



Agenda

- 1. Apologies for absence
- 2. Approval of minutes of AGM of September 9th, 2014
- 3. Matters arising from minutes of AGM 2014
- 4. Secretary's Report
- 5. President's Report
- 6. Treasurer's report and accounts
- 7. Appointment of auditors
- 8. Election of new Council Members and Officers
- **9. AOB**



Apologies for absence

Abigail McQuatters-Gollop Terry Sloane Gideon Henderson Ruth Airs



Approval of minutes of previous AGM September 9th, 2014

Minutes of the 2014 Challenger Society AGM



The 2014 AGM of the CSMS was held in Lecture Theatre 1, Roland Levinsky Building, Plymouth University, Tuesday 9th September 2014. The meeting started at 1330 with 50 members present.

Matters arising from minutes of AGM 2014

None



Secretary's report 2014-2015

John Bacon -john.bacon@cefas.co.uk

- Council
- Membership & Travel Awards
- Ocean Challenge, Challenger Wave
- Website & Social Networking
- Meetings and Events
- Industry Liaison & Technology
- Early Career Network
- Education and Outreach



Council Members, Terms of Office & Responsibilities

Officers

Tim Jickells 2013-2014 President
Hilary Kennedy 2012-2014 Past President
John Bacon 2014-2018 Honorary Secretary
Sinhue Torres-Valdés 2013-2017 Honorary Treasurer

Council Members

Editor, Challenger Wave John Allen 2013-2016 Membership, Student Travel Awards Matt Green 2014-2017 **UK SCOR representative** Gideon Henderson 2015-2018 Early Career Scientist Network Chris Comvn 2014-2015 Communications. Web manager Abigail McQuatters-Gollop 2012-2015 **Ruth Airs** 2014-2017 Meetings, SIGs & Local Networking Events Terry Sloane 2013-2016 **Industry Liaison & Technology Louisa Watts** 2015-2017 **Education & Outreach (Co-opted)**

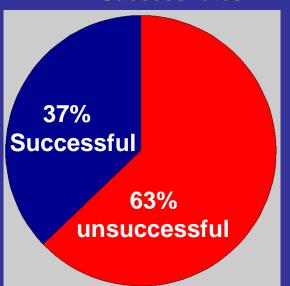
Ex-Officio & Co-Opted Members

Jennifer Jones Executive Secretary
Angela Colling Editor, Ocean Challenge
Grant Bigg Chair, Editorial Board, Ocean Challenge
Matthew Palmer Chair OC Challenger Conference 2016



Membership and Student Travel Awards Mattias Green

Success rates



• Nov 2014: 1 out of 6

• Feb 2015: 4 out of 7

May 2015: 4 out of 14

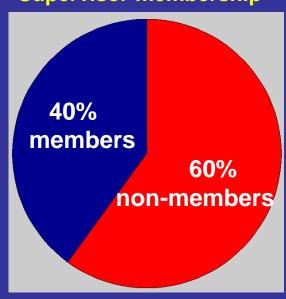
Aug 2015: 4 out of 9

A drop compared to last year (35 vs 49)

Student Destinations



Supervisor membership





Challenger Wave John Allen

12 issues published this year

- Articles can be submitted at any time to John Allen (john.allen@port.ac.uk)
- especially, news from research cruises (or links to blogs!)!

August 2015

Challenger Wave



Monthly newsletter of the Challenger Society for Marine Science (CSMS)

NEWS

Leading institutions say governments must act now if serious climate risks are to be averted

Twenty-four of the UK's foremost academic and professional institutions have called on national governments to take immediate action if they want to avert the serious risks posed by climate change. A joint communique published on 21st July brings together a diverse range of organisations from across the sciences, social sciences, arts, humanities, medicine and engineering for the first time.

