BACHELOR THESIS SUPERVISOR REVIEW

I. PERSONAL AND STUDY DETAILS

Student's name:	**Kulakova Ksenia**	Personal ID number:	**491299**
Faculty:	**Faculty of Biomedical Engineering**		
Study program:	**Biomedical and Clinical Technology**		
Branch of study:	**Biomedical Technician**		

II. EVALUATION OF THE BACHELOR THESIS

Bachelor's thesis title in English:

FDTD-based electromagnetic field simulator for studying treatment planning algorithms

	Evaluation criteria	N. of points
1.	Attitude of the student (preparation, initiative, work morale and independence). (0 – 30)* Full points can be given to a student who had a long-term, systematic and independent approach to the bachelor thesis with a clear vision of the solution. Supervisor of the bachelor thesis can decrease the number of points in case of insufficient activity, unsystematic work which was not conceptual and if the student was looking for the easiest solution.	28
2.	Manner and level of elaboration of the thesis and fulfilment of the assignment. (0 – 30)* Consider creative attitude as well as the ability to look for professional resources. Give full number of points if the theoretical part of the bachelor thesis is of a high level and corresponds with the requirements of the practical part. In case of insufficiency of the theoretical part, decrease the rating by up to 15 points. In case of insufficiency of the practical part, decrease the rating by up to 15 points.	30
3.	Scope of experimental work (SW, HW), applied knowledge, publications and other activities, including awards connected with the topic of the thesis. (0 – 30)* Maximum number of points can be granted to a thesis which is fit for publishing. This aspect is judged with respect to enhancement of theoretical knowledge and practical implications. Creation of a model, SW or technical realization is valued. For minor methodological flaws, the assessment is reduced by up to 5 points. Inconsistency of elaboration with the theoretical background and unclear or not fully professional approach leads to a reduction by at least 15 points. Another decrease can be due to insufficient discussion. A total of 30 points can be given to a very complex and flawless work, including other activities such as participation in scientific-research project or grant, active participation in the writing publications, patents and utility models.	29
4.	Formal requisites and layout of the thesis (writing mastery, structuring, graphs, tables, citations in the text, list of references etc.). (0 – 10)* Supervisor judges formal requisites with respect to rules of writing, attributes of final works i.e. text formatting, structure of the thesis, list of references, graphs and tables, manner of citation. 2 points are subtracted for each noncompliance. 2 – 4 points are subtracted for grammatical mistakes, spelling mistakes, improper stylistics and terminology. Only standard terminology should be used especially in the English language (ability to express oneself with the use of professional language should be judged – 2 points), if graphs are created according to the rules (see tolerance and influence of statistical processing – 2 points), if there are relevant captions for graphs and tables and that everything is readable (2 points), citation rules ISO690 and ISO690-2 are observed (2 points).	10
5.	**Total points**	97

* Verbal evaluation should be part of the Comments.

III. THE OVERALL ASSESSMENT OF THE LEVEL OF THE BACHELOR THESIS

Grade**:	A (excellent)	B (very good)	C (good)	D (satisfactory)	E (sufficient)	F (failed)
Number of points:	100 - 90	89 - 80	79 - 70	69 - 60	59 - 50	< 50
	X	❑	❑	❑	❑	❑

** in case of F (failed) please explain in detail

I give the above grade to the bachelor thesis and I recommend/~~do not recommend~~ it for the defence.

IV. COMMENTS

Student Ksenia Kulakova focused on treatment planning algorithms for microwave regional hyperthermia. In her work, she implemented the numerical FDTD method in the MATLAB environment to calculate the distribution of the EM field in a 2D anatomically and dielectrically realistic model of the human pelvic region. In addition, she implemented four different treatment planning strategies and performed treatment planning for ten different treatment targets. She evaluated and compared their quality. The student worked on her bachelor's thesis evenly over time, systematically, intensively, and independently. She regularly informed about the course and consulted future steps. The work shows a high level of processing from a formal and professional point of view and has publishing potential. The result will be integrated into the treatment planning and controlling software for the laboratory prototype of the regional hyperthermic system developed at FBMI CTU. I evaluate this bachelor's thesis with the grade A (excellent) and I recommend it for defense.

Name and surname incl. degrees: prof. Dr.-Ing. Jan Vrba, M.Sc.
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Signature: .....

Date: .....