





## **Table of contents**

1.	Summary				
2.	Quality management at EPFL				
3.	Pro	cess review 2023–2024	05		
	Managerial processes				
	3.1	Managing EPFL (No.1)	05		
	3.2	Living together (No. 2)	06		
	Aca	demic processes			
	3.3	Teaching and learning (No.3)	07		
	3.4	Researching (No.4)	09		
	3.5	Innovating (No. 5)	11		
	Fina	ancial and operational processes			
	3.6	Managing finances (No. 6)	12		
	3.7	Managing HR (No.7)	13		
	3.8	Managing infrastructure and proximity services (No. 8)	14		
4.	SW	OT analysis	15		
5.	Cor	nclusion and further steps	16		
6.	Per	sons interviewed	16		
	App	pendix			
	Priz	es and awards	17		



## 1. Summary

This document assembles the results of interviews carried out with the process owners from January to March 2024 with the aim to update the EPFL Quality Management System (QMS).

After an overview of the QMS review process, section 3 provides details of the improvements/modifications brought to each of the eight principal processes. Section 4 presents the SWOT analysis, performed at the institutional level. Appendix lists selected prizes and awards that acknowledge exceptional performance and achievements of EPFL community.



#### 2. Quality management at EPFL

- 1. In 2020, the EPFL Management Board drafted the Quality Policy and determined the responsibilities and the principles of quality assurance. Since then, each process owner formalized its sub-processes and described how they are planned, carried out ("Do"), controlled, improved ("Act on") and assessed by a range of instruments verifying the alignment with EPFL values and quality assurance guiding principles such as:
  - compliance with the regulatory framework,
  - accountability and data availability for decision-making,
  - participation in decision-making,
  - periodic evaluation,
  - stakeholder satisfaction,
  - uniform implementation within the institution.

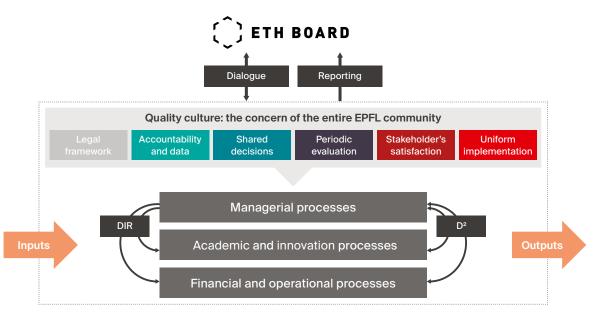


Figure 1 | Quality management system

- 2. As described in <u>Quality Policy</u>, once a year, process owners announce any changes that have occurred since the last review and identify the modifications and enhancement/mitigation measures being implemented.
- The quality assurance delegate records this information in the enhancement register and publishes them on the dedicated website. The enhancement measures are published in the Open Campus Newsletter and the Quality Newsletter. In addition, each competent unit uses its own communication channels (i.e. CDS, CCE, School Assembly portal) to improve the flow of information.
- The enhancement register is drafted by the Quality Commission and approved by the EPFL Management Board.

<sup>1</sup> Synthetic sheets, describing the process and its sub-processes, related laws, Lexes, documents, and quality instruments are updated on the annual basis. They can be provided on request.

<sup>2</sup> See 2021: Looking Forwards, p.7. 🖸



### 3. Process review 2023-2024

## 3.1 Managing EPFL (No.1)

This strategic process is composed of four sub-processes:

- 1a Defining the four-year strategy, organization, resource allocation, overseeing the implementation and communication
- 1b Managing international strategy
- 1c Appointing new generation of academics
- 1d Defining and implementing quality policy

