AQUA EXCEL 2020

AQUAculture infrastructures for EXCELlence in European fish research towards 2020 — AQUAEXCEL2020

D4.5a Distance learning training course1

Wageningen University/AquaTT

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Executive Summary

Objectives
To educate a new generation of aquaculture researchers and industry stakeholders who focus on sustainable exploitation of their new knowledge, skills and tools in order to advance an innovative *European aquaculture sector.* The set-up of the training courses will centre on fostering a culture of cooperation between all parties involved.

Rationale:
To foster and build the human capital of the European aquaculture sector, several goals are set by the Strategic Research and Innovation Agenda of EATiP to which AQUAEXCEL^{2020} will contribute. All AQUAEXCEL^{2020} training courses are multi-partner collaborations bringing together unique knowledge, tools and skills to create innovative modules that promote and enable peer-to-peer networking and collaboration. Participative training design ensures exchange and mutual learning between trainers and participants from both academia and industry. New models and partnerships for learning are explored for future recurrence, encouraging career development and innovation in the sector. Access to Research Infrastructures (knowledge, facilities and experience) will add value to the training. The training courses are state-of-the-art, transferring new knowledge and insights originating from the research and services carried out and created by AQUAEXCEL^{2020}, and building upon outputs, tools and achievements from FP7-AQUAEXCEL.

Main Results:
The first training course “Experimental data management: from generating protocols to sharing data” is a distance learning (DL) course and is provided by the University of South Bohemia in České Budějovice (JU) in collaboration with Wageningen University (WU). The course teaches the approach for experimental data management from the protocol preparation to data sharing using the experimental data repository system developed in FP7-AQUAEXCEL. AQUAEXCEL^{2020} has included DL training courses as a more flexible education alternative which fits working professionals better, is accessible to more people and does not require travel by participants. The DL courses make use of a blend of delivery technologies such as video conferencing and recordings, print materials (including relevant literature), message board forums and e-mail; and include practical exercises (models), tutorials and feedback provision by teachers/experts. This first training course was given live in April 2016, with direct online classroom interaction, and 17 people created the account, participated at least on one lecture and create the protocol required for assessment. The course has since been made available online. Newly registered participants receive a login and are able to follow the course on a continuous basis. The course will run over the full duration of the AQUAEXCEL^{2020} project.

Authors/Teams involved: Geertje Schlaman (Wageningen University), Dr. Claudia Junge (AquaTT), Marieke Reuver (AquaTT)

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1. Introduction

AQUAEXCEL2020 aims to foster a culture of cooperation between European aquaculture RIs, the associated research community, the aquaculture industry and other relevant stakeholders, which will help develop a more efficient and attractive aquaculture European Research Area leading to a sustainable and globally competitive European aquaculture sector. One of its specific aims is to provide state-of-the-art unique training courses to educate a new generation of aquaculture researchers and industry stakeholders who focus on sustainable exploitation of their new knowledge, skills and tools in order to advance an innovative European aquaculture sector. Work package 4 of AQUAEXCEL2020 has a dedicated task focused on training a new generation of aquaculture researchers and industry stakeholders.

Nine technical training courses in total will be organised by different AQUAEXCEL2020 partners offered to people within and outside the partnership. The courses will focus on different aspects of aquaculture experimentation to foster a culture of cooperation between all parties involved. These training sessions will transfer new knowledge and insights originating from the research and services carried out and created by AQUAEXCEL2020.

The first training course is a distance learning course and is being provided by the University of South Bohemia in České Budějovice (JU) in collaboration with Wageningen University (WU). The course deals with best practice experimental data management, including all aspects from preparing experiment protocols to sharing data. It is based on the experimental data repository system developed in FP7-AQUAEXCEL called bioWES. bioWES is a distributed, knowledge-based repository for large datasets, typically applicable in biological and related sciences. The bioWES scientific data management solution provides full control over experiments, from protocol design, through data acquisition and processing, to sharing final results.

Participants learn how to use the bioWES system for their own experimental work, using their own protocols and real experimental data. The aim is that by the end of the course, each participant will be able to install the bioWES system, create their own account, create unique experimental protocols based on their own specific needs, store their own experimental data, create connections between experimental protocols, cooperate with colleagues through sharing and visualise the overview of individual project steps. The participants will also be introduced to the special functionality of the system: data processing modules, plugins for communication with measurement devices and standardisation support.

The course is organised as an online training with active participation of the users. The organisers guide the users through every single step of the bioWES system, from installation to sharing of experimental data, during three one and a half hour sessions. The participants use their own protocols and experimental data to test theoretical knowledge on real examples. The course is available through a standard internet browser for each registered participant.

2. Distance Learning Course 1

2.1 Pre-course activities

A first promotional leaflet to promote the live part of the first distance learning Training Course “Experimental data management: from generating protocols to sharing data” was developed (Figure 1) and distributed through several channels such as AquaTT Training News (monthly newsletter reaching over 5,000 people in the aquaculture sector), European Aquaculture Society (EAS) distribution channels, Federation of European Aquaculture Producers (FEAP) and European Aquaculture Technology and Innovation Platform (EATiP) distribution channels, EuroMarine (a European marine science network), the project website (Figure 2), and the partner’s channels. Annex I shows the promotional leaflet to promote the first course.

Figure 1. Promotional leaflet for DL training course 1 – live part

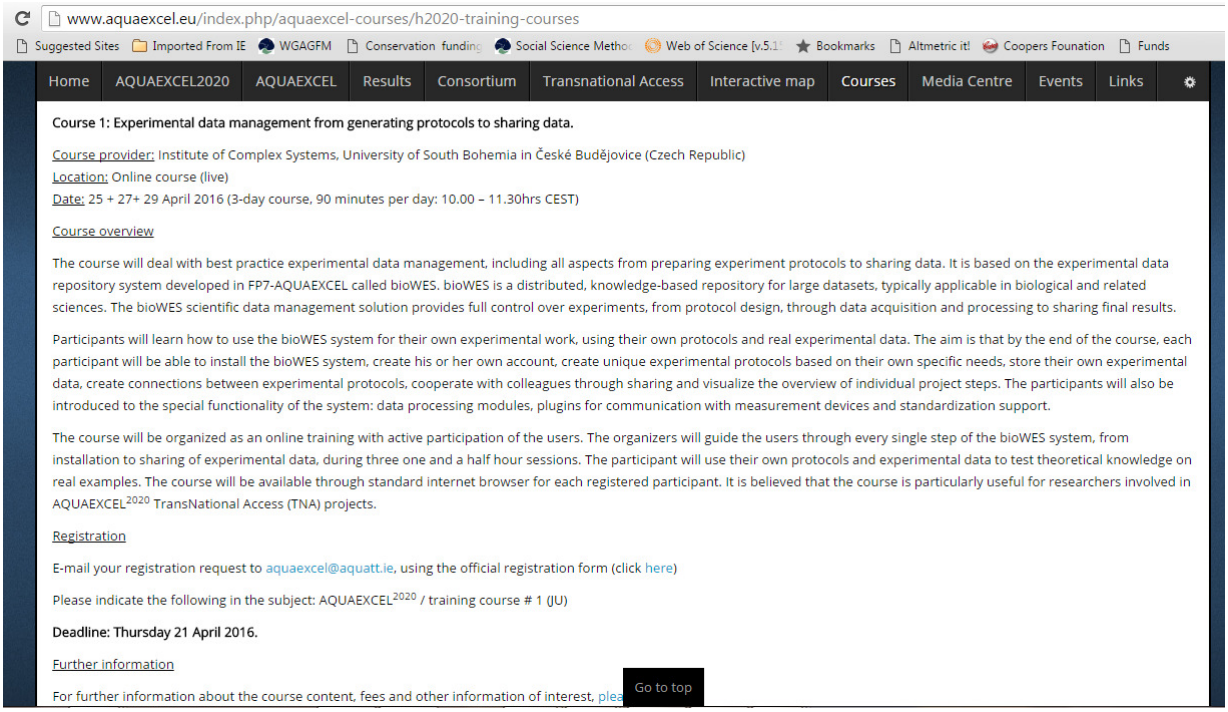


Figure 2. Print screen promotion of course on website – live part
http://www.aquaexcel.eu/index.php/aquaexcel-courses/h2020-training-courses

The registration period for the live part of the course was open from 8 April 2016 until 21 April 2016 and participants were required to complete a registration form and email it to aquaexcel@aquatt.ie.

After the live part of the course took place, an updated promotional leaflet was developed and distributed through the same communication channels to promote the on-going Distance Learning training course. The AQUAEXCEL2020 website has been adjusted accordingly. AquaTT is currently developing an overall AQUAEXCEL2020 training course leaflet, advertising all nine training courses, which will ensure a continuous promotion of this on-going first Distance Learning course as well.

The target audience are researchers, students and technicians in the life sciences who would like to improve management of scientific data and metadata.

