

# Institute for the Physics of the Universe



*Prospect for 2021 and Beyond*



**A\*MIDEX**  
Initiative d'excellence Aix-Marseille  
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# Initial Roadmap

## Context

- A 5-year roadmap had to be provided to A\*MIDEX at the time of the selection process of the Institutes
- It was requested to be updated in May of next year following a template structured in the following way:

### Roadmap 2020-2024

- Education/Training  
*Planned actions – Resources to be implemented – Expected results/impact – Projected schedule*
- Research  
*Planned actions – Resources to be implemented – Expected results/impact – Projected schedule*
- Attractiveness and International  
*Planned actions – Resources to be implemented – Expected results/impact – Projected schedule*
- Innovation & socio-economic and cultural anchoring  
*Planned actions – Resources to be implemented – Expected results/impact – Projected schedule*

### 2020 Scheduling

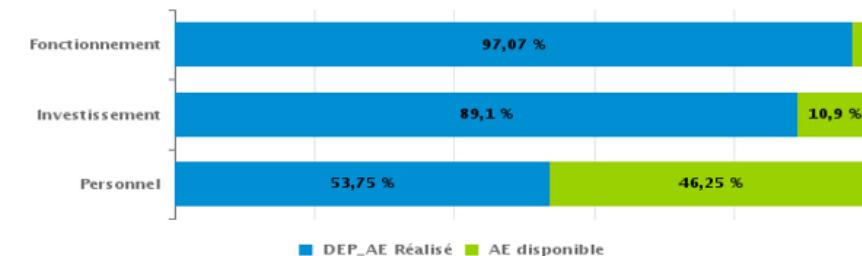
- You can find this updated initial roadmap on the indico agenda or directly [here](#)
- In this initial roadmap, we were aiming at 2 PhD students and 2 Postdocs per year on IPhU budget
- Given the budget we can hope, and after discussion with the Board of Research and the Institute Council, it was decided to rather focus on PhD students (3 per year) instead, so as to make the Graduate School more attractive

# Budget (1)

## Context

- 400k€(2020) + 400k€(2021) decided by the AMIDEX Steering Committee for IPhU
- 2020 Budget not committed in 2020 **can be transferred to 2021**
- 2021 Budget 2021 not committed in 2021 **cannot be transferred to 2022**
- Covid and Notilus have blocked most of the missions planned in the scientific projects in 2020. This remains an uncertainty in 2021
- The 2020 expenses are essentially:  
 Human Resources (term contract for Pedagogical Eng. and 2 + 2\*1/2 PhD-student contracts),  
 Installation costs of the 4 PhD students,  
 Incoming scholarships and internship bonuses of selected master students

Centre Financier : AMIDISIPHU				
Budget d'Autorisations d'Engagement				
	Budget	Consommations	Disponible	Taux d'exécution
Fonctionnement	77 300	75 039	2 261	97,07%
Investissement	14 181	12 635	1 546	89,10%
Personnel	52 950	28 459	24 491	53,75%
Total :	144 431	116 133	28 298	80,41%



# Budget (2)

## 2021 and beyond - context

- Possible platform consolidation needs (Colibri, SPACE, IR Platform) could benefit from 2021 funding that cannot not be committed otherwise
- It is still unclear how the SFRI AMU project (**TIGER**) endowment will be concretely implemented and contribute directly or indirectly to the annual budget of the institutes.
- Given the proposed budget focusing on PhD students only rather than PhD students & Postdocs
  - Recruitment of 3 new PhD students each year
  - Consistency with the implementation of attractive GS
- Our hope is that we can double the current envelope to 800k€/year.
- The Institute Council has been granted its support for this proposal

### **TIGER Goals** (<https://www.univ-amu.fr/fr/public/pia-3-projet-tiger>)

TIGER (Transforming and Innovating Graduate Education through Research) is the cornerstone and accelerator of the AMU transformation strategy, based on institutes and articulated around 3 axes aimed at:

- Introducing more M&D students to research to ensure more effective training and acquisition of new skills
- Increasing their international experience (through mobility and an integrated approach to the internationalization of their curricula),
- Multiplying their opportunities to work with and learn from actors in the socio-economic world

# TIGER: AMU SFRI selected Project

## 23 M€ over 9 years

### How

TIGER will draw upon common specifications based on

- a reinforced link between training and research,
- a skills-based approach and experiential learning through active training of students by researchers, companies, and internationally,
- and a better coherence of student career paths according to their professional and training projects, as well as societal challenges.
- More demanding recruitment processes and a reinforced quality approach will also be put in place.

