



VERBALE DEL COLLEGIO DEI DOCENTI DEL DOTTORATO DI RICERCA IN
"SCIENZE DELLE PRODUZIONI VEGETALI E ANIMALI"
RIUNIONE DEL 21 GIUGNO 2021

Il giorno **21.06.2021 alle ore 8.00** viene aperta la riunione telematica del Collegio dei Docenti del Corso di Dottorato di Ricerca in *Scienze delle Produzioni Vegetali e Animali* - svolta per posta elettronica, come da convocazione del 15.06.2021 - per discutere sui seguenti punti all'Ordine del Giorno:

(1) Comunicazioni

(2) Proposta di commissione e data di esame finale dei dottorandi Mariangela CLEMENTE, Alberto CREMA, Sara FRANCESCONI, Andrea LIA (XXXIII ciclo)

(3) Richiesta di proroga di fine Corso di Dottorato (XXXIV ciclo) per motivi legati alla pandemia da COVID-19

(4) Varie ed eventuali

Sono risultati presenti: Dott. Gianluca BURCHI, Prof.ssa Carla CARUSO, Prof.ssa Adalgisa GUGLIELMINO, Prof. Umberto BERNABUCCI, Dott.ssa Chiara FRAZZOLI, Prof. Daniel Valentin SAVATIN, Prof. Rosario MULEO, Prof. Enio CAMPIGLIA, Prof. Nicola LACETERA, Prof. Maurizio MICHELI, Prof. Francesco SESTILI, Prof. Cristian SILVESTRI, Prof. Stefano SPERANZA, Prof.ssa Carla CEOLONI, Dott. Aldo CERIOTTI, Dott.ssa Chiara VOLPI, Prof.ssa Stefania MASCI, Prof. Luca SANTI, Prof.ssa Stefania ASTOLFI, Prof. Valerio CRISTOFORI, Dott.ssa Maria Teresa CARDARELLI, Prof. Raffaele CASA, Prof.ssa Anna Maria TIMPERIO, Dott. Alberto BATTISTELLI, Prof. Giorgio Mariano BALESTRA, Prof.ssa Maria Nicolina RIPA, Prof. Thierry GIARDINA, Prof.ssa Mariella NOCENZI, Prof. Roberto RUGGERI, Dott. Eugenio BENVENUTO, Prof. Lorenzo BOCCIA, Prof.ssa Katia LIBURDI, Prof. Roberto MANCINELLI, Prof. Andrea VITALI, Prof. Andrea MAZZUCATO, Dott. Angelo SANTINO, Dott.ssa Anna Maria D'ONGHIA, Dott. Sergio LUCRETTI, Prof.ssa Roberta BERNINI e pertanto il numero legale è stato raggiunto.

Assume la funzione di Presidente la Prof.ssa Roberta BERNINI, Coordinatore del Collegio dei Docenti del Dottorato, e di segretario verbalizzante il Prof. Francesco SESTILI.

Punto 1. Comunicazioni

- (a)** Il Presidente comunica di aver ricevuto in data 28.05.2021 una nota rettorale in base alla quale, in conseguenza dell'emergenza epidemiologica da COVID-19, i dottorandi di ricerca del XXXIV ciclo potranno presentare richiesta di proroga del termine finale del corso, non superiore a tre mesi, con conseguente erogazione della borsa di studio per il periodo corrispondente. Potranno usufruire della proroga anche i dottorandi non fruitori di borsa di studio e i pubblici dipendenti in congedo per la frequenza del Dottorato (*per le richieste pervenute, si veda il punto 3 all'OdG*).
- (b)** Il Presidente comunica che in data 05.06.2021 l'ANVUR ha espresso parere positivo su tutti i punti della scheda redatta in conformità al DM 45/2013, ai fini dell'accreditamento del Corso di Dottorato di Ricerca in Scienze delle Produzioni Vegetali e Animali (XXXVII ciclo) per l'AA 2021/2022. Tra gli aspetti più rilevanti, il superamento dei requisiti di qualificazione scientifica