Criteria	Information provided
Legal framework	Directive concerning the continued employment of professors beyond the legal retirement age (Lex 4.2.9).
	The Quality Policy has been updated.
Accountability and access to	The EPFL Management Board approved the strategy of data governance: the data governance team is hired and started working its execution.
data	The Annual Report of the Quality Commission is online.
	A new tool to follow-up tenure progression will be evaluated as a pilot project with twenty faculty members.
Participation in decision	The Strategic Academic Committee is now fully active, involved in 2023 and 2024 in key topics, such as the pre-selection of NCCR proposals.
making	To promote the staff participation in the decision processes, EPFL considers setting up a Staff Committee (Commission du personnel).
	Responding to the AE concerns, EPFL has adapted its consultation procedure: a track version of updated documents is for now tested on the AE portal (Lex 4.2.6 and 4.2.9).
Periodic evaluation	In June 2024, EPFL will submit a dossier to the Swiss Accreditation Council, in which the institution explains how it has fulfilled the condition related to the standard 5.1.
	ETH Board audited on faculty performance (2024).
	The processes of Mediacom and International Affairs are not quality assured.
Communication	Messages from the President (twice a year, 62% openings).
measures (if possible, with	Newsletter Open Campus (ten per year, 62% openings).
activity or impact	Quality Newsletter (two per year, 61% openings).
indicators)	The Annual Information Session took place on 26 February 2024.
	The provost meets the faculty members four times per year. He discussed the Quality Assurance issues on 23 September 2023.
	Quality Survey was launched on 26 March 2024 (2,279 response on 31 April 2024).



## 3.2 Living together (No. 2)

This strategic process is composed of two sub-processes:

- 2a Defining and implementing sustainability policies
- 2b Defining and implementing equal opportunities policies

During the year under review, the process owners mentioned:

Criteria	Information provided
Accountability and access to data	The Climate and Sustainability Strategy defines EPFL's sustainability objectives. It outlines EPFL's efforts to integrate sustainability into education, research, and innovation, as well as measures to reduce the environmental impact of EPFL activities, make campuses more resilient to climate change, and integrate social aspects to improve the well-being of the EPFL community.
	Following on from the Equality and Diversity Action Plan 2021–2024, the Equality, Diversity and Inclusion Action Plan 2025–2028 will be put out to consultation this year.
Participation in decision making	The VPT funds sustainability officer positions in two EPFL Schools and has had to postpone its intention to launch a Sounding Board on Sustainability.
Stakeholder's satisfaction	Following on from the "Harassment A–Z" and "Promoting a culture of respect" task forces which worked on 2021 and 2022, the Support and Trust Network (TSN) to align the units concerned, and the Respect Compliance Office (RCO) to address complaints issues were deployed in 2023.
Uniform implementation	Awareness-raising and prevention campaigns, training courses such as the e-learning program "You're not alone", and the introduction of new guidelines all support these actions.
	The Trust Point page available on EPFL Campus app gives the community easy access to resource persons, depending on their field of activity. A video tab has been added to provide definitions of the various concepts related to psychosocial risks.
Communication measures	The Sustainability and Equality web pages are updated once a year. Page consultation statistics are published regularly.
(if possible, with activity or impact	EPFL's CO <sub>2</sub> balance sheet is available on the EPFL Sustainability website.
indicators)	Gender monitoring 2021–2024 is available on specific web pages.
	Numbers of openings of Trust Point webpages are also monitored.
	EPFL Sustainability is working on the construction of a calculator of CO <sub>2</sub> emissions

from research activities to enable each laboratory to know its own carbon footprint.



## 3.3 Teaching and learning (No. 3)

This academic process is composed of six sub-processes:

- 3a Developing an education and training policy
- 3b Designing new curricula and study plans
- 3c Managing the BA, MA, CMS and MAN cycles
- 3d Managing Doctoral School
- 3e Managing student's path
- 3f Managing student's services

Criteria	Information provided
Legal framework	The EPFL Management Board would like to limit the number of bachelor students who have obtained their high school diploma outside Switzerland, without changing the admission conditions for students with a Swiss Maturité.
	Directive on Awarding the Title of Professor of Practice at EPFL was discussed with the AE and is currently implemented (Lex 4.2.8).
	The Lex 4.4.1 (Directive on Terms of Employment of EPFL Assistants) was updated with the extension of the contract duration in some specific cases (i.a. maternity leave). No consultation with AE was required. The PhD students were informed via a specific Newsletter (PhD Capsule n°7).
Accountability and access to data	The Education Statistics team provides a set of data to be discussed during the CDS meetings. This standing agenda item replace the annual education KPI report, published previously two times a year. These data are distributed to all Section Directors.
	Some EPFL Section do not have Advisory Committees.
Participation in decision making	The Strategic Academic Committee suggested to replace the Master on Digital Humanities by an eponym minor. An ancillary question on closing master curricula has to be discussed.
	The AAQ experts noticed that EPFL should clarify the role of student representation for the relevant committees and should further involve students in the development of survey and evaluation tools. The Faculty Councils are specifically pointed out in the expert report. To clarify the problem, the AVP-SAO run a survey. The preliminary results show that the student representatives are satisfied.
Periodic evaluation	The Quality Commission has been tasked to design a new procedure of periodic evaluation of master curricula (replacing the CTI accreditation). The preliminary outcomes were discussed with the provost on 18 March 2024.
	A periodic evaluation of twenty-two doctoral programmes was performed in 2023.
Stakeholder's satisfaction	The exam evaluation is determined by the art. 9 of the Lex 2.5.1. Since 2022, an indepth evaluation is performed every year.
	In December 2023, the annual report process for PhD candidates has been made more efficient by simplifying the content to be completed and the number of steps involved.
	The survey on student satisfaction is currently ongoing. The students were consulted on the survey design. The results are expected in June 2024.



