

RESEARCH PROFILES OF ARUA UNIVERSITIES: 2015 - 2021



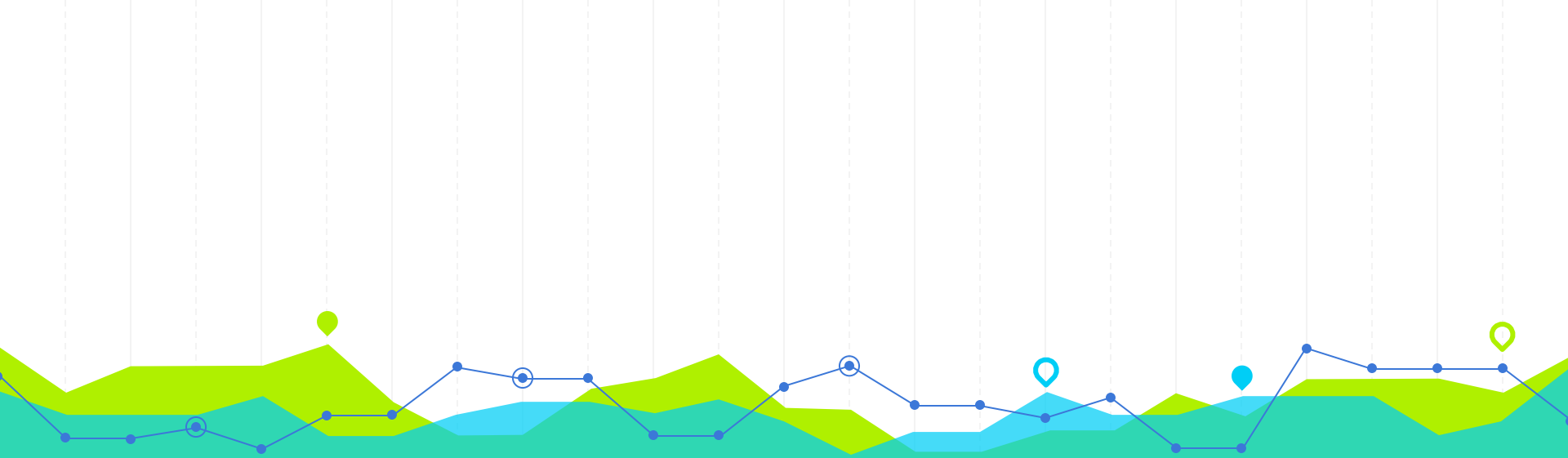
3 November 2022



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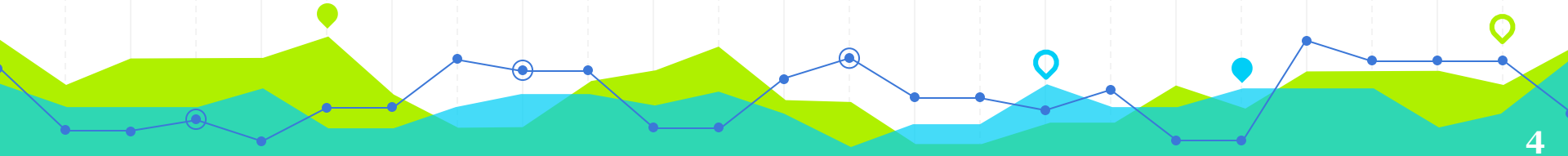


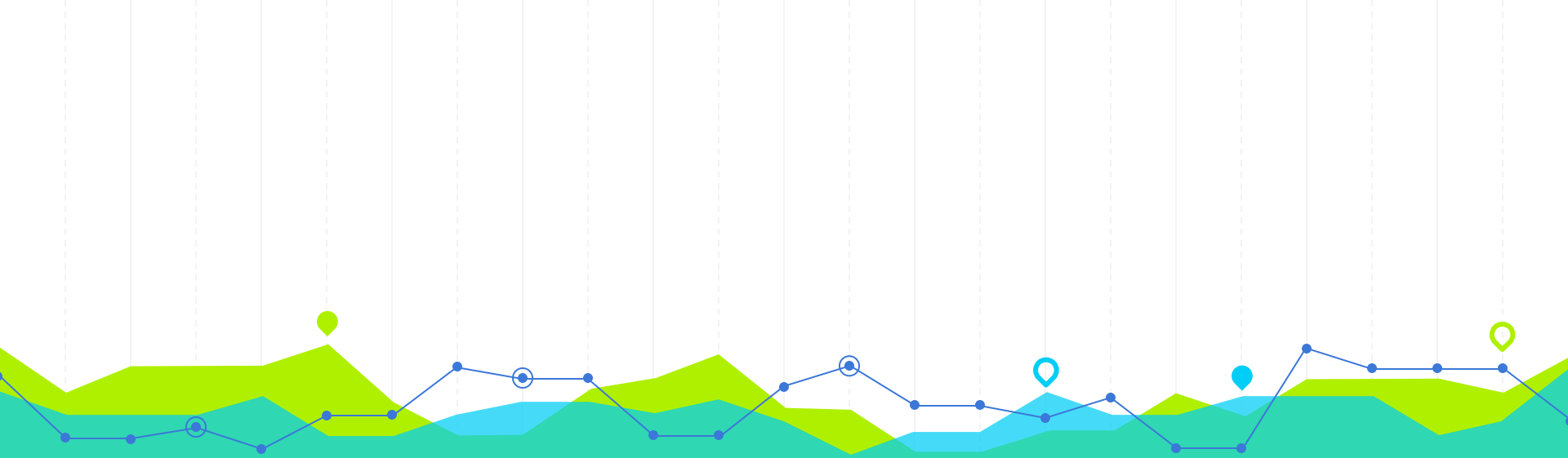


Objectives of the data benchmarking project

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- Collect data against research indicators/metrics
- Identify gaps in institutional capacity to gather and analyse data to inform the chosen indicators.
- Build capacity for developing the appropriate institutional structures and expertise for gathering benchmarking data.

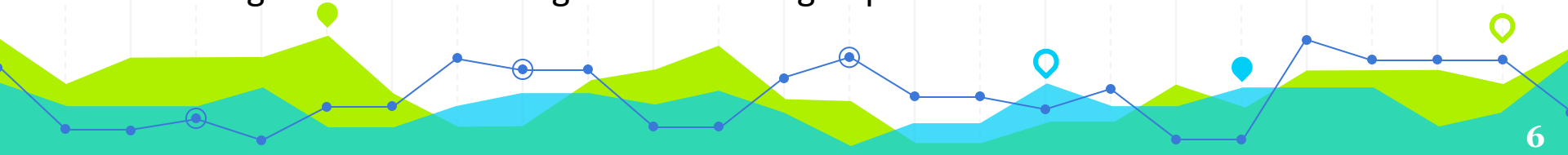


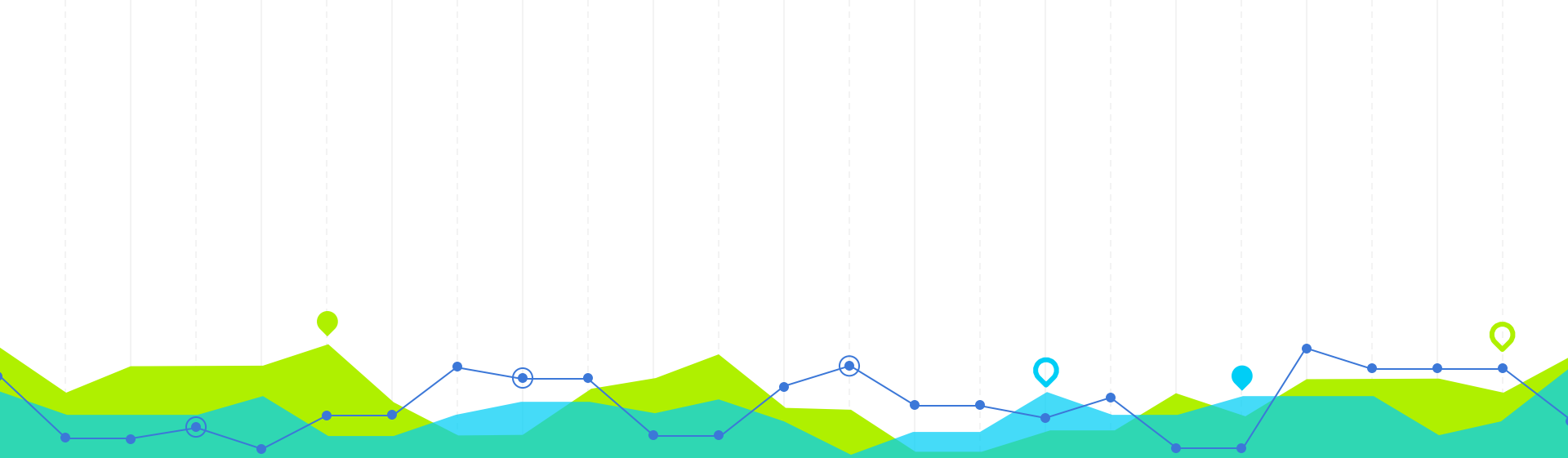


Significance of the project

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- For benchmarking against other ARUA universities.
- For tracking performance (against institutional/ARUA/national goals), identifying areas that require interventions, and setting targets.
- For evidence-based decision support – for joint research, for identification of areas of strength, internal differentiation at institutions, resource allocation, skills development, and capacity building.
- For steering alignment with ARUA's objectives (2022 – 2027 Strategic Plan) – increasing research output (5% of global output over 10 years), 75% of staff with PhD over 10-year period, developing good quality PhD graduates, develop strong links with other universities, industry, etc.
- For driving institutional change and assessing improvements over time.



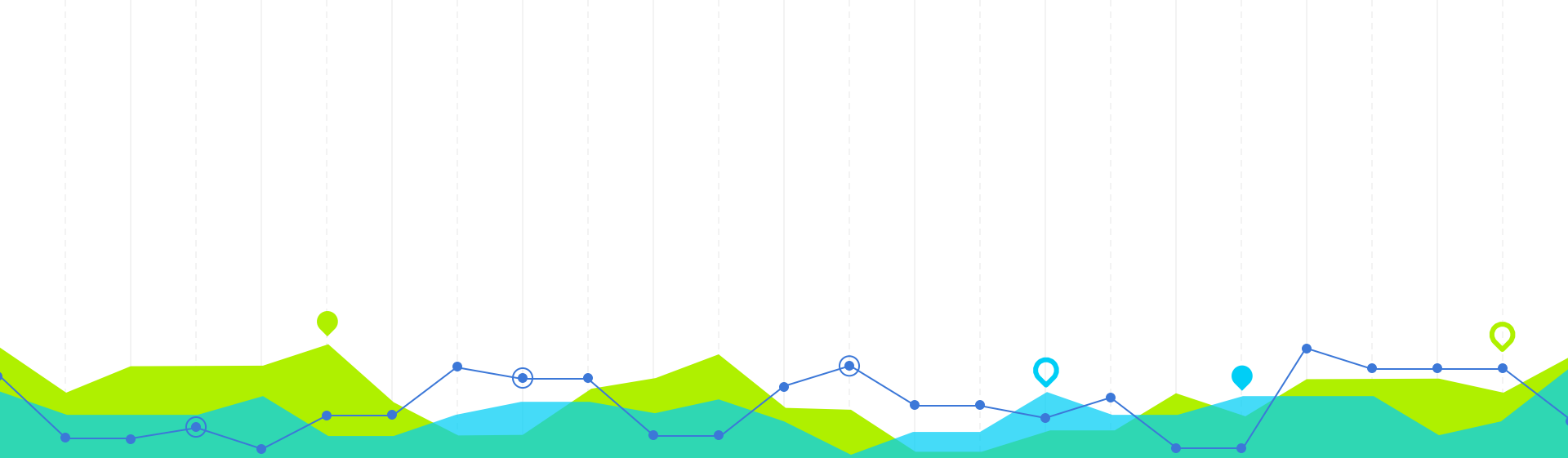


Data for the project

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- Academic staff profile (by qualification level, gender, position and study fields).
- Postgraduate enrolments (by level, gender and study fields).
- Postgraduate graduates (by level, gender, study fields and completion time).
- Total estimated research income (US \$)
- Publication outputs (Journal articles, patents registered, etc.)
- Number of post-doctoral fellows
- Publication output
- Citations analysis
- Leading research topics
- Patterns of co-authorships