- richiesti al Coordinatore; quelli di tutti i 27 componenti accademici del Collegio dei Docenti; l'attività formativa proposta e il sito web del Corso di Dottorato. Il Presidente ringrazia i colleghi del Collegio per la fattiva collaborazione prestata nel fornire le informazioni richieste; l'Ufficio Offerta Formativa e il Nucleo di Valutazione di Ateneo per il supporto tecnico.
- (c) Il Presidente comunica che in data 10.06.2021, la Regione Lazio ha emanato l'avviso pubblico per i Dottorati Industriali, consultabile al seguente link: https://www.regione.lazio.it/binary/rl_main/tbl_documenti/FOR_DD_G06899_08_06_2021_FAQ.pdf. A questo proposito, fa presente che il 14.06.2021 si è svolta una riunione telematica organizzata da Lazio Innova nel corso della quale, i Coordinatori di Dottorato dell'Università della Tuscia hanno brevemente presentato i rispettivi Corsi a circa 40 aziende del territorio laziale, incluse quelle segnalate dai Proff.ri BERNINI, CASA, SESTILI e VITALI, in risposta ad una richiesta inviata il 3 giugno a tutti i componenti del Collegio.

Punto 2. Proposta di commissione e data di esame finale dei dottorandi Mariangela CLEMENTE, Alberto CREMA, Sara FRANCESCONI, Andrea LIA (XXXIII ciclo)

Il Presidente comunica ai componenti del Collegio dei Docenti che le tesi dei dottorandi del XXXIII ciclo Mariangela CLEMENTE, Alberto CREMA, Sara FRANCESCONI, Andrea LIA sono state valutate positivamente dai revisori esterni (si veda l'*Allegato 1*).

Il Collegio dei Docenti si congratula con i dottorandi per le eccellenti valutazioni conseguite sulla base delle quali vengono ammessi all'esame finale che si svolgerà per via telematica (GMeet). Di seguito le commissioni e le date proposte.

Commissione per l'esame finale dei dottorandi Mariangela CLEMENTE (Tutor: Prof.ssa Roberta BERNINI; Co-tutor: Proff.ri Annalisa ROMANI, Luca SANTI); Alberto CREMA (Tutor: Prof. Raffaele CASA), XXXIII ciclo.

Membri effettivi

- Prof. Giancarlo FABRIZI, Ordinario CHIM/06 (Chimica Organica)
Sapienza Università di Roma; E-mail: giancarlo.fabrizi@uniroma1.it
- Prof. Simone ORLANDINI, Ordinario AGR/02 (Agronomia e Coltivazioni Erbacee)
Università di Firenze; E-mail: simone.orlandini@unifi.it
- Prof.ssa Laura BERTINI, Ricercatore BIO/10 (Biochimica)
Università della Tuscia; E-mail: l.bertini@unitus.it

Membri supplenti

- Prof.ssa Antonella GOGGIAMANI, Associato CHIM/06 (Chimica Organica)
Sapienza Università di Roma; E-mail: antonella.goggiamani@uniroma1.it
- Dott.ssa Silvia PROIETTI, Ricercatore BIO/10 (Biochimica)
Università della Tuscia; E-mail: s.proietti@unitus.it

Data e ora di esame: 23 luglio, ore 10.30.



Commissione per l'esame finale dei dottorandi Sara FRANCESCONI (Tutor: Giorgio Mariano BALESTRA); Andrea LIA (Tutor: Dott. Angelo SANTINO; Dott. Pietro ROVERSI), aspiranti al titolo di Doctor Europaeus

Membri effettivi

- Prof. Dr. T. MIEDANER
Universitaet Hohenheim (720), Landessaatzuchtanstalt State Plant Breeding Institute,
Fruwirthstr. 21, 70593 Stuttgart, Germany
E-mail: miedaner@uni-hohenheim.de
- Prof. Gerardo LEDERKREMER
Department of Cell Research and Immunology, Faculty of Life Sciences, University of Tel Aviv
E-mail: gerardol@tauex.tau.ac.il
- Prof. Andrea MAZZUCATO, Associato AGR/07 (Genetica Agraria)
Università della Tuscia
E-mail: mazz@unitus.it

Membri supplenti

- Prof. Susana CARVALHO
Geociências, Ambiente e Ordenamento do Território Faculdade De Ciencias Da Universidade
Do Porto Rua do Campo Alegre, s/n, 4169-007 Porto, Portugal
E-mail: susana.carvalho@fc.up.pt
- Prof. Gian Pietro DISANSEBASTIANO, Associato BIO/01 (Botanica Generale)
Università del Salento
E-mail: gp.disansebastiano@unisalento.it

Data e ora di esame: 21 luglio, ore 10.30.

Il Collegio dei Docenti approva le commissioni e le date proposte.

