment (T: 0141 548 4323). Alternatively, the Dean of the MASTS Graduate School, Dr Lois Calder [lac210@st-andrews.ac.uk](mailto:lac210@st-andrews.ac.uk) or Deputy Dean, Dr Emma Defew [ecd2@st-andrews.ac.uk](mailto:ecd2@st-andrews.ac.uk) will be happy to provide support and guidance.

## Researcher Development Statement and Framework

The Vitae Researcher Development Statement (RDS) and Framework (RDF) (see Fig. 4) were introduced in 2010 to articulate the skills required by researchers. In line with the other UK Higher Education Institutions, MASTS endorses the RDF/S to support researchers in identifying the skills, knowledge and behaviours expected throughout their career. The RDF/S also informs the development of new training initiatives to meet the needs of the research community.

The RDF/S is organised into four broad domains of attributes researchers require. Within each of the domains are three sub-domains and associated descriptors, which describe different aspects of being a researcher. The RDF also refers to the development of skills at different levels ranging from PhD students to Principal Investigators. This allows researchers themselves to identify areas requiring improvement and what is required to reach the next level.

Activities and training events are mapped to the RDF/S, so you can effectively target areas in which you want to develop your skills. Students enrolled on the MASTS PG Cert will have access to a training needs analysis tool based on the RDF/S. The tool will allow you to assess your current skill levels, identify areas for improvement and find out what sort of training is available to address that need.

Figure 4 shows the Domains, Sub-domains and Categories within the Vitae RDF. For more information on the RDF/S and full descriptions of each category please visit the Vitae website at [www.vitae.ac.uk/vitae-publications/rdf-related/rdf-related](http://www.vitae.ac.uk/vitae-publications/rdf-related/rdf-related).