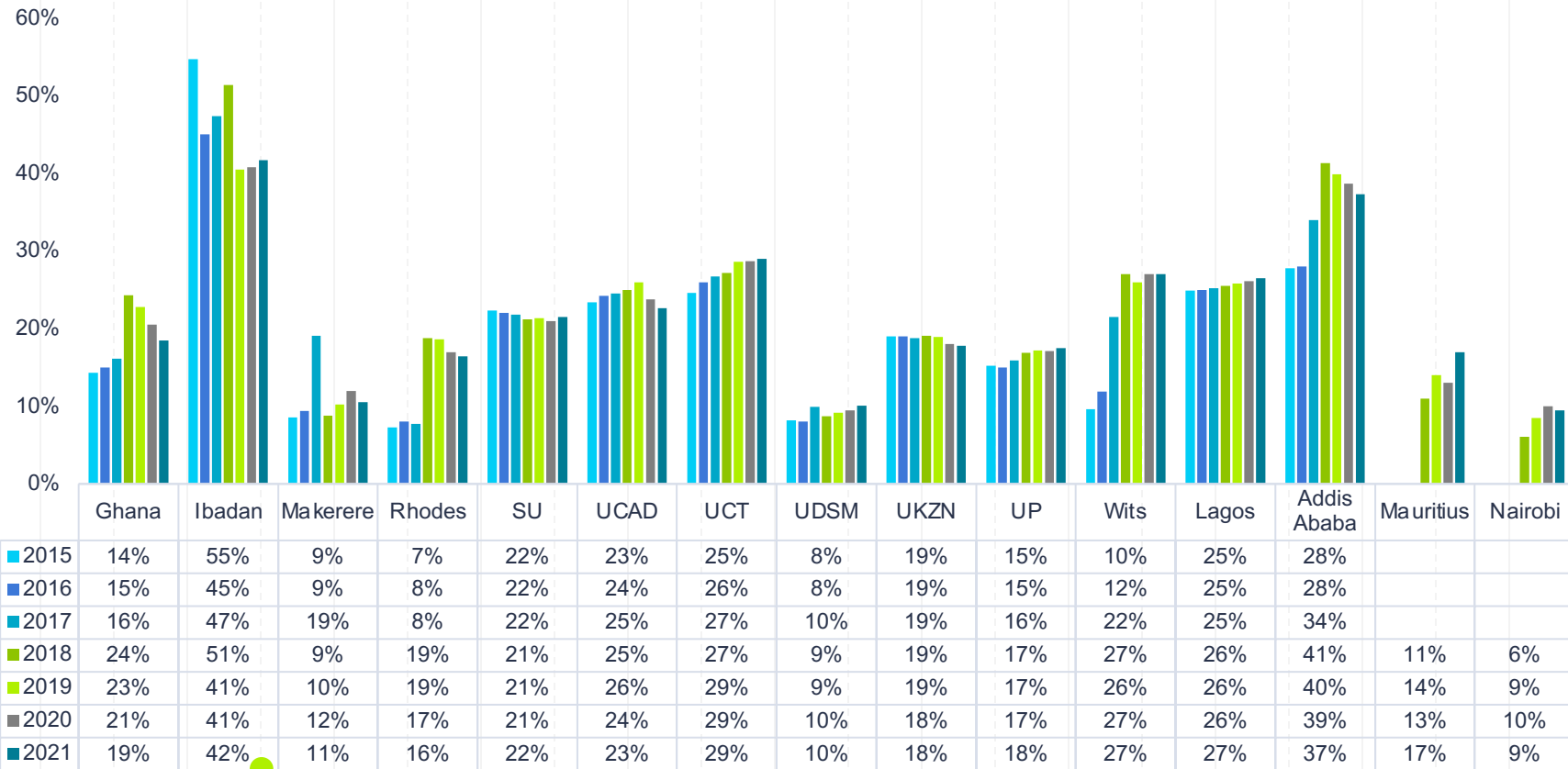




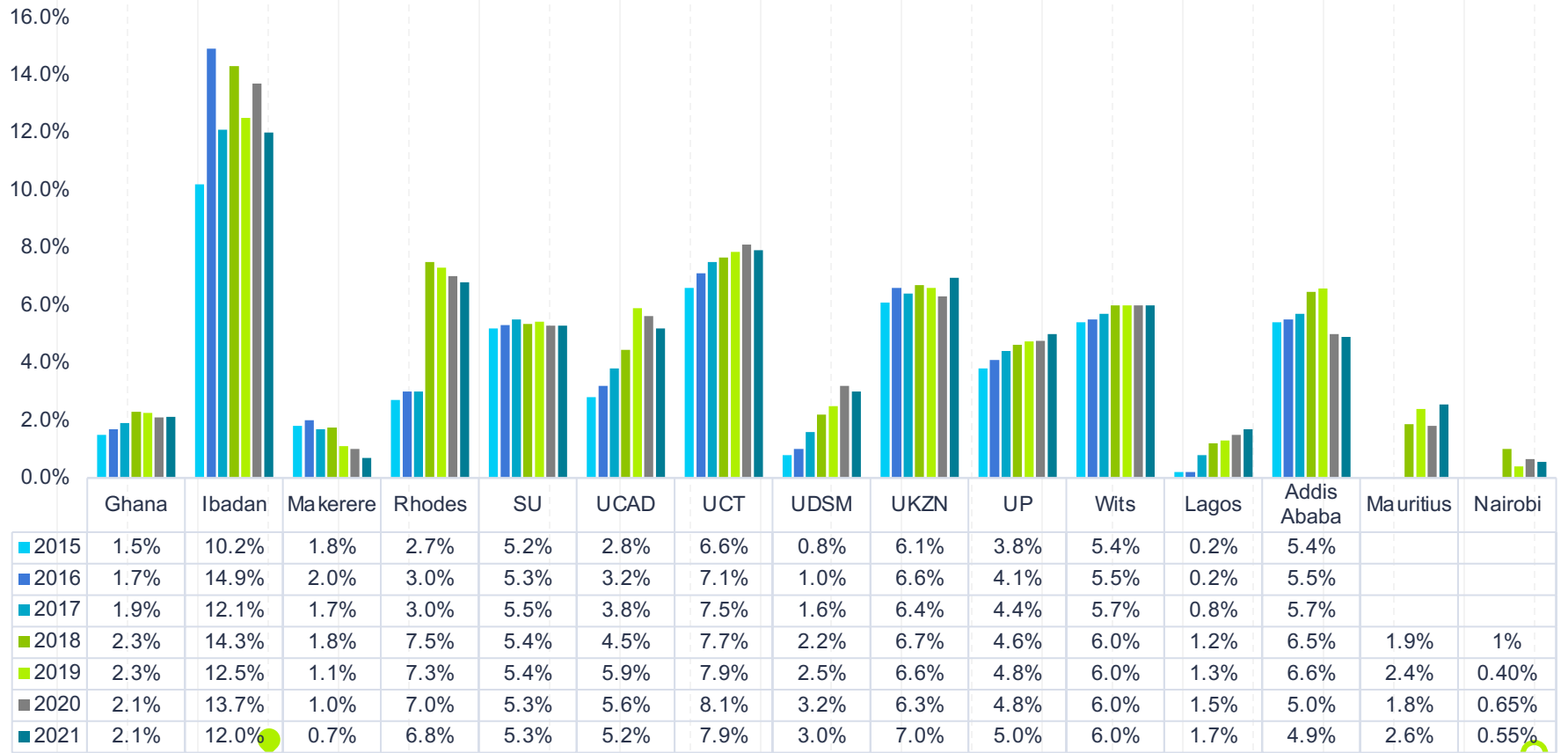
Key trends: 2015 - 2021

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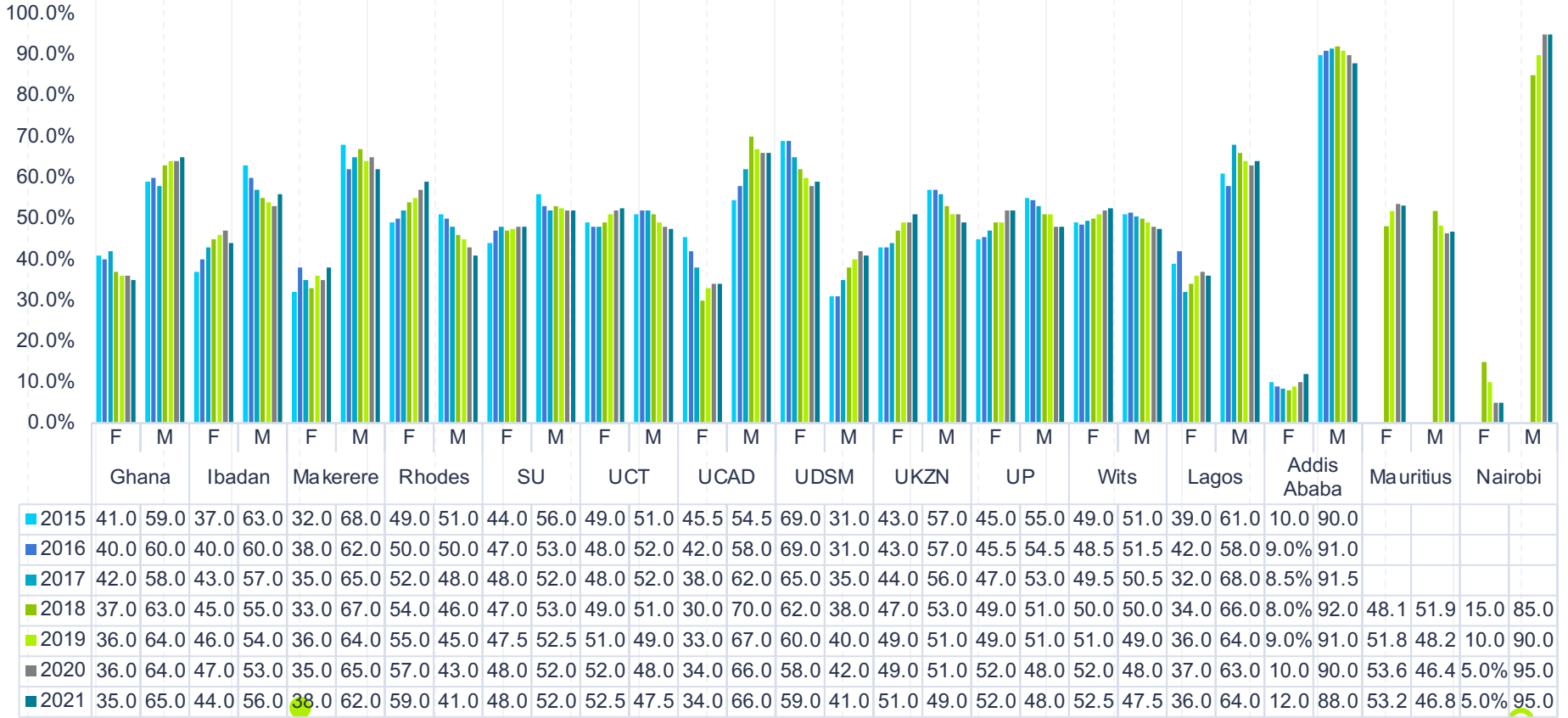
Master's and Doctoral Enrolments as a % of total enrolments: 2015 - 2021



