



Global Fluid Power Society

Global Fluid Power Society (GFPS) *meeting*

March 19, 2024

GFPS Participants meeting

Thursday, March 19th 2024

In attendance:

Onsite

Andrea Vacca	Purdue University (USA)
Liselott Ericson	Linkoping University (Finland)
Paolo Leutenegger	Diplomatic (Italy)
Luca Ricco	Diplomatic (Italy)
Andrew Plummer	University of Bath (UK)
Marcus Geimer	Karlsruhe Institute of Technology (Germany)
Lasse Schmidt	Aalborg University (Denmark)
Tatiana Minav	Tampere University (Finland)
Katharina Schmitz	RWTH Aachen (Germany)
Juergen Weber	Technical University of Dresden (Germany)
Victor De Negri	University of Santa Catarina (Brazil)

Online

Emma Frosina	University of Sannio (Italy)
Adolfo Senatore	University of Naples (Italy)
Eric Bideaux	INSA Lyon (France)
Heikki Handross	Lappeenranta Univ. of Technology (Finland)
Kim Stelson	University of Minnesota (USA)
Massimo Rundo	Turin Polytechnic (Italy)
Sanada Kazushi	Yokohama National University (Japan)
Victor Sverbilov	Samara University (Russia)
Travis Weins	University of Saskatchewan (Canada)
Xavier Gamez-Montero	Polytechnic of Catalunya (Spain)

Agenda

1. GFPS board
2. GFPS in conferences and GFPS awards
3. GFPS PhD Symposium: 2022 and 2024
4. International Journal of Fluid Power
5. GFPS financial status
6. Unite! Initiative by GFPS members

Publication strategy for
GFPS community



Current Board of Directors (BoB)

(June 2022 – May 2026)



Jürgen Weber (**Chair**)

Technische Universität Dresden, Germany



Andrea Vacca (**Secretary and Treasurer**)

*International Journal of Fluid Power Editor in Chief
Purdue University, USA*



Emma Frosina

Universita' del Sannio, Italy



Victor De Negri

Univ. of Santa Caterina, Florianopolis, Brazil



Bing Xu

Zhejiang University, China

Board of Directors

Current BoB discussed following structure for GFPS governance for years 2022 - 2026.

- Director roles

Chair

- Formal representation of GFPS
- Coordination of BoB meetings



Public Relations

- Website updates
- Communication to Participants
- Retention and recruitment of new participants



GFPS Symposium

- Guide local organizers
- Ensure paper publishing
- Assist with paper review



International Journal of Fluid Power (IJFP)

- Role of the Editor in Chief
- Committee formed by the Editorial Board and associate editors
- Special issues
- Strategies for improving journal website and promotion



Award

- GFPS best paper award
- Nomination to external awards
- Creation of new awards?



- Except for the IJFP, roles will be determined after the new BoB is formed
- Each director can establish a committees of GFPS members to help with his functions
- Each director/committee will report to the BoB twice a year 6 months
- Board of Director will report to the General Assembly at least once a year

GFPS in conferences

BEST PAPER AWARDS

1. ICFP 2017 (thanks to Huayong Yang and Songjing Li)
2. SICFP 2017 (thanks to Petter Krus)
3. JFPS 2017 (thanks to Kazushi Sanada)
4. ASME – Bath FPMC 2017 (thanks to Andrea Vacca and Monika Ivantysynova)
5. IFK2018 (thanks to Hubertus Murrenhoff), 2 awards!
6. **GFPS 2018 - BACKE' MEDAL** (thanks to Victor Sverbilov)
7. ASME – Bath FPMC 2018 (thanks to Andrew Plummer, Nigel Johnston)
8. FPM 2019 (thanks to Huayong Yang)
9. SICFP 2019 (thanks to K. Huhtala)
10. FPMC 2019 (thanks to J. Van de Ven)
11. FPMC 2020 (thanks to Andrew Plummer, Nigel Johnston)
12. DVM 2020 (thanks to Victor Sverbilow)
13. IFK 2020 (thanks to Jürgen Weber)
14. **GFPS 2020 - BACKE' MEDAL** (thanks to Songjing Li)
15. JFPS 2020 (thanks to Hideyuki Tsukagoshi)
16. ICFP 2021 (thanks to Huayong Yang and Feng Wang)
17. ASME – FPMC 2021 (thanks to Perry Li, Nigel Johnston)
18. IFK 2022 (thanks to Katharina Schmitz)
19. Bath ASME 2022 (thanks to Nigel Johnston)
20. **GFPS 2022 - BACKE' MEDAL** (thanks to Emma Frosina and Adolfo Senatore)
21. SICFP 2023 (thanks to Tatiana Minav)
22. FPM2023 (thanks to Songjing Li)
23. ASME/Bath2023 (thanks to Lizhi Shang/Nariman Sepehri)
24. IFK2024 (thanks to Juergen Weber)