2.2 Course activities

The activities during the training course are presented in detail in the course agenda in Annex 2.

A special (web based) Blackboard learning environment was created, to which students and lecturers have access with an individual log-in. All the course information has been put on the Blackboard and is available on a continuous basis for the ongoing course. The Blackboard provides a detailed overview of course activities; theoretical lectures in videos as well as the assigned tasks. First participants get an overview of the bioWES system, and then learn how to use the system through pre-entered examples. Participants can then use their own protocols and experimental data to test their understanding and practice using the

system with real data. An example of a protocol is the measurement of a specific treatment under specific conditions, or application of a fish diet under specific conditions.

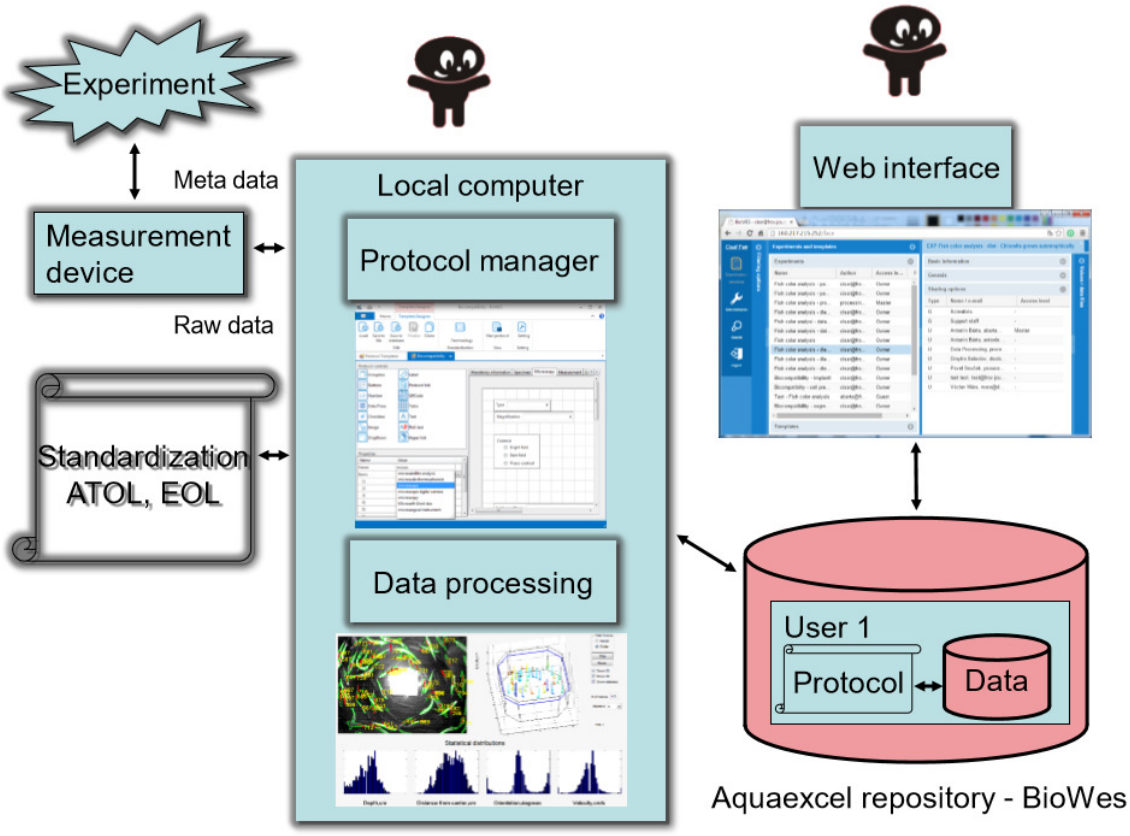


Figure 3. BioWes

All documents related to the training course are available on the BlackBoard system.

The course is set up as 3 days of lectures and includes a 'Forum' function where interaction with the tutors and among students is possible through Q&A (Questions and Answers). The material for each day includes videos with instructions and training course activities.

The course was initially set up as an online live 3-day training course. The recorded version of this training is stored on Blackboard (Figure 4) and is available throughout the duration of AQUAEXCEL2020.

17 people created the BlackBoard account, participated at least on one lecture and create the protocol required for assessment. On day 1, 14 people took the lectures, on day 2, 12 people took the lectures, and on day 3, 7 people took the lectures.

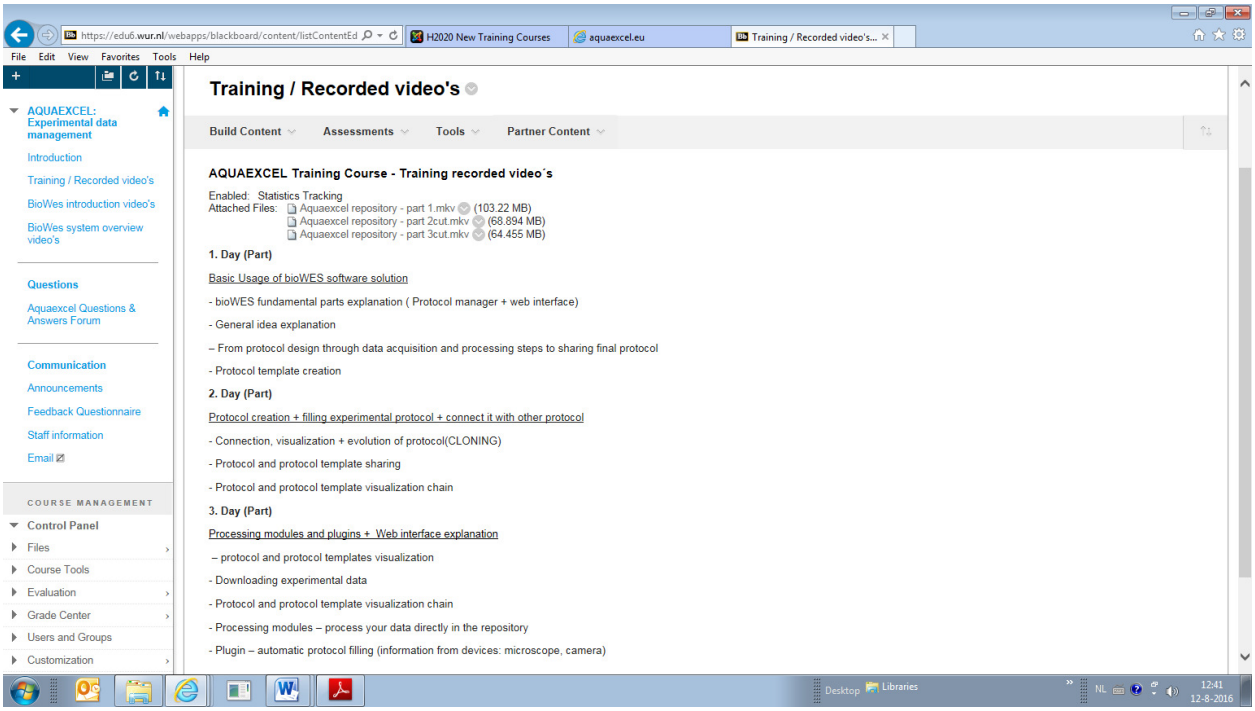


Figure 4: Print screen of BlackBoard website with overview activities.

2.3 Post- Course activities

After completion of the live online course, participants were asked for feedback via an online survey (Figure 5), of which the results are given in Annex 4. These results will help the training course organisers to improve the distance learning course and future AQUAEXCEL2020 training courses and evaluate the need for future courses. The results of this evaluation exercise were confidential and anonymous so participants could be honest in their comments. The survey was online and took about 15 minutes to complete.

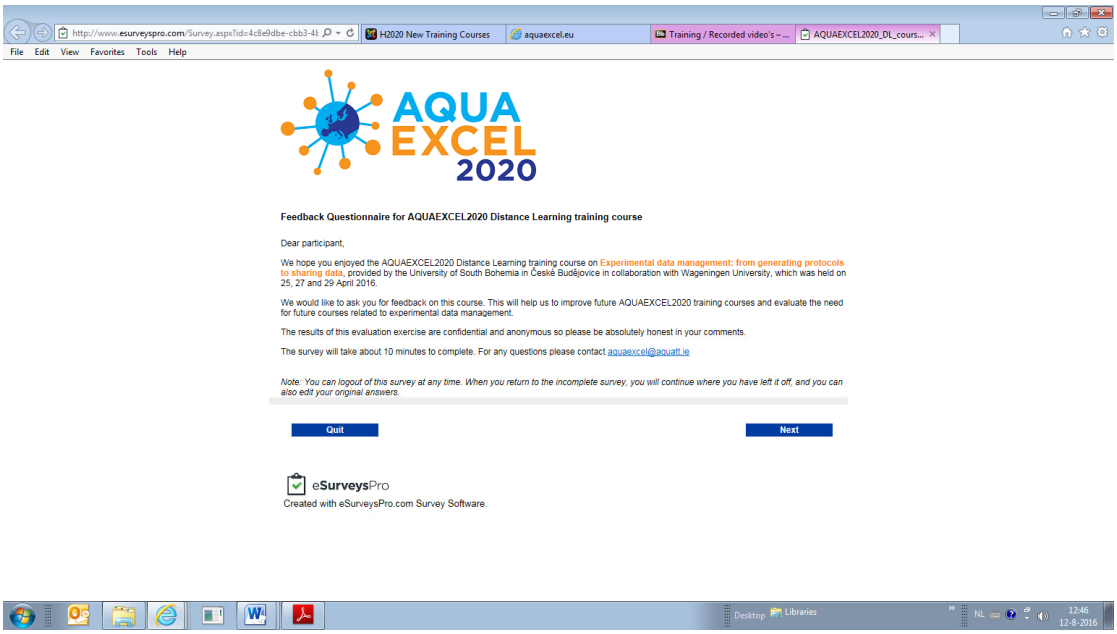


Figure 5: Print screen of welcome page of the online evaluation survey.

