SLOVENSKÁ AKADÉMIA VIED

PREDSEDNÍCTVO

Vážený pán
doc. RNDr. Viktor Witkovský, CSc.
riaditeľ
Ústav merania SAV, v. v. i.
Dúbravská cesta 9
841 04 Bratislava

Bratislava 19. december 2022
Číslo: Ú SAV – 06652/2022

Vážený pán riaditeľ,

na základe uznesenia Predsedníctva SAV č. 501.C zo dňa 15. decembra 2022 sa zaraďuje Ústav merania SAV, v. v. i. do kategórie s charakteristikou:

Výskum má pevné základy a prispieva k pochopeniu vednej oblasti na európskej úrovni.

The research is solid and has contributed to the understanding in the field at the European level.

S pozdravom

prof. RNDr. Pavol Šajgalík, DrSc.
predseda SAV

Poučenie o odvolaní: Podľa čl. IV ods. 6 Zásad pravidelného hodnotenia vedeckých organizácií SAV za obdobie 2016 - 2021 sa proti rozhodnutiu Predsedníctva SAV môžete odvolať do 21 kalendárnych dní od doručenia tohto rozhodnutia na Predsedníctvo SAV (sekretariát predsedu SAV).

Príloha: Hodnotiaci protokol
(METAPANEL FINAL EVAUATION REPORT OF SAS RESEARCH INSTITUTE)

METAPANEL FINAL EVALUATION REPORT ON SAS RESEARCH INSTITUTE

Period January 1, 2016 – December 31, 2021

According to § I, section 15 and 16 of Principles of periodic assessment of SAS research institutes adopted under the regulation of § 10, section 5, letter d) Act No. 133/2002 Coll. on Slovak Academy of Sciences and approved by the SAS Assembly on November 21, 2021, Metapanel issued the report with following evaluation and proposal for Institute rating.

Name and address of SAS Institute	**Ústav merania SAV, v. v. i.** **Dúbravská cesta 9** **841 04 Bratislava**
On-site visit date	**October 19, 2022**

Scientific quality and productivity

Comments, including strengths and weaknesses (recommended number of characters with spaces: up to 4000)	**Rating***
The Institute is one of the smallest of Section 1, with only 24 FTE researchers, but a substantial administrative overhead, about 40% of the total personnel. It thus has the size of a typical single research group. With no less than five departments, the number of researchers per department is clearly bellow critical mass. Its research has two focusses, non-destructive testing and bio-measurements. The optoelectronics department specialises in non-destructive imaging of materials for technology and archaeology, as well as measurements of nuclear reactor mechanical stability. The theory department has a diversified program ranging from statistical models for the analysis of time series to the calibration of sensor and transducers. All other departments are concerned with bio-measurements. Their program covers magnetic analysis methods for biological samples, MRI (analysis, noise suppression, field improvement), ECG and BSP. All subjects are highly relevant for society. The bibliographic output has improved during the period, but remains small, with an average of about 1.3 publications per FTE and year. Only few publications are in journals with high impart factors. The citation statistics indicate, however, that the relevance of the publications is improving.	C

There is one NATO and one ERA-NET project, both generate relatively low income. National grants and COST projects are much more important financially. Two patents have been registered, but without commercial output. There is low interest of students in measurement science in general, and in the PhD program offered by the institute in particular. Only 4 theses were defended during the period, half of them by external students and none since 2018. There is almost no teaching activity since universities are not interested. As typical for technology- and application-oriented research, there is a large gender imbalance, with only one female researcher in a leading position. Almost half of the researchers are older than 50. Strengths: • Interesting, interdisciplinary directions of research with potentially significant scientific and societal impact. • The bibliometric output has increased, both in quantity and quality. • Many domestic projects were carried out in collaboration with multiple partners from Slovakia. • The Institute organizes a measurement science conference attracting international participation and publishes a review journal (impact in Q3). Weaknesses: • Only two articles published in years 2016-21 appeared in journals with IF>6. • Scientific teams of the Institute are small, below critical mass for efficient exchange and innovation. • The scientific staff of the Institute is rather old, indicating the need for a generation change. • The yearly income of the Institute from external projects is limited. • The number of female scientists is low, a general problem for MINT research.	

Societal, cultural, or economic impact

Comments, including strengths and weaknesses (recommended number of characters with spaces: up to 4000)	**Rating***
The R&D program of the institute is as a whole relevant for society and should be further encouraged. Examples of potentially immediate benefits are: • Robotic aided rehabilitation; • Diagnosis of premature ventricular contraction; • Metabolic heart imaging. The institute makes substantial efforts for outreach to the general public.	B/C

Strategy and potential for development

Comments (recommended number of characters with spaces: up to 4000)	**Rating***
The Institute makes a strategic effort to concentrate its research on a number of directions commensurate with its limited personnel and budget. This process should be further developed, potentially involving external experts as well as collaborators at all levels. The departmental structure of the institute does not yet reflect the priorities.	C

*Rating on a scale from A to D, where A is internationally leading; A/B part is internationally leading, overall is visible at the European level; B is visible at European level; B/C part is visible at the European level, overall is solid; C is solid; C/D is partly solid; D is not solid;

OVERALL ASSESSMENT

General comments on the Institute performance (2016-2021)

The general scientific performance of the institute shows a clear upwards trend and a clear scientific strategy. The research program has serious scientific and societal impact. The Institute's strategy would benefit from focusing on collaboration in European projects, building a smaller number of larger scientific teams with better international recognition and attracting young researchers with strong scientific potential.

There is no improvement in the number of PhD thesis completed. There appears to be an unusual fluctuation, where an important number of PhD students leave prematurely.

There is a gender and age imbalance observed in the structure of the research personnel. There is no long-term strategy to improve the situation.

Comments and recommendations for further improvement and development of the institute

The strategic aims of the institute should be further consolidated with the aim to bring in-line the budgetary and personnel constraints with the scientific ambitions. The departmental structure of the institute should be adjusted to reflect the scientific priorities.

Efforts should be intensified to collaborate closely with other national metrology institutions, especially those which are more service-oriented. A merger with these institutes should be envisaged, in which the institute would supply scientific support.

The administrative overhead of the institute should be reduced, at the benefit of additional research personnel.

Additional income from European Commission projects should be actively sought, also using the international conference organised by the institute for networking.

Researchers should be encouraged to submit publications to higher impact journals. Success to do so should be internally rewarded.

An effort should be made to be more attractive for PhD students and female researchers. For the former, conditions of employment and internal support should be improved, potentially in collaboration with industry and universities. For the latter, encouragement and promotion to leading positions for existing female collaborators should be envisaged.

Collaboration with industry and clinical partners should be sought with an aim to commercialize the R&D output.

There should be further support for an accelerated generation change in the research personnel. Talented young researchers should be encouraged and given a chance to fully develop their potential.

Proposal of overall institute rating:

C

December 12, 2022

On behalf of the Metapanel

Prof. Marja Makarow