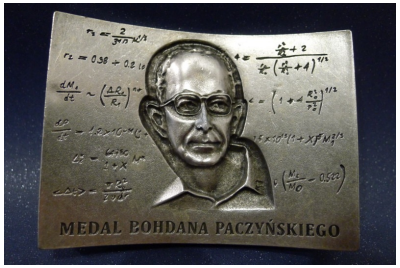
Centrum Astronomiczne im. M. Kopernika PAN Annual Meeting 2023

Rafał MODERSKI

January 31, 2024

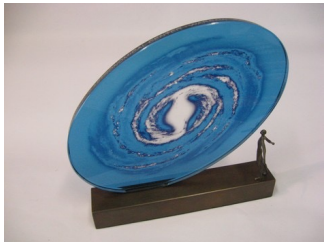
Prizes, awards and new memberships



Marek ABRAMOWICZ

Medal Bohdana Paczyńskiego

"On September 11, 2023, during the opening ceremony of the 41st Congress of the Polish Astronomical Society in Toruń, prestigious awards presented by the PAS were given. The highest distinction, namely the Bohdan Paczyński Medal awarded for outstanding scientific achievements, was bestowed upon Professor Marek Abramowicz."



Marek SARNA

Medal CAMK PAN

"for his invaluable contribution to the Polish involvement in the SALT project."

AKADEMIA KOPERNIKAŃSKA

Leszek ROSZKOWSKI

Marek SARNA

members of the Nicolaus Copernicus Academy

Ewa ŁOKAS

AcademiaNet

„nominated by the National Science Centre Council for inclusion in the AcademiaNet database. AcademiaNet is an online portal showcasing profiles of outstanding women scientists."

AcademiaNet

Employment

	TOTAL					ZA I (Toruń)					ZA II (Bartycka)					AstroCeNT				
	2023		2022		2021	2023		2022		2021	2023		2022		2021	2023		2022		2021
	FTE	os.	FTE	os.	os.	FTE	os.	FTE	os.	os.	FTE	os.	FTE	os.	os.	FTE	os.	FTE	os.	os.
pracownicy naukowi	65,9	87	59	72	72	7	7	7	7	8	38,08	52	33	44	44	20,85	28	19	21	20
bezterminowe	24,0	27	27	31	0	5	5	6	6		19,0	22	21	25						
terminowe	42,0	60	32	41	0	2	2	1	1		19,1	30	12	19		20,8	28	19	21	
prac. badawczo-techniczni	4,0	4	4	4	4	1	1	1	1	1	2	2	2	2	2	1	1	1	1	1
pozostali	46,9	64	43	52	53	4,13	7	4	6	6	32,4	44	32	37	38	10,4	13	7	9	9
RAZEM	116,9	155	**106**	**128**	**129**	12,13	15	12	14	15	72,5	98	67	83	84	32,22	42	27	31	30
PhD students		**37**		**39**	**42**		5		4	4		25		29	32		7		6	6
przyjęci na I rok		1		4					1			1		2					1	

N number – **68**

Scientific performance - evaluations

2013 (2009-2012): **A+**	excellent
2017 (2013-2016): **A**	very good
2022 (2017-2021): **A+**	**excellent**

Change of rules between the 2017 and 2022 evaluations (also financial rules).

Criteria: I) *publications*, II) *grants*, and III) *influence on economy, society, etc*.

I) **publications (weight 60%)**	**– 378,66 (max 439,26)**
II) grants (weight 20%)	– 139,55 (max 139,55)
III) influence (weight 20%)	– 30 (max 100/62,5)

For category A the reference numbers are 339,2/27,6/46

Expert evaluation for A+ (at least 86% of max publication score)