Since the end of April (M7), the course was made available as a constant online resource enabling people to continuously enrol and benefit from the course in form of recordings. People wishing to register should send an email with the completed registration form to aquaexcel@aquatt.ie. Registrations are forwarded on a continuous basis to the course coordinator and participants then receive a login to follow the course by means of the three recorded lectures. A Q&A forum enables feedback and discussions with tutors and other course participants.

AquaTT organised pre- and post-course activities, such as finalising course design, developing promotional leaflets, assisting in the organisation, managing the registrations, publishing and promoting the training courses, as well as carrying out and analysing the evaluations.

3. Conclusions

The main conclusion which can be drawn from the participant's feedback is that the live training course was successful. This is evident by the participant's reported increased knowledge. Before the course 75% of people stated they either have no or only basic knowledge of the course's subject, whereas around 70% reported moderate to detailed knowledge after the course. To date (M11) only 8 participants (n=8) have responded to the online evaluation survey. Overall the 8 responds graded the course either good or excellent (50/50%). 43% of the respondents would like a future course on Experimental data.

One of the participants commented: 'The course was very well organized, the people very helpful and everything worked perfectly. I believe there should be more courses in this format.'

Another respondent stated: 'This course showed how to structure my experiments and introduced a novel way of sharing and storing data'

The training course achieved the desired aim to inform and teach participants about the design of the bioWes system and to use this with their own data. Participants learned through a range of learning methods including videos (replacing traditional lectures), practical tutorial assignments and a forum for questions and answers.

Participants had mostly positive experiences during the course with the content, format and training assignments. The trainers were also commended for their enthusiasm, and being well prepared and knowledgeable. Offering the training course online was valued as very practical and helpful. The results of the evaluation survey are included in Annex 4.

Between the course becoming available as a permanent online resource in April 2016 (M7) and the preparation of this report in August 2016 (M11), 11 participants have registered to take the course and have received login details. Since there is no time limit, people will be able to start and finish the course on their own timelines.

Glossary

AQUAEXCEL2020: AQUAculture Infrastructures for EXCELlence in European Fish Research towards 2020

bioWES: a distributed, knowledge-based repository for large datasets, typically applicable in biological and related sciences. The bioWES scientific data management solution provides full control over experiments, from protocol design, through data acquisition and processing, to sharing final results.

Document information

EU Project N°	652831	**Acronym**	AQUAEXCEL2020
Full Title	AQUAculture Infrastructures for EXCELlence in European Fish Research towards 2020		
Project website	www.aquaexcel.eu		

Deliverable	**N°**	D4.5a	**Title**	Distance learning training course1
Work Package	**N°**	4	**Title**	Integration, training, dissemination and cooperation

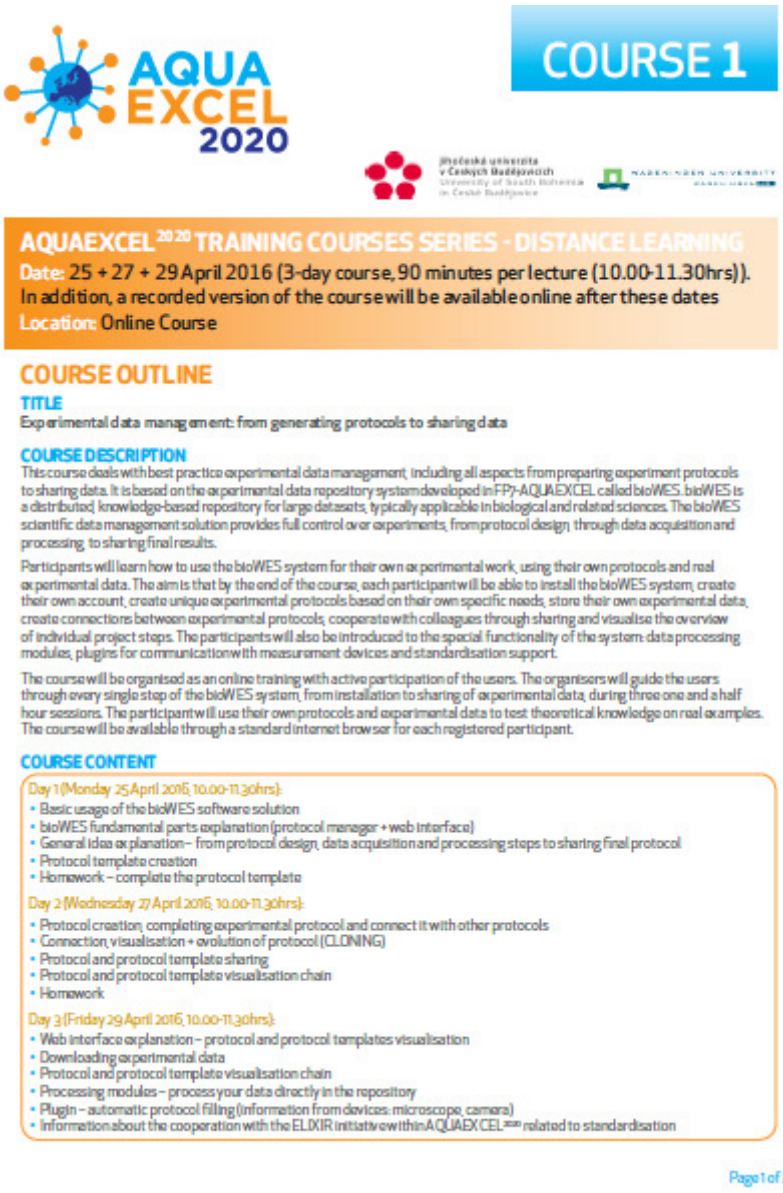
Date of delivery	**Contractual**	31/05/2016 (Month M8)	**Actual**	16/08/2016 (Month 11)
Dissemination level	X	**PU Public, fully open, e.g. web**		
		CO Confidential, restricted under conditions set out in Model Grant Agreement		
		CI Classified, information as referred to in Commission Decision 2001/844/EC.		

The course itself has been provided on time (M7), it is mainly the Deliverable admin procedure that was delayed.

Authors (Partner)	AquaTT			
Responsible Author	**Name**	Dr. Claudia Junge, Marieke Reuver	**Email**	claudia@aquatt.ie

Version log			
Issue Date	**Revision N°**	**Author**	**Change**
12/08/2016	V0	Geertje Schlamann	
16/08/2016	V1	Claudia Junge/Marieke Reuver	Revision
27/10/2016	V1	John Bostock	Internal review
28/10/2016	V2	Claudia Junge	Revision

Annex 1: Promotional leaflet – course 1 (print screen)



AQUA EXCEL 2020

COURSE 1

AQUAEXCEL 2020 TRAINING COURSES SERIES - DISTANCE LEARNING

Date: 25 + 27 + 29 April 2016 (3-day course, 90 minutes per lecture (10.00-11.30hrs)).
In addition, a recorded version of the course will be available online after these dates

Location: Online Course

COURSE OUTLINE

TITLE

Experimental data management: from generating protocols to sharing data

COURSE DESCRIPTION

This course deals with best practice experimental data management, including all aspects from preparing experiment protocols to sharing data. It is based on the experimental data repository system developed in FP7-AQUAEXCEL called bioWES. bioWES is a distributed, knowledge-based repository for large datasets, typically applicable in biological and related sciences. The bioWES scientific data management solution provides full control over experiments, from protocol design, through data acquisition and processing, to sharing final results.

Participants will learn how to use the bioWES system for their own experimental work, using their own protocols and real experimental data. The aim is that by the end of the course, each participant will be able to install the bioWES system, create their own account, create unique experimental protocols based on their own specific needs, store their own experimental data, create connections between experimental protocols, cooperate with colleagues through sharing and visualise the overview of individual project steps. The participants will also be introduced to the special functionality of the system: data processing modules, plugins for communication with measurement devices and standardisation support.