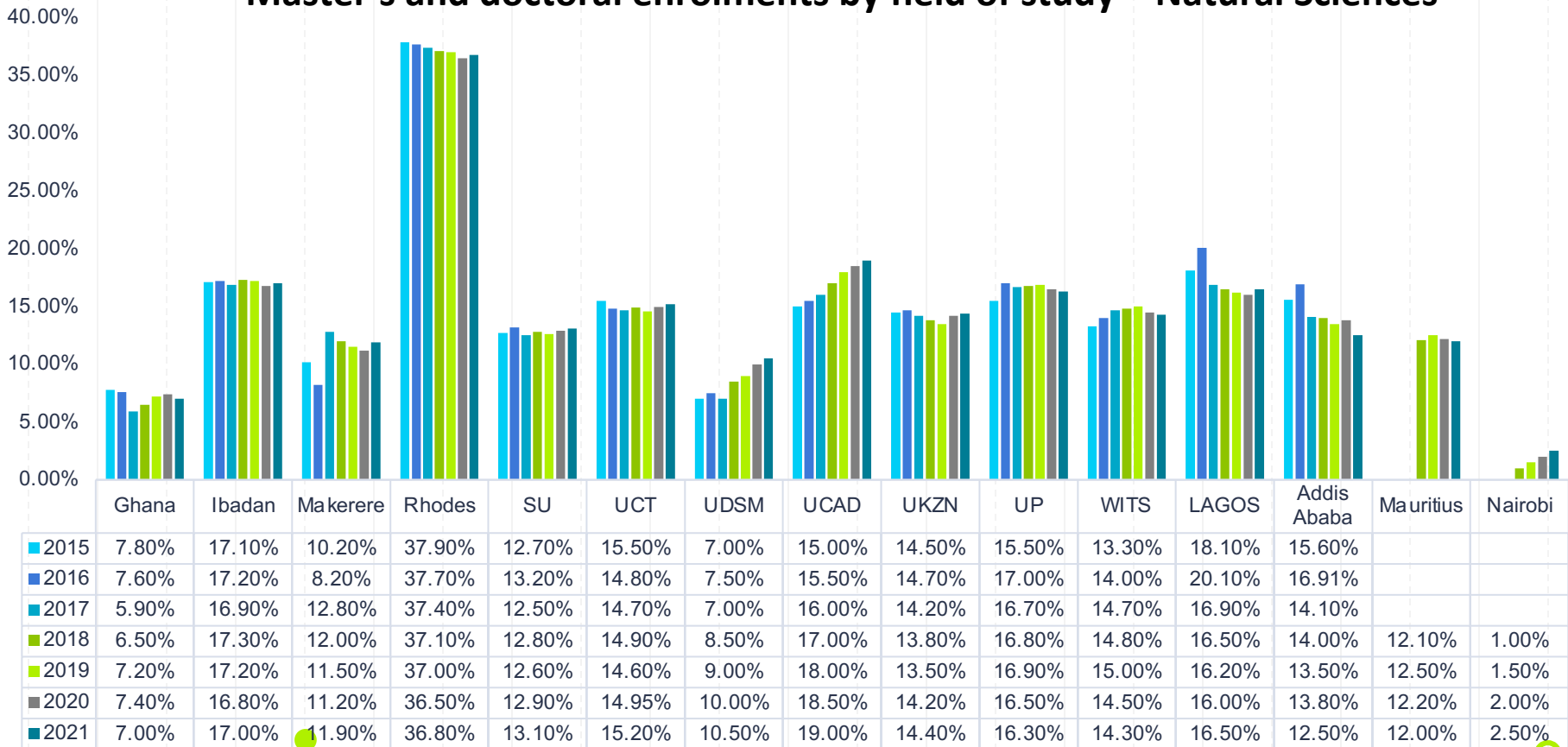
Doctoral enrolments as a % of total enrolments: 2015 - 2021



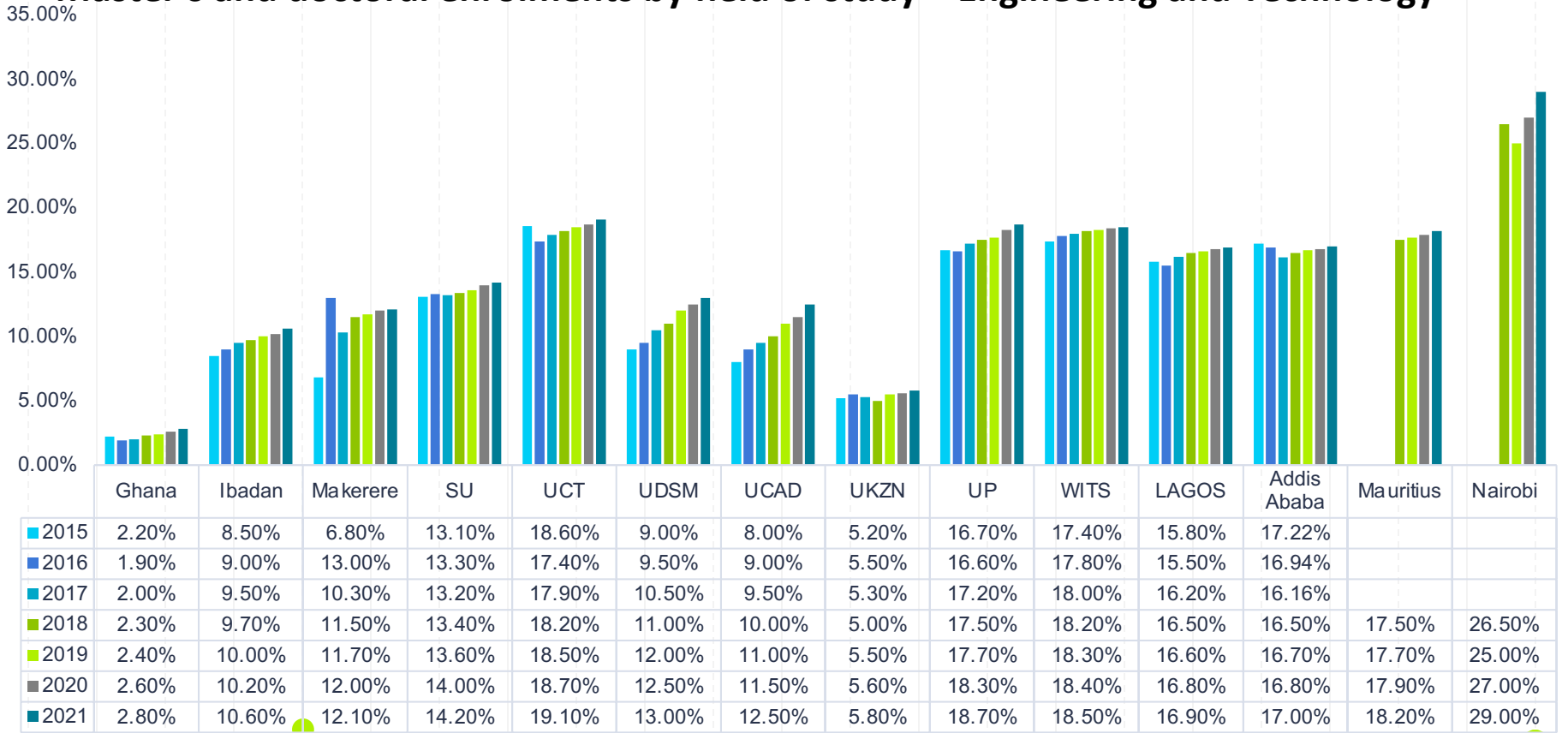
Doctoral enrolments by gender



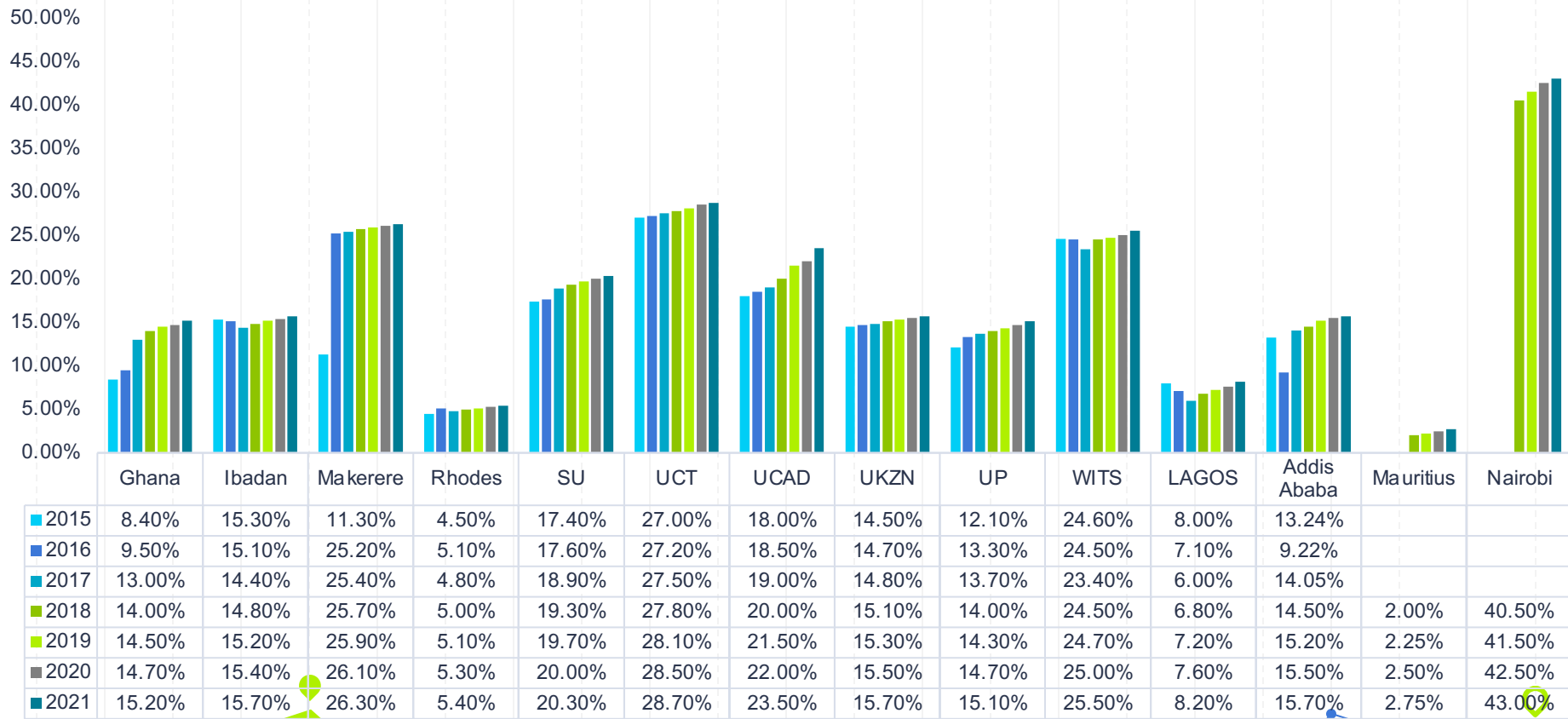
Master's and doctoral enrolments by field of study – Natural Sciences