Publications/Presentations

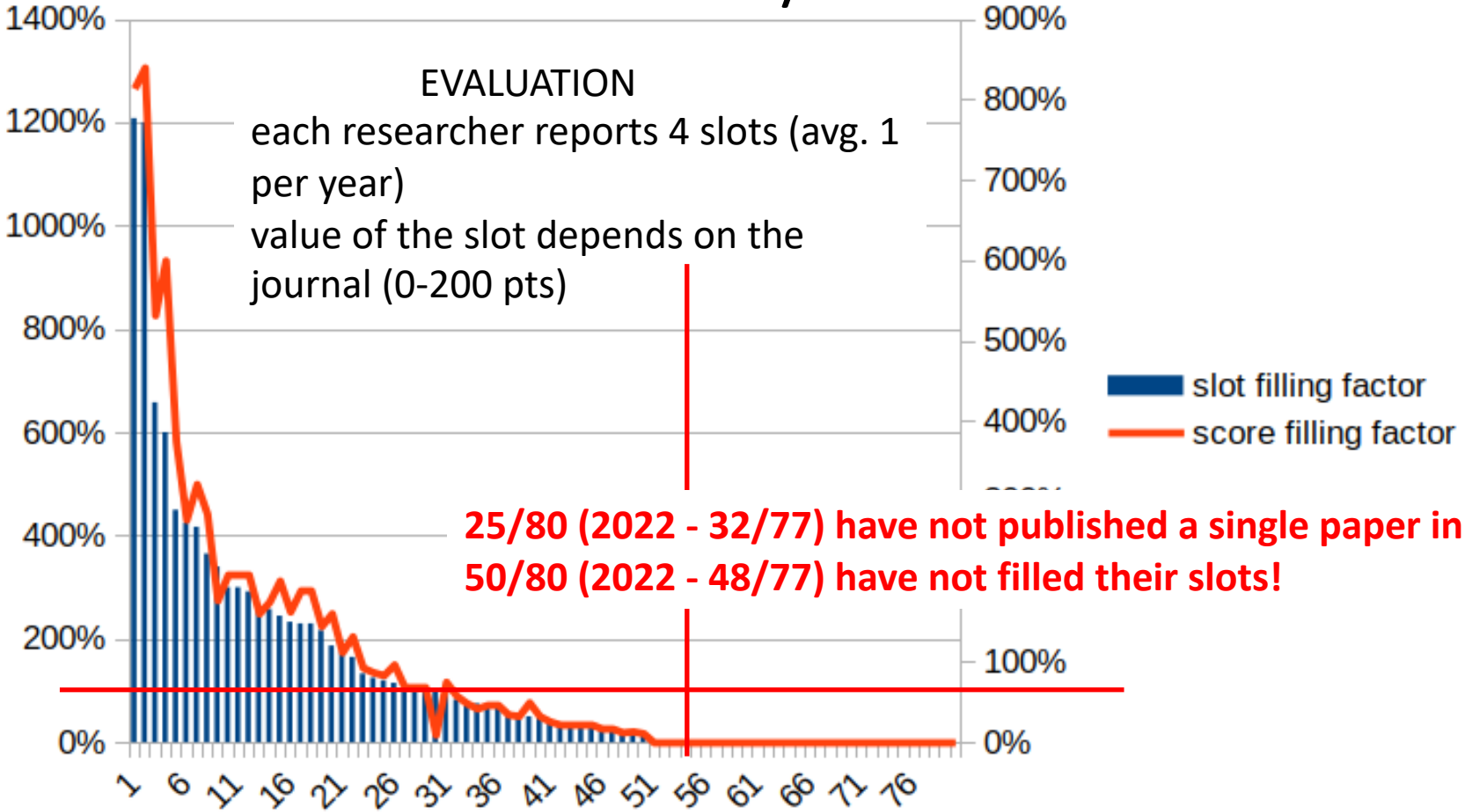
	2023	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
number of reports	126	135	135	130	127	113	107	100	88	81	70
refereed publications	156	204	189	205	172	181	183	201	113	134	113
ratio (#pubrec/#rep)	1,24	1,51	1,40	1,58	1,35	1,60	1,71	2,01	1,28	1,65	1,61
conference publications	21	52	17	45	13	73	50	53	42	50	30
conference presentations	173	150	122	53	170	136	186	101	123	114	139
other presentations abroad	54	49	48	30	43	43	40	38	28	45	28
other presentations in Poland	38	31	45	57	63	56	62	82	84	89	83
papers with authors > 100	21%	14%	20%	17%	23%	22%	19%	36%	14%		
papers with 13 < authors < 100	17%	22%	16%	19%	18%	17%	15%	20%	25%		
papers with authors < 13	62%	64%	64%	64%	60%	64%	49%	66%	58%		

Publications/Presentations

EVALUATION

each researcher reports 4 slots (avg. 1 per year)

value of the slot depends on the journal (0-200 pts)



25/80 (2022 - 32/77) have not published a single paper in 2023!

