

Report of the evaluation committee on the scholarly activity of the Mathematics Institute of Silesian University in Opava

The evaluation committee consisted of the following three persons (*their research fields are given in italics*):

- chair: **Prof. dr hab. Roman Ger** (Uniwersytet Śląski, Katowice, Poland)
functional equations and inequalities, convex analysis, iteration theory
- members: **Univ.-Prof. Henk Bruin, Ph.D.** (Universität Wien, Austria)
dynamical systems and ergodic theory, topology
- Prof. Francisco José Herranz, Ph.D.** (Universidad de Burgos, Spain),
mathematical physics, integrable systems

The secretary of the evaluation committee was **prof. Ľubomír Snoha** (Matej Bel University, Banská Bystrica, Slovakia) who, however, was not a member of the committee. The members of the committee wish to express cordial thanks to him for his substantial help and excellent job.

Evaluation method. The meeting of the committee was held on November 2 – 4, 2022, at the Mathematical Institute in Opava. The members of the committee discussed their views and then interviewed the researchers and the management of the Institute. After the interviews, the committee discussed the scores and comments. Then the final assesment was made and a final version of the report was written.

In order to grade systematically the scientific quality of their research, the committee adopted, after a discussion, the following scale for ranking the individuals:

- **1 (Excellent)** Research at a high international level, of international interest with broad impact within its field and with substantial ratio of high quality publications, also in internationally leading journals. The researcher is internationally known as one of the leading experts at least in a subfield of his/her interest. The researcher publishes with good frequency, also at present. It is expected that the high quality and the frequency of outputs will be preserved in next years.
- **2 (Very good)** Research at an international level with impact within its field and with a reasonable ratio of high quality publications in internationally well-known journals. The researcher has an international reputation within the field. The researcher publishes with good frequency, also at present. It is expected that the quality and the frequency of outputs will be preserved in the next years.
- **3 (Good)** Research that is of good standard and impact and at least partially published in well-known journals. An adequate scientific contribution is required (also after the previous evaluation in 2012). There is a hope for improving the situation in near future.
- **4 (Acceptable)** Research with infrequent research outputs of good standard during a longer period of time, the research activity of the individual researcher contributes to the effort of the Institute in the field of science only to a limited extent.
- **5 (Insufficient)** Very low number of research publications during last 10 years. The research activity of the researcher contributes to the effort of the Institute in the field of science only to a negligible extent.

Since the previous evaluation was in 2017, special attention is paid to the period of time 2018-2022.