### 3-Phase deployment

- ***starting with a small number of pioneering courses within the institutes:***
  - These programs will draw upon their own roadmap for transformation, and will commit themselves to a contract of objectives and means, before being evaluated and then labeled "TIGER".
  - Financial and administrative support will be provided to the pioneering pedagogical teams, to facilitate and encourage the participation of teachers in the transformation and to better value the involvement of researchers in these training courses.
- In a second phase in 2023, at the time of the new accreditation of the training offer and the extension of the DREAM-U undergraduate transformation program, TIGER will be expanded to include twice as many Masters and their associated doctoral programs.
- Finally, after the mid-term evaluation, TIGER will be generalized to the major part of AMU graduate offer and its features will become standard for AMU Master and PhD students.

**IPhU is part of this roadmap**

# Indicators

## Indicators that the different Committees and Councils will use to monitor the progress of the Institute

<p><b>1. Regroupement d'équipes pour répondre à des questions scientifiques complexes et des défis sociétaux (Formation/Recherche &amp; Interdisciplinarité)</b></p>	<p>Nombre de co-publications entre les unités de recherche du consortium</p> <p>Nombre de thèses pluridisciplinaires initiées</p> <p>% de projets scientifiques portés (participation ou co-organisation ou financement) par l'institut qui répondent à la définition de l'interdisciplinarité (pilotage par plusieurs disciplines)</p> <p>% d'écoles d'été financées par l'institut qui répondent à la définition de l'interdisciplinarité (pilotage par plusieurs disciplines)</p> <p>Nombre de thèses pluridisciplinaires initiées</p> <p>Nombre de projets interdisciplinaires impliquant plusieurs laboratoires</p>	<p>Nombre de brevets déposés dans l'année sur les travaux financés par l'institut</p> <p>Nombre de startups créées dans l'année à partir de travaux financés par l'institut</p> <p>Nombre de thèses CIFRE initiées</p> <p>Nombre d'apprentissages et de stages de recherche</p> <p>Nombre de Labcom avec plusieurs unités de recherche, déposés / retenus</p> <p>Projets Marie Curie déposés et obtenus</p> <p>Nombre de « projets Europe » déposés et obtenus</p>
<p><b>2. Création de parcours innovants s'inscrivant dans cette dynamique</b></p>	<p>Nombre de chercheurs impliqués dans le suivi et l'encadrement des étudiants</p> <p>Nombre de formations et de cours dispensés sur les plateformes scientifiques</p> <p>% de masters construits sur une démarche interdisciplinaire (associant plusieurs champs disciplinaires)</p> <p>Taux d'acceptation des propositions AMU par les étudiants</p>	<p>Nombre d'ERC déposés et obtenus</p> <p>Nombre de participation et de dépôt à l'EIC (Europe)</p> <p>ERASMUS MUNDUS ou joint Doctorates</p>
<p><b>3. Augmenter l'attractivité nationale du site</b></p>	<p>Nombre total d'étudiants dans le Master dont nombre d'étudiants ayant obtenu leur licence dans un autre établissement français hors du site</p> <p>Dont nombre d'étudiants ayant obtenu leur licence ou équivalent à l'étranger</p> <p>Nombre de Masters dispensés en anglais dans le périmètre de l'institut</p> <p>Pourcentage de doctorants financés à 50% ou plus par l'institut ayant effectué leur M2 dans une université étrangère</p> <p>Taux d'endo-recrutement des enseignants-chercheurs</p> <p>Nombre d'écoles d'été financées par l'institut</p>	<p>Nombre de monographies, d'ouvrages collectifs, d'actes où l'institut est spécifiquement mentionné</p> <p>Indicateur égalité homme/femme avec analyse de l'évolution en T0 et T5 vers le doctorat</p> <p>Nombre de publications dans les revues internationales où l'institut est spécifiquement mentionné</p> <p>Nombre de thèses en cours dans l'institut quel que soit le type de financement</p>
		<p><b>4. Accroître les liens avec le monde socio-économique</b></p>
		<p><b>5. Optimiser les chances de réussite aux AAP nationaux et internationaux</b></p>
		<p><b>6. Indicateurs d'activités</b></p>

# Speaking of publications...

Within the framework of projects and internships funded or co-funded by IPhU, to comply with the ANR requests within the framework of A\*MIDEX:

**For any communication support** (oral, displayed or digital), you should display the logo of IPhU, the logos of AMU and A\*MIDEX and the logo "Investir l'Avenir".