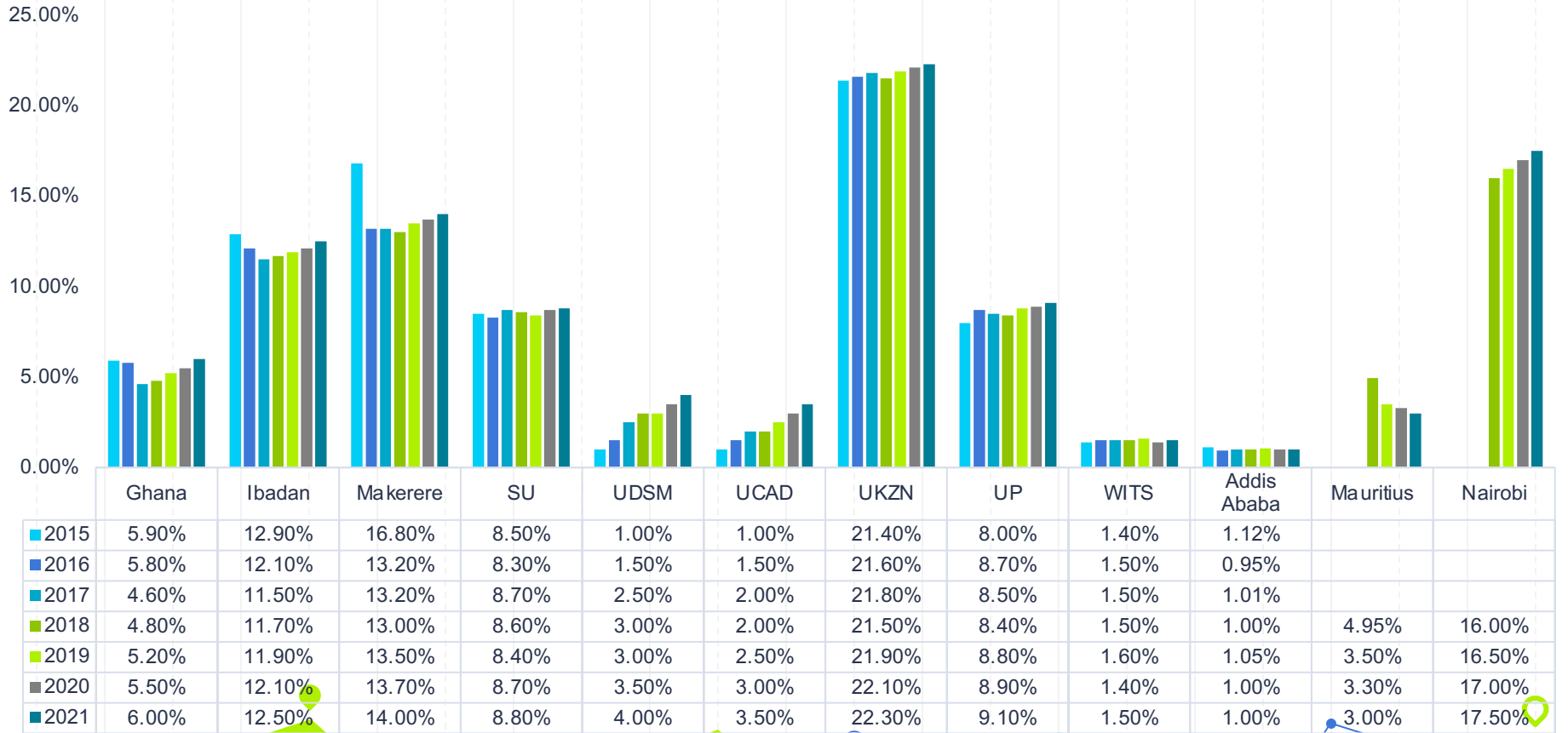
Master's and doctoral enrolments by field of study – Engineering and Technology



Master's and doctoral enrolments by field of study – Medical and Health Sciences



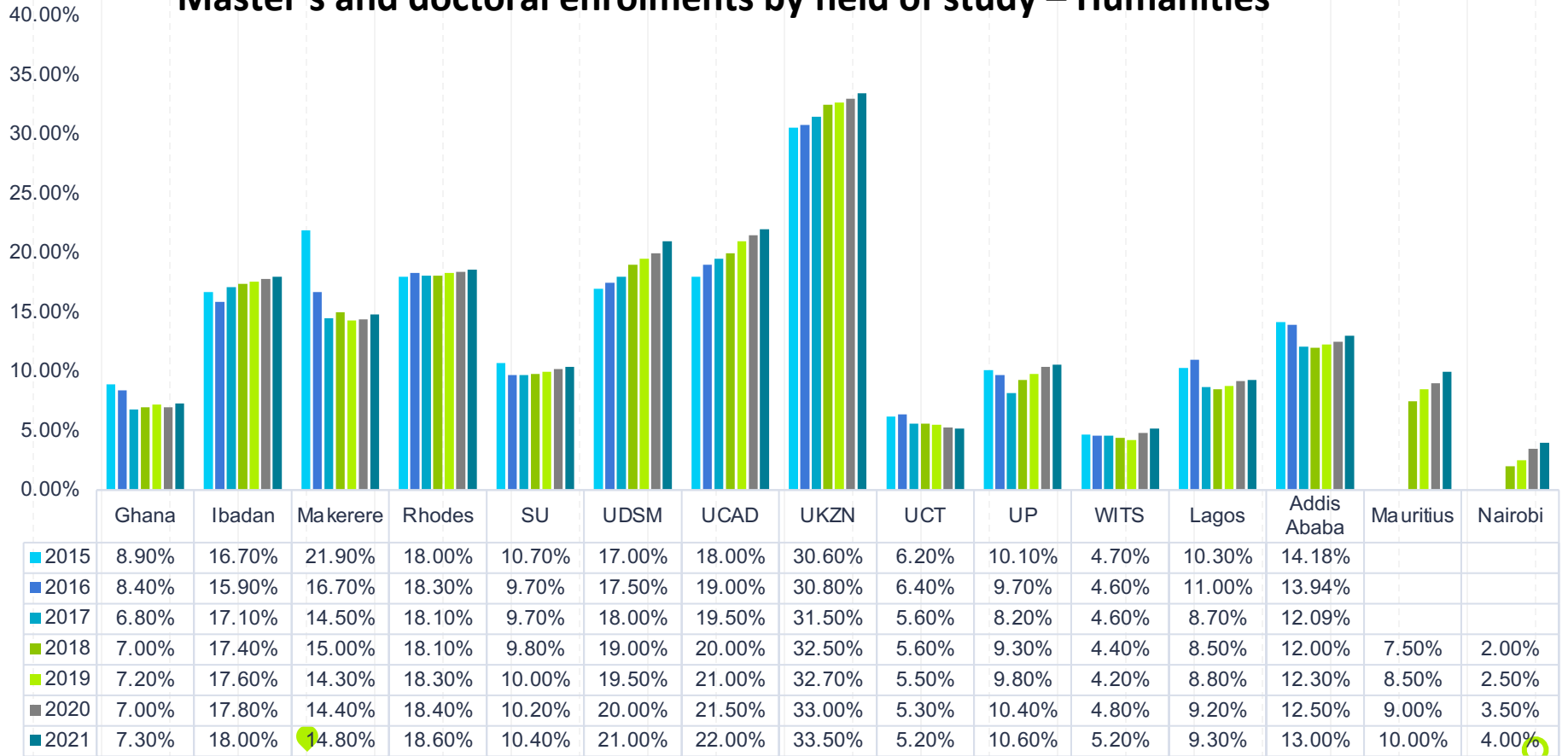
Master's and doctoral enrolments by field of study – Agricultural Sciences



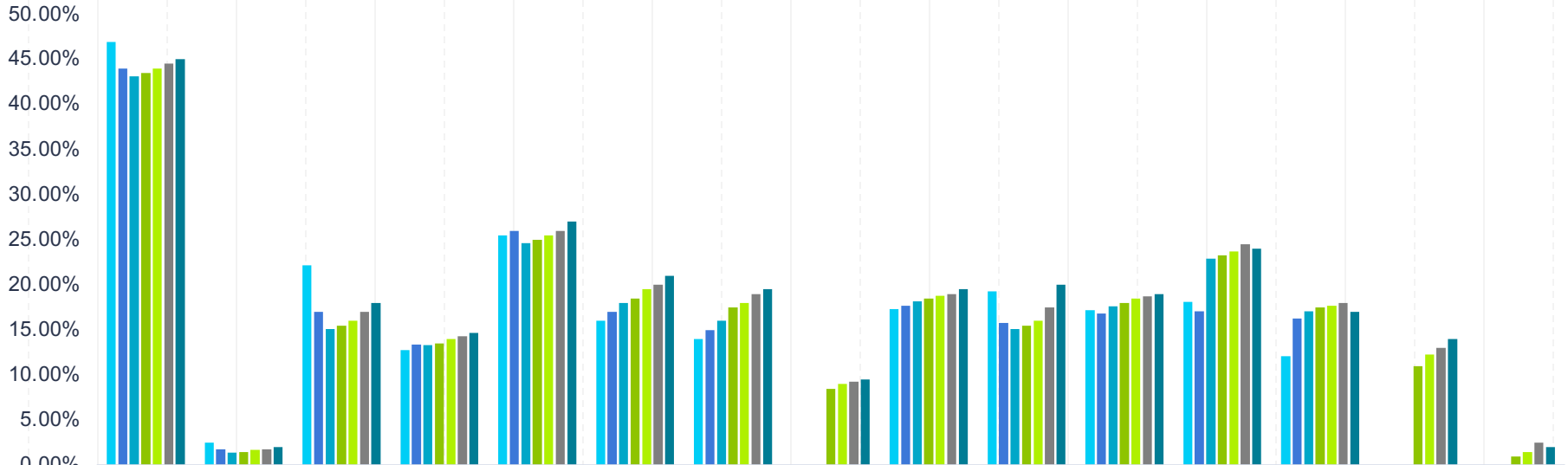
Master's and doctoral enrolments by field of study – Social Sciences



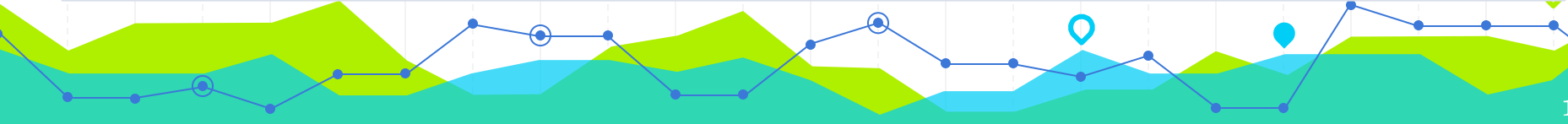
Master's and doctoral enrolments by field of study – Humanities



