

ADDOPTML
Optimized 3D printed structures

ADDOPTML

2nd Global Meeting

NIKOS D. LAGAROS

Agenda of the meeting

1. Progress of the WPs
2. Secondments started so far
3. Discussion of any problems observed
4. Amendment
5. Any other business

WPs

ID	Title	Start Month	End month					From NTUA	email
1	Development of topology-sizing design optimization methodology incorporating nonlinear FEM analyses and machine learning	1	24	Research and Innovation	NTUA	Savvas Triantafyllou	savtri@mail.ntua.gr	Thanasis, Eleana	stamthan@central.ntua.gr
2	Determination of material constitutive relations for 3D printed metal and concrete specimens, using also recycled consumables, by means of tests and machine learning	1	36	Research and Innovation	POLITO	Giuseppe Carlo Marano	giuseppe.marano@polito.it	Nikos K., Pantelis	tsakalis.pantelis@gmail.com nkallioras@yahoo.com
3	Development of the ADDOPTML optimization and machine learning aided additive manufacturing framework, application to characteristic case studies and experimental verification	13	48	Research and Innovation	UCY	Marios C. Phocas	mcphocas@ucy.ac.cy	Markos, Christodoulos	marka@central.ntua.gr chfrag@mail.ntua.gr
4	Application of the ADDOPTML framework to the generative design concept	25	48	Research and Innovation	UCY	Marios C. Phocas	mcphocas@ucy.ac.cy	Fivos, Nikos K.	fivos@itia.ntua.gr
5	3D printed optimized metal deployable structures to address humanitarian crisis	13	48	Research and Innovation	NTUA	Charis Gantes	chgantes@central.ntua.gr	Stavros	stavroschatziele@gmail.com
6	3D printed optimized concrete human shelter structure for post-disaster housing	13	48	Research and Innovation	IDONIAL	Paula Queipo	paula.queipo@idonial.com	Evi	e.fringedaki@gmail.com
7	Space application of the ADDOPTML framework	25	48	Research and Innovation	SPACEAPPS	Jeremi GANCET	jeremi.gancet@spaceapplications.com	Savvas	savtri@mail.ntua.gr
8	Diploma theses, seminars and an international conference on 3D printed optimized structures - Communication, dissemination and exploitation activities	1	48	Training, Communication and Dissemination	NTUA	Nikos Lagaros	nlagaros@central.ntua.gr	Evi, Eleana, Nikos L	e.fringedaki@gmail.com
9	Management and coordination	1	48	Management	NTUA	Nikos Lagaros	nlagaros@central.ntua.gr	Eleana	

Deliverables

Deliverables

Number ▲	Relative Number in WP		Title	Lead Beneficiary	Type	Dissemination Level	Due Date (in months)
D1	D1.1	✓	Software prototype	NTUA	OTHER	CO	20
D2	D1.2	✓	Publications to scientific journals WP1	NTUA	ORDP	PU	24
D3	D2.1	✓	Publication to conference WP 2	POLITO	ORDP	PU	24
D4	D2.2	✓	Publications to scientific journals WP 2	POLITO	ORDP	PU	36
D5	D3.1	✓	Publications to conferences WP 3	UCY	ORDP	PU	48
D6	D3.2	✓	Publications to scientific journals WP 3	UCY	ORDP	PU	48
D7	D4.1	✓	Publications to conferences WP 4	UCY	ORDP	PU	48
D8	D4.2	✓	Publications to scientific journals WP 4	UCY	ORDP	PU	48
D9	D5.1	✓	Report WP 5	NTUA	R	PU	30
D10	D5.2	✓	Report, drawings and 3D printed prototypes WP 5	NTUA	R	PU	48
D11	D6.1	✓	Publications to conferences WP 6	IDONIAL	ORDP	PU	36
D12	D6.2	✓	Publications to scientific journals WP 6	IDONIAL	ORDP	PU	40
D13	D6.3	✓	3D printed prototypes	IDONIAL	OTHER	CO	48
D14	D6.4	✓	Workshop WP 6	IDONIAL	OTHER	PU	42
D15	D7.1	✓	Report A	SPACEAPPS	R	CO	36
D16	D7.2	✓	Report B	SPACEAPPS	R	CO	48
D17	D8.1	✓	Publications to conferences WP 8	NTUA	ORDP	PU	17
D18	D8.2	✓	Publications to scientific journals WP 8	NTUA	ORDP	PU	48
D19	D8.3	✓	D8.3 ADDOPT2024 conference	NTUA	OTHER	PU	44
D20	D8.4	✓	D8.4 ADDOPT Workshops and Seminar	NTUA	OTHER	PU	46
D21	D9.1	✓	ADDOPTML Website	NTUA	DEC	PU	2
D22	D9.2	✓	Data Management Plan	NTUA	R	PU	6
D23	D9.3	✓	Progress report 1	NTUA	R	PU	13
D24	D9.4	✓	Mid-term Meeting	NTUA	OTHER	PU	18
D25	D9.5	✓	Progress report 2	NTUA	R	PU	37
D26	D9.6	✓	Consortium meetings	NTUA	OTHER	CO	48
D27	D9.7	✓	Periodic technical reports	NTUA	R	CO	48
D28	D10.1	✓	NEC - Requirement No. 3	NTUA	ETHICS	CO	1