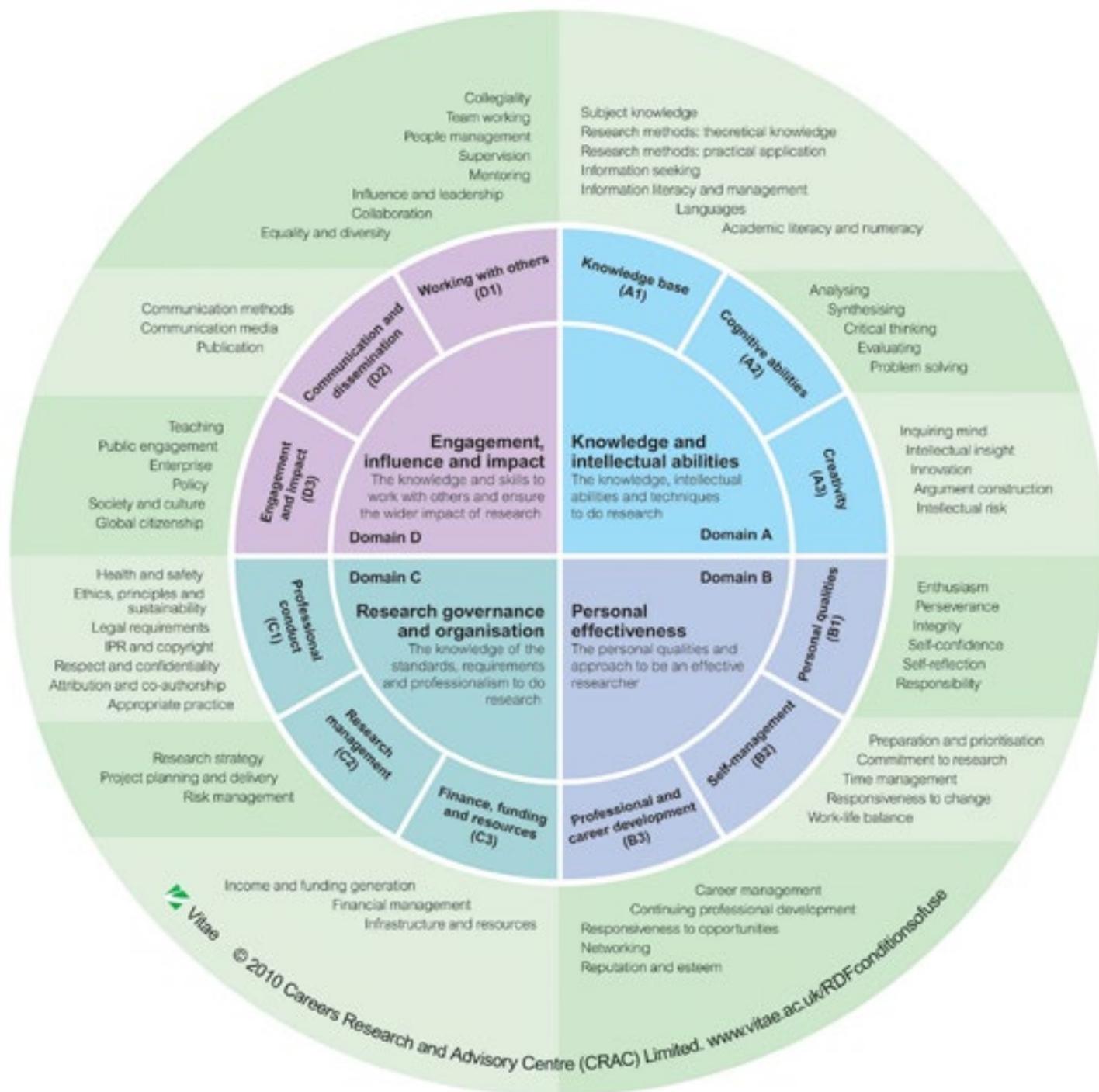


Figure 4 The RDF Domains, Sub-Domains and Categories

## What Skills and Attributes Make a Marine Scientist?

The Vitae RDF describes the main behaviours, skills and attributes of a broad researcher. However, there are additional skills and knowledge that will be specific to your PhD topic and to the general field of marine science which will make you different to researchers in other disciplines.

As your studentship progresses, you will acquire specific skills and knowledge, for example, in experimental design, analytical techniques, data analysis or lab and field work, potentially including sea-going sampling. You will also have a breadth of understanding of the current major challenges in marine science and technology. However, there is no single

list of skills, knowledge, behaviours and attributes applicable to all marine researchers and on completion, you will have a unique and advanced skill set, commensurate with the award of a doctoral degree. You will be highly qualified to undertake many different roles in research, academia and other sectors.

However, MASTS expects that you will:

- Be capable of working in multi-disciplinary and inter-disciplinary teams, to create collaborations and synergies between marine sciences and other academic areas and sectors.
- Be able to work at sector interfaces, including your specific field of marine science research, and others such as environment, policy, businesses, industry, economic, social, legal and political systems, and be capable of co-developing research with stakeholders.
- Possess effective communication skills that promote convergence of understanding to drive innovation and deliver progress to address marine related societal challenges.
- Understand research translation, knowledge transfer and application of marine research, including links to end users and creation of economic and social benefit.
- Be aware of specific social and ethical issues surrounding your discipline and marine science and technology more generally.

## Researcher Development Opportunities Available Through MASTS

A number of core activities are organised by MASTS which specifically support the development of competencies and attributes of a professional marine science researcher. These are provided by the MASTS partners and other external organisations and are offered in addition to the professional development for researchers organised by MASTS partner universities. The number of credits allocated to an activity varies depending on the scope of the activity, the level of engagement and evidence of achievement. For details of these and all other activities, please refer to the MASTS website for information(<http://www.masts.ac.uk/graduate-school/masts-pg-cert/researcher-development-opportunities-available-through-masts/>).

### MASTS ANNUAL SCIENCE MEETING - OCTOBER

Credits: 1-3

The MASTS Annual Science Meeting (ASM) takes place in Autumn each year and is the largest marine science specific conference in the UK attracting academics from the MASTS community, the UK and internationally. Through a series of plenary talks, presentations, workshops, debates, e-posters and displays, the ASM also offers an opportunity to present your research and to engage with business, industry, government, agencies and Non-Government Organisations (NGO's) working in marine science and technology. Participating PGRs who present a paper, e-poster, workshop contribution or other activity can include these in their PG Cert credit collection. The number of credits awarded depends on the type and level of your engagement.

By the end of the ASM, participants may have:

- Presented your research to a wide audience of national and international delegates interested in marine science and technology
- Engaged with stakeholders working in marine research, technology and related fields, and improved your understanding of their research needs and the relevance of your own research
- Contributed to the development of the MASTS community, its research, reputation and impact.