**Assessment of the individual faculty members
of the research part of the Institute**

Department of Functional Analysis and Differential Equations

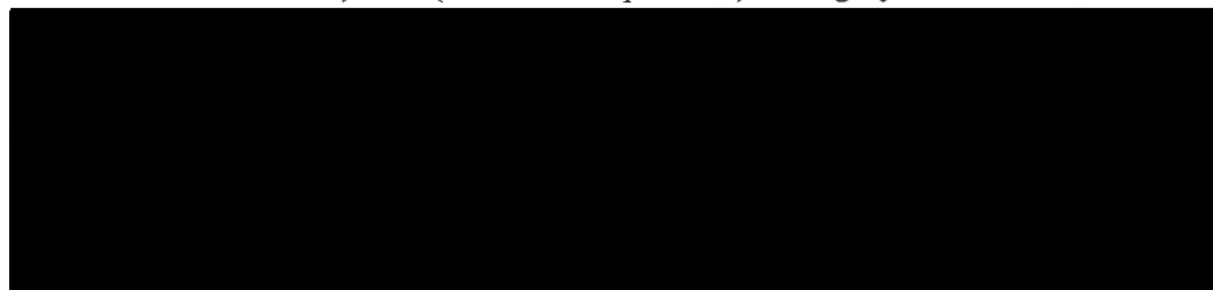
Professors

prof. RNDr. Miroslav Engliš, DrSc. – category 1

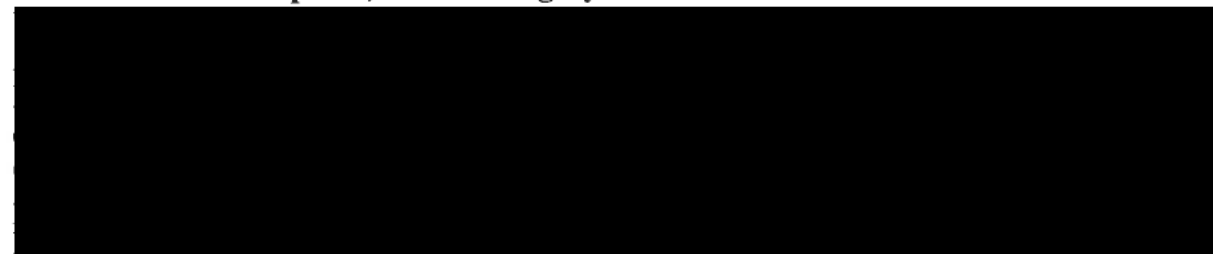


Associate professors

doc. RNDr. Karel Hasík, PhD. (head of the department) – category 3

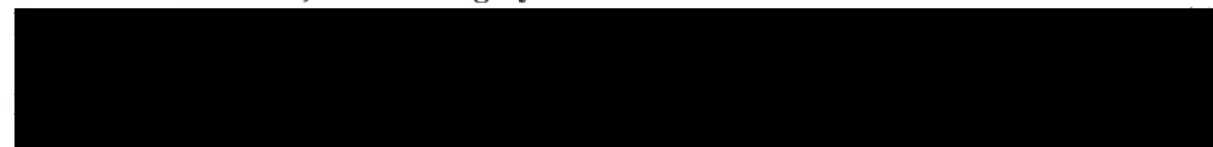


doc. RNDr. Jana Kopfová, PhD. – category 2

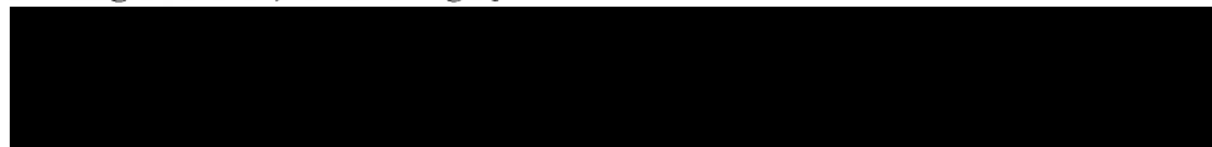


Assistant professors

RNDr. Petr Blaschke, PhD. – category 3



Noè Angelo Caruso, PhD. – category 3



RNDr. Petra Nábělková, PhD. – category 3



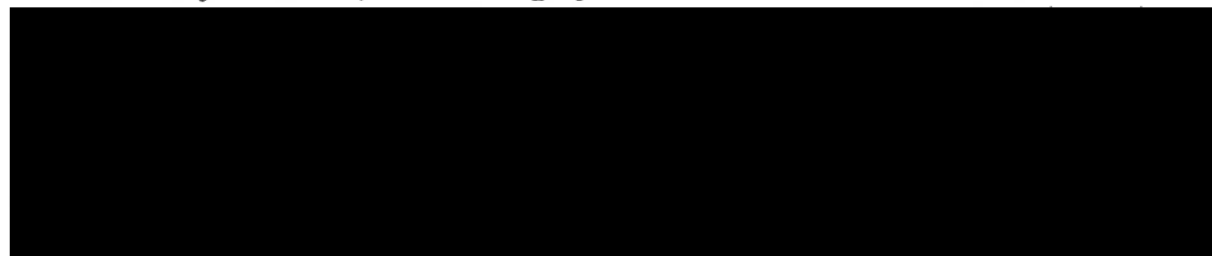
Ing. Mgr. Barbora Volná, PhD. – category 4