50/80 (2022 - 48/77) have not filled their slots!

Evaluation recommendation

1) **Publish your results!**
2) Publish in high score journals:

CAMK may cover OA publication costs in these journals – contact me for details.

1	*ACS Nano*	1936-0851
2	*Advanced Science*	2198-3844
3	***Annual Review of Astronomy and Astrophysics***	0066-4146
4	*Applied Physics Reviews*	1931-9401
5	***Astronomy and Astrophysics Review***	0935-4956
6	***Astrophysical Journal Letters***	2041-8205
7	***Astrophysical Journal, Supplement Series***	0067-0049
8	*Computer Methods in Applied Mechanics and Engineering*	0045-7825
9	*Living Reviews in Relativity*	1433-8351
10	*Living Reviews in Solar Physics*	1614-4961
11	*Measurement: Journal of the International Measurement Confederation*	0263-2241
12	*National Science Review*	2095-5138

13	***Nature***	0028-0836
14	*Nature Communications*	2041-1723
15	*Nature Physics*	1745-2473
16	***Physical Review Letters***	0031-9007
17	*Physical Review X*	2160-3308
18	*Physics Reports*	0370-1573
19	*Proceedings of the National Academy of Sciences of the United States of America*	0027-8424
20	*Reports on Progress in Physics*	0034-4885
21	*Reviews of Modern Physics*	0034-6861
22	***Science***	0036-8075
23	*Science Advances*	2375-2548
24	*Annual Review of Earth and Planetary Sciences*	0084-6597
25	*Sensors and actuators B: Chemical*	0925-4005

Evaluation recommendation

3) Insert your publication into ORCID database (make it public)

4) **Report your publication!**

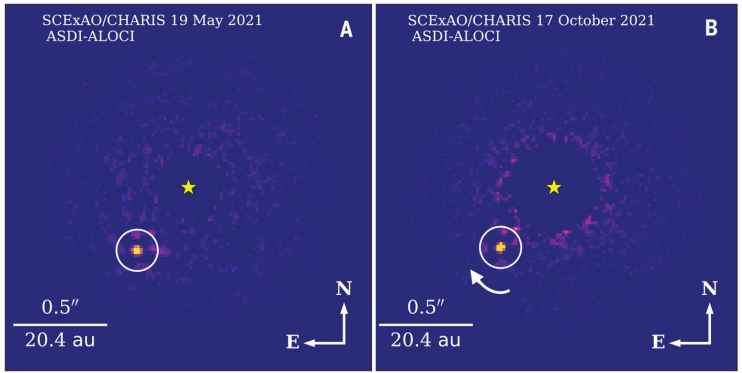
Scientific highlights

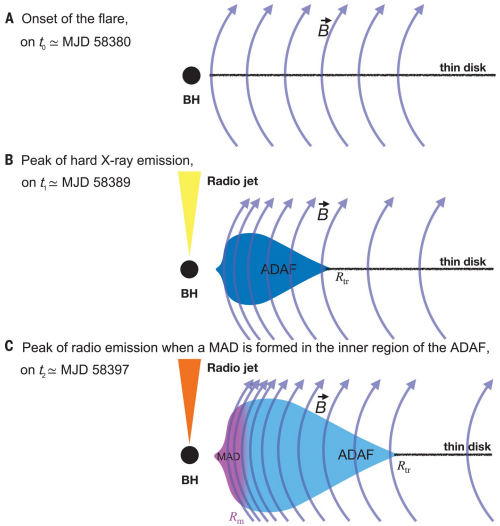
21 (2022 – 24) papers in journals with 200 pts. (3 more in Nature Astronomy)

Direct imaging and astrometric detection of a gas giant planet orbiting an accelerating star

Currie, T. et al. (**Hełminiak, K.**)

Science, Volume 380, Issue 6641, pp. 198-203 (2023)





Observations of a black hole x-ray binary indicate formation of a magnetically arrested disk

You, B. et al. (**Sikora, M.; Życki, P.**)

Science, Volume 381, Issue 6661, pp. 961-964 (2023).