Note:

GFPS participation to conferences always to be approved by the Board of Directors



International Journal of Fluid Power

The screenshot shows the homepage of the International Journal of Fluid Power. The header is yellow with the journal title and navigation links. The main content area is white and features a 'Current Issue' section for 2023: Vol 24 Iss 4, published on 2023-11-07. Below this is an 'Original Article' section listing three papers with their titles, authors, and page numbers. Each article has PDF and HTML download buttons. On the right side, there is an 'Impact score 0.8' section, a video player showing a 'RP Discussion' video, and information about the 14th International Fluid Power Conference (IFK) held in Dresden, Germany on March 19-21, 2024. At the bottom, there is a blue banner with the journal's logo and a brief description of its focus on fluid power technology.

International Journal of Fluid Power

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Current Issue

2023: Vol 24 Iss 4

Published: 2023-11-07

Original Article

Performance Analysis of a Pressurized Assembly with a Reinforced O-ring
El Mehdi El Bahloul, Hicham Aissaoui, Mohammed Diany, Elhassan Boudaia, Mustapha Mabrouki | 625-642
[PDF] [HTML]

Facilitating Energy Monitoring and Fault Diagnosis of Pneumatic Cylinders with Exergy and Machine Learning
Zhiwen Wang, Bo Yang, Qian Ma, Hu Wang, Rupp Carrievau, David S-K, Ting, Wei Xiong | 643-682
[PDF] [HTML]

A Review of Pilot-operated Hydraulic Valves - Development, Challenges, and a Comparative Study
Essam Eisaed, Matti Linjama | 683-724
[PDF] [HTML]

[View All Issues >](#)

International Journal of Fluid Power

The *International Journal of Fluid Power* was established in 2000 as the first English language scientific journal fully dedicated to fluid power technology. It provides essential reading for engineers and academics interested in advances in modern fluid power (FP) technology. Fluid power refers to the discipline that involves the use of fluids to perform mechanical actuations. It encompasses hydraulic control systems and pneumatic systems. It is a well-established and independent discipline which has a defined research area and scholarly activities since at least seven decades. The educational and research activities related to the fluid power discipline serve a large and widespread industry reaching from agriculture, construction, transportation, aerospace, marine, manufacturing and

Impact score 0.8

From the Web of Science Journal Citation Reports®

River Publishers is pleased to announce the best paper 2022 for the International Journal of Fluid Power, which was awarded to the paper "A Piezo-Electric Valve Actuator for Hydraulic Exoskeleton Drives" by Philipp Albrecht-Zagar and Rudolf Scheidl.

The 14th International Fluid Power Conference (IFK) conference will be held in Dresden, Germany on March 19-21, 2024
<https://ifk-dresden.de/>

ISSN:2332-1180 (Online Version)
ISSN:1439-9776 (Print Vesion)

International Journal of Fluid Power

- River Publishers since 2019
- Impact score 0.8
- Open access since 2023
- 24 papers in 2023
- Increasing rejection rate
 - Desk reject 56%
 - After review reject 25%
- 31% increase in website views compared to 2022

International Journal of Fluid Power

Recent Initiatives

- **Promotion.** Fliers at conferences. Interviews to Editorial Board members
[https://www.youtube.com/watch?v= M0swcSv_KE](https://www.youtube.com/watch?v=M0swcSv_KE))

Best paper award (once a year)

*2021: “A Digital Displacement Hydrostatic Wind-turbine Transmission”
by W. Rampen et al.*

<https://youtu.be/l7v0FYUFQ8w>

*2022: “A Piezo-Electric Valve Actuator for Hydraulic Exoskeleton Drives”
by P. Albecht-Zagar and R. Scheidl*

<https://youtu.be/rLs7N8-etY8>

*2023: “Application of Deep Reinforcement Learning Control of an
Inverted Hydraulic Pendulum” by F. Brumand-Poor et al.*

International Journal of Fluid Power

Recent Initiatives

- **Special issue.** Propose to have a special issue for every GFPS sponsored event.
How it works:

IFK2024
SICFP2023
GFPS2022
ICFPMCE2022
IFK 2022
SICFP2021
ICFP2021
NSHP 2020
GFPS 2020

- local conference chair to be the Guest Editor
- 5-7 papers to be identified from the conference
papers selected for the GFPS best paper award is a possible option. Other criteria can be accepted.
Important to have good reviews
- authors to be invited to submit an extended version (20%-30% difference). This solves copyright issues. Paper title can remain unchanged.