They are provided in a zip file as an attachment in the indico agenda, or directly [here](#)

## Concerning publications

**In your affiliation**, please add "IPhU" right after the acronym of your lab  
e.g. for a CPT author it should read:

"Aix Marseille Univ, Université de Toulon, CNRS, CPT, IPhU, Marseille, France"

**In the Acknowledgement section**, please add the following sentence:

"The project leading to this publication has received funding from Excellence Initiative of Aix-Marseille University - A\*MIDEX, a French "Investissements d'Avenir" programme (AMX-19-IET-008 - IPhU)."

# Financial Roadmap

## **Requested by AMIDEX – Budget requests itemized according to the Indicators**

# Budget (3)

Institut de Physique de l'Univers (IPhU) SUR BUDGET INITIAL pour 2020-21 puis hypothèse d'un doublement en 2022 (SFRI)	2020	2021		2022	2023	2024	2025	2026
PhD 1		3	12	12	9			
PhD 2		3	12	12	9			
PhD 3			3	12	12	9		
PhD 4			3	12	12	9		
PhD 5			3	12	12	9		
PhD 6				3	12	12	9	
PhD 7				3	12	12	9	
PhD 8				3	12	12	9	
PhD 9					3	12	12	9
PhD 10					3	12	12	9
PhD 11					3	12	12	9
PhD 12						3	12	12
PhD 13						3	12	12
PhD 14						3	12	12
PhD 15							3	12
PhD 15							3	12
PhD 15							3	12
PhD 15							3	12
PhD 15							3	12
# mths	6	33	69	99	108	108	108	108
cost	15 300	84 150	175 950	252 450	275 400	275 400	275 400	275 400
PhD IA-ANR 1 (co-financement à 50%)		3	12	12	9			
PhD IA-ANR 2 (co-financement à 50%)		3	12	12	9			
# mths	6	24	24	18	0	0	0	0
cost	7 650	30 600	30 600	22 950	0	0	0	0
cost RH PhDs	22 950	114 750	206 550	275 400	275 400	275 400	275 400	275 400
cost RH Other	30 000	107 230	110 640	58 440	58 440	58 440	58 440	58 440
COST: Human resources	52 950	221 980	317 190	333 840	333 840	333 840	333 840	333 840
cost Research	20 281	190 020	102 500	108 500	106 500	106 500	106 500	106 500
cost Innovation, Outreach and operations	6 500	79 619	57 000	32 000	32 000	32 000	32 000	32 000
COST: Research, Innovation, Outreach and operations	26 781	269 639	159 500	140 500	138 500	138 500	138 500	138 500
COST: Graduate School	64 500	164 150	329 500	341 500	341 500	341 500	341 500	341 500
<b>Grand Total</b>	<b>144 231</b>	<b>655 769</b>	<b>806 190</b>	<b>815 840</b>	<b>813 840</b>	<b>813 840</b>	<b>813 840</b>	<b>813 840</b>
Total 2020+2021 (doit être < ou = à 2*400k€)	800 000							
	→							
	BR2 2020		BP 2021					