#### Criteria

#### Information provided

# Uniform implementation

A working group (lead: Pierre Dillenbourg, Annalisa Buffa) analyzes the possibility to share fairly the global teaching load.

The EPFL Management Board meets the students' representatives twice a year. Monthly meetings with the AVP-E and the AVP-SAO are organised.

Communication measures (if possible, with activity or impac indicators) PhD Capsule Newsletter.

The AVP-SAO published its Annual Report.

activity or impact ALTER: a media for students by students (link).

Journées scientifiques et pédagogiques (JSP 2023).

Billboard and poster campaign to increase the participation in indicative feedbacks and in-depth evaluations.

Since January 2023, anonymized results of in-depth evaluations are available on the <u>Statistiques Éducation</u> web pages (statistiques institutionnelles, enseignement, évaluation de l'enseignement).



## 3.4 Researching (No. 4)

This academic process is composed of four sub-processes:

- 4a Conducting research project
- 4b Creating a framework for accessing third-party funding
- 4c Disseminating and valorizing research results
- 4d Developing research facilities

Criteria	Information provided
Legal framework	Federal Act on Public Procurement: A public contract in return for the supply of goods, work, or services (threshold CHF 150,000). The Lex 3.4.1 will be modified this year. Reseach Office (REO) will intervene for purchases over CHF 50,000.
	Lex 1.2.10 will be updated in the next months.
	A new guideline on Horizon Europe is currently prepared. It will replace the Lex 3.1.7.
Accountability and access to	Research indicators are published once a year and distributed to the EPFL Management Board, deans and main stakeholders.
data	Since 2024, the KPIs related to EPFL's participation in Horizon Europe are provided by REO to International Affairs for information and follow-up.
	An annual report, Research Facilities at EPFL, is published every year. In a specific appendix, the EPFL Management Board is informed about the financial situation of each platform.
Participation in decision making	Global Ethics and Partnerships Committee was appointed on 6 February 2024, for advising the EPFL Management Board and the president on general issues such as proposals for collaborations, partnerships, training courses, contracts and donations/sponsoring requested by a researcher.
	An intensive collaboration at the national level (swiTT) and ETH Domain level (ERFA Group) is ongoing regarding benchmarking of TTO practices.
Periodic evaluation	External audit in 2022 (by MIT Tech transfer expert), CDF audit in 2023 <sup>3</sup> , ETH Board audit in 2024 (oriented tech transfer). The recommendations are currently analysed.
	According to the Lex 1.2.10, each platform has a dedicated Steering Committee, which guides the strategic development of the platform, integrating the requirements of user entities, technological developments, and all the resources available.
	The finances and the administrative procedures of EPFL plateforms are regularly audited by the ETH Board. Academic evaluations are performed, on request of the EPFL Management Board.
	Summary of IC evaluation is online. SV evaluation was performed in March 2024.
Stakeholder's satisfaction	The results of the Research Office Assessment 2023 are available online.  Annual discussions with deans, AVP-R and/or head of TTO.

<sup>3</sup> Querschnittsprüfung der Nebenbeschäftigungen mit Schwerpunkt Interessenkonflikte (admin.ch)



#### Criteria

#### Information provided

## Uniform implementation

The Research Data Management (RDM) is an essential part of the scientific process, making data and code easily publishable, safely preserved, and better reproducible. The EPFL Library collaborates with <u>DaSCH</u>, <u>Eawag</u>, <u>ETH Zurich</u>, <u>FHNW</u> and <u>UNIL</u>, for a better understanding of practices and needs, and to provide harmonized solutions for RDM and is currently running a survey.

The key target users' number and the revenues of each platform are used as proxy for user satisfaction. If needed, surveys are run. Direct contact with main stakeholders is providing useful information.

