Propositions

accompanying the thesis

Hydroelastic Analysis of Very Large Floating Structures

by **Alexey Andrianov**

1. The Golden Rule for Humanity and most common moral principle, I hope, is: Do unto others as you would have others do unto you.
"And as ye would that men should do to you, do ye also to them likewise." LUKE 6:31.

2. In the beginning of the third millennium we do not live in peace which is necessary to be assured in our future. "Peace cannot be kept by force. It can only be achieved by understanding." (A.EINSTEIN*). "If we don't change direction soon, we'll end up where we're going." (I. COREY).

3. Very large floating structures (VLFS) can be constructed to create floating airports, bridges, breakwaters, piers and docks, storage facilities (for instance for oil), wind and solar power plants, industrial space, emergency bases, for military purposes, entertainment facilities, recreation parks, for many other purposes, even for habitation. In addition to new space and reliability, VLFS can offer an attractive panoramic view.
Chapters 1 and 8 of the thesis.

4. Very large floating structures have a great future so does the study of their hydroelastic motion and response to surface water waves. If VLFSs such as ice fields will vanish due to global warming, other VLFSs due to human plans have the future. VLFS is a good alternative to reclaimed islands.

5. The integro-differential equation method described and applied in the thesis allows to solve several problems of plate-water interaction. It has significant advantages over existing approaches: a solution for both regions of the fluid domain, that covered by the plate and that of the open water, is derived at once, with use of one common equation for the velocity potential.
Chapters 2–7 of the thesis.

6. One thorough check of the equations, signs, parameters, etc., in the beginning of research may save a lot of time, nerves and energy at the end. Be patient and calm, and remember: "Do not worry about your difficulties in Mathematics. I can assure you mine are still greater."*

7. Scientific seminars for Ph.D. students where they can talk, listen and discuss their own research and new subjects can be very helpful, in my opinion.
"A good listener is not only popular everywhere, but after a while he gets to know something." (W. MIZNER).

8. Even dealing with the simplest problems of mathematics, one should always remember their physical sense.
"As far as the laws of mathematics refer to reality, they are not certain; and as far as they are certain, they do not refer to reality."*

9. "The secret to creativity is knowing how to hide your sources."*
While stealing of results or materials from one person is called a plagiarism, stealing from many is often called a research (*research* = *re-search*).

10. Earning knowledges is like collecting coins or stamps – there is always one more step to be done, one more goal to be achieved. Nevertheless, knowledge must be comprehended, used, applied, but not just collected. "The mind is not a vessel to be filled but a fire to be kindled." (PLUTARCH).

11. "Hell, there are no rules here – we're trying to accomplish something." (T.A. EDISON).
Broad and free thinking in science, in Mathematics especially, is very important; and it often leads to new theories and results.

12. Human beings can never control nature completely. Most demonstrative examples are: the RMS Titanic catastrophe in 1912, Tsunami in Asia in 2004.

13. Distance between people having a kindred spirit cannot be measured in kilometers.

14. Gravitation is not responsible for people falling in love.

* ALBERT EINSTEIN. The Expanded Quotable Einstein. *Collected and edited by A.Calaprice. Princeton, NJ: Princeton Univ. Press, 2000. 407p.*

These propositions are considered opposable and defendable and as such have been approved by the supervisor Prof. dr.ir. A.J. Hermans.