Research projects

	2023			2022			2021
	in progress	start	end	in progress	start	end	TOTAL
TOTAL	**27**	**7**	**22**	**37**	**12**	**11**	
NCN grants	21	4	14	25	10	10	43
MAESTRO	1		2	3		1	4
SONATA BIS	5		2	6	1		7
OPUS	9	3	4	8	5	4	15
PRELUDIUM(BIS)	4		2	4	2	2	8
MINATURA			2		2		1
inne	2	1	2	4		3	8
MEiN grants	3	2	4	6	1	1	
EU grants	3		2	4	1		
other		1	2	2			

5 more projects started at the beginning of 2024

Grants finances

Grants awarded in	2023	2022	2021	2020	2019	2018	2017	2016	2015	2014
Total budget	12 661	10 530	76 778	14 557	15 202	50 096	7 245	23 604	2 466	5 820
First year	2 388	2 708	2 592	4 327	1 330	4 884	2 521	5 521	661	1 480

New grants

Dynamika pola magnetycznego w gwiazdach neutronowych
NCN OPUS 24 LAP Wave (with FRIEDRICH-SCHILLER-UNIVERSITÄT JENA)
dr hab. Brynmor HASKELL

The old Milky Way: a holistic approach for the accurate analysis of metal-poor stars
NCN OPUS 24 LAP Wave (with CENTER FOR ASTRONOMY, UNIVERSITY OF HEIDELBERG)
dr hab. Rodolfo SMILJANIC

Search for dark matter with liquid argon detectors
NCN OPUS 24
dr hab. Marcin KUŹNIAK

Formation and evolution of the Nuclear Star Cluster in the Milky Way and other spiral galaxies on the cosmological time scale
PAN LTP Ukraina (with US NAS)
prof. Peter BERTSYK

Przyrost masy czarnych dziur w gromadach gwiazd
NCN POLONEZ BIS
dr Abbas ASKAR

New grants

HORIZON-WIDERA-2023-ACCESS-01 (**Teaming for Excellence**)

Astrocent Plus

prof. Leszek ROSZKOWSKI

has been invited to the second and final submission stage

Międzynarodowe Agendy Badawcze (MAB FENG)

AstroCeNT – Centrum Naukowo-Technologiczne Astrofizyki Cząstek

dr hab. Marcin KUŹNIAK

has been invited to the third and final evaluation stage

Financing infrastructure/instrumental projects

(International) Astronomical Observatory (OCM), Chile
prof. G. Pietrzyński; ERC, NCN and MEiN grants in progress

National Center for Satellite quantum Communication (NCSatCom), RSA
prof. M. Konacki; MEiN SPUB in progres

SOLARIS, Argentina, RSA, Australia
prof. M. Konacki; MEiN SPUB in progress

SALT, RSA
prof. M. Sarna; MEiN grant in progres

BRITE, Poland
prof. G. Hamdler; MEiN SPUB in progress

Hyper-Kamiokande, Japan
dr. Marcin Ziembicki; new MEiN grant

H.E.S.S., Namibia
prof. R. Moderski; MEiN new grant (2 years)

CTA, Chile, La Palma
prof. B. Rudak, R. Moderski

DarkSide, Italy
dr. M. Kuźniak

ATHENA
prof. A. Różańska

Rolf Chini's Cerro Murphy Observatory in Chile

Rolf Chini's Cerro Murphy Observatory in Chile

Scientific degrees & title

Bryn Haskell received Italian Full Professor scientific habilitation (ASN) in Astrophysics (italian scientific sector 02/C1)

	2023	2022	2021	2020	2019	2018	2017	2016
professor	0	0	1	3	1	0	0	1
habilitacja	(1)	0	4	2	5	2	1	1
PhD	6	10	4	3	2	5	4	1