# Budget (4)

Institut de Physique de l'Univers (IPhU) SUR BUDGET INITIAL pour 2020-21 puis hypothèse d'un doublement en 2022	2020	2021	2022	2023	2024	2025	2026
8 Incoming grants M1 (8+8k/for 2yrs)							
2020: 1 bourse et 4 demi >2020: 4 bourses + 4 demi	20 000	56 000	84 000	96 000	96 000	96 000	96 000
4 incoming grants M2 (8k/1 yr)							
2020: 4 demi >2020: 2 bourses + 4 demi	16 000	24 000	32 000	32 000	32 000	32 000	32 000
10 Internships L1 (1 mth) - 3 en 2021							
5 Internships M1 externes (2 mths) - 3 en 2021							
20 Internships M2 (4 mths) descoped: 9 en 2020 et 15 en 2021	19 800	33 000	44 000	44 000	44 000	44 000	44 000
8 Internat. Internships M1 (2 mois) - 2 en descoped 2021							
8 Internat. Internships M2 (4 mois) - 2 en descoped 2021							
French courses (60h - 2 groups) (30h - 2 groups en descoped)							
English courses (60h - 4 groups; 0 en descoped)							
Training @OHP	6 000	6 000	6 000	6 000	6 000	6 000	6 000
Management plateformes @ OHP - 2000€ par prof du secondaire							
Mini-projects, hackathon,...							
UE Astro (60h à 45€)	2 700						
Teaching of CNRS agents (720hr; 45€/hr)			32 400	32 400	32 400	32 400	32 400
Teaching of external people (160hr; 60€/hr) - 20h en 2021			1 200	9 600	9 600	9 600	9 600
Participation of some students to summer schools, conferences,...			4 000	10 000	10 000	10 000	10 000
Summer camp L2			5 000	10 000	10 000	10 000	10 000
Ecole d'Eté de la GS			5 000	10 000	10 000	10 000	10 000
Video capture of keynote seminars (3/yr)				4 500	4 500	4 500	4 500
COST: Graduate School	64 500	164 150	329 500	341 500	341 500	341 500	341 500
IPhU Operations	2 300	2 719	5 000	5 000	5 000	5 000	5 000
IPhU Annual Workshop		3 000	5 000	5 000	5 000	5 000	5 000
Innovation (incentive money)		10 000	10 000	10 000	10 000	10 000	10 000
Outreach	4 200	8 000	10 000	10 000	10 000	10 000	10 000
ePERON@OHP		1 000					
Nouvelle plateforme radio-astro @OHP		50 000	25 000				
JABLATRON		3 900					
Maintenance plateformes		1 000	2 000	2 000	2 000	2 000	2 000
Cosmos à l'E. training							
COST: Innovation, Outreach and Operations	6 500	79 619	57 000	32 000	32 000	32 000	32 000
PhD operation FF (2k€/person per yr except 1st year 300€)	1 200	8 900	14 900	20 900	18 900	18 900	18 900
PhD operation IF (1700€/person once)		6 800	5 100	5 100	5 100	5 100	5 100
Research projects operations		10 000	70 000	70 000	70 000	70 000	70 000
Research platforms consolidation (COLIBRI, SPACE and IR)	2 281	100 000					
Visitors (15j+BT) x 5 à partir de 2022		6 020	12 500	12 500	12 500	12 500	12 500
5-day workshop @CIRM (3 and 2 or 1 in descoped)							
COST: Research	20 281	190 020	102 500	108 500	106 500	106 500	106 500

# On the relatively short term...

## Some planned actions

- Institute Council meeting to process the AAP 2021 (mid-February to mid-March)
- First STAB meeting in the Spring
- Continuation of the implementation and evolution of the 5-year roadmap, including financial (to be discussed with AMIDEX).
  - Implementation of the specificities of IPhU within the FunPhys master and ED352
  - Implementation of the "Instrument Scientist" orientation within the Master's program.
  - Gear Scientific animation of the Science WGs to cruising speed
  - Implementation of actions undertaken in the framework of the Innovation and Outreach Cells
  - Finalization: web pages, collaborative tools, and presence on social networks.

**The institute is a real asset for our community and for the site.  
It is a collaborative adventure in which education, research, innovation and transfer are  
deeply intertwined and that we need to build together to make it a success**

- So...



To get information shared in the Newsletter

Send us an email at:

[iphu-contact@univ-amu.fr](mailto:iphu-contact@univ-amu.fr)

**To participate and/or take responsibility in**

- Communication/Outreach
- Innovation Cell
- On the international front
- Summer/Winter Schools
- ...

**To share ideas about**

- Scientific projects
- Pedagogical projects
- Internships
- Projects for students
- Better tutoring of the GS students
- ...

**Send us an email at:**

[iphu-board-of-directors@univ-amu.fr](mailto:iphu-board-of-directors@univ-amu.fr)

or

[iphu-board-of-research@univ-amu.fr](mailto:iphu-board-of-research@univ-amu.fr)

[iphu-board-of-education@univ-amu.fr](mailto:iphu-board-of-education@univ-amu.fr)

And let's talk about it ☺

**Thank you very much in advance!**