International Journal of Fluid Power

New Initiatives

- **Open access journal.** Starting 2023 the IJFP will be online
 - EUR 600 publication fee
 - EUR 300 for GFPS participating institutions
 - EUR 150 for papers in the IJFP special issues

covered by IJFP dues
- **Strategies to further lower open access fees.**
 - Industry sponsorship for IJFP issues
- **Enforce citing IJFP on paper submission.**
 - to authors: 2/3 citations to IJFP papers “to ensure topic relevance”
authors can justify why no IJFP references are provided
 - to Associate Editors: check flag added to the review online tool

International Journal of Fluid Power

New Initiatives

- **Fluid Power Series.** Scopus indexed collection of conference proceedings. Same publisher as IJFP

- **IFK conference.** Juergen Weber, Katharina Schmitz
- **Maha conference.** Andrea Vacca

More to add ?

GFPS Participants meeting

Thursday, March 19th 2024

2024 GFPS PhD Symposium

Liselott Eriksson



Welcome To
Hudiksvall

GFPS 2024

June 17-20, 2024

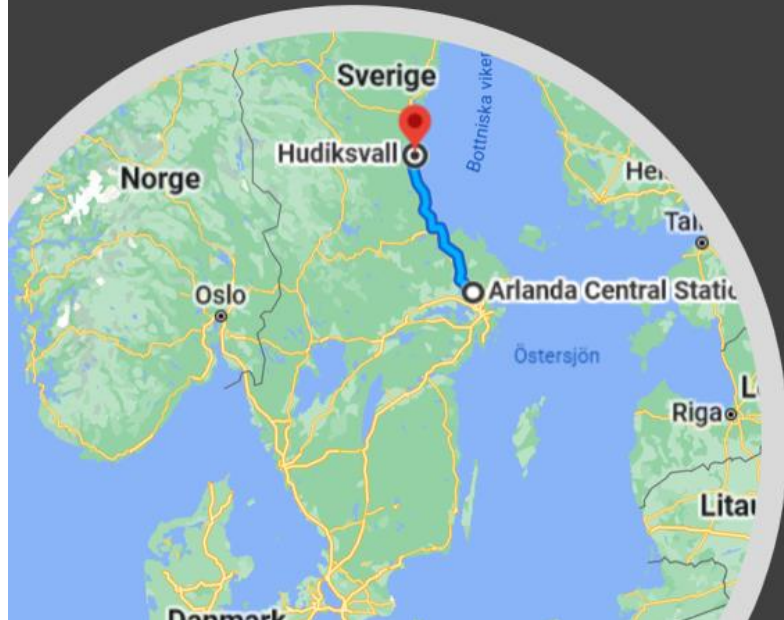
2024 GFPS PhD Symposium

Liselott Eriksson



Hudiksvall

- Population 16589 (37746 municipality)
- The largest cluster of hydraulic companies in Northern Europe
- 2.5 hours by train from Stockholm Arlanda
- Very short nights or very long days in June (depending how you see it).



2024 GFPS PhD Symposium

Liselott Eriksson

Hudiksvall

- Great outdoors
- Very short nights or very long days in June



2024 GFPS PhD Symposium

Liselott Eriksson



Strategic Partners in Innovation and Science

PANDROL

HUDDIG

SMP

EITECH

HIAB

TUBE

VOITH

Företagsutbildarna
KOMPETENS GENOM SAMVERKAN

li.u LINKÖPING
UNIVERSITY

Gripen

RISE

OilQuick

monitor
ERP SYSTEM

Hudiksvalls
kommun

SUNFAB

fiber optic valley

hna

ROPH
BOLAGEN

2024 GFPS PhD Symposium

Liselott Eriksson

Program at a glance

- 16th June 1730:
 - Welcome reception by Monitor
- 17th June
 - 10.00: Opening ceremony
 - Keynote and technical sessions
- 18th June:
 - Keynote and technical sessions
 - Afternoon Forest Excursion
- 19th June:
 - Keynote and technical sessions
 - Afternoon Industrial presentations and demos
- 20th June:
 - Keynote and technical sessions,
 - Lunch (12:00) and end of program.