Finances

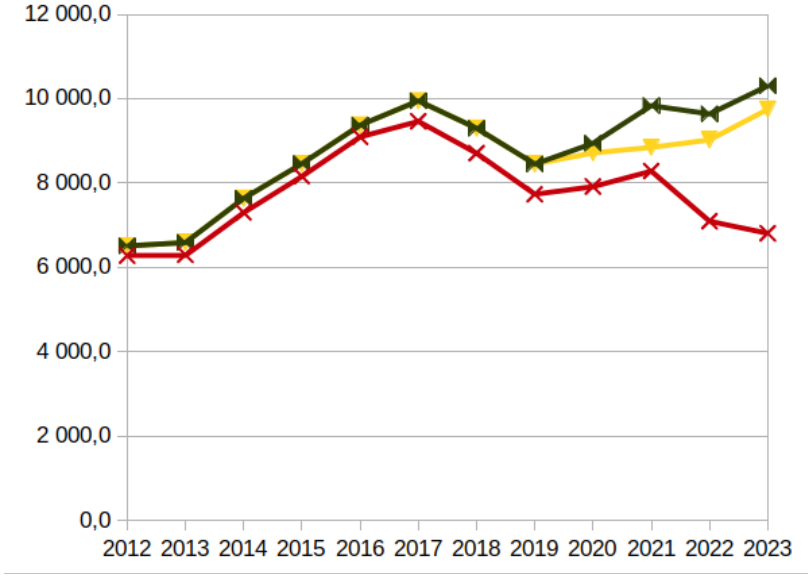
- Electricity: cost increase of 250 % in Jul 2022 – monthly cost increase from ca. 29 kPLN to 90 kPLN (since Dec 2022 – 100 %).
- Further increase of energy cost due to VAT increase (despite „the shield") from 488 kPLN to 546 kPLN
- We managed to decrease energy consumption from 525,8 MWh in 2022 to 465,1 MWh in 2023 (12%)
- Heating cost increase from 154 kPLN to 244 kPLN (consumption from 1625 GJ to 1701 GJ)

INCOME				
	2023	2022	2021	2020
subwencja MEiN	10 306,7	9 640,4	9 838,0	8 945,0
subwencja bazowa	9 752,2	9 025,8	8 848,8	8 718,0
zwiększenie PhD	554,5	614,6	989,2	227,0
koszty pośrednie projektów	3 069,4	2 472,0	1 999,0	1 847,0
wynajem		408,0	339,0	367,0
hotel		107,0	98,0	90,0
usługi badawcze + R&D		421,0	650,0	381,0
inne		92,0	29,0	0,0
RAZEM		**13 140,4**	12 953,0	11 630,0

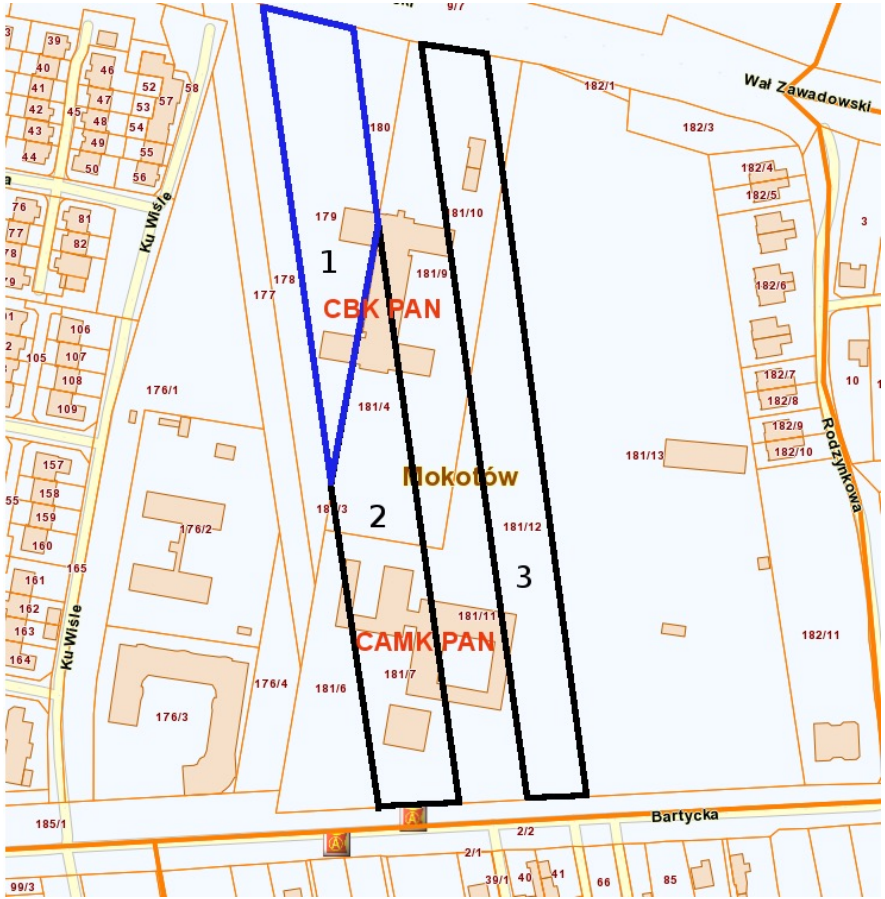
Subsidy for the maintenance and development of research potential from MEiN (now MNiSW)