The course will be organised as an online training with active participation of the users. The organisers will guide the users through every single step of the bioWES system, from installation to sharing of experimental data, during three one and a half hour sessions. The participant will use their own protocols and experimental data to test theoretical knowledge on real examples. The course will be available through a standard internet browser for each registered participant.

COURSE CONTENT

Day 1 (Monday 25 April 2016, 10.00-11.30hrs):
- Basic usage of the bioWES software solution
- bioWES fundamental parts explanation (protocol manager + web interface)
- General idea explanation – from protocol design, data acquisition and processing steps to sharing final protocol
- Protocol template creation
- Homework – complete the protocol template

Day 2 (Wednesday 27 April 2016, 10.00-11.30hrs):
- Protocol creation, completing experimental protocol and connect it with other protocols
- Connection, visualisation + evolution of protocol (CLONING)
- Protocol and protocol template sharing
- Protocol and protocol template visualisation chain
- Homework

Day 3 (Friday 29 April 2016, 10.00-11.30hrs):
- Web interface explanation – protocol and protocol templates visualisation
- Downloading experimental data
- Protocol and protocol template visualisation chain
- Processing modules – process your data directly in the repository
- Plugin – automatic protocol filling (information from devices: microscope, camera)
- Information about the cooperation with the ELIXIR initiative within AQUAEXCEL2020 related to standardisation

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COURSE 1

COURSE ORGANISERS

Ing. Petr Císař Ph.D. and Antonín Barta, Institute of Complex Systems, University of South Bohemia in České Budějovice.

TARGET AUDIENCE

Researchers, students and technicians in the life sciences who would like to improve management of scientific data and metadata. It is believed that the course is particularly useful for researchers involved in AQUA EXCEL2020 TransNational Access (TNA) projects.

COURSE TUTORS

Ing. Petr Císař Ph.D

Position: Director of Institute of Complex Systems

Organisation: University of South Bohemia in České Budějovice

Contact details – cisar@frov.jcu.cz

http://www.frov.jcu.cz/en/fns/ifcs-complex-systems

Petr Císař obtained his M.Sc. and Ph.D. in cybernetics at the Faculty of applied sciences, University of West Bohemia in Pilsen, Czech Republic in the field of automatic visual speech recognition. Petr Císař worked as a research engineer for the private company Honeywell s.r.o. from 2006 until 2009. He is one of the inventors of the patents in the field of alarm management and networking of image processing tools. Since 2009, he has been working for the University of South Bohemia as a researcher. His research interest is image analysis of cell cycle and design of experiment. Petr Císař became the director of the Institute of Complex Systems in 2012.

Antonín Barta

Position: Technician/Assistant

Organisation: University of South Bohemia in České Budějovice

Contact details – abarta@frov.jcu.cz

http://www.frov.jcu.cz/en/fns/ifcs-complex-systems

Antonín works as an assistant/technician at the Institute of Complex Systems from 2014. He is part of the Laboratory of Signal and Image Processing and cooperates on bioWES development.

LOCATION:

Online Course. Full details on access will be provided after registration.

DATE & TIME:

25+27+29 April 2016 (3-day course, 90 minutes per lecture)

Lecture time: from 10:00 to 11:30 CEST (Central European Summer Time)

A recorded version of the course will be publicly available after the course date.

REGISTRATION:

E-mail your registration request to aquaexcel@aquatt.ie, using the official registration form, which can be downloaded from the AQUA EXCEL2020 website: www.aquaexcel.eu/index.php/aquaexcel-courses/h2020-training-courses

Please indicate the following in the subject in your e-mail: AQUAEXCEL2020 / training course #1 (JU)

DEADLINE: Tuesday 21 April 2016

FEES:

Course attendance is free, thanks to European Commission Horizon 2020 funding.

MAXIMUM PARTICIPANTS:

No limitation

LANGUAGE OF INSTRUCTION AND MATERIAL:

English

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@AQUAEXCEL2020
www.aquaexcel.eu

Modified version for the ongoing online training course

COURSE 1

AQUAEXCEL2020 TRAINING COURSES SERIES - DISTANCE LEARNING

Format: Three recorded lectures (each 90 minutes)

Location: Online Course

COURSE OUTLINE

TITLE

Experimental data management: from generating protocols to sharing data

Annex 2: Course agenda

COURSE CONTENT

Day 1 (Monday 25 April 2016, 10.00-11.30hrs):

- Basic usage of the bioWES software solution
- bioWES fundamental parts explanation (protocol manager + web interface)
- General idea explanation – from protocol design, data acquisition and processing steps to sharing final protocol
- Protocol template creation
- Homework – complete the protocol template

Day 2 (Wednesday 27 April 2016, 10.00-11.30hrs):

- Protocol creation, completing experimental protocol and connect it with other protocols
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Day 3 (Friday 29 April 2016, 10.00-11.30hrs):

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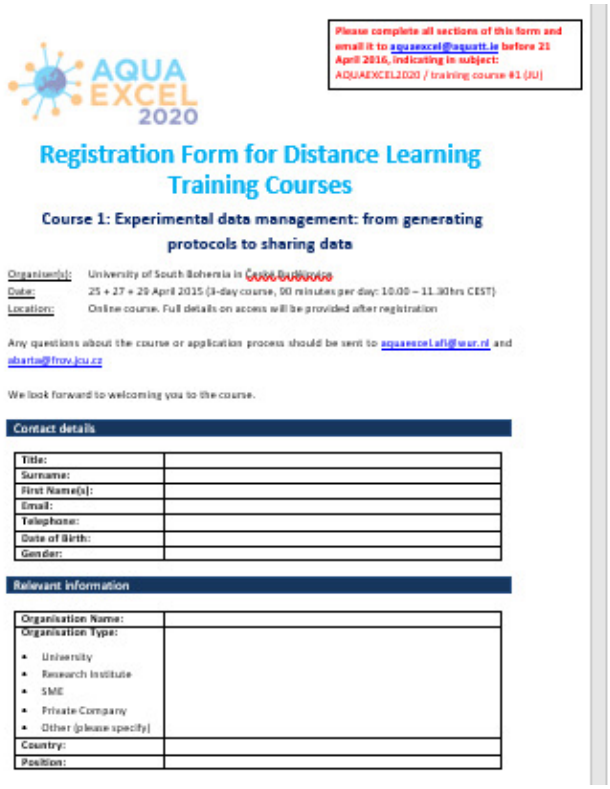
- Downloading experimental data
- Protocol and protocol template visualisation chain
- Processing modules – process your data directly in the repository
- Plugin – automatic protocol filling (information from devices: microscope, camera)
- Information about the cooperation with the ELIXIR initiative within AQUAEXCEL2020 related to standardisation

Annex 3: Registration Form for Training Courses (print screen)



Please complete all sections of this form and email it to aquaexcel@aquatt.ie before 21 April 2016, indicating in subject: AQUAEXCEL2020 / training course #1 (JU)

AQUA EXCEL 2020

Registration Form for Distance Learning Training Courses

Course 1: Experimental data management: from generating protocols to sharing data

Organiser(s): University of South Bohemia in České Budějovice

Date: 25 + 27 + 29 April 2015 (3-day course, 90 minutes per day: 10.00 – 11.30hrs CEST)

Location: Online course. Full details on access will be provided after registration

Any questions about the course or application process should be sent to aquaexcel.afi@wur.nl and sbarta@frov.jcu.cz

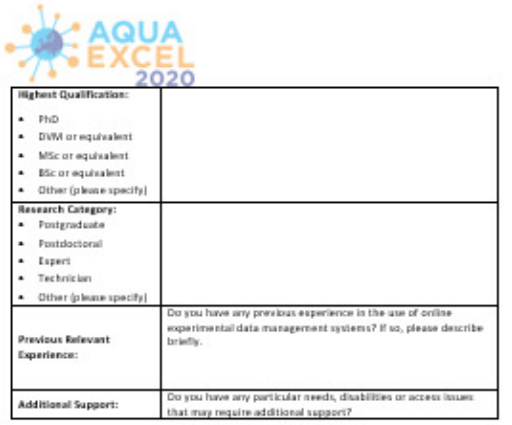
We look forward to welcoming you to the course.

Contact details

Title:	
Surname:	
First Name(s):	
Email:	
Telephone:	
Date of Birth:	
Gender:	

Relevant information

Organisation Name:	
Organisation Type: • University • Research Institute • SME • Private Company • Other (please specify)	
Country:	
Position:	



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Highest Qualification: • PhD • DVM or equivalent • MSc or equivalent • BSc or equivalent • Other (please specify)	
Research Category: • Postgraduate • Postdoctoral • Expert • Technician • Other (please specify)	
Previous Relevant Experience:	Do you have any previous experience in the use of online experimental data management systems? If so, please describe briefly.
Additional Support:	Do you have any particular needs, disabilities or access issues that may require additional support?

