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Annex No. 12 to the MU Directive on Habilitation Procedures and Professor Appointment Procedures

PUBLIC LECTURE EVALUATION

Masaryk University	
Faculty	Faculty of Science
Procedure field	Mathematics – Geometry
Applicant	Ioannis Chrysikos
Lecture date	6. 5. 2024
Lecture topic	G-structures, Dirac operators with torsion and special spinor fields
Persons present (14 on-site, 17 on-line)	(see attached list of attendees)
Designated evaluators (board members) Von Unge, Hrdina, and Slovak present in the room	prof. RNDr. Jan Slovák, DrSc. Faculty of Science, Masaryk University, Czech Republic prof. Rikard von Unge, Ph.D. Faculty of Science, Masaryk University, Czech Republic doc. Mgr. Jaroslav Hrdina, Ph.D. Faculty of Machine Engineering, Brno University of Technology, Czech Republic prof. Dr. hab. Ilka Agricola, Department of Mathematics and Computer Science, Philipps-Universität Marburg, Germany prof. Dr. Vicente Cortés Suárez, Department of Mathematics, University of Hamburg, Germany

The lecture by Dr. Ioannis Chrysikos followed the plan announced in its abstract:

"G-structures and linear connections are fundamental concepts providing a framework for understanding the geometry of manifolds with additional geometric structures. On the other hand, eigenvalues of Dirac operators on compact Riemannian spin manifolds and their corresponding eigenspinors provide an important link with non-integrable geometries and string theories. This talk will give a survey of the author's results on Dirac operators induced by metric connections with skew-torsion, special spinors fields and G-structures. It starts with a short introduction on spin structures and Dirac operators and continues with details on connections with skew-torsion. After getting familiar with these notions and the basic concept of the characteristic connection, we continue by presenting the most basic results of our work along these topics (including some details from the classification of invariant connections on strongly isotropy irreducible spaces)"

The applicant succeeded in following this very ambitious scheme and he also presented a fair overview of further development of his ideas, answering questions in the report by Jorge Lauret, in the very end of the presentation.

All questions in the short discussion after the lecture were answered, too.

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Conclusion

The lecture delivered by Dr. Ioannis Chrysikos, entitled "G-structures, Dirac operators with torsion and special spinor fields" and delivered as part of the habilitation, **demonstrated** sufficient scholarly qualifications and pedagogical capabilities expected of applicants participating in a habilitation procedure in the field of Mathematics - Geometry.

In Brno on 6. 5. 2024

prof. RNDr. Jan Slovák, DrSc.

prof. Rikard von Unge, Ph.D.

doc. Jaroslav Hrdina, Ph.D.