The UK's leading institutions say that to tackle climate change, governments, including that of the UK, must seize the opportunity at climate talks in Paris in December to negotiate an agreement based on the latest scientific evidence. Pointing to that scientific evidence, the organisations say that if we are to have a reasonable chance of limiting global warming in this century to 2°C relative to the pre-industrial period, we must transition to a zero-carbon world by early in the second half of the century.

Lord Slem of Brentford KI, FBA, FRS, President of the British Academy, said "Now is the time for the Prime Minister and the rest of his Government to show leadership on this issue, by implementing effective domestic policies to tackle climate change and to support efforts overseas, including a strong international agreement in Paris at the end of this year. The UK led the world with both the modern scientific revolution and the industrial revolution, and must lead again now on the creation of a safer, cleaner and more prosperous world. Tackling climate change is a responsibility for the whole world, but the UK has a special position at the forefront of international efforts. The statement highlights the fact that the transition to

a low-carbon economy offers enormous opportunities for better and stronger growth, while high-carbon growth cannot be sustained."

Sir John Beddington HonFREng, CMC, FRS, President of the Zoological Society of London, said "Clearly greenhouse gas emissions must be reduced drastically and soon if there is any chance of meeting the 2 degree goal. However, climate change is already with us and even if greenhouse gases were drastically reduced in the near future, significant climate change will occur for many decades. It is imperative that the best scientific advice on adaptation to this change is provided. This is particularly important for human welfare, where water and food security issues loom, but also for the environment. Global wildlife populations have halved in the last 40 years and such declines will be exacerbated by changing climate."

The scientific evidence is now overwhelming that the climate is warming and that human activity is largely responsible for this change through emissions of greenhouse gases. Governments will meet in Paris in November and December this year to negotiate a legally binding and universal agreement on tackling climate change. Any international policy response to climate change must be rooted in the latest scientific evidence.

To achieve this transition, governments should demonstrate leadership by recognising the *risks* climate change poses, embracing appropriate policy and technological *responses*, and seizing the *opportunities* of low-carbon and climate-resilient growth

Risks: Climate change poses risks to people and ecosystems by exacerbating existing economic, environmental, geopolitical, health and societal threats, and generating new ones. These risks increases disproportionately as the temperature increases. Many systems are already at risk from

www.challenger-society.org



Website & Social Networking Sites www.challenger-society.org.uk www.challenger-society.org

Grants & Awards

- New website now live thanks to all who worked on this!
- Increased functionality and easier UL
- Better features
- Ocean Challenge and **Challenger Wave** Back issues online
- Integration with social media
- New members' account management system
- Communication via email much improved
- Subscription payment by PayPal

CHALLENGER SOCIETY FOR MARINE SCIENCE

The voice of the UK marine science community

Welcome to

Contact Us

The Challenger Society for Marine Science

Meetings & Events



The Challenger Society for Marine Science is a learned society for marine scientists in the UK. It is named after the ship H.M.S. Challenger, which was used in one of the most important marine studies ever conducted. The Society was founded in 1906 and over a century later brings together scientists working and researching in all areas of the marine sciences

These pages hold the central resource for information about the Society. Information about past events, coming events, conferences, workshops, publications (the Society publishes a monthly newsletter Challenger Wave and a journal, Ocean Challenge) can all be found on this site.

You can find out about the benefits of membership and apply for membership here Should you wish to contact us about anything you cannot find, please do so here

Please come to the Challenger Annual General Meeting to be held at 1200 on Wednesday 16th September at the Arctic Science Conference at the University of Sheffield Full details are here.

Twitter

@challengersoc



Special Interest Groups

Challenger Society @challengersoc22h

Summer 2015 Ocean Challenge is out! Featuring 'The ocean in the Anthropocene' by @jhallspencer http://t.co/MUjfbbYZ9t http://t.co/HQ6kerEkCj



Becca Shellock @Marinebecca23h

RT @Marinebecca: My 1st journal article, featured in @challengersoc Ocean Challenge, #OceanOptimism http://t.co/Z2tR4zMTsQ @DrAngelaC http://



Will Homoky @willhomoky23h

RT @willhomoky: Coming to @OxUniEarthSci: Advances in Marine Biogeochemistry Conference, 6-8th Jan 2016 Save the date! @challengersoc http:



Challenger Society @challengersoc06 Aug

NEW on our website - all issues of Ocean Challenge (1994-present) are now available online! http://t.co/JFOvEXfR8w http://t.co/3JJiHl5jSh



abigail mcquatters-g @anaturalstate28 Jul

RT @anaturalstate: Two funded plankton PhD opportunities at Plymouth University!