Department of Geometry and Mathematical Physics

Associate professors

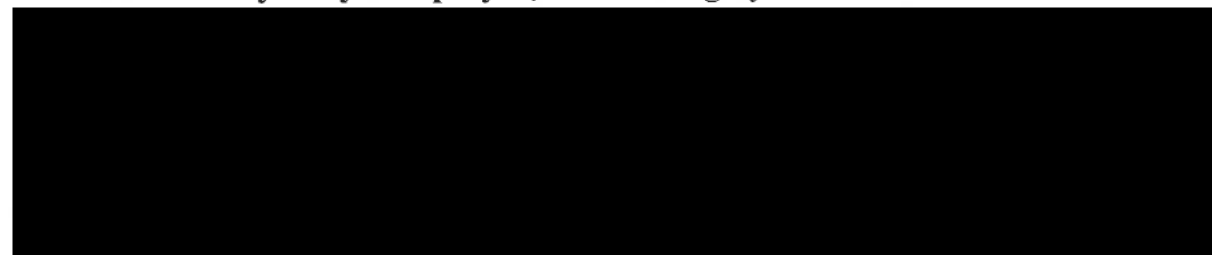
doc. RNDr. Hynek Baran, PhD. – category 3



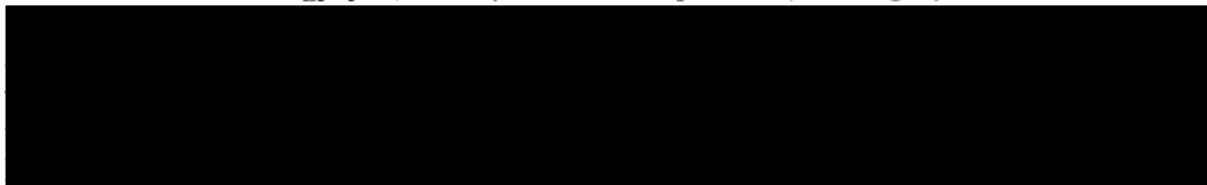
doc. RNDr. Michal Marvan, CSc. – category 3



doc. Roman Omelyanovych Popovych, D.Sc. – category 1

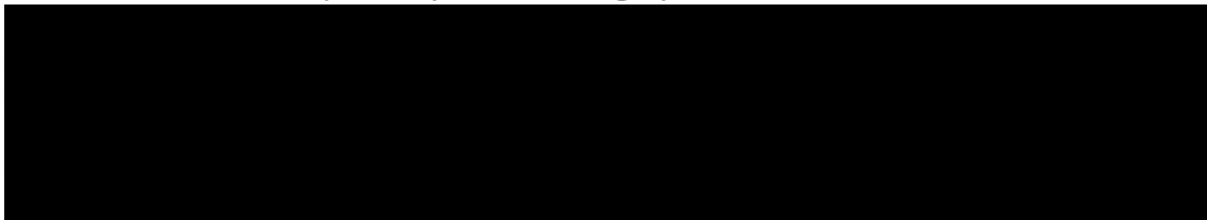


doc. RNDr. Artur Sergyeyev, PhD. (head of the department) – category 1

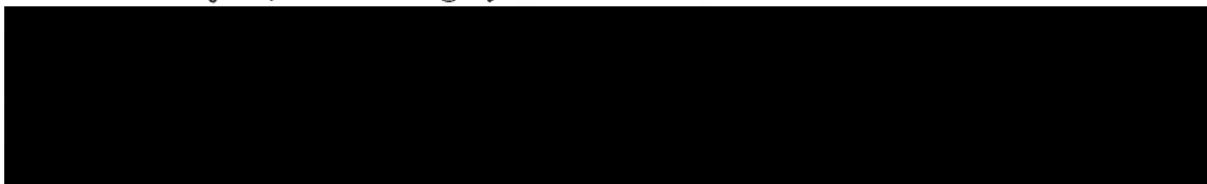


Assistant professors

RNDr. Jiřina Jahnová (Vodová), PhD. – category N/A



RNDr. Petr Vojčák, PhD. – category 3



Department of Real Analysis and Dynamical Systems

Associate professors

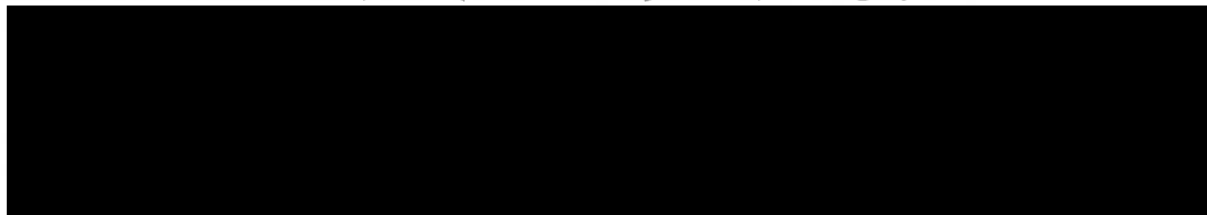
doc. RNDr. Jana Hantáková, PhD. – category 2