2024 GFPS PhD Symposium

Liselott Eriksson

Keynotes

- Prof. Andrew Plummer, University of Bath, UK
- Dr Kim Heybroek, Volvo Construction Equipment, Volvo Group, Sweden
- Dr. Pascal Kiwitz, Bucher Hydraulics, Switzerland
- Dr Marcus Rösth, Hudiksvall Hydraulics Cluster, Sweden
- Prof. Victor J. De Negri, Federal University of Santa Catarina, Brazil

2024 GFPS PhD Symposium

Liselott Eriksson

FOREST EXCURSION with HOLMEN

- Discover and experience a true example of sustainable innovation on this excursion with the forest company Holmen.
- We will showcase historical forestry and modern hydraulic equipment, and you will learn about sustainability and biodiversity.
- All framed by the Hälsingland forests, local food specialties, and the magic Swedish midsummer tradition.



HOLMEN



2024 GFPS PhD Symposium

Liselott Eriksson

Conference papers

- Open access by Springer Nature
- Deadline review 20th of March, 2024

GFPS Participants meeting

Thursday, March 19th 2024

2024 GFPS PhD Symposium

Liselott Eriksson



2022 GFPS PhD Symposium

IEEE discussion [Emma Frosina]

- 150 participants
- 61 presentations
- Industry panels
- 3 plenary lectures



2022 GFPS PhD Symposium

IEEE discussion [Emma Frosina]

DATES:

07/15/2021-> Chairs asked the sponsorship to IEEE including a list of keywords, field of interest and scope

Keywords:	Scope:
Pumps and motors; Fluid power components, architectures and systems; Control methodologies for fluid power systems and applications; Novel energy efficient components and systems; Digital and switched fluid power systems; Fluid power drives and transmissions; Safety, reliability, fault analysis and diagnosis; Noise and vibration; Fluid power in renewable energy, robotics, mechatronics and other applications; Human scale, and mobile self-powered fluid power; Environmental aspect; Fluid Power,	Every two years, a GFPS Symposium is organized by the Global Fluid Power Society for students, young researchers and industries. The symposium aims to be a solid reference of the technical community to present and discuss the most recent results of scientific and technological research for the fluid power industry, with particular emphasis to applications and new trends. Attention is paid, but not limited, to new technology in the fluid power, power transmissions and motion control fields. The Symposium will include technical presentations and a keynote speech given by experts. The program is designed to raise the interest of a wide group of researchers, operators and decision makers from the fluid power field, by presenting the most innovative solutions in this field from the scientific and technological point of view.
Field of Interest:	
Aerospace Components, Circuits, Devices and Systems Engineering Profession Power, Energy and Industry Applications Robotics and Control Systems Signal Processing and Analysis Transportation	

All these fields were filled in agreement with the <https://ieeemce.org/planning-basics/getting-started/define-scope-audience-objectives/> Define Your Scope

The conference committee defines the scope of the conference. The scope may be an existing field of interest, a subset of that field, closely related fields of interest, or a new technology. The scope should fit within the overall IEEE scope, which includes:

- Aerospace
- Bioengineering
- Communication, Networking & Broadcasting
- Components, Circuits, Devices & Systems
- Computing & Processing (Hardware/Software)
- Engineered Materials, Dielectrics & Plasmas
- Engineering Profession
- Fields, Waves & Electromagnetics
- General Topics for Engineers (Math, Science & Engineering)
- Geoscience
- Nuclear Engineering
- Photonics & Electro-Optics
- Power, Energy, & Industry Applications
- Robotics & Control Systems
- Signal Processing & Analysis
- Transportation

From IEEE
Website

2022 GFPS PhD Symposium

IEEE discussion [Emma Frosina]

In the request, we also wrote that each paper will be reviewed by two reviewers (DONE). Finally, each paper has been reviewed two times (not requested by IEEE which usually accepts one cycle of revision).

DATES:

02/18/2022 -> The request for the sponsorship was approved by IEEE.