Please complete all sections of this form and email it to: aquaexcel@aquatt.ie before 21 April 2016, indicating in subject: AQUAEXCEL2020 / training course #1 (JU)

Annex 4: Survey Results

After the live part of the training course had finished, participants were asked to complete an online survey to give feedback and evaluate the course. There was a total of 8 respondents to the survey. The range of topics incorporated in the survey included the organisation, delivery and content of the course. Respondents were also given the opportunity to provide any additional feedback related to the course.

1. Participants country of residence:

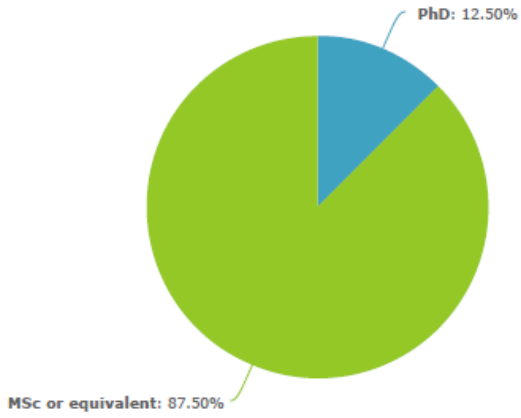
Six out of the eight participants came from a European country, with most participants from Greece (50% of total).

country	# people
Greece	4
Hungary	1
China	2
Portugal	1

2. Participants occupation:

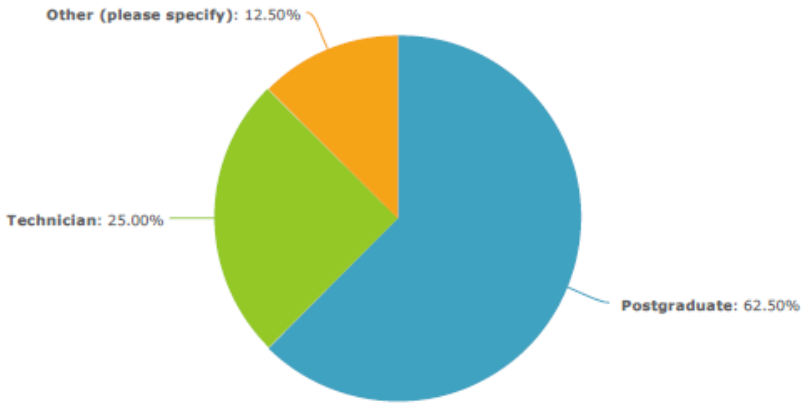
occupation	# people
PhD candidate	3
student	3
Unemployed	1
mechanical engineer	1

3. **3. Participants highest qualification:**



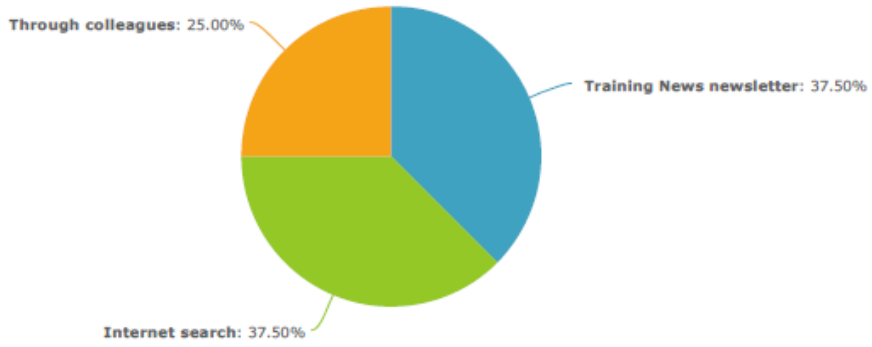
PhD	12.50%		1
MSc or equivalent	87.50%		7
BSc or equivalent	0.00%		0
Other (please specify)	0.00%		0
		Total Responses	8

4. **4. Participants current research category:**



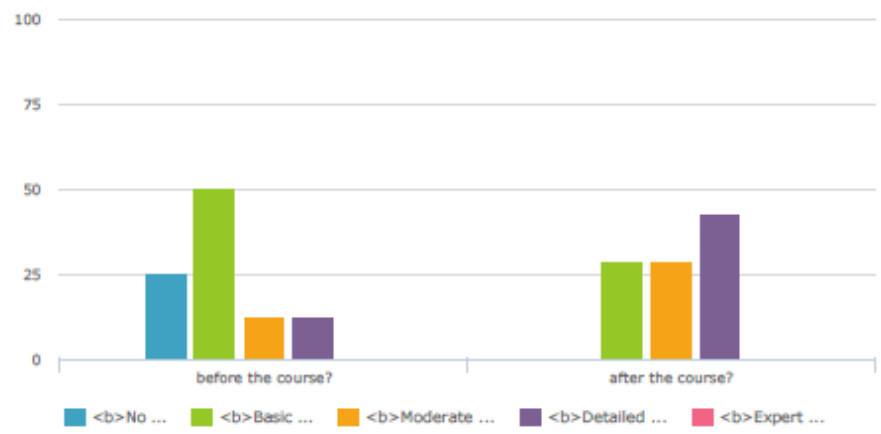
Postgraduate	62.50%		5
Postdoctoral	0.00%		0
Expert	0.00%		0
Technician	25.00%		2
Other (please specify)	12.50%		1
		Total Responses	8

5. **5. How did you hear about this course?**



Training News newsletter	37.50%		3
Internet search	37.50%		3
Through colleagues	25.00%		2
Other (please specify)	0.00%		0
		Total Responses	8
		Skipped	0

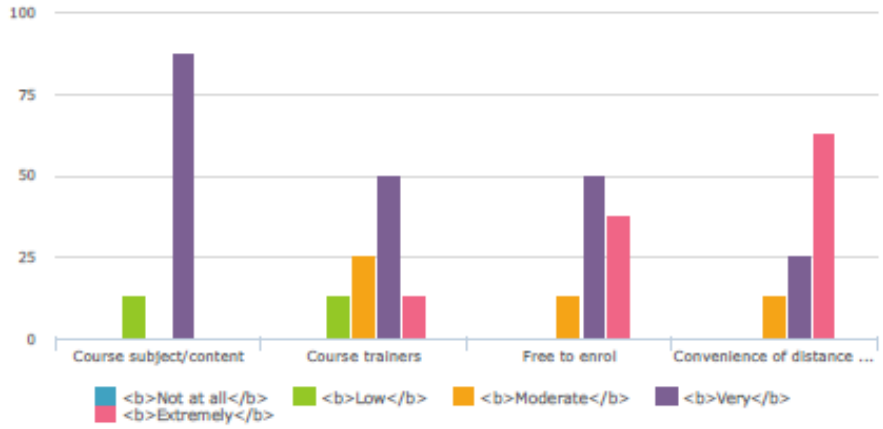
6. **6. How would you rate your knowledge of experimental data management:**



	No knowledge	Basic knowledge	Moderate knowledge	Detailed knowledge	Expert knowledge	Responses
before the course?	**2** 25.00%	**4** 50.00%	**1** 12.50%	**1** 12.50%	**0** 0.00%	8
after the course?	**0** 0.00%	**2** 28.57%	**2** 28.57%	**3** 42.86%	**0** 0.00%	7

Total Responses	8
Skipped	0

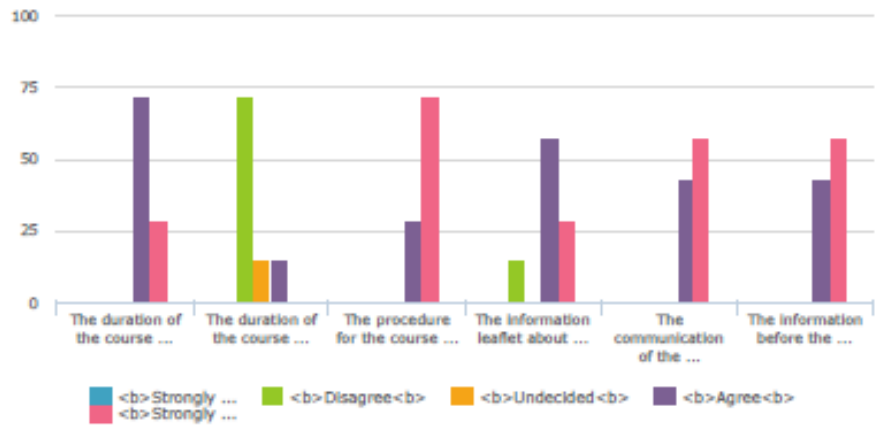
7. 7. How important were the following factors for you when deciding to enrol into this training course?