Website & Social Networking Sites www.challenger-society.org.uk

- Webspace for SIGs
 More content
 needed
- Members can register for SIGs online.
- UK SCOR section.
- Publications available online.



Meetings & Events

The voice of the UK marine science community

marine science commun

Publications

Deep-Sea Ecosystems
Ocean Wind Waves SIG
Coastal Ocean Processes
Sea Level SIG

Contact Us

Marine Technologies SIG Biophysical interactions

Sea Ice SIG

Marine Biogeochemistry

Forum
Ocean Modelling Group

Marine Optics SIG

Marine Science and Policy

Marine Science and Policy Special Interest Group

An increasing number of scientists are using their research to influence legislation, policy and public opinion. This can be through a wish to be "useful" to society, or the external pressure upon researchers to generate "impact" from their research - both from grant funding agencies (e.g. EU, NERC), and, within higher education institutes, for the Research Excellence Framework (REF).

Many scientists, particularly at the start of their career find it difficult to know how they may increase the societal impact of their work, outside of involvement in activities such as "World Oceans Day" type events. There is so much more to become involved in, in particular activities leading to an influence on legislation and policy.



Special Interest Groups

Latest News

AMBIO VII

Keep the date free!!

Advances in Marine Biogeochemistry VII -University of Oxford, 6th-8th January 2016

Read More

Challenger Conference 2016

Dates for the 2016 Challenger Conference confimed.

Read More

The Marine Science and Policy SIG seeks to:

Grants & Awards

- Provide a forum for researchers interested in, or wishing to be involved in, influencing policy and legislation on a regional, national and/or international scale.
- 2. Enthuse scientists, particularly early career researchers, about becoming involved in influencing policy.
- Advise scientists wanting to become involved in policy work on dissemination methods, common challenges, and potential funding opportunities.
- 4. Host regular meetings for researchers working in aspects of policy, or wishing to become involved
- 5. Stimulate collaboration opportunities between Challenger members.

The Marine Science and Policy SIG will is aimed at UK-based marine scientists involved in, or interested in, influencing legislation, policy and public opinion. The group is multidisciplinary, open to scientists working in any aspect of marine research.

UK Arctic Science Conference 2015



The University of Sheffield is host to the



Website & Social Networking Sites

This year on Twitter @ChallengerSoc:

- 1,052 followers double 2014
- Current potential reach: 373,037 people

This year on Facebook:

 236 likers (followers) – double 2014

Connect to us on Twitter, Facebook or LinkedIn

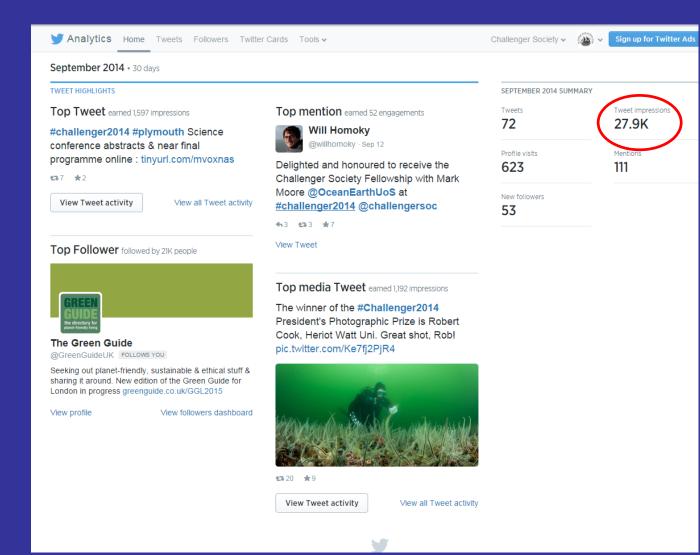






#Challenger2014

- Dedicated conference hashtag enabled networking of delegates and those who didn't attend but were interested (>1000 tweets!)
- ~30k tweet impressions during conference