11/11/2023 -> Conference proceedings were sent to IEEE following the submitting guidelines.

09/02/2023 -> The IEEE Technical Program Integrity Committee TPCI rejected the proceedings with the following motivation:

"Many out-of-scope papers. Though a paper may be within the conference scope, it may not always be within IEEE scope and should not be submitted for possible inclusion.

Papers classified under fluid mechanics and mechanical engineering are not within IEEE Scope"

02/22/2023 -> IEEE allowed to start an appeal process *"If you wish to appeal this TPIC decision, the Italy Section will need to provide endorsement confirmation"*.

22/02/2023 -> Conference Chairs asked the Italy Section to proceed with the appeal process.

April 2023 -> In agreement with the President of the Italy Section, Chairs provided for the appeal process an Excel file including for each paper:

- The reviewers revision (for each cycle of revision) and grade
- A list of other THREE papers already published by IEEE and available on Xplore
- A letter from GFPS (signed by the Chairman of Board and Secretary and Treasurer of Board)

November 2023 -> The President of the Italy Section asked us to select some papers for the appeal. The number was reduced to 48 papers removing the ones with low grades.

January 2024 -> The President of the Italy Section finally submitted the appeal.

2022 GFPS PhD Symposium

IEEE discussion [Emma Frosina]

02/23/2024 – > IEEE rejected the appeal with the following motivation:

“IEEE OUs cannot require/ demand conference organizers to remove papers after the IEEE Quality Review process and decision concludes. Please note the TPIC decision can be appealed to the IEEE Conference Quality Committee. Please be advised the appeal process does not allow papers to be removed. The appeal process requires conference organizers and the IEEE OUs involved in the technical program to defend the original review process and the PDFs submitted to IEEE for possible inclusion in IEEE Xplore Digital Library.

If you wish to proceed with the appeal process, please email me directly, and I will generate the documentation to begin the appeal process.”

Feb 2024 -> Both Conference Chairs and the GFPS Secretary and Treasurer of Board asked the President of the Italy Section to proceed with a new appeal including all the papers (61) receiving a negative response from him.



Subsequent to the presentation of the above material, the assembly unanimously agreed to proceed with the publication of the GFPS2022 proceedings through River Publisher



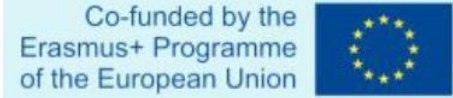
#UniteSeedFund
Unite! Evolving Ideas

Effectively enhancing teaching and learning of Fluid Power and Systems in Higher Education

A push for teaching innovation

**GFPS meeting
IFK 2024
March 19th**

Unite! Network: trans-European Campus



Unite! is a network of nine partner universities collaborating to integrate towards a trans-European Campus,

unite!

University Network for Innovation, Technology and Engineering

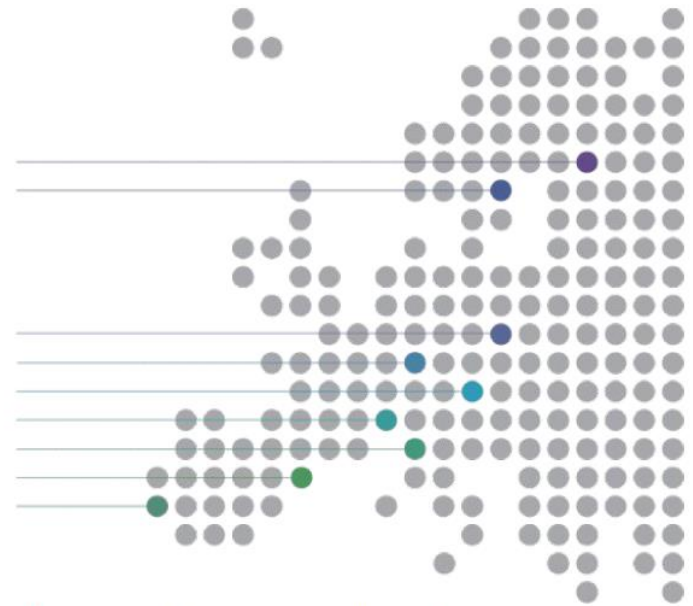
sharing

- education in engineering and science
- technology transfer
- entrepreneurship and innovation
- regional embeddedness

potential

- 280,000 students
- 77,300 graduates annually

- Aalto University, Espoo/Helsinki
- KTH Royal Institute of Technology, Stockholm
- Wrocław Tech
- Technical University of Darmstadt
- Graz University of Technology
- Grenoble INP-UGA
- Politecnico di Torino
- Universitat Politècnica de Catalunya · BarcelonaTech
- Universidade de Lisboa