Punto 3. Richiesta di proroga di fine Corso di Dottorato (XXXIV ciclo) per motivi legati alla pandemia da COVID-19

In relazione a quanto comunicato al punto **(1a)**, il Presidente comunica di aver ricevuto richiesta di proroga di fine corso di Dottorato di 2 mesi da parte della dottoranda CECCARELLI Angela Valentina; di 3 mesi da ANIELLO Luca Pica, GATTI Lorenzo, METELLI Giulio, MOUROU Marwa, PAGLIARIELLO Riccardo che, pertanto, completeranno il Corso di Dottorato il 31 dicembre 2021 e il 31 gennaio 2022, rispettivamente.

Il Collegio dei Docenti approva le richieste di proroga dei dottorandi.

Punto 4. Varie ed eventuali

Il Presidente fa presente di aver ricevuto in data 20.06.2021, una mail da parte del Prof. Giuseppe COLLA, con la quale, in accordo con il co-tutor Gianluca BURCHI, chiede l'autorizzazione a far svolgere al dottorando Stefano MENGOLI attività didattica integrativa per 40 ore nell'ambito dell'insegnamento di "Produzione sementiera e vivaismo floricolo e ornamentale" di cui il Prof. COLLA è titolare nel Corso di Laurea Professionalizzante in "Produzione Sementiera e Vivaismo". Il Prof. COLLA specifica che le 40 ore di attività didattica integrativa comprenderanno esercitazioni, assistenza allo svolgimento della didattica frontale, interventi di tipo seminariale, assistenza a visite tecniche e potranno essere svolte anche in più anni accademici. Dichiara, inoltre, che l'attività



didattica integrativa è compatibile con il percorso formativo del dottorando e che non pregiudica il piano di formazione e ricerca.

Il Collegio dei Docenti approva la richiesta del Prof. COLLA e concede il nulla osta al dottorando Stefano MENGOLI per lo svolgimento di *“attività di tutorato degli studenti dei corsi di laurea e di laurea magistrale nonché, comunque entro il limite massimo di quaranta ore in ciascun anno accademico, attività di didattica integrativa”* in conformità al DM 45/2013, art.12, c.2.

La riunione viene chiusa alle **ore 14.00**.

Sulla base delle mail ricevute, il Collegio dei Docenti ha approvato all'unanimità il verbale.

Il Segretario verbalizzante
Prof. Francesco SESTILI

Il Presidente
Prof.ssa Roberta BERNINI

PhD Program in Plant and Animal Science, University of Tuscia, Viterbo (Italy)

Coordinator: Prof. Roberta BERNINI

Reviewer report

Title of the thesis: A GREEN CHEMISTRY APPROACH FOR THE VALORIZATION OF PHENOLIC COMPOUNDS FOUND IN AGRO-INDUSTRIAL WASTES AND BY-PRODUCTS ACCORDING TO THE CIRCULAR ECONOMY MODEL

PhD student: Dr. Mariangela Clemente

Reviewer: Dr. Durazzo Alessandra, CREA – Research Centre for Food and Nutrition, Via Ardeatina 546, 00178, Rome, Italy

Scientific quality	Excellent	Good	Fair	Poor
Originality of the research	x			
Suitability of the title with respect to the content	x			
Efficacy of the abstract	x			
Clarity of the aims	x			
Exhaustiveness of the introduction/state of art	x			
Suitability of the methodology	x			
Description of the experimental procedure	x			
Interpretation of the results	x			
Appropriateness of the discussion	x			
Completeness of references	x			
Overall evaluation	x			

General comments and remarks:

This thesis represents an example of an integrated and multidisciplinary research approach where the organic chemistry plays a key role. Consolidated techniques and methodologies as well as innovative ones are utilized in emerging and novel fields in the context of circular economy. A design of biorefinery approach was applied as representative case studies to two food products, typical of Italian territory, *Olea europaea* L. and *Castanea sativa* Mill. using eco-friendly and green synthetic procedures. In this regard, I only suggest to add some lines to introduce the choice of these two case studies within the agro-food products. New applications of this raw materials - hydroxytyrosol-enriched extract and an oleuropein-enriched extract obtained by olive oil wastes and by-products- was explored for the preparation of novel PVA-based film as sustainable, economic and eco-friendly packaging solutions. On the other side, tyrosol, homovanillyl alcohol,

hydroxytyrosol were utilized as starting materials for the synthesis of a mini-library of new phosphodiester dimers as potential anti-Alzheimer's disease agents.