Future Website Plans

John Bacon: john.bacon@cefas.co.uk

- The new website and developer opens up many new technological possibilities.
- Contact with members, management and payment of subscriptions, records and statistics, members have control.
- Publications search function development for Ocean Challenge - by Author, keyword, location, date
- The crucial improvement is that we have a content management system which we control directly.



Meetings and Events

Ruth Airs: ruai@pml.ac.uk

2 New Special Interest Groups:

Deep Sea Ecosystems

Contact Dr Nick Higgs Nicholas.higgs@plymouth.ac.uk

Marine Science and Policy

Contact Dr Abigail McQuatters-Gollop abiqua@plymouth.ac.uk

See website for full list of SIGS: www.challenger-society.org.uk

CIC m	antina a	alandar
SIG	Dates and Location	Contact
Deep Sea Ecosystems	30 June-1 July 2015; Liverpool	Nick Higgs
Sea Ice	15-16 Sept 2015; Sheffield	Jeff Ridley
Ocean Modelling	18-19 Sept 2015; Cambridge	David Munday
Marine Science and Policy	22 Sept 2015; Copenhagen	Abigail McQuatters-Gollop
Marine Biogeochemistry	6-8 Jan 2016; Oxford	Will Homoky



Meetings and Events

Ruth Airs: ruai@pml.ac.uk

Meeting	Dates and Location
Young Coastal Scientists & Engineers Conference	23-25 March 2015, Manchester
Ocean Glider Community Science Workshop	6-7 May 2015, Norwich
World Oceans Day Event	8 June 2015, Liverpool
SAHFOS Zooplankton Workshop	22-26 June 2015, Plymouth
Conference for Early Career Researchers	30 June 2015, Southampton

2015



Industry Liaison & Technology

Terry Sloane

- My role is to be the link between the Society and industry, the people who primarily provide the instruments used in ocean research. In addition, I also sit on the IMarEST, Science & Technology Advisory Group, and am the vice chair of the Association of Marine Scientific Industries (AMSI) and as such ensure that each are informed of the others activities and common interests.
- We have established links with the two major ocean exhibitions in the UK, Oceanology & Ocean Business. Formalised benefits and costs to corporate members and have seen an increase in membership as a result
- I am responsible for securing corporate sponsorship for our biennial conference.





"Early career session at #challenger2014 was superb! Great advice, lots of reading materials and encouragements from speakers" -@HayleyEversKing

> 70 attendees

"How to find a postdoc"
"Careers in Science Coordination"
"Careers outside academia"

Early Career Event – Challenger 2014 Anna Hickman (Uni Southampton)



by Jen Riley (NOC) by Ruban Tharmarajah (IMAREST)

Plus Top Tips speed pitch style from Bee Berx (Marine Scotland), Sian Henley (Uni Edinburgh), Meave Lohan (Uni Plymouth), Alex Poulton (NOC)

And supported Early Career scientist by, for example, -Sponsoring Early Career conferences and workshops



Education & Outreach Louisa Watts

Association for Science in Education

This national conference for school educators showed Challenger how we can best engage young people in Marine Science and Ocean Issues





CSMS endorsed the Challenger Glider Mission which aims to fly 16 gliders over 128,000 km inspired by the 1872-6 mission of HMS Challenger. Future plans are to use the mission as a

platform for inspiring next generation oceanographers



Education & Outreach Louisa Watts



Ideas/plans for 2015/16 include:

Aim: To raise awareness of careers in marine science that utilise good **numerical and technical skills** e.g. marine engineering and technology; physical sciences

How: Reaching out to **schools and Further Education colleges** using existing CSMS and other Learned Soc. Links, and HEFCE funded networks

Activities*:

Engage schools and colleges at CSMS **conference** (2016) and other relevant **events** throughout the year; CSMS presence at science fairs etc

Organise work experience days & use existing open days e.g. at UK marine facilities: Enthusiasm from NOC,S Marine Facilities and physical oceanography -July 2015 we delivered successful "World of Work" day at NOC,S aimed at Yr 9 students



Website: Develop Education and Outreach pages...thoughts in progress.... Needs to be useful to educators...

*Please contact me with any ideas, events, enthusiasms: louisa.watts@btinternet.com

"I found it extremely informative and interesting...it has given me ideas for what I may want to do in the future, Thankyou!" Year 9 pupil

World of Work day (pilot),

July 2015 at NOC,S









President's Report 2013-2014

Conference September 2014 University of Plymouth

- Net Income to Challenger of £20,960
- Sponsorship of £10,093 received
- 256 Delegates
- 13 Exhibitors
- 120 Talks and 120 Posters
- Challenger Medal Lecture Harry Bryden
- Annual Plymouth Lecture Prof. Ian Boyd





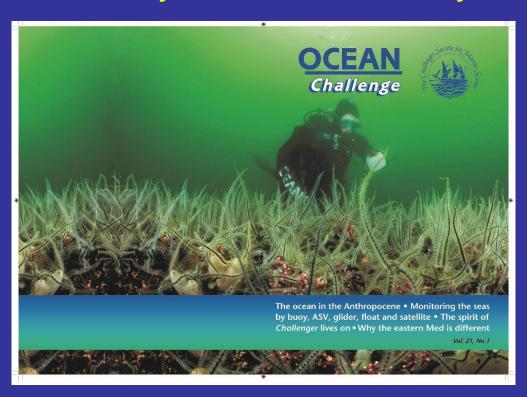




President's Report 2013-2014 Ocean Challenge

Angela Colling (Editor)
Grant Bigg (Chair, Editorial Board)

- Volume 21: First issue in summer 2015
- Volume 20: Second issue August 2014
- Now freely available electronically on the website back to Volume 6



- New Board members this year:
 Katrien Van Landeghem &
 Alessandro Tagliabue
- Thanks to out-going Board member Paul Bell
- Material very welcome!
 Enquiries to Editor:
 (angelamcolling@gmail.com)



President's Report 2013-2014 UK-SCOR

SCOR SCOR COmmittee on Oceanic Research

SCOR, the Scientific Committee for Oceanographic Research, is the leading international non-governmental organization for the promotion and coordination of international oceanographic activities.

UK SCOR Committee:

- Gideon Henderson, University of Oxford (UK Chair)
- Peter Burkhill, University of Plymouth (International President)
- Richard Geider, University of Essex
- Tim Jickells, University of East Anglia (Ex-officio, President of Challenger Society)
- Rachel Mills, University of Southampton
- Carol Robinson, University of East Anglia
- Alejandro Souza, NOC-Liverpool
- Peter Statham, University of Southampton
- Colin Summerhayes, Scott Polar Research Institute





President's Report 2013-2014 UK-SCOR

- SCOR SCOR Science Committee on Oceanic Results
- National subscription to SCOR ≈ £16k. 51% from Challenger, 49% from Royal Society
- Chair of UK SCOR Committee sits on Challenger Council. President of Challenger a member of UK SCOR Committee
- UK participation in working groups is very high: 4 Co-chairs; 8 other Full Members; and 14 Associate Members
- Also membership on steering committees for four international programmes, including IMBER and GEOTRACES.
 - And UK President of SCOR Internationally Peter Burkill
- SCOR Committee on Capacity Building offers US\$4,900 travel grants
- Further details on Challenger Website (http://www.challenger-society.org/SCOR)



President's Report 2013-2014

Disseminating knowledge of marine science.