	Not at all	Low	Moderate	Very	Extremely	Responses
Course subject/content	0 0.00%	1 12.50%	0 0.00%	7 87.50%	0 0.00%	8
Course trainers	0 0.00%	1 12.50%	2 25.00%	4 50.00%	1 12.50%	8
Free to enrol	0 0.00%	0 0.00%	1 12.50%	4 50.00%	3 37.50%	8
Convenience of distance learning	0 0.00%	0 0.00%	1 12.50%	2 25.00%	5 62.50%	8

Total Responses	8
Skipped	0

8. **8. Please read the following statements and indicate how they correspond to your experience of the course organisation.**



	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree	Responses
The duration of the course was good.	0 0.00%	0 0.00%	0 0.00%	5 71.43%	2 28.57%	7
The duration of the course was too short.	0 0.00%	5 71.43%	1 14.29%	1 14.29%	0 0.00%	7
The procedure for the course registration was clear and simple.	0 0.00%	0 0.00%	0 0.00%	2 28.57%	5 71.43%	7
The information leaflet about the course was informative and visually attractive.	0 0.00%	1 14.29%	0 0.00%	4 57.14%	2 28.57%	7
The communication of the course (announcements, programme, etc.) was good.	0 0.00%	0 0.00%	0 0.00%	3 42.86%	4 57.14%	7
The information before the start of the course was clear.	0 0.00%	0 0.00%	0 0.00%	3 42.86%	4 57.14%	7

Total Responses	7
Skipped	1

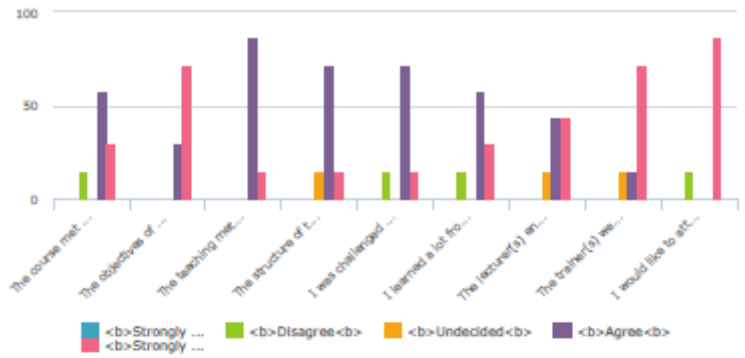
9. **9. Do you have any more feedback on the organisation of the course?**

Total Responses	2
Skipped	6

1: NO

2: The course was very well organized, the people very helpful and everything worked perfectly. I believe there should be more courses in this format.

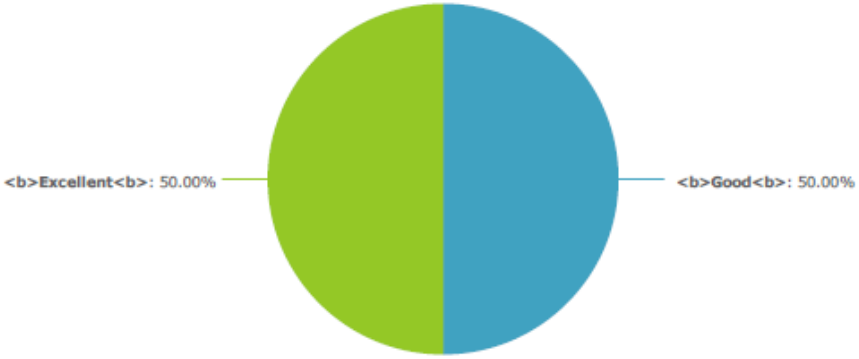
10. **10. Please read the following statements and indicate how they correspond to your experience of the course.**



	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree	Responses
The course met my expectations.	0 0.00%	1 14.29%	0 0.00%	4 57.14%	2 28.57%	7
The objectives of the course were clear to me.	0 0.00%	0 0.00%	0 0.00%	2 28.57%	5 71.43%	7
The teaching methods used in this course helped me achieve the course's learning outcomes.	0 0.00%	0 0.00%	0 0.00%	6 85.71%	1 14.29%	7
The structure of the course was logical and the material helped me to master the content.	0 0.00%	0 0.00%	1 14.29%	5 71.43%	1 14.29%	7
I was challenged by this course.	0 0.00%	1 14.29%	0 0.00%	5 71.43%	1 14.29%	7
I learned a lot from this course.	0 0.00%	1 14.29%	0 0.00%	4 57.14%	2 28.57%	7
The lecturer(s) encouraged me to think about the subject matter.	0 0.00%	0 0.00%	1 14.29%	3 42.86%	3 42.86%	7
The trainer(s) were well prepared and knowledgeable.	0 0.00%	0 0.00%	1 14.29%	1 14.29%	5 71.43%	7
I would like to attend a follow-up course in the future.	0 0.00%	1 14.29%	0 0.00%	0 0.00%	6 85.71%	7

Total Responses	7
Skipped	1

11. 11. If you look at all aspects of the course, which grade would you award this course?



Poor	0.00%		0
Below Average	0.00%		0
Average	0.00%		0
Good	50.00%		4
Excellent	50.00%		4
		Total Responses	8
		Skipped	0

12. 12. Please comment on the grade you gave the course (question number 11):

Total Responses	3
Skipped	5

1: (grade given: good) I give this grade because i believe the course gave me an additional knowledge in data management

2: (grade given: excellent): I think It was all cleared and I think that I learned a lot from this course. My expectations was exactly as I thought It would be.

3: (grade given: excellent) The course was very well organized, the people very helpful and everything worked perfectly. I believe there should be more courses in this format.

13. 13. The best thing(s) about this course was/were:

Total Responses	3
Skipped	5

1: it was well structured and the lecturers were teaching what they had control of

2: I think that the best things about this course was that the trainers were well prepared and knowledgeable and that the lessons through internet is
much more helpfully

3: Easy access

14. 14. The thing(s) to be improved was/were:

Total Responses	1
Skipped	7

1: no comments

15. **15. Were there subjects missed?**

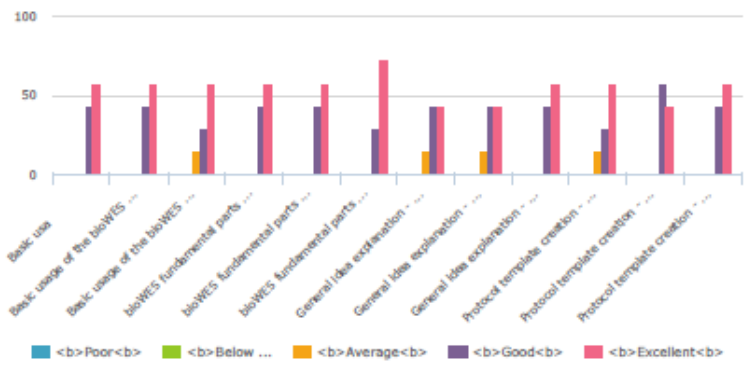
Please indicate any topics that, in your opinion, should have been included in the course:

Total Responses	2
Skipped	6

1: not at all

2: As an intro it was sufficient

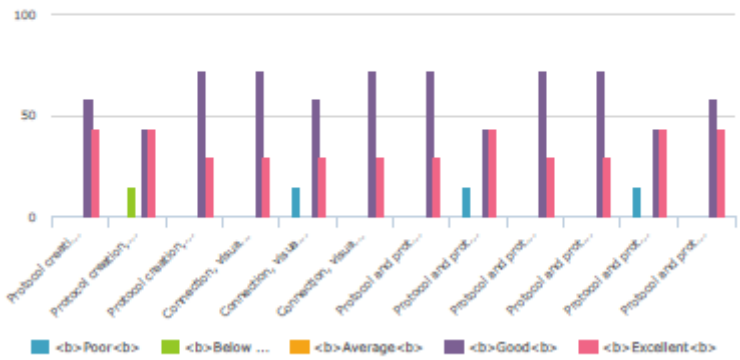
16. 16. How would you rate the quality of the following parts from Day1?



	Poor	Below Average	Average	Good	Excellent	Responses
Basic usage of the bioWES software solution - **presentation**	0 0.00%	0 0.00%	0 0.00%	3 42.86%	4 57.14%	7
Basic usage of the bioWES software solution - **course material**	0 0.00%	0 0.00%	0 0.00%	3 42.86%	4 57.14%	7
Basic usage of the bioWES software solution - **relevance**	0 0.00%	0 0.00%	1 14.29%	2 28.57%	4 57.14%	7
bioWES fundamental parts explanation - **presentation**	0 0.00%	0 0.00%	0 0.00%	3 42.86%	4 57.14%	7
bioWES fundamental parts explanation - **course material**	0 0.00%	0 0.00%	0 0.00%	3 42.86%	4 57.14%	7
bioWES fundamental parts explanation - **relevance**	0 0.00%	0 0.00%	0 0.00%	2 28.57%	5 71.43%	7
General idea explanation - **presentation**	0 0.00%	0 0.00%	1 14.29%	3 42.86%	3 42.86%	7
General idea explanation - **course material**	0 0.00%	0 0.00%	1 14.29%	3 42.86%	3 42.86%	7
General idea explanation - **relevance**	0 0.00%	0 0.00%	0 0.00%	3 42.86%	4 57.14%	7
Protocol template creation - **presentation**	0 0.00%	0 0.00%	1 14.29%	2 28.57%	4 57.14%	7
Protocol template creation - **course material**	0 0.00%	0 0.00%	0 0.00%	4 57.14%	3 42.86%	7
Protocol template creation - **relevance**	0 0.00%	0 0.00%	0 0.00%	3 42.86%	4 57.14%	7

Total Responses	7
Skipped	1

17. 17. How would you rate the quality of the following parts from Day2?