The various aspects of the research are very well linked and merged among them and the main focus of work is well delineated. The activities carried out during the PhD period, throughout a network of collaborations and participation in seminars, courses, workshop etc. has led to an excellent work. My overall evaluation for the thesis is excellent. This reflects an exhaustive and well centered description of context, a detailed delineation of workflow of research approach and methodologies, proper and well addressed description and discussion of results by highlighting the novel and innovative character and impact of research.

The thesis is accepted:

X In the present form

After minor revisions

After major revisions

With major revisions, is it requested a revised version after 6 months?

YES

NO

Date 30-05-21

Signature



PhD Program in Plant and Animal Science, University of Tuscia, Viterbo (Italy)

Coordinator: Prof. Roberta BERNINI

Title of the thesis: A GREEN CHEMISTRY APPROACH FOR THE VALORIZATION OF PHENOLIC COMPOUNDS FOUND IN AGRO-INDUSTRIAL WASTES AND BY-PRODUCTS ACCORDING TO THE CIRCULAR ECONOMY MODEL

PhD student: Dr. Mariangela Clemente

Reviewer: Dr. Daniela Tofani, Dipartimento di Scienze, Università Roma Tre

Reviewer report:

Scientific quality	Excellent	Good	Fair	Poor
Originality of the research	■			
Suitability of the title with respect to the content	■			
Efficacy of the abstract		■		
Clarity of the aims	■			
Exhaustiveness of the introduction/state of art	■			
Suitability of the methodology	■			
Description of the experimental procedure		■		
Interpretation of the results	■			
Appropriateness of the discussion	■			
Completeness of references	■			
Overall evaluation	■			

General comments and remarks:

This Ph.D. thesis deals with the valorization of agro-industrial wastes, a subject of increasing interest for the tight connection between ecological impact of human productions, environment, and sustainable development. The explored fields give the work a high degree of novelty.

The research work has been introduced by an extensive presentation of the various classes of antioxidant compounds under investigation. The concepts of valorization of agro-industrial wastes, green chemistry, and circular economy are the *file rouge* of all the PhD work.

The thesis is divided in three parts. Firstly, the research was focused on the optimization of the production of lipophilic derivatives of natural antioxidants (hydroxytyrosol, gallic acid) from wastes derived by olive mill waste waters and sweet chestnut production. Secondly, hydroxytyrosol, derived by waste recovery, was used as additives of in the production of biodegradable plastic films capable of a slow release of the antioxidant, useful in food packaging. In the third part new phosphoric diesters of natural catecholic antioxidants were synthesized and tested in the prevention of Alzheimer Disease.

The tight collaboration with the agro-industrial partners account for the positive link between research and technology that is another strong point of the work. The thesis is well written, clear, and easy to read. The methodologies used properly explained and the results well justified. I only suggest the introduction of an Index of abbreviation. The bibliography is wide in all fields explored. Finally, the conference communications and the four publications underline the excellent results obtained.

The thesis is accepted:

- In the present form*
- After minor revisions*
- After major revisions*

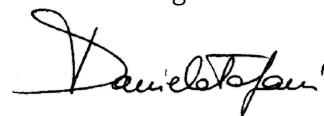
With major revisions, is it requested a revised version after 6 months?

- YES*
- NO*

Date

Roma 01-06-2021

Signature

A handwritten signature in black ink, appearing to read 'Daniele Stefanini', written in a cursive style.

PhD Program in Plant and Animal Science, University of Tuscia, Viterbo (Italy)

Coordinator: Prof. Roberta BERNINI

Reviewer report (template)

N.B. The following template should be intended as a flexible model. The actual report may be adapted by the reviewer according to his/her needs.

Title of the thesis: Development Of Methodologies And Comparative Agronomic Evaluation Of Precision Nitrogen Fertilization Driven By Remote Sensing Data: A Case Study On Durum Wheat And Maize.