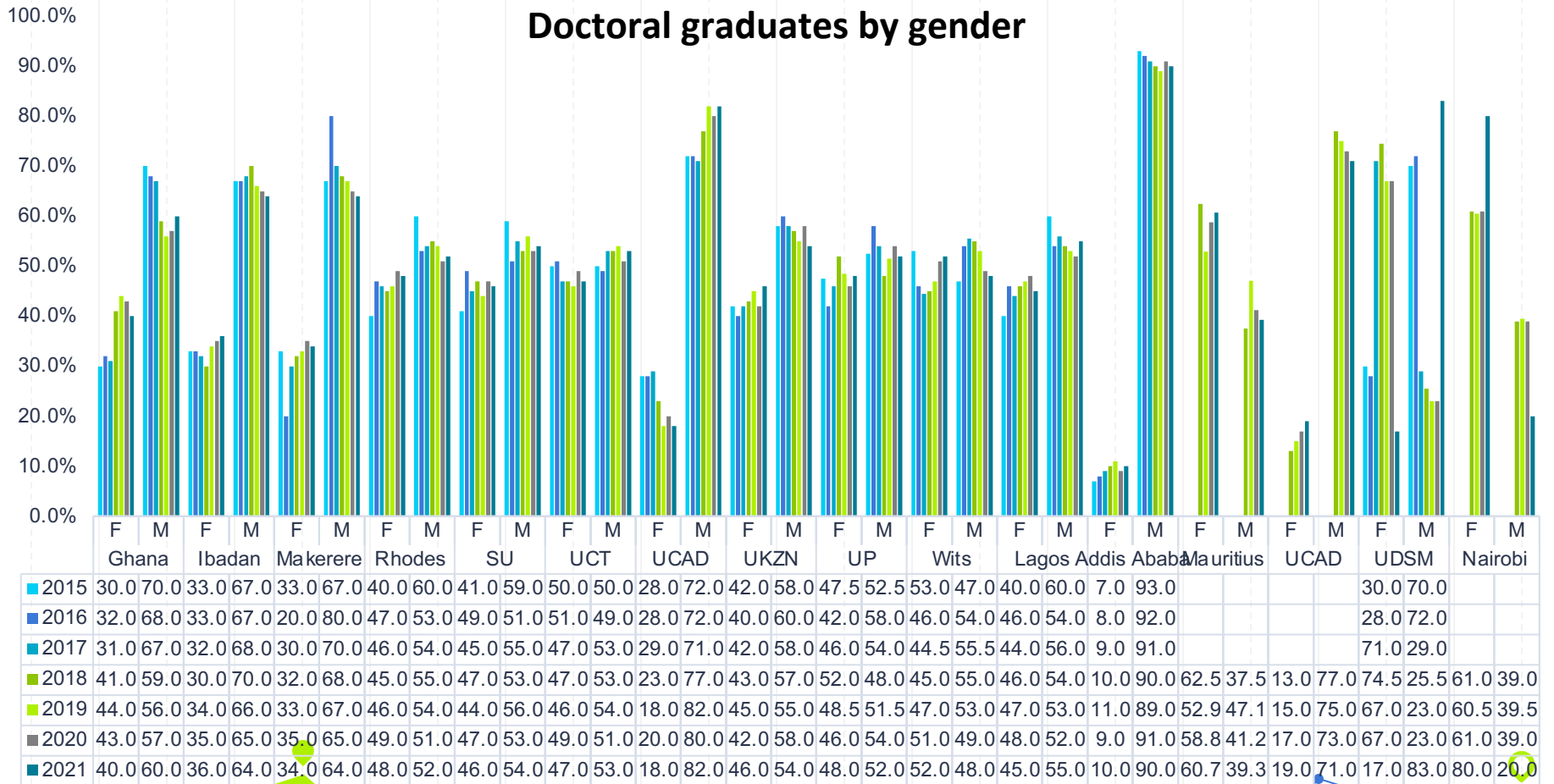
Master's and doctoral enrolments by field of study – Business and Economic Management Sciences



	Ghana	Ibadan	Makerere	Rhodes	SU	UDSM	UCAD	UKZN	UCT	UP	WITS	Lagos	Addis Ababa	Mauritius	Nairobi
2015	46.90%	2.50%	22.20%	12.80%	25.50%	16.00%	14.00%		17.30%	19.30%	17.20%	18.10%	12.07%		
2016	44.00%	1.80%	17.00%	13.40%	26.00%	17.00%	15.00%		17.70%	15.80%	16.80%	17.10%	16.27%		
2017	43.10%	1.40%	15.10%	13.30%	24.60%	18.00%	16.00%		18.20%	15.10%	17.60%	22.90%	17.10%		
2018	43.50%	1.50%	15.50%	13.50%	25.00%	18.50%	17.50%	8.50%	18.50%	15.50%	18.00%	23.30%	17.50%	11.00%	1.00%
2019	44.00%	1.70%	16.00%	14.00%	25.50%	19.50%	18.00%	9.00%	18.80%	16.00%	18.50%	23.70%	17.70%	12.30%	1.50%
2020	44.50%	1.80%	17.00%	14.30%	26.00%	20.00%	19.00%	9.30%	19.00%	17.50%	18.70%	24.50%	18.00%	13.00%	2.50%
2021	45.00%	2.00%	18.00%	14.70%	27.00%	21.00%	19.50%	9.50%	19.50%	20.00%	19.00%	24.00%	17.00%	14.00%	2.00%



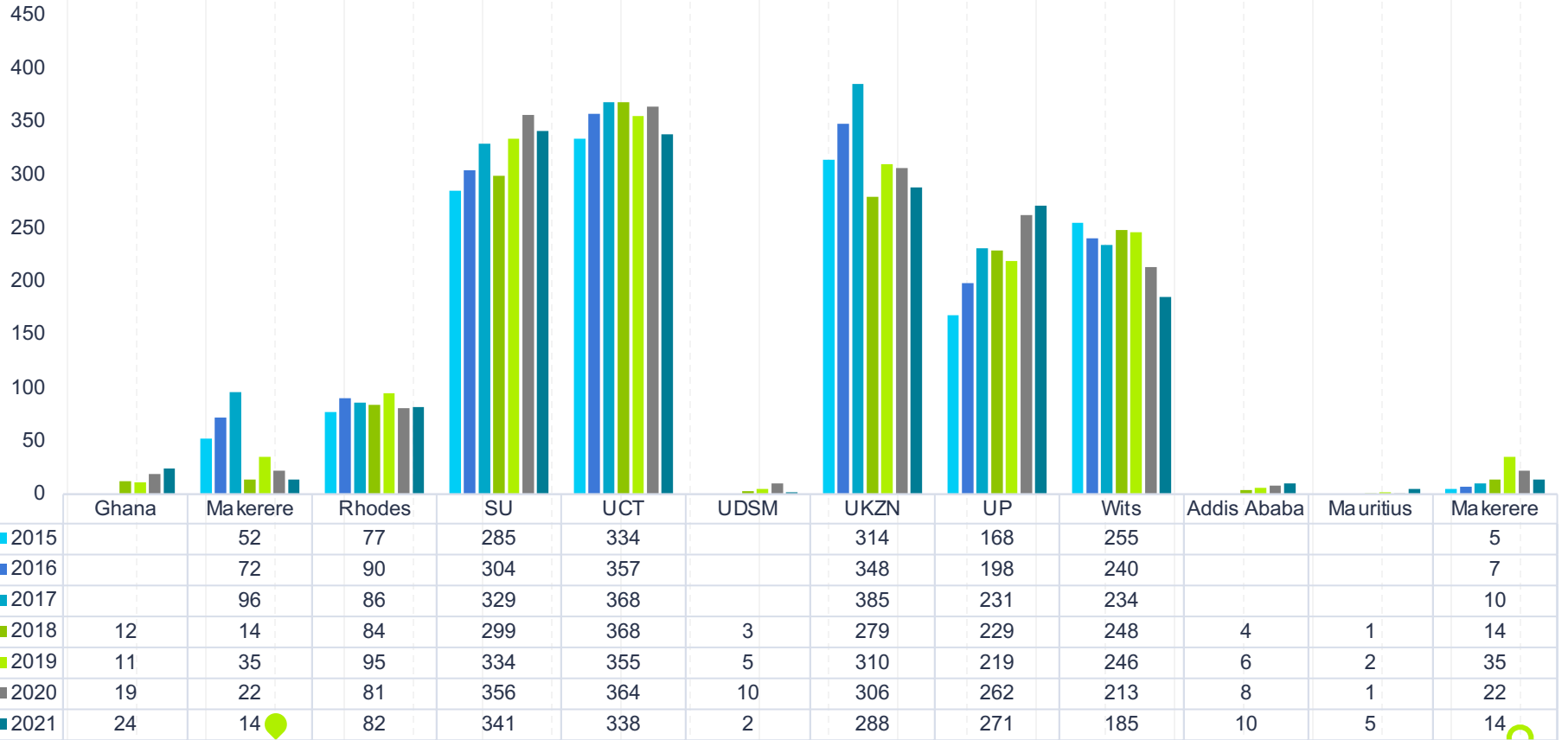
Doctoral graduates by gender



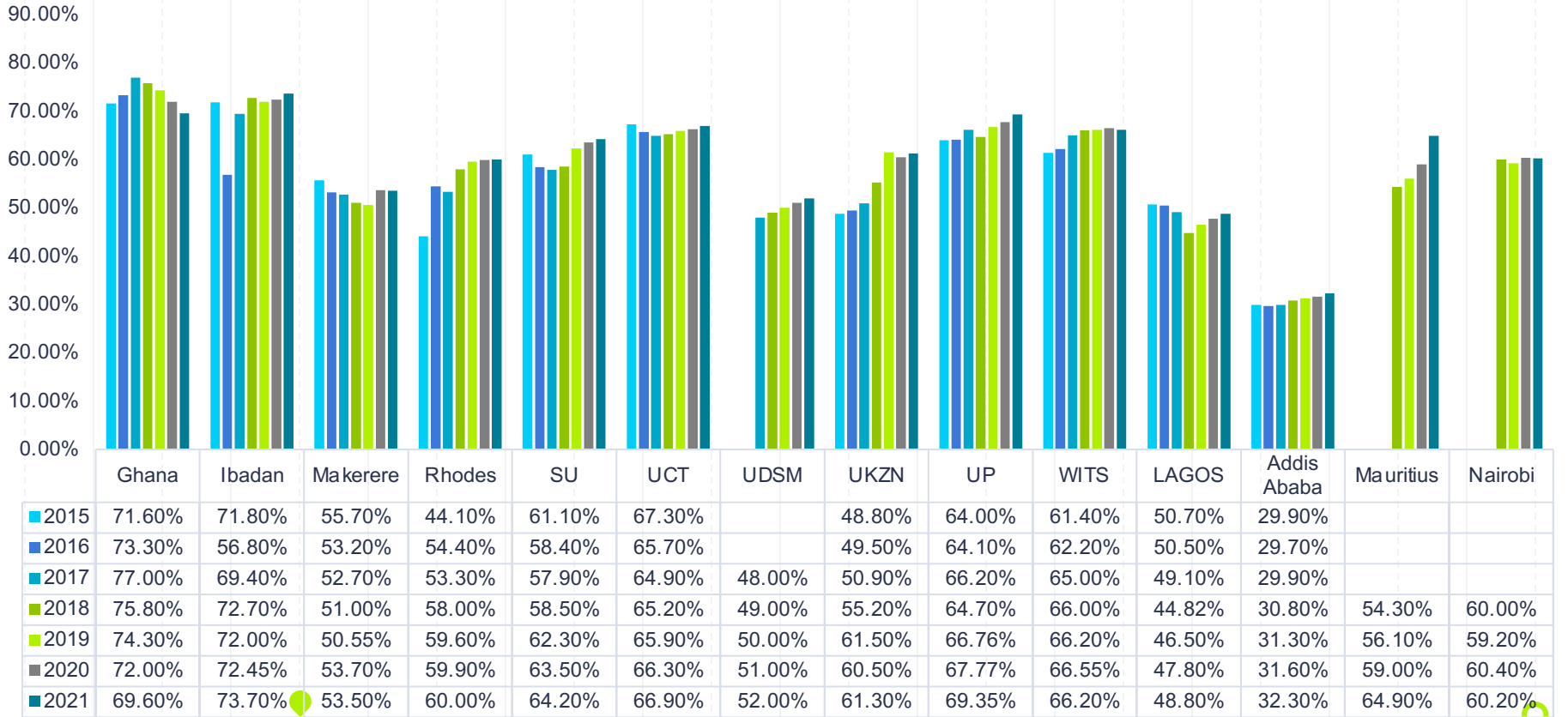
Doctoral graduates who completed within 4 years