Communication measures (if possible, with activity or impact indicators) REO webpages were updated, and the Newsletter adapted according to the stakeholder suggestions.

Newsletter TTO (five to six per year). Relevant news through LinkedIn account with 4,000 followers.



## 3.5 Innovating (No. 5)

Criteria	Information provided
Accountability and access to data	KPI presented on the meeting from 26 February 2024, ☐.
Stakeholder's satisfaction	Surveys performed twice a year with the KNOVA partners. Feedback loops closed.
Uniform implementation	Industrial liaison officer facilitates the connection with private and public partners. New role of faculty liaison officer is deployed at the school level (ex. double affiliation VPI-School).
	The VPI tests innovative tools on behalf of the whole institution (i.a. CRM, MS 365). After the pilot phase, the selected tools will be deployed to the entire EPFL.
Communication	Events such as Industry Days, Investor Days, etc.
measures (if possible, with	Industry video series, ⊡.
activity or impact indicators)	Startup Champions Seed Night: 400 persons and twenty start-ups.



## 3.6 Managing finances (No. 6)

This strategic process is composed of four sub-processes:

- 6a Planning financial needs and their use
- 6b Managing the controlling system
- 6c Ensuring and maintaining the preparation of fair, complete and transparent IPSAS financial statements for stakeholders
- 6d Ensuring appropriate insurance management, monitoring the implementation of audit points and the evolution of the ICS

During the year under review, the process owners mentioned:

Criteria	Information provided
Participation in decision making	Nexus is a participative project (described <u>here</u> ).
Periodic evaluation	The 2023 audit of consolidated accounts were completed in February 2024. Over the last years, the Swiss Federal Audit Office (CDF) and the Internal audit of the ETH Board have noted significant improvements in different areas: ITGC related to the preparation of financial statements, purchasing, and inventories. No new recommendation was issued in 2023.
	Since the implementation of the internal control and risk management service in 2018, a systematic reduction in the number of open audit points has been observed at EPFL level.
Uniform implementation	Training of administrative assistants, □.
Communication measures (if possible, with activity or impact indicators)	The VPF has published a specific web pages related to Nexus, 🖸.

 École polytechnique fédérale de Lausanne



## 3.7 Managing HR (No.7)

This strategic process is composed of three sub-processes:

- 7a Defining and implementing the HR strategy
- 7b Managing the life cycle of EPFL employees
- 7c Developing the HR function

## 3.8 Managing infrastructure and proximity services (No. 8)

This strategic process is composed of six sub-processes:

- 8a Designing and conducting new projects
- 8b Maintaining and managing the existing infrastructure
- 8c Design and implement new IT services and manage existing infrastructures
- 8d Purchasing goods and services
- 8e Managing the proximity services (restaurants, shops, etc)
- 8f Managing health, safety and security



Criteria	Information provided
Legal framework	Lex 1.5.1 "Revision of the Occupational Health and Safety Directive": AE consultation finalized.
	Lex 1.5.8 "Camipro card": AE consultation finalized.
Accountability and access to data	New monitoring instruments were developed during the <u>OSTRAL</u> crisis. A new directive related to the continuity plans in the case of energy crisis to clarify the action plan has been be validated by the EPFL Management Board.
	New continuity plans in case of breach of cybersecurity have been prepared.
Participation in decision making	There is an ongoing discussion on Staff Commission. A consultation will soon be launched to ask EPFL community whether they want it or not.
Periodic	Different audits ongoing and planned.
evaluation	<u>EPFL Essentials</u> : mandatory training for EPFL newcomers (basic safety training, IT security, data protection, Compliance Guide, and research integrity).
Stakeholder's satisfaction	As one of the measures arising from the 2023 satisfaction survey, EPFL has decided to issue a letter specifying the annual salary increase for all employees on permanent contracts.
	The satisfaction survey will be repeated every four years (next deadline: 2027).
	The results of the survey related to the satisfaction on buildings are not yet available.
	The bidding process concerning la Coupole / Esplanade (Double Deck project) is now over. The construction work will take place from 2025 to 2028.
	The bidding process concerning the Advances Science Building is now over.
	The results of the restaurant survey and the satisfaction of the reprographic services are currently analysed.
Communication measures (if possible, with activity or impact indicators)	From 7 to 29 February,the EPFL community had the opportunity to learn more about <u>Double Deck</u> in an exhibit that also showed the other designs that were submitted.