PhD student: Dott. Alberto Crema

Reviewer (surname, name and affiliation): Vizzari, Marco – Department of Agricultural, Environmental, and Food Sciences, University of Perugia

Scientific quality	Excellent	Good	Fair	Poor
Originality of the research	x			
Suitability of the title with respect to the content	x			
Efficacy of the abstract		x		
Clarity of the aims	x			
Exhaustiveness of the introduction/state of art	x			
Suitability of the methodology	x			
Description of the experimental procedure	x			
Interpretation of the results		x		
Appropriateness of the discussion		x		
Completeness of references		x		
Overall evaluation	x			

General comments and remarks:

This thesis is of exceptional value because it provides clear performance comparisons of advanced techniques for variable rate Nitrogen application on durum wheat and maize. It includes relevant benefit-cost calculations, taking account of Nitrogen use and grain yield. I think the findings and the applied methodology will be of interest to many. The manuscript is optimally written and structured, with a straightforward paragraph arrangement that makes reading clear and fluent. All topics are covered exhaustively. Only a minor revision is needed:

- Page 32: the caption “Figure 8: sampling protocol of LAI data acquired by Digital Hemispherical Photographs on maize culture” doesn’t refer to any figure and probably could be removed.

The thesis is accepted:

- In the present form*
- After minor revisions*
- After major revisions*

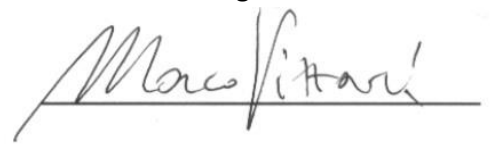
With major revisions, is it requested a revised version after 6 months?

- YES*
- NO*

Date

June 4, 2021

Signature

A handwritten signature in black ink, appearing to read "Marc Sittard", is written over a horizontal line. The signature is cursive and somewhat stylized.

PhD Program in Plant and Animal Science, University of Tuscia, Viterbo (Italy)

Coordinator: Prof. Roberta BERNINI

Reviewer report (template)

N.B. The following template should be intended as a flexible model. The actual report may be adapted by the reviewer according to his/her needs.

Title of the thesis:

DEVELOPMENT OF METHODOLOGIES AND COMPARATIVE AGRONOMIC EVALUATION OF PRECISION NITROGEN FERTILIZATION DRIVEN BY REMOTE SENSING DATA: A CASE STUDY ON DURUM WHEAT AND MAIZE

PhD student:

Dott. Alberto Crema

Reviewer (surname, name and affiliation):

Prof. Perniola, Michele. Università degli studi della Basilicata.

Scientific quality	Excellent	Good	Fair	Poor
Originality of the research		x		
Suitability of the title with respect to the content	x			
Efficacy of the abstract		x		
Clarity of the aims		x		
Exhaustiveness of the introduction/state of art	x			
Suitability of the methodology	x			
Description of the experimental procedure	x			
Interpretation of the results		x		
Appropriateness of the discussion	x			
Completeness of references	x			
Overall evaluation		X		

General comments and remarks:

The thesis is within the standard for a phd dissertation. It contains many informations about the precision nitrogen fertilization, but it is not completely original. Some points not very clear: p.91: which cluster analysis was performed and why; p. 63 the agronomic balance is not completely clear; p.100 criteria for computation of application rate.

The thesis is accepted:

In the present form

After minor revisions

After major revisions

With major revisions, is it requested a revised version after 6 months?

YES

NO

Date

06/06/2021

Signature

A handwritten signature in black ink, reading "Michele Guida". The signature is written in a cursive style with a long horizontal flourish at the end.

PhD Program in Plant and Animal Science, University of Tuscia, Viterbo (Italy)

Coordinator: Prof. Roberta BERNINI

Reviewer report (template)

N.B. The following template should be intended as a flexible model. The actual report may be adapted by the reviewer according to his/her needs.

Title of the thesis: Exploring novel green, high-tech and molecular mechanisms for the control and early detection of Fusarium head blight in durum wheat

PhD student:

Sara Francesconi

Reviewer (surname, name and affiliation): Buerstmayr Maria, University of Natural Resources and Life Sciences Vienna, Department of Agrobiotechnology, Institute of Biotechnology in Plant Production, Konrad Lorenz Str. 20, A-3430 Tulln, Austria.

Scientific quality	Excellent	Good	Fair	Poor
Originality of the research	Excellent			
Suitability of the title with respect to the content	Excellent			
Efficacy of the abstract	Excellent			
Clarity of the aims	Excellent			
Exhaustiveness of the introduction/state of art	Excellent			
Suitability of the methodology	Excellent			
Description of the experimental procedure	Excellent			
Interpretation of the results	Excellent			
Appropriateness of the discussion	Excellent			
Completeness of references	Excellent			
Overall evaluation	Excellent			

General comments and remarks:

It was a pleasure to read the Ph.D. thesis of Ms. Sara Francesconi. I am impressed not only by the broad scientific fields that were covered by her studies, but also by the large number of scientific publications that were accomplished during the short period of her Ph.D. study. Ms. Sara Francesconi provided a thorough and comprehensive description of her work and results of her studies will be recognized by the scientific community.