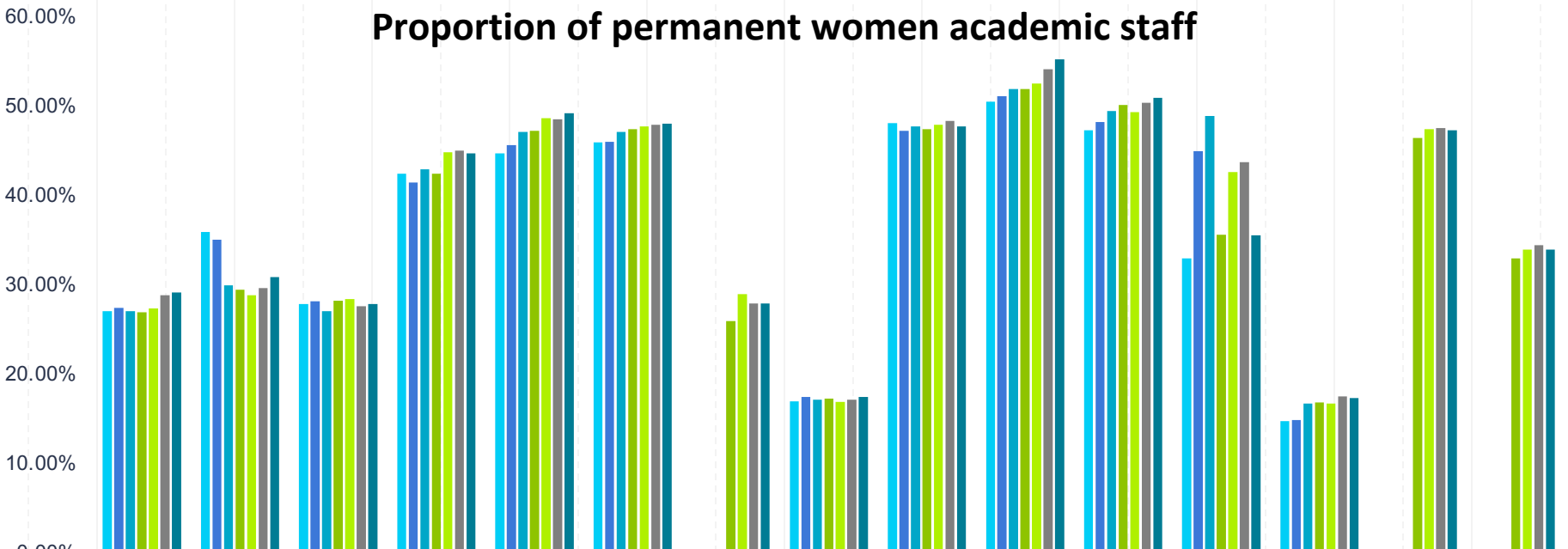
Postdoctoral research fellows



Percentage of permanent academic staff with doctorates

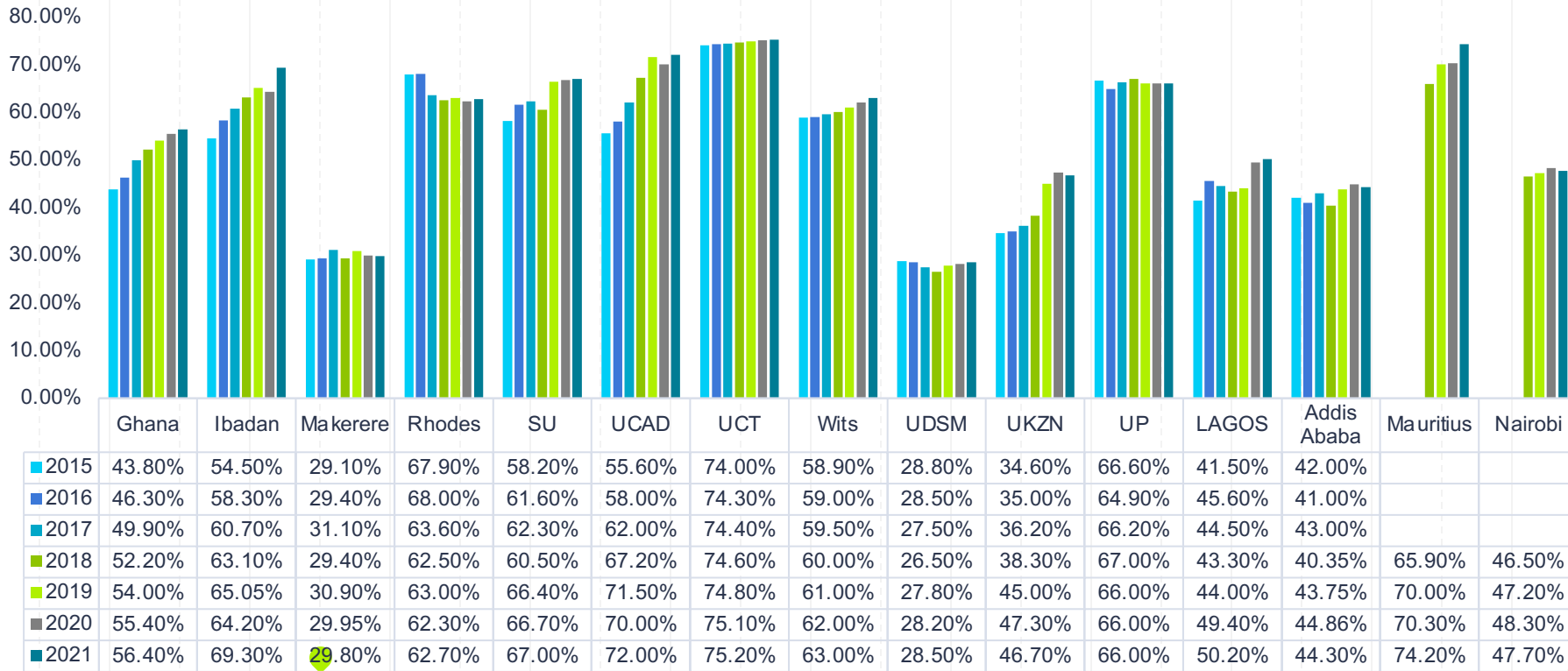


Proportion of permanent women academic staff

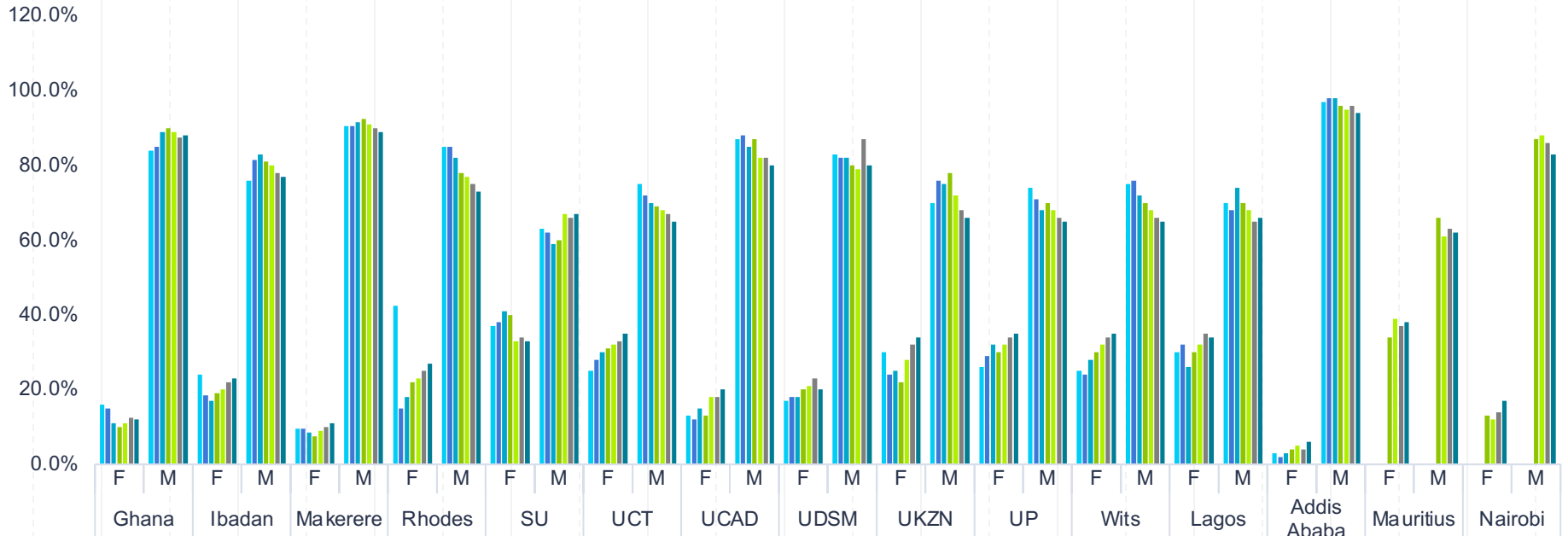


	Ghana	Ibadan	Makerere	Rhodes	SU	UCT	UDSM	UCAD	UKZN	UP	WITS	LAGOS	Addis Ababa	Mauritius	Nairobi
2015	27.10%	36.00%	27.90%	42.50%	44.80%	46.00%		17.00%	48.20%	50.60%	47.40%	33.00%	14.80%		
2016	27.50%	35.10%	28.20%	41.50%	45.70%	46.10%		17.50%	47.30%	51.20%	48.30%	45.00%	14.95%		
2017	27.10%	30.00%	27.10%	43.00%	47.20%	47.20%		17.20%	47.80%	52.00%	49.50%	49.00%	16.80%		
2018	27.00%	29.50%	28.30%	42.50%	47.30%	47.50%	26.00%	17.30%	47.50%	52.00%	50.20%	35.70%	16.90%	46.50%	33.00%
2019	27.40%	28.90%	28.50%	44.90%	48.75%	47.80%	29.00%	16.96%	48.00%	52.60%	49.40%	42.70%	16.75%	47.50%	34.00%
2020	28.90%	29.70%	27.70%	45.10%	48.60%	48.00%	28.00%	17.20%	48.40%	54.20%	50.45%	43.80%	17.60%	47.60%	34.50%
2021	29.20%	30.95%	27.90%	44.80%	49.30%	48.10%	28.00%	17.50%	47.80%	55.30%	51.00%	35.60%	17.40%	47.40%	34.00%

Professors, associate professors and senior lecturers as a percentage of permanent academic staff