doc. RNDr. Zdeněk Kočan, PhD. – category 3



doc. RNDr. Michal Málek, PhD. (head of the department) – category 2



doc. RNDr. Michaela Mlíčová, PhD. – category 4

Assistant professors

RNDr. Lenka Rucká, PhD. – category 3

Overall assessment of the conception of the Institute's research activity

The research activity of the Mathematics Institute and the overall results obtained since the last evaluation in 2017 are good. Among the researchers there are three who the committee rated as outstanding internationally leading mathematicians, prof. Miroslav Engliš, doc. Roman Omelyanovych Popovych, and doc. Artur Serdyeyev, and three of international renown, doc. Jana Hantáková, doc. Jana Kopfová and doc. Michal Málek.

Unfortunately, the Institute lost several members since the previous evaluation, especially the Department of real analysis and dynamical systems lost five members, including three of its top researchers, and the task for this department to regain its weight is not going to be easy. Fortunately, there are also very promising new arrivals to the Institute such as doc. Roman Omelyanovych Popovych and Noè Angelo Caruso.

There are a good number of publications in high quality journals, although the average number of publications over the review period could be higher. Citations in mathematics over short periods do not say very much, so we would not consider this as a very valuable measure.

The research cooperation with mathematicians from outside is high and visible in the publications. The evaluation committee recommends to support especially longer visits (a semester or longer). This would help, in general, to avoid that some researchers continue too long in a too narrow subject.

Currently there are no visiting professors at all. Professors Trofimchuk and Krasil'shchik, as visiting professors, had a long-lasting positive effect on the productivity and renewed research directions of the Institute. The pandemic certainly was detrimental to propagate this practice, but it would be good if new appointments of visiting professors could be made.

It would also be good to bring in researchers with new ideas and capabilities in important fields of mathematics that are not represented here at present; for example, algebraic geometry, probability theory, topology and set theoretical foundations of mathematics. Such positions may, in first instance, be used to diversify the research in the three departments.

The committee supports the policy of hiring own PhD students only after longer stays/postdocs at other universities in Czechia or abroad.

The low intake of PhD students (even lower than at the previous evaluation period) remains a source of worry. Maybe advertising positions, with posters at connected mathematics institutes is worth a try. Specifically, at universities with a student population for which the Czech language is not an immediate deterrent. The Institute may consider whether using English as official language of PhD study besides the Czech language would be a good second option.


The overall research funding is somewhat worrisome. Despite (financial) incentives, few proposals are submitted. The discouraging perception that research funding tends to be concentrated in the large cities may play a role here. Maybe the Institute could explore cross-border funding opportunities more, and invest (financially or in time) in support for the bureaucratic aspects of grant-writing, and also within departments, or by mutual proof-reading or further joint submissions. The committee observes the management activity to press people to apply for grants but is aware of difficulties to succeed.

To improve visibility of the Institute and its research output, there are a few simple steps that can be taken, such as encouraging everyone to upload their papers/preprints on the arXiv (although many staff-members already do so), and to make publications also down-loadable on the Institute's website. Some updates (e.g. „Grants & Projects“ and „Conditions for the admission“), adding clear links of two research seminars, English versions of some sites (or just a switch button if there is an English version available) would help too.

The evaluation committee appreciates that the Institute has regular, twice a year, „outside meetings“ where, among others, researchers and PhD students are strongly invited to report on their newest results. We believe that possible critical remarks that they have to face there are stimulating for their work.

Only two departments have the right to promote people for full professor positions in the area of the research specialization of the department. For the imminent renewal of the accreditation it would be good to strive to make this situation more equal.

Opava, November 4th, 2022



Prof. dr hab. Roman Ger



Univ.-Prof. Henk Bruin, Ph.D.



Prof. Francisco José Herranz, Ph.D.