I wish her all the best for her future

The thesis is accepted:

X *In the present form*

After minor revisions

After major revisions

With major revisions, is it requested a revised version after 6 months?

YES

NO

Date: 18th of May 2021

Signature

Laria Biedman

PhD Program in Plant and Animal Science, University of Tuscia, Viterbo (Italy)

Coordinator: Prof. Roberta BERNINI

Reviewer report

Title of the thesis: Exploring novel green, high-tech and molecular mechanisms for the control and early detection of Fusarium head blight in durum wheat

PhD student: Sara Francesconi

Reviewer: Dr. Sebastian Michel, Institute of Biotechnology in Plant Production, University of Natural Resources and Life Sciences, Vienna

Scientific quality	Excellent	Good	Fair	Poor
Originality of the research	x			
Suitability of the title with respect to the content	x			
Efficacy of the abstract	x			
Clarity of the aims	x			
Exhaustiveness of the introduction/state of art	x			
Suitability of the methodology	x			
Description of the experimental procedure	x			
Interpretation of the results	x			
Appropriateness of the discussion	x			
Completeness of references	x			
Overall evaluation	x			

General comments and remarks:

The first part of the cumulative thesis submitted by Sara Francesconi contains an extensive introduction concerning Fusarium head blight (FHB) and the interaction of this pathogen with its host crop wheat. The second half of the introduction discusses FHB detection and management methods. The introduction gives overall a very nice overview of the state-of-the-art in the investigated patho-system leading over to the main part of the thesis consisting of four peer reviewed publications. Three of the papers were published in journals that are ranked in the first quartile of plant science and related disciplines, and one paper was published in a journal that is ranked in the second quartile. The work in the publications was overall rigorous done, the materials and methods were appropriate, the analyses were proper and well executed, the tables and figures were informative and clear, the results and discussion sections were well written and the conclusions were supported by the results. The found results of the publications are finally critically discussed in a broader framework in last part of the thesis. In conclusion, this is a very strong dissertation that presents scientific results that have a significant impact on Fusarium head blight research as well as management practices. Hence, I suggest to accept the thesis in the present form and I wish the candidate all the best for her scientific future.

Sincerely yours,



Sebastian Michel, 03/06/2021

PhD Program in Plant and Animal Science, University of Tuscia, Viterbo (Italy)

Coordinator: Prof. Roberta BERNINI

REPORT

Title of the thesis: Investigation of ERQC and ERAD using the plant as a model organism

PhD student: Andrea Lia

Reviewer (surname, name and affiliation): Dr. Stefana M Petrescu, Institute of Biochemistry

Bucharest, Romanian Academy.

Scientific quality	Excellent	Good	Fair	Poor
Originality of the research		x		
Suitability of the title with respect to the content		x		
Efficacy of the abstract		x		
Clarity of the aims		x		
Exhaustiveness of the introduction/state of art	x			
Suitability of the methodology		x		
Description of the experimental procedure		x		
Interpretation of the results			x	
Appropriateness of the discussion		x		
Completeness of references	x			
Overall evaluation		x		

General comments and remarks:

The thesis brings original contributions to the field of protein homeostasis within the endoplasmic reticulum. The new results obtained by Andrea Lia highlight the specific mechanisms used by plants to regulate the protein synthesis and quality control processes and add to our knowledge in the area. The second part of the thesis addresses a very ambitious project regarding the determination of the EDEM1 and EDEM/PDI complex structure. Even if this part was not finalized, I appreciate the work that has been done until now mainly because it is paving the way for future structural results for these proteins. It is remarkable that some of the results were already published in international journals with good impact factor. The thesis includes an impressive number of references, with the most relevant ones for the thesis aims, indicating a very good knowledge of the field. I recommend that the thesis should be accepted after minor revisions that I detail below.