Ocean Challenge



Angela Colling Grant Bigg



Challenger Wave

Marine Science Industry





Matthew Palmer (also Chair of Conference 2016)



Education & Outreach



President's Report 2013-2014

Promoting Challenger Society Benefits

- Funding for SIG meetings is £500.
- Non-SIG science meetings are now eligible to apply for CSMS sponsorship up to £500
- Increase funding for local networking events to £300.
- Total annual budget £5,500



Ruth Airs

Scope and funding for travel awards.

- £200 for UK and £500 for international travel.
- M.Sc students 1 and PhD students 2 awards.
- Stepping Stones Bursary £1000
- Total annual budget £8,000



Sinhue Torres-Valdes



Mattias Green



President's Report 2014-2015

Enhancing members experience.

- New website improved and active
- Membership account management Spring 2015
- Increased functionality and easier user interface
- E copies of Ocean Challenge and Challenger Wave
- Webspace for Special Interest groups SIGs & UK SCOR

News



Abigail McQuatters-Gollop

Contact Us Logi



The voice of the UK marine science community

Home

About Us

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Publications

SCOR

Challenger Society 2014 Conference

- Early Career Event 2014
- Challenger Society 2014 prize winners
- Dig out your best photo and win a prize
- Can You Produce Winning Words?
- Some dos and don'ts for posters and presentations
- Conference 2014 information sheets

Prospectus 2013

Annual General Meetings

Challenger Society 2014 Conference



The Challenger Society for Marine Science 2014 Conference
Plymouth University, 8-11 September 2014

Latest News

AMBIO VII

Keep the date free!!

Advances in Marine Biogeochemistry VII -University of Oxford, 6th-8th January 2016

Read More

Challenger Conference 2016

Dates for the 2016 Challenger Conference confimed.



Treasurer's Report: 2014 Accounts







2014 Accounts

- An "independent Financial Review" of the Society's accounts for 2014 has been prepared by the Argents Accountants and are awaiting council and AGM approval.
- The Society's total income for 2014 was £16,435, a decrease on 2013 (£37,189) and 2012 (£20,776).
- Total expenditure during 2014 was £33,659, a slight decrease on 2013 (£36,383), an increase on 2012 (£21,642).
- Consequently net expenditure for 2014 was £17,224, compared to net income for 2013 (£806) and net expenditure in 2012 (£886)



2014 Accounts

- Dividends from the Charitable Organisations Investment Fund (COIF) resulted in an income of £1,578. Revaluation of the funds yielded an unrealised gain of £1,850, with the total investment worth £41,130 as of 31st December 2014.
- There was £63,560 held in bank accounts on 31st December.
- The total funds carried forward on 31st December were £104,042, from £119,416 on 1st January.



2013 Accounts: detail

<u>Income</u>	
Membership subscriptions	7,626
Grants (e.g., NOC,SAMS)	5,650
Sponsorship Challenger W	1,350
Sponsorship Prospectus Meeting	231
Donation of sponsorship monies from Biennial Challenger Conference	N/A
Interest from investments	1,571
Deposit account interest	7
Total Income	16,435

<u>Expenditure</u>	
Administration &	
Insurance	1,975
Publicity	0
Ocean Challenge	3,600
Awards & Prizes	9,041
Accountancy	1,323
Council Travel	2,732
SIGs, YsNet & Events	2,291
Prospectus Meeting	NA
Professional subs.	7,896
Equipment depreciation	NA
Haeckel images	1,048
Plant and machinery	184
Website development	3,600
Total Expenditure	33,659