SUBWENCJA

rok	subwencja	zwiększenie	SUMA	zmiana r/r	szkoła doktorska	zmiana r/r	RAZEM
	[kPLN]	[kPLN]	[kPLN]	[kPLN]	[kPLN]	[kPLN]	[kPLN]
2012	6 512,0		6 512,0				6 512,0
2013	6 593,0		6 593,0	81,0		0,0	6 593,0
2014	7 640,0		7 640,0	1 047,0		0,0	7 640,0
2015	8 462,0		8 462,0	822,0		0,0	8 462,0
2016	9 376,0		9 376,0	914,0		0,0	9 376,0
2017	9 951,0		9 951,0	575,0		0,0	9 951,0
2018	9 300,0		9 300,0	-651,0		0,0	9 300,0
2019	8 453,4		8 453,4	-846,6		0,0	8 453,4
2020	8 282,1	435,9	8 718,0	264,6	227,0	227,0	8 945,0
2021	8 282,1	566,7	8 848,8	130,8	989,2	762,2	9 838,0
2022	8 406,4	619,4	9 025,8	177,0	614,6	-374,6	9 640,4
2023	9 477,1	275,1	9 752,2	726,4	554,5	-60,1	10 306,7



Land ownership



- Series of land ownership disputes
  - **No. 2 already resolved in 2016-2020**
  - **No. 3 - The court issued a judgment ordering the payment of compensation for non-contractual use of the plot (> 3,5 mln PLN with interests). We appealed against the verdict (123 kPLN cost) but hopes for a positive outcome are low.**
- **We are no longer using plot no. 181/13 – it has been released to PAS**

Challenges for 2023~~3~~4

1) **towards the permanent A+ category**
   a) quality of research (easily available and monitored information on our performance + changes to employee evaluation system)
   b) better projects support
   c) better working and studying environment quality (GEP, HRS4R, remote work, computing infrastructure, training)
   d) PR strategy (events, interviews, awards, social media actions)
2) **the future of AstroCeNT** – still uncertain, but progress made
3) **“big” infrastructure**
   a) OCM investment – awaiting 2.5 m telescope
   b) SOLARIS + NCSatCom – final comissioning and operation
   c) BRITE control station – change of the anntenna system
   d) participation in international projects (CTA, H.E.S.S., Hyper-Kamiokande, DarkSide, space missions)
4) **salaries and costs (unknown)**
   a) formal increase of salaries and scholarships
5) ~~**10 %**~~ **further reduction in ~~power~~ energy consumption (GreenCAMK)**
   ~~a) dynamic computer switching (desktop, clusters, etc.) + energy efficient components~~
   b) UPS replacement
   ~~c) building lock 22-6~~
   d) PV installation

THANK YOU

and I wish you a nice meeting!

GeoPlanet Doctoral School