## 4. SWOT analysis of main QA processes

#### **Strengths**

- University run by a committed team with academic, operational and financial skills.
- Double autonomy with a clear strategic or controlling responsibilities.
- Flexibility in the financial allocations of the ETH Board and EPFL Management Board.
- A culture that takes account of the social and economic impact of activities.
- Values aligned with stakeholder requirements (e.g. sustainability, equal opportunities, positive impact on society).
- Lean management.
- Institutional culture fighting the silos mentality (i.a. promotion of transversal skills replacing career center).
- Strong commitment of student body leading to the excellent collaboration.
- Destigmatisation of mental health and establishment of a strong institutional strategy for mental health.
- New TSN dealing with difficult issues (e.g. mobbing, harassment, etc.).
- EPFL and UNIL are placing sport and physical activity at the heart of their development strategy (Sport Health Master Plan 2036).
- Flexible minor system helping to adapt rapidly to the industrial requirements.
- Cutting-edge technical equipment, with competent dedicated teams and sufficient financial resources.
- TTO with well established processes but allowing flexibility.
- Efficient collaboration between VPI, Central services, EPFL units and external stakeholders.

#### Weaknesses

- Allocation of the federal budget does not compensate for inflation or the increase in student numbers.
- Inter-VP operational processes are not harmonised (VPO, VPT, VPA, VPF, Mediacom, etc.), with the risk of redundancies.
- Lack of institutional policy on document management.
- Lack of appropriate management systems for managing administrative processes or performing surveys.
- Ageing of technical infrastructure.
- Perceived increase in the administrative burden.
- Multitude of new master curricula may be confusing to the industrial partners and employers.
- Entrepreneurial support, when relating to labs, should be closer to research (VPA), to guarantee focus and priority on deeptech.
- EPFL Innovation Park is overloaded (both for startup's and big compagnies).

#### **Opportunities**

- A new Presidency takes office.
- EPFL's reputation in Switzerland and abroad.
- A political context focused on sustainability and health, which favors the polytechnics.
- Durability as a showcase for teaching, research, innovation and daily operations.
- Pragmatic way to select periodic evaluation modalities (no need for a formal accreditation at the program level).
- Collective effort to simplify the periodic evaluation of master programmes
- Impact of AI on EPFL core missions.
- Launch of strategic programmes maintaining digital and physical infrastructures.
- Interest of industry and institutions in collaborating with EPFL.
- Increase of the national cooperation and new effort to create synergies among equipment user's communities.
- Methodology and processes in place to deal with new crises (preparation of business continuity plans via operational committees: Covid-19, OSTRAL, Cyber-ResCom).
- Possibility to develop new partnerships with industry.

#### **Risks**

- Decreasing financial contributions from the Confederation.
- Geopolitical situation having a negative impact on the Confederation's priorities.
- Relationship with EU.
- Climate events affecting infrastructures.
- Growing number of students.
- Competition for academic talents.
- Institutional continuity exposed to the double challenge (change of management and future retirements).
- Impact of AI on EPFL core missions (i.a. patent business).
- Understaffing and risk of burn-out in some units.
- No formal link with EPFL Management Board and the quality management.
- Significant increase in the level of IT security threats.
- Loss of qualified employees in a situation of full-time employment.
- US master achieved in one year considered a gold standard.



## 5. Conclusion and further steps

At EPFL there are eight processes, formalised at the sub-processes level (map the EPFL organisation chart). The processes are placed under the responsibility of process owners.

A systematic process review has been performed three times (2021, 2022–2023 and 2023–2024<sup>4</sup>).

The process owners are perfectly aware which enhancement measures have been implemented or are planned, to guaranty accountability, participation in decision making or respond to stakeholder's satisfaction. They have more difficulty to explain the mechanisms assessing their impact.

The Quality Commission short-term objectives are to draft and test a new procedure merging of two main quality instruments, namely evaluation of School and Colleges and accreditation of EPFL master programs. Within the next twelve month, the Quality Commission will:

- adapt the QMS to the new EPFL organisation chart,
- renew the mandate of the Quality Commission,
- appoint the process owners for the period 2025–2028,
- train new process owners and new Quality Commission members;
- determine the role and the mission of Quality Office.