## ANNUAL POSTGRADUATE RETREAT – MARCH

Duration: 3 days, residential      Credits: 1-3

This is MASTS' annual residential event specifically for Postgraduate Researchers who are members of the MASTS Graduate School. The three-day programme includes presentations, interactive workshops, training and social activities, designed to develop skills, build professional and social networks within the MASTS community and externally, and to introduce a variety of stakeholders and research end users, bringing new perspectives to your research.

By the end of the workshop, participants will have:

- Engaged in skills training workshops and activities (these change each year), to enhance personal and professional development
- Been introduced to the work of stakeholders in marine research, technology and related fields, from academia, business, industry, government and conservation sectors
- Developed professional and social networks with colleagues and other postgraduate researchers

## POLICY AND PRACTICE WORKSHOPS

PGRs should be able to understand how research is translated into policy and operational management, and have a broad understanding of key legislation, policy and governance relevant to their discipline and marine science more broadly. Working with Scottish Natural Heritage, Marine Scotland, Scottish Environment Protection Agency and others, MASTS provides workshops to highlight the activities of these organisations and allow PGRs to experience policy implementation and operational practice. Details of new events and activities coming on line though the year are available on the MASTS PG Cert website

## THEME AND FORUM MEETINGS – Various Dates

Duration: 0.5 – 1 day, varying.      Credits: 1+

Each of the three MASTS Themes supports a number of Forums that target a specific research area/ challenge. PGRs are encouraged to contribute activity to the Forums, to discuss their own work and that of others, and to develop their own research knowledge and skills. Activities could include, for example, developing novel research to address challenges for business, industry, regulators, environmental managers, etc.; contributing to a government policy advice document; industry consultation; other applied activity; or a development of a collaborative funding proposal.

Through contribution, participants may have:

- Contributed to knowledge exchange within the Forums
- Contributed to the development and progress of a national, regional and sectorally relevant strategic research agenda and associated activities
- Developed greater understanding of the Forum's interactions with funding bodies, Government and other stakeholders, including its role in provision of impartial advice



## FORUM TRAINING EVENTS

Over the coming year many of the Forums will organise workshops and events that offer practical training to MASTS PGRs. Please watch the MASTS PG Cert website for details of other up-coming events.

## MASTS INTERNSHIP, EMPLOYMENT OR RESEARCH PLACEMENT

Duration: variable      Credits: variable

MASTS encourages PGRs to engage in activities outside of their PhD through an internship, employment or research placement. Durations may vary depending on specifics but will ideally be between 1-6 months. This can include work related to your own research or not, with an organisation other than your university or in another sector (e.g. government, business, industry, non-PhD related research). European and international mobility is encouraged. Postgraduates are given a chance to work on a project with organisations seeking to deliver to targets and objectives, and thus gain experience of other professional environments and applications of research.

MASTS can offer guidance and support to set up an internship but encourages you to make contact with people and organisation to facilitate the opportunity that is best for you and will forge a strong relationship between you and the internship provider. Some funding may be made available from MASTS centrally but all students are encouraged to seek full funding to undertake these activities, for example, from an employer or business.

By the end of the internship, participants could have:

- Experience writing proposals/ applications to secure funding
- Experience of a professional/ business environment
- Developed enhance understanding of business and other stakeholder needs and relationships with research
- Greater knowledge of professional standards and delivery to objectives/deadlines in a professional setting
- Broader horizons regarding career possibilities
- Improved networks

## FUNDING APPLICATION E.G. PECRE OR MASTS SMALL GRANT

Credits: 1-2 (further credits may be achieved through participation in the activity if funding is successful)

MASTS offers a number of funding opportunities to PGR students, encouraging applications to broaden research activities and experiences, encourage travel and attendance at external conferences and workshops. These include:

- Postdoctoral and Early Career Researcher Exchanges (PECRE)
- MASTS SMALL GRANTS SCHEME

Postgraduates may also seek funding from other sources which could be included in this activity.

On completion of a funding proposal/ application, the participant will have:

- Greater understanding of the specific funders' requirements, criteria and expectations and how to meet these
- Experience in succinct academic writing to achieve funding
- Developed their research planning skills
- Developed a research budget and project plan

If your funding application is successful, on completion of the research you will also gain experience of:

- Delivering research, working to a project plan and timescale
- Research budget management
- Creating research outputs from practical research
- Reporting research and project outputs to meet funder requirements

## WRITING RETREAT

Credits: 1-3 (further credits may be allocated for competition and submission of a manuscript)

The Writing Retreat is specifically for PGRs who are ready to start writing a manuscript for publication and have data analysis completed. We will take a small group of students out of their normal working environment, to give you the space and focus to work on a manuscript. The Writing Retreat last 5 days and provides you with an intensive writing experience with peer support from colleagues who are undertaking the same task.