Accounts 2011-2014 compared

	2014	2013	2012	2011
Administration	1975	1450	1680	1409
Publicity	0	327	577	0
Ocean Challenge	3600	3029	5656	5887
Awards	9041	4250	2820	2943
Auditors/Accounts	1313	2400	2340	2400
Council Travel	2732	2714	2010	2241
SIGs and local networking events	2291	2053	1156	531
Prospectus meeting	NA	9872		10787
Subscriptions (incl. SCOR)	7896	6578	4612	2937
Equipment depreciation	184	245	326	436
Sundry		33	31	34
Bank Charges		421	434	379
Website development	3600	2347		
Total Expenditure	33,659	36,383	21,642	29,984



Accounts 2011-2014 compared

	2014	2013	2012	2011
Membership subscriptions	7626	10656	15256	12362
Donations	5650	4000	4000	4000
Sponsorship of CW	1350	500	0	500
Prospectus meeting	231	1239		11660
Conference sponsorship	NA	18973	NA	10700
Interest from investments	1571	1814	1513	1501
Deposit account interest	7	7	7	7
Total Income	£16,435	£37,189	£20,776	£41,980
Net income	£-17,224	£806	£-866	£11,996



Questions on 2014 accounts?



As accountants for 2015 accounts, propose to retain:

Argents Chartered Accountants
15 Palace Street
NORWICH
Norfolk
NR3 1RT



Reserves policy

Through consultation with the Charities Commission guidance on reserves policies for small charities, the following policy was agreed at the 97th meeting of council:

- 1) £15k would be placed in reserve to cover unforeseen emergencies
- 2) £30k (3 x £10k) would be placed in reserve to offset any potential future uncertainties in income (effectively the difference between annual subscriptions (£15k) and total income=expenditure ~£25k)
- 3) A contingency fund of £20k (equivalent to one year average annual expenditure over past decade) be held in reserve to meet unforeseen needs including unexpected opportunities which might arise for the society to further it's objectives.
- 4) The reserved policy to be kept under review by council and presented for acceptance by the membership annually at the AGM



Treasurer:

Sinhue Torres

sinhue@noc.ac.uk

Taking over from

Mark Moore

cmm297@noc.soton.ac.uk

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Administration	1278	1480	1382	1448	1103	1146	1595	1409	1680	1450	1975
Publicity	2969	2040	903	671	283	0	0	0	577	327	0
Ocean Challenge	11096	7940	3490	9337	7377	7898	4211	5887	5656	3029	3569
Awards	1030	1750	2050	1500	2962	1343	2741	2943	2820	4250	9041
Accountants	1293	2000	1760	1998	2070	2174	2399	2400	2340	2400	1323
Council travel	3336	2100	1900	3600	1365	2742	1586	2241	2010	2714	2732
SIGs	250	1615	1090	995	1145	1132	59	531	1156	2053	2291
Local networking	0	0	0	0	0	0	548	10787		9872	0
Subscriptions	421	450	660	220	290	105	109	2937	4612	6578	7896
Equipment dep	918	690	520	390	290	218	163	436	326	245	184
Sundry	317	110	340	460	175	143	190	34	31	33	0
Total Exp	22908	20175	14095	20619	17060	16901	13975	29984	21642	36383	33659
Subscriptions	10898	12850	9810	17730	16720	14740	14324	12362	15256	10656	7626
Donations NOC, PML, POL	3000	5000	5000	5000	5000	5000	6000	4000	4000	4000	5650
Sponsorship CW	22	300	0	0	600	700	0	500	0	500	1350
Sponsorship		333	· ·	· ·		. 00	· ·		ŭ		.000
conference	0	0	0	8890	0	5930	3003	10700	0	18973	0
Interest from investments	1077	1350	1500	1215	1413	1413	1457	1501	1513	1814	1571
Deposit account interest	209	249	391	278	411	227	7	7	7	7	7
Total Inc	15206	19749	16701	33113	24144	28010	24791	41980	20776	37189	16435
Operating profit	(7702)	(426)	2606	12494	7084	11109	10816	11996	(866)	806	(17224)
Investment holding	30351	35160	38707	39516	29356	31946	34047	32090	35072	39280	41130
Total Funds carried	55553	59563	65417	78843	75631	89331	102247	112286	114402	119416	104042



Reserves policy

In summary:

Council proposes a £65k reserve to be kept under annual review.