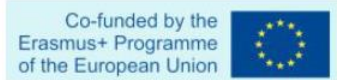


<https://www.unite-university.eu/>



Unite! See Fund: Consortium

Fund lines: **Educational** and Research



“Effectively enhancing teaching and learning of ‘Fluid Power and Systems’ in Higher Education”



Unite! See Fund: Project Plan and Activities

Higher Education

The focus on ...

Common & Permanent !

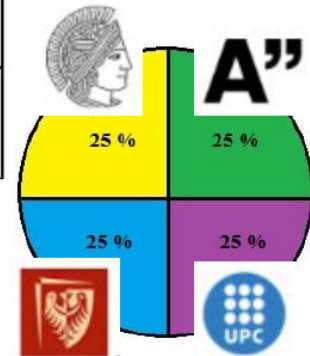
The focus of Exploring application is to develop a **common** international understanding and to establish a basis for a **permanent** exchange of knowledge and experience.

Programma Option
Exploring

Activity	Year	2024				
	Term	T4	T1	T2	T3	T4
Setting up the collaboration						
Review State-of-the-art teaching methods in fluid power						
Exploration of new data-centric educational formats						
Develop and publish training and education material as OER						
Dissemination and Transfer: onsite workshop at one Unite! university, project publication, and preparing a proposal for the next call						

... and these activities intend to answer ...

Total Budget:
10 000 euros
 (equally distributed)



Research Question(s) and Expected Answers and Results

(major climb & summit)
... in “Developing”

Our mission

Our goals

Our vision

To significantly adapt o
where necessary,
To build unprecedented
actions, and
To open our developme
members of our institut



... and our proposal
in “Exploring” ...



(minor climb) how these different aspects can be combined
to guarantee a modern and innovative teaching and
learning approach in ‘fluid power and systems’, e.g. to enable
data literacy and data science competencies in fluid power and systems, OER, etc.

(base camp) how cutting-edge, state-of-the-art teaching and learning
methods are, e.g. blended lectures, flipped classroom, project-related learning, COIL, challenge-based
learning, hands-on experiments, etc.

(expedition) how ‘fluid power and systems’ related topics are taught at the partner
universities, i.e. subjects and courses, educational program (curriculum and syllabus), updated catalog of materials, etc.

Unite! See Fund: New Application

Specific objectives and results:

New application submitted:

2025

Unite! Programme Option:
“Developing”

- HARMONIZE.** Course design, basic and advanced, with a transversal and harmonized syllabus.
- PRACTICE.** Renovate, modernise and adapt the learning contents to the appropriate teaching methodologies.
- SHARE.** Virtual sharing existing equipment for experimental courses and integrated learning materials.

Now, 5 partner universities!

Funding decision **June 2024**



Unite! See Fund: expand the network

Co-funded by the
Erasmus+ Programme
of the European Union



unite!

University Network for Innovation,
Technology and Engineering

Unite! Seed Fund Initiative

Encourage Unite! members to jointly seize new opportunities in teaching and learning.

Stimulate academic collaboration from the bottom up.

New educational offers and further develop already active communities, not limited to the Unite!



Partners beyond Unite!

... for future calls, to expand this network.

IMPORTANT: Partners beyond Unite! can be included, but not as beneficiaries

The end



Thank you very much for your attention!

More information at:

<https://www.unite-university.eu/unitenews/teaching-fluido-power-and-systems-in-higher-education>



Prof. Xavier Gamez-Montero
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Dept. Mecánica de Fluidos - Campus Terrassa
Universitat Politècnica de Catalunya (UPC)



UNIVERSITAT POLITÈCNICA DE CATALUNYA
BARCELONATECH
Escola Superior d'Enginyeries Industrial,
Aeroespacial i Audiovisual de Terrassa

GFPS meeting
IFK 2024
March 19th

GFPS financial status

Current available **\$ 23,057**

Last year expenses:

\$ 500 (+ bank fee) x 3 paper awards

\$ 150 2023 tax declarations

\$ 300 web domain

anticipated: \$1,500 webmaster

anticipated: \$1,500 IJFP student assistant