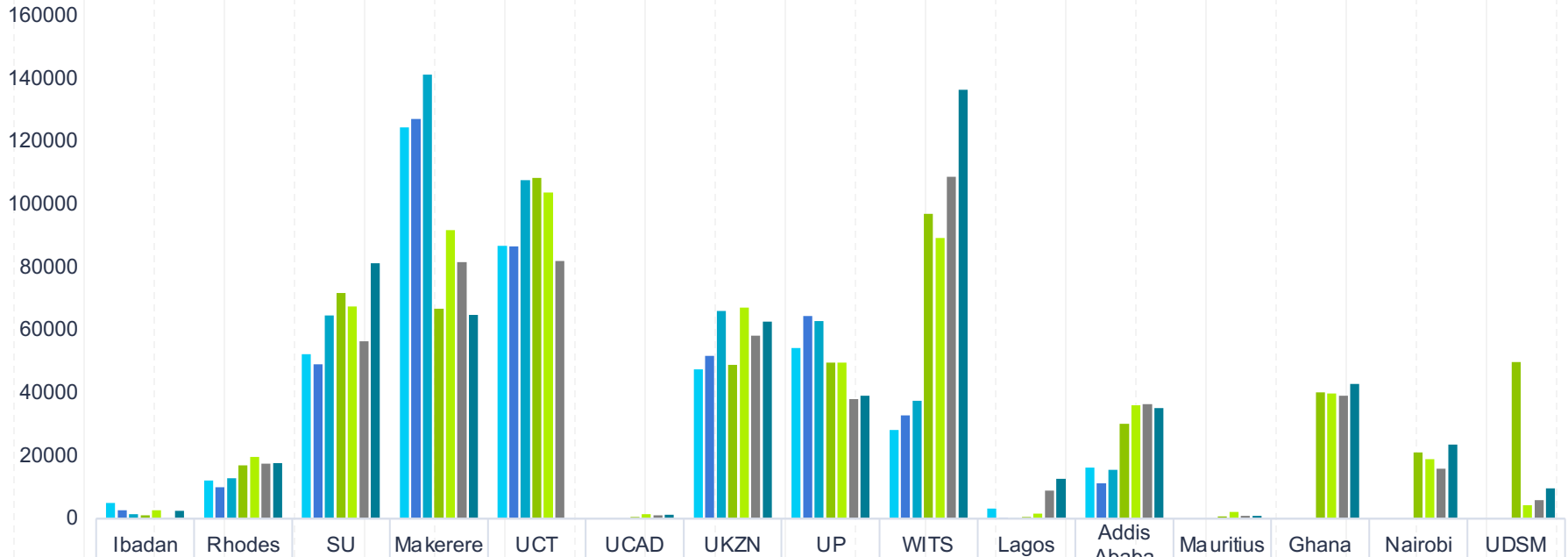


Professors by gender



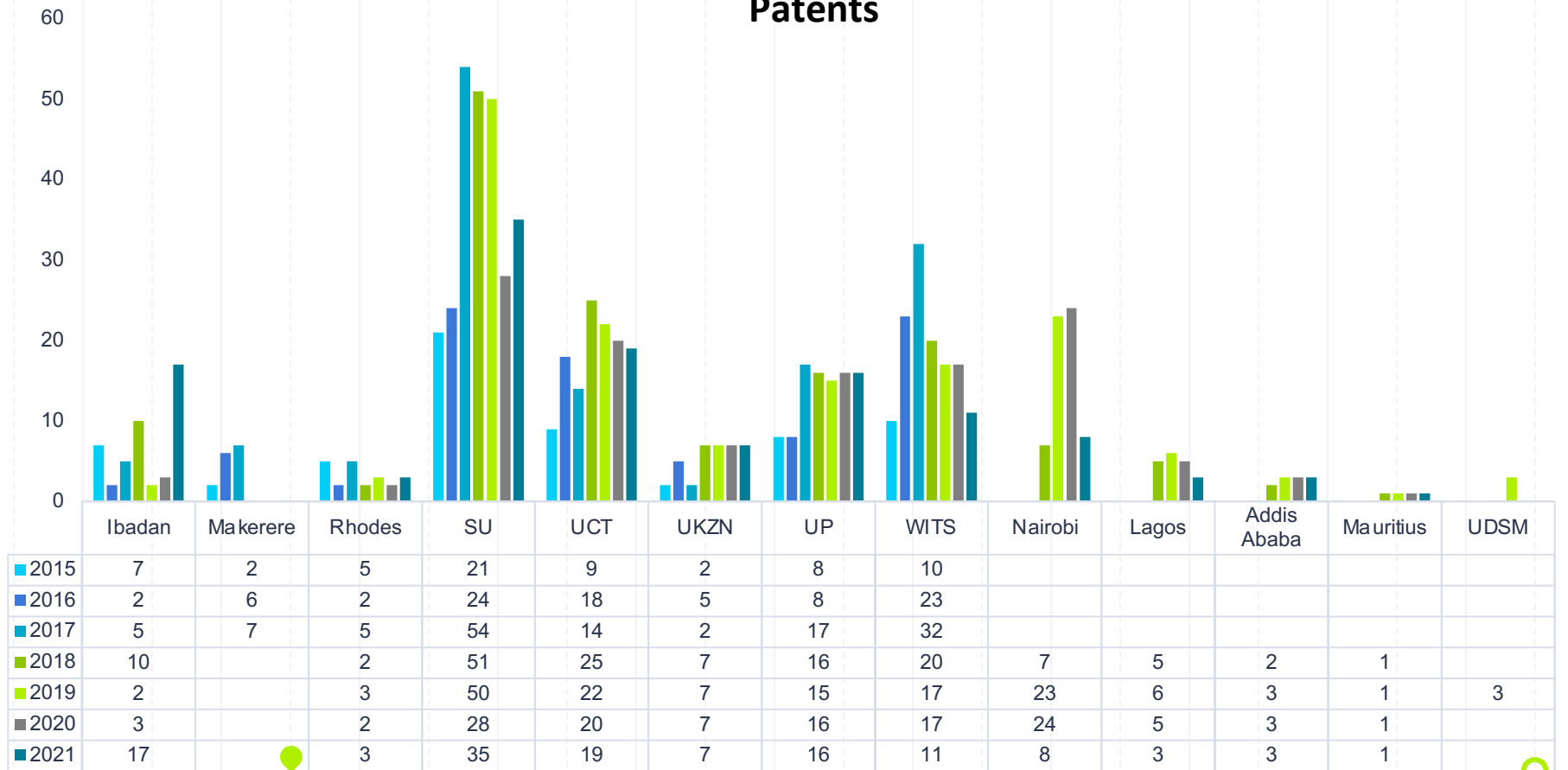
	Ghana		Ibadan		Makerere		Rhodes		SU		UCT		UCAD		UDSM		UKZN		UP		Wits		Lagos		Addis Ababa		Mauritius		Nairobi	
2015	16.0	84.0	24.0	76.0	9.5%	90.5	42.5	85.0	37.0	63.0	25.0	75.0	13.0	87.0	17.0	83.0	30.0	70.0	26.0	74.0	25.0	75.0	30.0	70.0	3.0%	97.0				
2016	15.0	85.0	18.5	81.5	9.5%	90.5	15.0	85.0	38.0	62.0	28.0	72.0	12.0	88.0	18.0	82.0	24.0	76.0	29.0	71.0	24.0	76.0	32.0	68.0	2.0%	98.0				
2017	11.0	89.0	17.0	83.0	8.5%	91.5	18.0	82.0	41.0	59.0	30.0	70.0	15.0	85.0	18.0	82.0	25.0	75.0	32.0	68.0	28.0	72.0	26.0	74.0	3.0%	98.0				
2018	10.0	90.0	19.0	81.0	7.5%	92.5	22.0	78.0	40.0	60.0	31.0	69.0	13.0	87.0	20.0	80.0	22.0	78.0	30.0	70.0	30.0	70.0	30.0	70.0	4.0%	96.0	34.0	66.0	13.0	87.0
2019	11.0	89.0	20.0	80.0	9.0%	91.0	23.0	77.0	33.0	67.0	32.0	68.0	18.0	82.0	21.0	79.0	28.0	72.0	32.0	68.0	32.0	68.0	32.0	68.0	5.0%	95.0	39.0	61.0	12.0	88.0
2020	12.5	87.5	22.0	78.0	10.0	90.0	25.0	75.0	34.0	66.0	33.0	67.0	18.0	82.0	23.0	87.0	32.0	68.0	34.0	66.0	34.0	66.0	35.0	65.0	4.0%	96.0	37.0	63.0	14.0	86.0
2021	12.0	88.0	23.0	77.0	11.0	89.0	27.0	73.0	33.0	67.0	35.0	65.0	20.0	80.0	20.0	80.0	34.0	66.0	35.0	65.0	35.0	65.0	34.0	66.0	6.0%	94.0	38.0	62.0	17.0	83.0

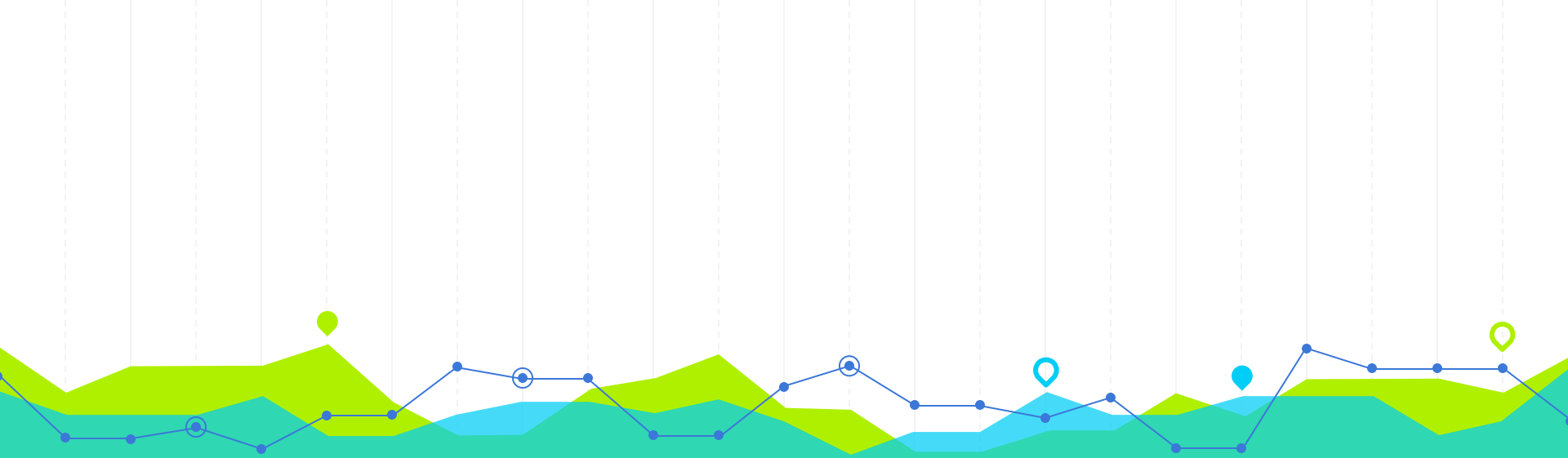
Research Funding (US\$ '000)



	Ibadan	Rhodes	SU	Makerere	UCT	UCAD	UKZN	UP	WITS	Lagos	Addis Ababa	Mauritius	Ghana	Nairobi	UDSM
2015	5021	12164	52270	124495	86850		47477	54267	28150	3267	16180				
2016	2605	9949	49129	127093	86547		51845	64418	32773	394	11216				
2017	1336	12806	64559	141326	107634		66030	62924	37406	250	15600				
2018	1116	16914	71835	66722	108368	554	48879	49689	96996	478	30238	717	40100	21068	49862
2019	2607	19596	67544	91703	103654	1432	67051	49655	89223	1574	36010	2094	39850	18834	4362
2020	79	17455	56344	81566	82000	992	58230	38063	108808	8941	36495	918	39140	15895	5820
2021	2416	17618	81315	64851		1315	62687	39081	136338	12700	35116	942	42767	23582	9564