Current funds held are £104k

Questions?



Appointment of Auditors



Election of New Council Members

Many thanks to Officer and Council members rotating off:

- Hilary Kennedy
- Chris Comyn

Changes to Council due:

3 Council members to be elected



Prof. Rachel MillsNational Oceanography Centre

Professor Rachel Mills is Head of Ocean and Earth Science, University of Southampton based at the National Oceanography Centre, Southampton. She is an ocean chemist who combines shipboard observations and deep sea sampling with laboratory experimental approaches to decipher the processes that control the supply and fate of trace metals in the ocean. Over her career she has spent significant time at sea and has made important contributions to the understanding of active sea-floor mineral deposit formation. She has used an integrated, interdisciplinary approach to (1) estimate the size, grade and rate of growth of seafloor mineral deposits, (2) estimate seafloor carbon burial in an area of natural iron fertilisation in the Southern Ocean and (3) study iron cycling in the deep ocean and shelf seas and



re-evaluate the flux of this important micronutrient into the oceans, challenging the paradigm that it is supplied to the surface ocean predominantly from the atmosphere.

Rachel has been a member of the Challenger Society for Marine Science since 1994 and chaired the editorial board of Ocean Challenge from 1995-2000 and therefore attended Council meetings in this capacity. She has been actively involved in generating copy for, and contributing to this publication over the years and her PhD students and postdoctoral researchers have been regular recipients of travel awards and most recently a Challenger Society Fellowship (Will Homoky, 2014).



Dr Louisa Watts

Louisa studied for a degree in Chemistry, an MSc. and PhD in Oceanography (University of Southampton/Dunstaffnage Marine Laboratory, Oban) followed by seven years of post-doctoral research with plenty of sea-going trips on British and international research ships. I was lucky enough to present my work and teach in different countries, including teaching Oceanography with the Open University (OU). My research mainly focussed on the uptake of nitrogen by phytoplankton (oceanic plants) and its relationship to carbon fluxes in the ocean. During this time, I spent an exciting two years at the Bedford Institute of Oceanography in Canada, where I worked on numerical relationships (algorithms) to link optical and growth properties of phytoplankton with ocean properties that can be detected by satellites.



I have always been keen on communicating my research to the public and have given many talks at science festivals and to schools. Returning from Canada, I worked for several years as Science Communications manager for the newly formed National Centre for Atmospheric Science, and on aspects of science programme development with the Natural Environment Research Council, building partnerships with Non-Governmental Organisations such as the World Wildlife Fund (WWF). During this time I also took on the role of editor for Challenger Society's newsletter, which developed my writing and cajoling skills!

Since graduating with a PGCE, I have been teaching adult maths courses and study-skills sessions at various colleges and in community settings. I recognise the empowerment and individual wellbeing brought about by education and am a passionate advocate for increasing the accessibility of education to all people from all backgrounds.

I am delighted to be back on board with the Challenger Society, working on outreach and education; I am looking forward to combining my oceanography background with my experience of education in different settings. I am particularly interested in promoting numerical, scientific and technical skills amongst learners of different ages and raising awareness of the exciting career opportunities that abound in the marine world!



Dr Luisa Cristini National Oceanography Centre

- MSc in environmental physics from University of Padua, IT (2006)
- PhD in climate sciences from University of Bremen, DE (2010)
- Postdoc at MPI-MET in Hamburg, DE (2010-2011) and University of Hawaii at Manoa, USA (2011-2013)
- Since 2013 at NOCS as Project Manager
- Past research interests: Antarctic paleoclimate through coupled OA-ice sheet modelling; OA-ice sheet interactions under future climate scenarios; climate change impacts & natural hazards in Hawaii & Pacific
- Current activities: management of EU programmes in operational oceanography, climate policy, international relationships & communication
- Passionate about: environmental conservation, sustainable development, human rights, travel & food