#### 6. Persons interviewed

Following persons were interviewed (between the brackets, the processes for which they are responsible):

- Pierre-André Besse (3a, b, e)
- Pierre-Yves Bolinger (4d)
- Andrea Cottini (4c)
- Volker Gass (5)
- Hakim Hadjeres (6)
- Tristan Maillard (1a)
- Agnès Le Tiec (2)
- Albertine Kolendowska (3f)
- Philip Mair (3d)
- Antoinette Musard (7, 8)
- Jeroen Japp van Hunen (4a, b)

<sup>4</sup> The results of the enhancement register 2022–2023 and 2023–2024 were were summarized in stand-alone reports, available <a href="here">here</a>. The results of the enhancement register 2021 were included in the self-evaluation report for Institutional accreditation 2021.



#### Appendix Prizes and awards (not-exhaustive list)

Prizes and awards acknowledge exceptional performance and achievements of EPFL community. They serve to celebrate excellence and enhance the EPFL's reputation. They are therefore included in the QMS. This appendix presents the main prizes awarded in 2023.

#### Dimensions n°12

- Professor Cathrin Brisken at EPFL's School of Life Sciences has been awarded the 2023 Claudia von Schilling Prize.
- Professor Elisa Oricchio at EPFL's School of Life Sciences has been awarded the Pezcoller Foundation-EACR Translational Cancer Researcher Award for 2024.
- Professor Nako Nakatsuka, at the EPFL's Neuro-X Institute, is one of two winners of the prestigious philanthropic program of the Sandoz Family Foundation for 2023.
- Professor Nicola Marzari, head of the Lab of Theory and Simulation of Materials, has been recognized along with his team by the jury of the National Prize for Open Research Data.
- **Thirty-seven** of the 438 **doctoral candidates** who defended their thesis over the academic year 2022—2023 have been awarded with Doctoral Program Thesis Distinction.
- Demis Hassabis, Founder and CEO of DeepMind, one of the world's leading Al research companies, and of Isomorphic Labs, a digital biology company that is redefining drug discovery with the power of artificial intelligence, was awarded with a title of Doctor Honoris Causa 2023.
- Jennifer A. Lewis, an American materials scientist and engineer, was awarded with a title of Doctor Honoris Causa 2023.
- Professor Francesco Mondada was honored in the "Distinguished Individuals" category by ETH Zurich.

#### Dimensions n°11

- Professor Lesya Shchutska wins the Swiss Science Prize Latsis 2023.
- Michelle Simmons, an Australian physicist, won Erna Hamburger Prize in 2023.
- Professor Anne-Florence Bitbol, head of EPFL's Laboratory of Computational Biology and Theoretical Biophysics, has been awarded the IUPAP Young Scientist Prize in Biological Physics.
- Professor Michael Grätzel, head of EPFL's Laboratory of Photonics and Interfaces, has been awarded the 2023 Abdullah Bin Hamad Al-Attiyah International Energy Award.
- Professor Jean-Philippe Brantut, head of EPFL'S Laboratory for Quantum Gases, is one of four winners of the 2023 Latsis University Prize.
- Aurore Nembrini, the sustainability and operations manager at EPFL's Sustainability Unit won the Outstanding Commitment Award 2023.
- Pascal Vuilliomenet, a project manager for EPFL's Discovery Learning Labs (DLLs) and Sportech initiative, won the Outstanding Commitment Award 2023.



#### Dimensions n°10

- Professors Mackenzie Mathis and Alexander Mathis at EPFL have won the 2023 Eric Kandel Young Neuroscientists Prize.
- Professor Jérôme Chappellaz has been awarded the Belgica 2023 Medal for polar exploration by the Royal Academy of Belgium.
- Simone Gargiulo and Mohammad Bereyhi from EPFL are among the six 2023 winners of the Swiss Physical Society Awards for the best theses in physics.
- Amir Youssefi, from the Laboratory of Photonic Integrated Circuits and Quantum Measurements, and Saeid Ansaryan, from the Bionanophotonic Systems Laboratory, won the 2023 Swiss Nanotechnology PhD award.

#### Dimensions n°9

- Professor Andrea Ablasser, head of the Laboratory of Innate Immunity, has been awarded the Paul Martini Prize.
- Professor Lyndon Emsley, head of the Laboratory of Magnetic Resonance at EPFL, is one of two winners of the 2023 Günther Laukien Prize.
- Professor Tom Battin, head of the River Ecosystems Laboratory won the Vladimir Ivanovich Vernadsky Medal 2023.