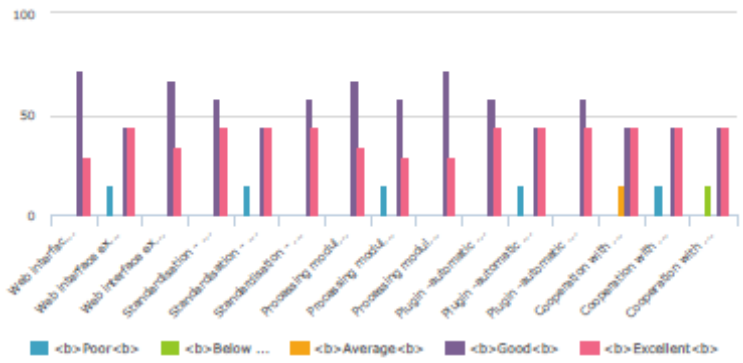


	Poor	Below Average	Average	Good	Excellent	Responses
Protocol creation, completion and connection - **presentation**	**0** 0.00%	**0** 0.00%	**0** 0.00%	**4** 57.14%	**3** 42.86%	7
Protocol creation, completion and connection - **course material**	**0** 0.00%	**1** 14.29%	**0** 0.00%	**3** 42.86%	**3** 42.86%	7
Protocol creation, completion and connection - **relevance**	**0** 0.00%	**0** 0.00%	**0** 0.00%	**5** 71.43%	**2** 28.57%	7
Connection, visualisation, and evolution of protocol (CLONING) - **presentation**	**0** 0.00%	**0** 0.00%	**0** 0.00%	**5** 71.43%	**2** 28.57%	7
Connection,	**1**	**0**	**0**	**4**	**2**	7

visualisation, and evolution of protocol (CLONING) - **course material**	14.29%	0.00%	0.00%	57.14%	28.57%	
Connection, visualisation, and evolution of protocol (CLONING) - **relevance**	**0** 0.00%	**0** 0.00%	**0** 0.00%	**5** 71.43%	**2** 28.57%	7
Protocol and protocol template sharing - **presentation**	**0** 0.00%	**0** 0.00%	**0** 0.00%	**5** 71.43%	**2** 28.57%	7
Protocol and protocol template sharing - **course material**	**1** 14.29%	**0** 0.00%	**0** 0.00%	**3** 42.86%	**3** 42.86%	7
Protocol and protocol template sharing - **relevance**	**0** 0.00%	**0** 0.00%	**0** 0.00%	**5** 71.43%	**2** 28.57%	7
Protocol and protocol template visualisation chain - **presentation**	**0** 0.00%	**0** 0.00%	**0** 0.00%	**5** 71.43%	**2** 28.57%	7
Protocol and protocol template visualisation chain - **course material**	**1** 14.29%	**0** 0.00%	**0** 0.00%	**3** 42.86%	**3** 42.86%	7
Protocol and protocol template visualisation chain - **relevance**	**0** 0.00%	**0** 0.00%	**0** 0.00%	**4** 57.14%	**3** 42.86%	7

Total Responses	7
Skipped	1

18. 18. How would you rate the quality of the following parts from Day3?



	Poor	Below Average	Average	Good	Excellent	Responses
Web interface explanation - **presentation**	0 0.00%	0 0.00%	0 0.00%	5 71.43%	2 28.57%	7
Web interface explanation - **course material**	1 14.29%	0 0.00%	0 0.00%	3 42.86%	3 42.86%	7
Web interface explanation - **relevance**	0 0.00%	0 0.00%	0 0.00%	4 66.67%	2 33.33%	6
Standardisation - **presentation**	0 0.00%	0 0.00%	0 0.00%	4 57.14%	3 42.86%	7
Standardisation - **course material**	1 14.29%	0 0.00%	0 0.00%	3 42.86%	3 42.86%	7
Standardisation - **relevance**	0 0.00%	0 0.00%	0 0.00%	4 57.14%	3 42.86%	7
Processing modules - **presentation**	0 0.00%	0 0.00%	0 0.00%	4 66.67%	2 33.33%	6
Processing modules - **course material**	1 14.29%	0 0.00%	0 0.00%	4 57.14%	2 28.57%	7
Processing modules - **relevance**	0 0.00%	0 0.00%	0 0.00%	5 71.43%	2 28.57%	7
Plugin - automatic	0	0	0	4	3	7

protocol filling - **presentation**	0.00%	0.00%	0.00%	57.14%	42.86%	
Plugin - automatic protocol filling - **course material**	**1** 14.29%	**0** 0.00%	**0** 0.00%	**3** 42.86%	**3** 42.86%	7
Plugin - automatic protocol filling - **relevance**	**0** 0.00%	**0** 0.00%	**0** 0.00%	**4** 57.14%	**3** 42.86%	7
Cooperation with the ELIXIR initiative within AQUAEXCEL2020 - **presentation**	**0** 0.00%	**0** 0.00%	**1** 14.29%	**3** 42.86%	**3** 42.86%	7
Cooperation with the ELIXIR initiative within AQUAEXCEL2020 - **course material**	**1** 14.29%	**0** 0.00%	**0** 0.00%	**3** 42.86%	**3** 42.86%	7
Cooperation with the ELIXIR initiative within AQUAEXCEL2020 - **relevance**	**0** 0.00%	**1** 14.29%	**0** 0.00%	**3** 42.86%	**3** 42.86%	7

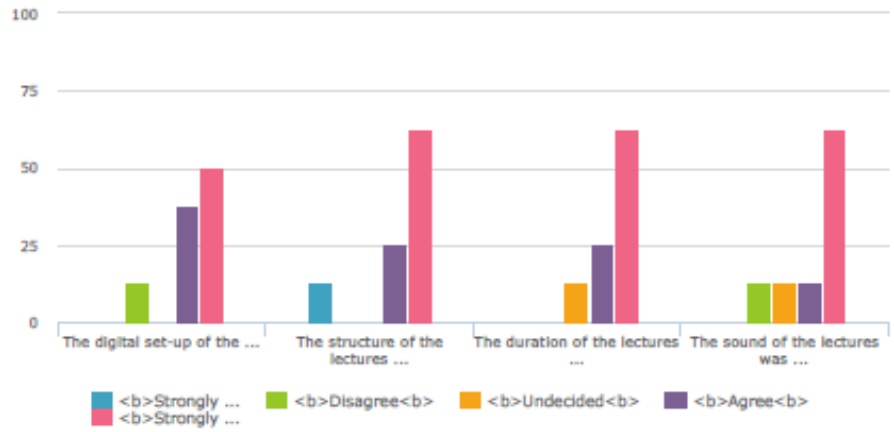
Total Responses	7
Skipped	1

19. 19. Please suggest changes and/or improvements would would like to see made to the trainers' approach to teaching and facilitating:

Total Responses	1
Skipped	7

1: I think everything was clear and the trainer showed to be very skilled and knowledgeable in the subjects

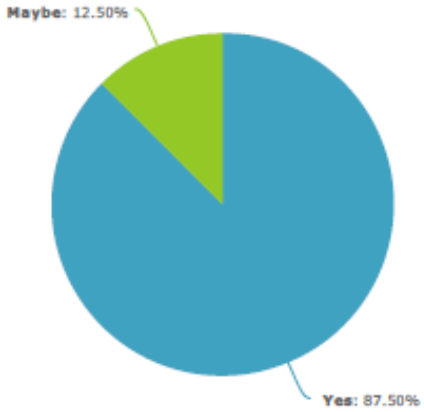
20. **20. Please read the following statements and indicate how they correspond to your experience of the course.**



	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree	Responses
The digital set-up of the course (on Black Board) was clear.	0 0.00%	1 12.50%	0 0.00%	3 37.50%	4 50.00%	8
The structure of the lectures was clear.	1 12.50%	0 0.00%	0 0.00%	2 25.00%	5 62.50%	8
The duration of the lectures was good.	0 0.00%	0 0.00%	1 12.50%	2 25.00%	5 62.50%	8
The sound of the lectures was good.	0 0.00%	1 12.50%	1 12.50%	1 12.50%	5 62.50%	8