Deliverables – Journal Papers

- ❑ E. Frangedaki, L. Sardone, N.D. Lagaros, Optimized tree-shaped bamboo structural system for sustainable architecture, Journal of Architectural Engineering ASCE, 2021. (**published**) **WP1**
- ❑ Nikos Ath. Kallioras, Alexandros N. Nordas and Nikos D. Lagaros, Deep learning-based accuracy upgrade of reduced order models in topology optimization, Applied Sciences, 2021. (**accepted**) **WP1**
- ❑ G.-Fivos Sargentis, Evangelia Frangedaki, Michalis Chiotinis, Demetris Koutsoyiannis, Stephanos Camarinopoulos, Alexios Camarinopoulos and Nikos D. Lagaros, 3D scanning/printing. A Technological Stride in Culture, 2021. (**under review**) **WP2**

Deliverables - Activities

- ❑ Workshops: 1st workshop (27/5/2021), WP8
- ❑ Workshops: 2nd workshop - 5th International Winter School in Structural Morphology - Structural Morphologies for Archaeological and Historical Sites (9/12/2021 to 16/12/2021), WP8

Deliverables – Diploma theses

- ❑ Tania Livanou, **AUTOMATED ANALYSIS OF PARAMETRISED SURFACE STRUCTURAL SYSTEMS**, November 2021, Supervised by Savvas Triantafyllou (NTUA), **WP8**
- ❑ Isidora Simatou, **NON-LINEAR ANALYSIS OF THREE-DIMENSIONAL CONCRETE PRINTED MEMBERS**, November 2021, Supervised by Savvas Triantafyllou (NTUA), **WP8**

Secondments in progress

- ❑ **Secondments from NTUA**
- ❑ 2 researchers have been seconded to IDEA 75 (6 m each, full field)
- ❑ 1 researcher has been seconded to IDEA 75 (12 m, still in progress)
- ❑ 2 researchers have been seconded to RISA (4.4 m each, still in progress)
- ❑ 2 researchers will be seconded to IDEA 75 (7.6 m each)

Secondments in progress

Secondments from RISA

1 researcher has been seconded to NTUA (3 m, in progress)

Secondments from JUST

3 researchers have been seconded to NTUA (5 m, still in progress)

1 researcher has been seconded to NTUA (4 m, still in progress)

1 researcher will be seconded to NTUA

In Total: around 60 months of secondments

Problems observed

- Open discussion

Amendment



Participant Number	Short Name	Country	Academic	Person-months
1	NTUA	EL	yes	156
2	POLITO	IT	yes	40
3	UCY	CY	yes	16
4	USTUTT	DE	yes	10
5	IDEA75	IT	no	11
6	SPACEAPPS	BE	no	5
7	IDONIAL	ES	yes	10
8	EFW	BE	no	10
9	MX3D	BE	no	10
10	S&S	EL	no	50
11	RISA	DE	no	50
12	VUB	BE	yes	20
13	INFERENCE	EL	no	50
14	JUST	JO	yes	86
				524

Any other business

- ❑ Do not forget:
 - Add any secondment on **the EU portal**.
 - Keep for each secondment the material required.
 - Submit to the coordinator a report on any progress achieved **every 6 months**.

Social Media

Do not forget

-  ADDOPTML Project H2020 MSCA-Rise 2020
-  @addoptml
-  ADDitively Manufactured OPTimized Structures by means of Machine Learning-ADDOPTML
- Web page: <http://addoptml.ntua.gr>
- Email: addoptml@mail.ntua.gr