Mat and methods

Sections **2.4.1** and **2.4.2** require corrections, as they are written like instructions and not like a method used in the thesis. For instance, instead of "Run an SDS-PAGE, do not stain the gel" it should be: "After running the SDS-PAGE, the unstained gel was transferred"

Results

-EDEM as enzymes- It is suitable to use EDEM enzymatic activity instead of EDEM enzymes, because EDEM proteins are not proper enzymes, since many reports show lectin like interaction with substrates that not always require enzymatic activity.

-Molecular weight versus molecular mass. One should be careful in using the term molecular weight because anytime we measure the molecular mass in Da we talk about molecular mass and not weight. Please correct molecular weight with molecular mass anytime you describe the molecular mass measured in Da of a peptide or protein.

-Homology modelling , p 63, section 3.2.2.

1.The identity and similarity levels between the target and template sequences should be described.

2. Fig 3.10a lacks the prediction of the secondary structure of the target that should be aligned with the real secondary structure of the template and included in figure.

-3.2.5.1 You need to explain the results, it is not enough to say the results are shown in fig... One should explain that the protein eluted in one peak according to the 280nm absorbance was further identified, or not, with antibodies in the same peak, etc.....

-3.2.5.2 As above, explain the results, as you have peaks detected at 280nm and the corresponding fractions analyzed by blot, so was the protein of interest identified in the fractions corresponding to the protein peak or not?

-3.2.7.1 Why did you analyzed reducing versus non-reducing samples from IMAC? This should be explained here and also name the respective samples in the figure, because it is not clear. What is the final conclusion of this SDS PAGE analysis? Results should be written similar to a scientific paper, explain clearly what you obtained and then in Discussion you discuss these data in connection with previous findings.

-3.2.7.3 Why is the heterodimer at 250kDa instead of approx. 150kDa, what is the predicted molecular mass of the complex?

-Page 83. "The iminosugar inhibits glucosidase II". In fact NBDNJ inhibits both glucosidase I and II within the ER, it is not specific for glucosidase II, because it is an analogue of glucose that competitively inhibits any glucosidase.

-I recommend to brush up the English all over the thesis. The language should be similar to the one used in Appendixes.

The thesis is accepted:

In the present form

After minor revisions

After major revisions

With major revisions, is it requested a revised version after 6 months?

YES

NO

Date: 1st June 2021

Signature



PhD Program in Plant and Animal Science, University of Tuscia, Viterbo (Italy)

Coordinator: Prof. Roberta BERNINI

Reviewer report (template)

N.B. The following template should be intended as a flexible model. The actual report may be adapted by the reviewer according to his/her needs.

Title of the thesis:

PhD student: Andrea Lia

Reviewer (surname, name and affiliation): Frigerio Lorenzo, University of Warwick

Scientific quality	Excellent	Good	Fair	Poor
Originality of the research	x			
Suitability of the title with respect to the content	x			
Efficacy of the abstract		x		
Clarity of the aims			x	
Exhaustiveness of the introduction/state of art	x			
Suitability of the methodology		x		
Description of the experimental procedure		x		
Interpretation of the results		x		
Appropriateness of the discussion		x		
Completeness of references	x			
Overall evaluation				

General comments and remarks:

This is an original, interesting work that provides good evidence for Arabidopsis being an attractive model to study different aspects of ER-QC and testing potential inhibitor candidates. It also shows some promise in structural work for the *C. thermophilum* HTM1P-PDI complex.

Most experiments are presented clearly, with appropriate controls, and results discussed lucidly.

The Introduction is excellent. It would have been nice to close it with a clear statement of the aims of the work, rather than having them tucked away in section 1.5.

Similarly, it would be nice to see a bit more of a narrative in the Results. As they stand, the results sections jump from inhibitor treatment to assessment of PAMP responses to recombinant protein production, etc, without a clear logical thread linking them.

I suggest that each section is:

- preceded by a clear set of questions/hypotheses to be tested

- capped by a paragraph summarizing the key findings after each set of results, in particular after the rather intricate set of experiments in 3.1.

The Methods section contains some inconsistencies, with occasional lapses from the passive to the active mode (eg 2.4.1, 2.4.2), where it looks like protocols were reproduced verbatim. I recommend tidying those sections up for consistency.

There are a few typos, so I suggest a final round of proofreading.

The thesis is accepted:

- In the present form*
- After minor revisions*
- After major revisions*

With major revisions, is it requested a revised version after 6 months?

- YES*
- NO*

Date

02/06/21

Signature

A handwritten signature in black ink, appearing to read 'Laurie', written in a cursive style.