Total Responses	8
Skipped	0

21. **21. Would you recommend this course to a fellow student/colleague?**



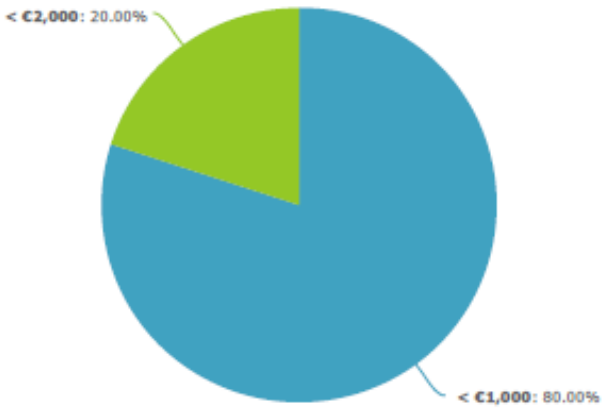
Yes	87.50%		7
No	0.00%		0
Maybe	12.50%		1
		Total Responses	8
		Skipped	0

22. **22. Please describe your learning experience in "Twitter" style (140 characters or less):**

Total Responses	1
Skipped	7

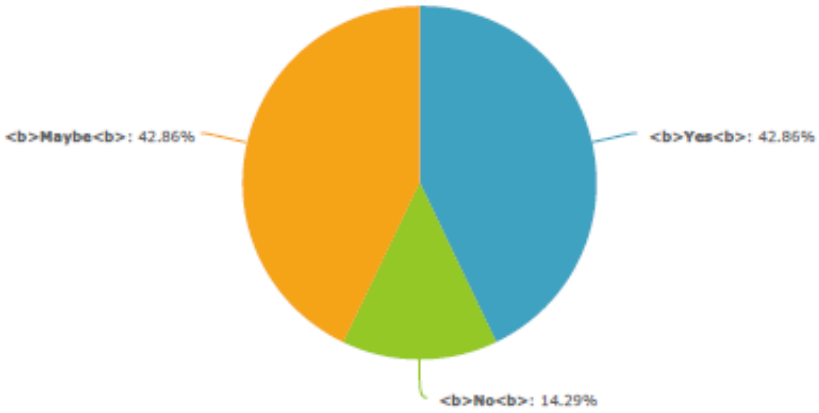
1: This course showed how to structure my experiments and introduced a novel way of sharing and storing data

23. **23. This Experimental data management: from generating protocols to sharing data course was subsidised. What would be the maximum amount you/your company could afford to pay for a similar course?**



< €1,000	80.00%		4
< €1,500	0.00%		0
< €2,000	20.00%		1
< €3,000	0.00%		0
> €3,000	0.00%		0
		Total Responses	5
		Skipped	3

24. **24. Would you or your institute be interested in future Experimental data management: from generating protocols to sharing data courses organised by JU and WU at the cost indicated by you above?**



Yes	42.86%		3
No	14.29%		1
Maybe	42.86%		3
		Total Responses	7
		Skipped	1

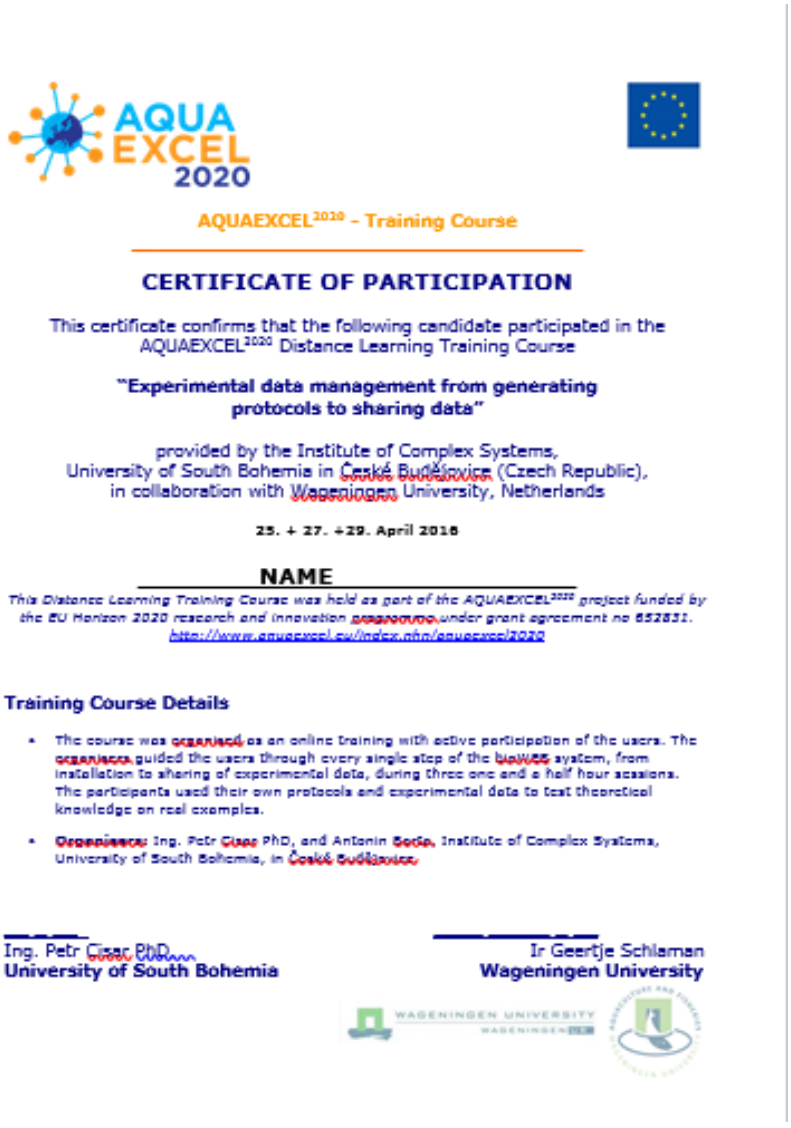
25. **25. Do you have any other suggestions or feedback?**

Total Responses	0
Skipped	8

26. This evaluation is processed anonymously. However, if you are open for questions please leave your name and contact details:

Total Responses	0
Skipped	8

Annex 5: Certificate of Participation (print screen)



AQUAEXCEL2020 - Training Course

CERTIFICATE OF PARTICIPATION

This certificate confirms that the following candidate participated in the AQUAEXCEL2020 Distance Learning Training Course

"Experimental data management from generating protocols to sharing data"

provided by the Institute of Complex Systems, University of South Bohemia in České Budějovice (Czech Republic), in collaboration with Wageningen University, Netherlands

25. + 27. +29. April 2016

NAME

This Distance Learning Training Course was held as part of the AQUAEXCEL2020 project funded by the EU Horizon 2020 research and innovation programme under grant agreement no 652831.
http://www.aquaexcel.eu/index.php/aquaexcel2020

Training Course Details

- The course was organized as an online training with active participation of the users. The organizers guided the users through every single step of the DataNet system, from installation to sharing of experimental data, during three one and a half hour sessions. The participants used their own protocols and experimental data to test theoretical knowledge on real examples.
- Organizers: Ing. Petr Císař PhD, and Antonín Sorša, Institute of Complex Systems, University of South Bohemia, in České Budějovice

Ing. Petr Císař PhD.
University of South Bohemia

Ir Geertje Schlaman
Wageningen University

Annex 6: Check list

Deliverable Check list (to be checked by the "Deliverable leader")

	Check list		Comments
BEFORE	I have checked the due date and have planned completion in due time		*Please inform Management Team of any foreseen delays*
	The title corresponds to the title in the DOW		*If not please inform the Management Team with justification*
	The dissemination level corresponds to that indicated in the DOW		
	The contributors (authors) correspond to those indicated in the DOW		
	The Table of Contents has been validated with the Activity Leader		*Please validate the Table of Content with your Activity Leader before drafting the deliverable*
	I am using the AQUAEXCEL2020 deliverable template (title page, styles etc)		*Available in "Useful Documents" on the collaborative workspace*
The draft is ready			
AFTER	I have written a good summary at the beginning of the Deliverable		*A 1-2 pages maximum summary is mandatory (not formal but really informative on the content of the Deliverable)*
	The deliverable has been reviewed by all contributors (authors)		*Make sure all contributors have reviewed and approved the final version of the deliverable. You should leave sufficient time for this validation.*
	I have done a spell check and had the English verified		
	I have sent the final version to the WP Leader, to the 2nd Reviewer and to the Project coordinator (cc to the project manager) for approval		*Send the final draft to your WP Leader, the 2nd Reviewer and the coordinator with cc to the project manager on the 1st day of the due month and leave 2 weeks for feedback. Inform the reviewers of the changes (if any) you have made to address their comments. Once validated by the 2 reviewers and the coordinator, send the final version to the Project Manager who will then submit it to the EC.*