By the end of the retreat, participants will have:

- Fully engaged with academic writing for publication
- A first draft of a manuscript
- Shared skills and experiences with others, receiving support in return, and benefited from academic discussion with peers
- Experience of defending your research and conclusions

## Other Researcher Professional Development Activities

If you wish to contact a MASTS partner other than your university of registration, to discuss an opportunity, you may have access to a specific name and contact details. However, for more general enquiries, the following list of websites may prove helpful.

### Links to MASTS Partner Institution Researcher Professional Development

#### EDINBURGH NAPIER UNIVERSITY

My Napier, <http://my.napier.ac.uk/Careers-and-Development/Pages/Careers-and-Development.aspx>  
Contact [academicskills@napier.ac.uk](mailto:academicskills@napier.ac.uk)

#### HERIOT-WATT UNIVERSITY

Centre for Academic Leadership and Development, <https://www.hw.ac.uk/services/ald.htm>  
Contact [academicdevelopment@hw.ac.uk](mailto:academicdevelopment@hw.ac.uk)

#### MARINE SCOTLAND SCIENCE

Marine Laboratory, Aberdeen, <http://www.gov.scot/Topics/marine/science>

#### SAMS

SAMS Graduate School, <https://www.sams.ac.uk/education/postgraduate/sams-graduate-school/>  
Contact [phd@sams.ac.uk](mailto:phd@sams.ac.uk)

#### SCOTTISH NATURAL HERITAGE

<http://www.snh.gov.uk/>

#### ST ABBS MARINE STATION

<http://marinestation.co.uk/>

Contact Co-Directors of Research, Dr Karen Diele, [k.diele@napier.ac.uk](mailto:k.diele@napier.ac.uk) or Dr Bill Sanderson, [W.G.Sanderson@hw.ac.uk](mailto:W.G.Sanderson@hw.ac.uk)

#### UNIVERSITY OF ABERDEEN

Centre for Academic Development, <https://www.abdn.ac.uk/develop/index.php>

Contact Manager of the Graduate School, Dr Lucy Leiper, [l.leiper@abdn.ac.uk](mailto:l.leiper@abdn.ac.uk)

#### UNIVERSITY OF DUNDEE

The Organisational and Professional Development unit, <https://www.dundee.ac.uk/opd/aboutopd/professionaldevelopment/>

#### UNIVERSITY OF EDINBURGH

Institute for Academic Development, <http://www.ed.ac.uk/institute-academic-development>

Contact 0131 651 3598

#### UNIVERSITY OF GLASGOW

Research Strategy and Innovation Office, <http://www.gla.ac.uk/services/rsio/researcherdevelopment/>

Contact [RSIO@glasgow.ac.uk](mailto:RSIO@glasgow.ac.uk)

#### UNIVERSITY OF ST ANDREWS

Centre for Academic, Professional and Organisational Development (CAPOD),

<https://www.st-andrews.ac.uk/capod/>

Contact [capod@st-andrews.ac.uk](mailto:capod@st-andrews.ac.uk)

#### UNIVERSITY OF STIRLING

Graduate School, <https://www.stir.ac.uk/graduateschool/>

Contact [stirlinggradschool@stir.ac.uk](mailto:stirlinggradschool@stir.ac.uk)

#### UNIVERSITY OF STRATHCLYDE

The Researcher Development Programme, <https://www.strath.ac.uk/theresearcherdevelopmentprogramme/>

Contact [researcher.development@strath.ac.uk](mailto:researcher.development@strath.ac.uk)

#### UNIVERSITY OF THE HIGHLANDS AND ISLANDS

UHI Graduate School, <https://www.uhi.ac.uk/en/research-enterprise/grad-school/>

Contact [gradresearch@uhi.ac.uk](mailto:gradresearch@uhi.ac.uk)

#### UNIVERSITY WEST OF SCOTLAND

Graduate School, <https://www.uws.ac.uk/graduateschool/>

Contact [pgr@uws.ac.uk](mailto:pgr@uws.ac.uk)