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Enrichment of planetary surfaces by asteroid and comet impacts

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PROPOSITIONS

accompanying the dissertation

ENRICHMENT OF PLANETARY SURFACES BY ASTEROID AND COMET IMPACTS

1. Minor bodies such as asteroids and comets deliver significant amounts of water and organics in the Solar System and beyond (Chapters 3,4,5).
2. Organics delivered by asteroids and comets to Mars can be distinguished from organics delivered by dust due to their higher concentration around impact sites (Chapter 3).
3. The amount of water delivered by dust, asteroids and comets to Mercury is sufficient to explain its observed polar water ice deposits (Chapter 4).
4. Delivery of volatiles and refractories by exo-minor bodies to the four giant planets in the exoplanetary system HR 8799 may be observable and may affect terrestrial planets if they exist (Chapter 5).
5. The number of pages of a paper or a thesis is not a measure of its quality just like the number of research papers is not a measure of research quality.
6. Interdisciplinary fields such as astrobiology are the future of research.
7. The anonymity of the referees intoxicates the peer review process.
8. The current university growth model leads to a mass production of PhDs and results in the underestimation of the responsibility that comes with an agreement to supervise a student.
9. Teaching will be student oriented and not teacher oriented only if done by people who are willing to teach.
10. Every conference must provide an option for virtual participation. This would make research more collaborative and accessible across the globe, as well as significantly reducing the carbon footprint of scientists.
11. By staying inside protective bubbles of their own nationality people limit themselves from discovering the beautiful world around.
12. Only by doing something we are truly passionate about instead of simply following the flow, we will make the world a better place.

KATERYNA FRANTSEVA