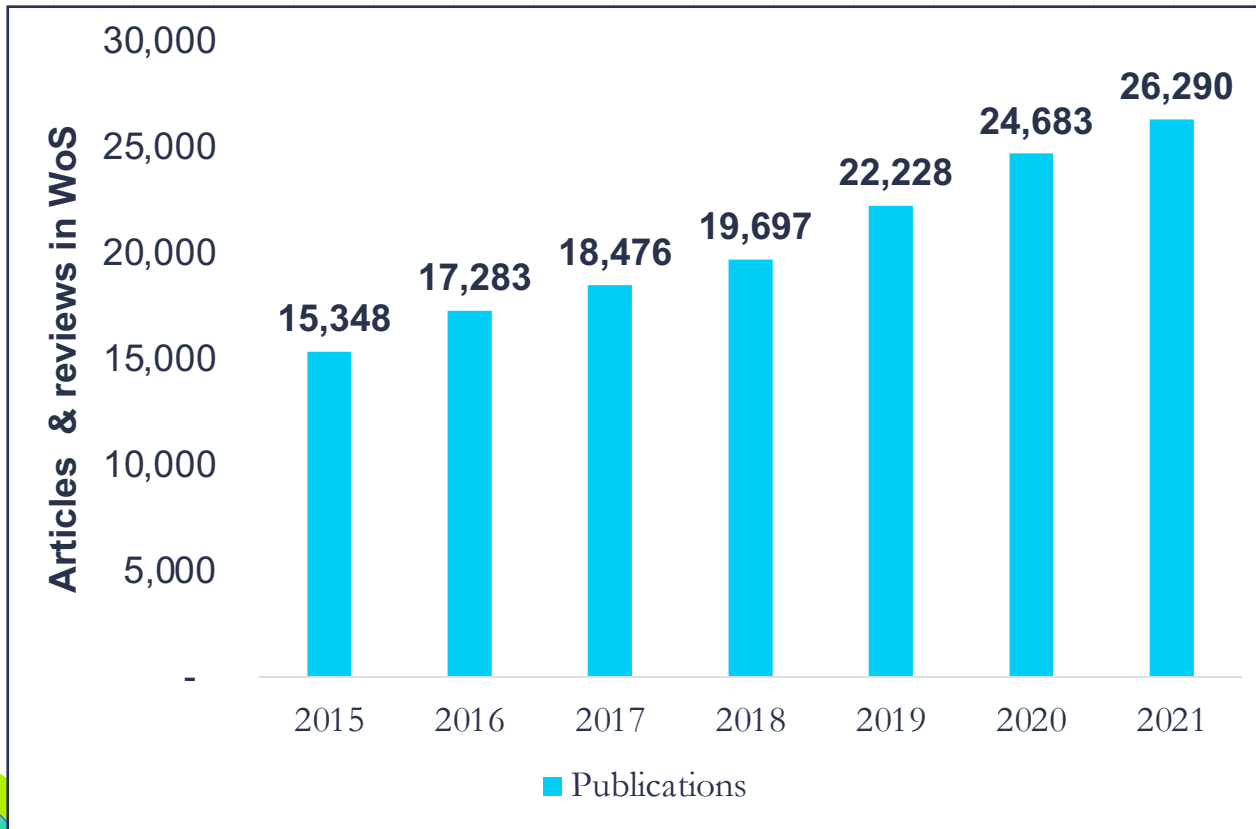
Patents





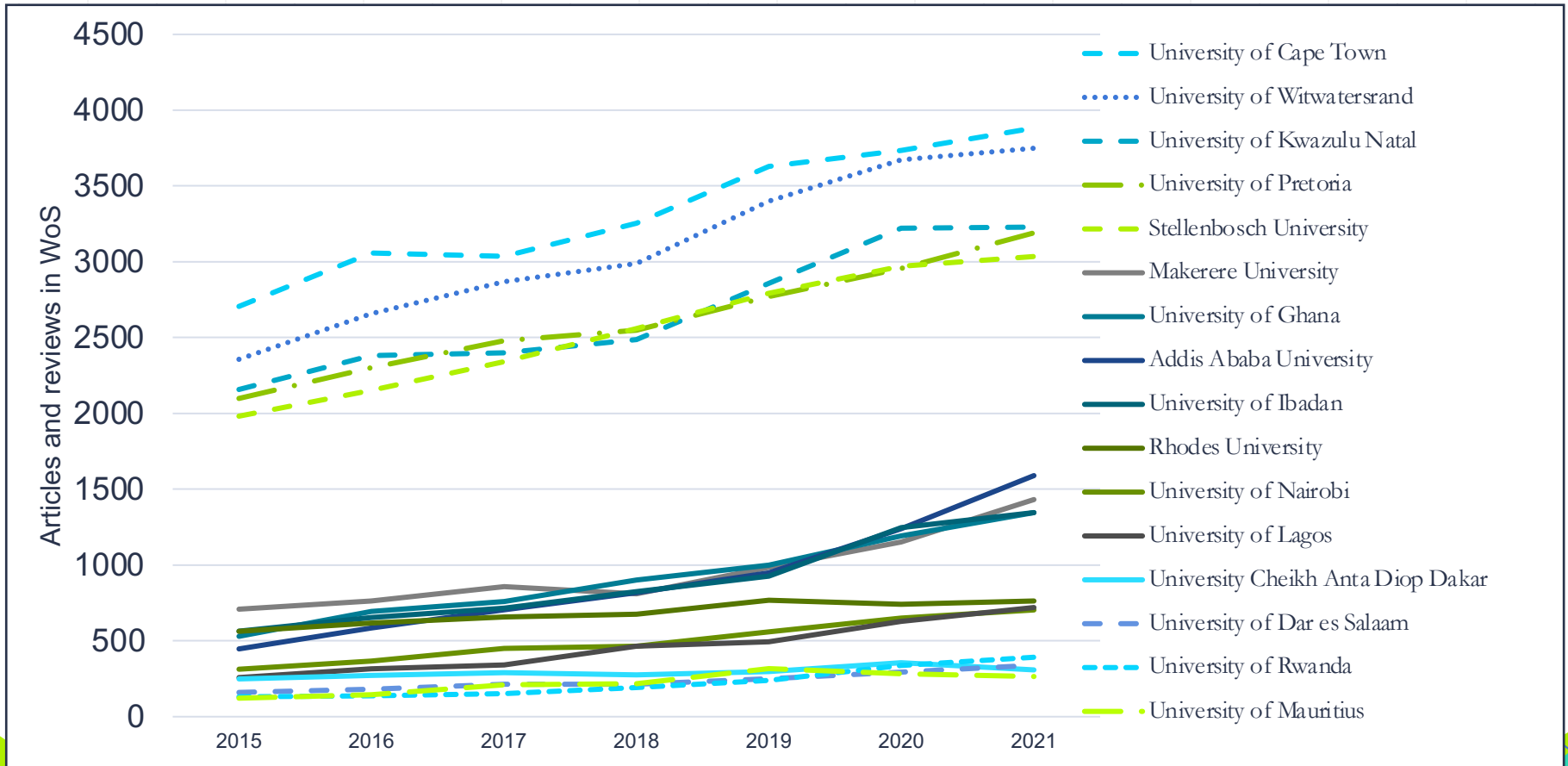
Bibliometric Analysis

Publications output by ARUA universities, 2015 - 2021

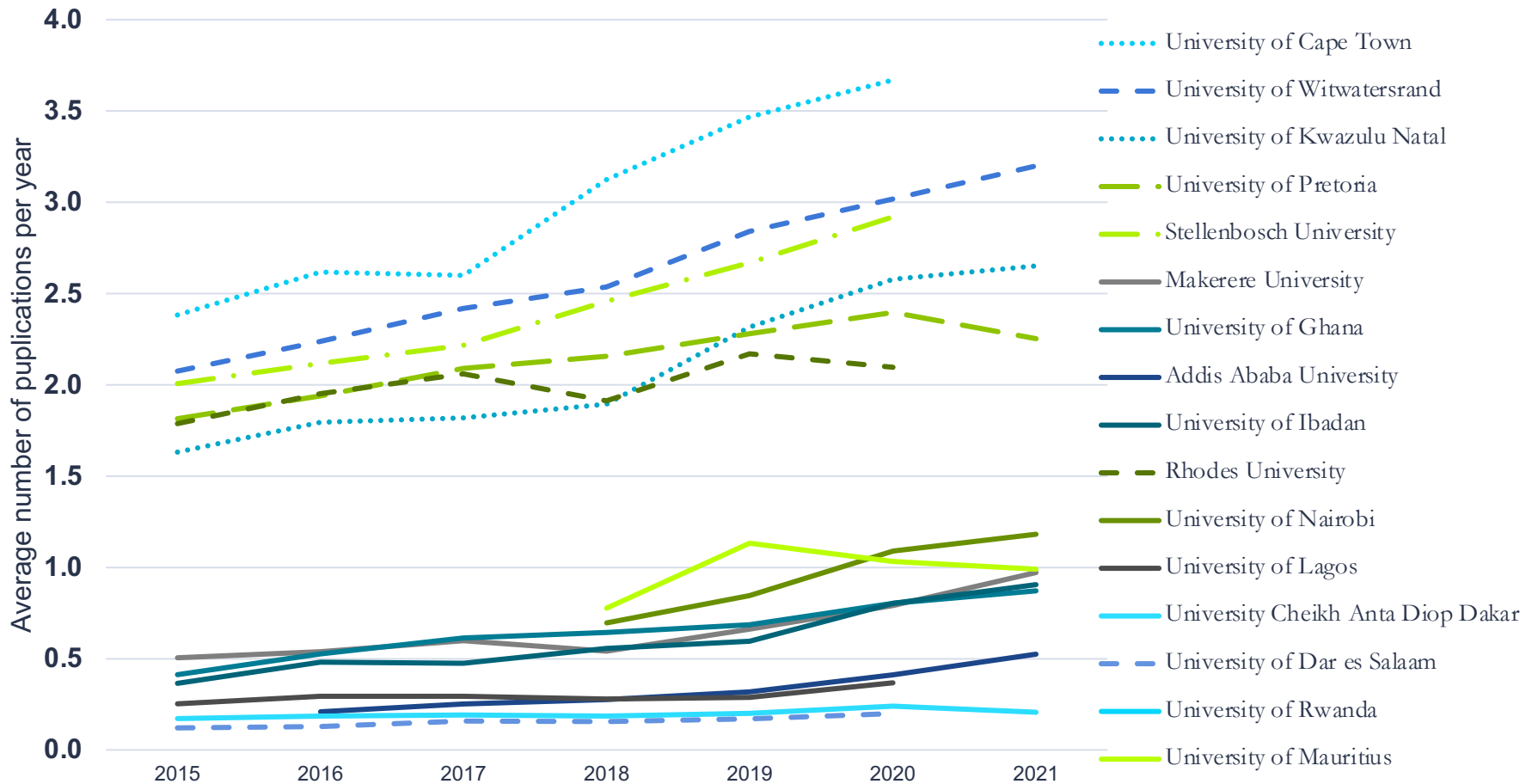


- ✓ Average annual growth rate of about 9%,
- ✓ Cumulatively, ARUA universities published over 117,715 articles over the 7 years.

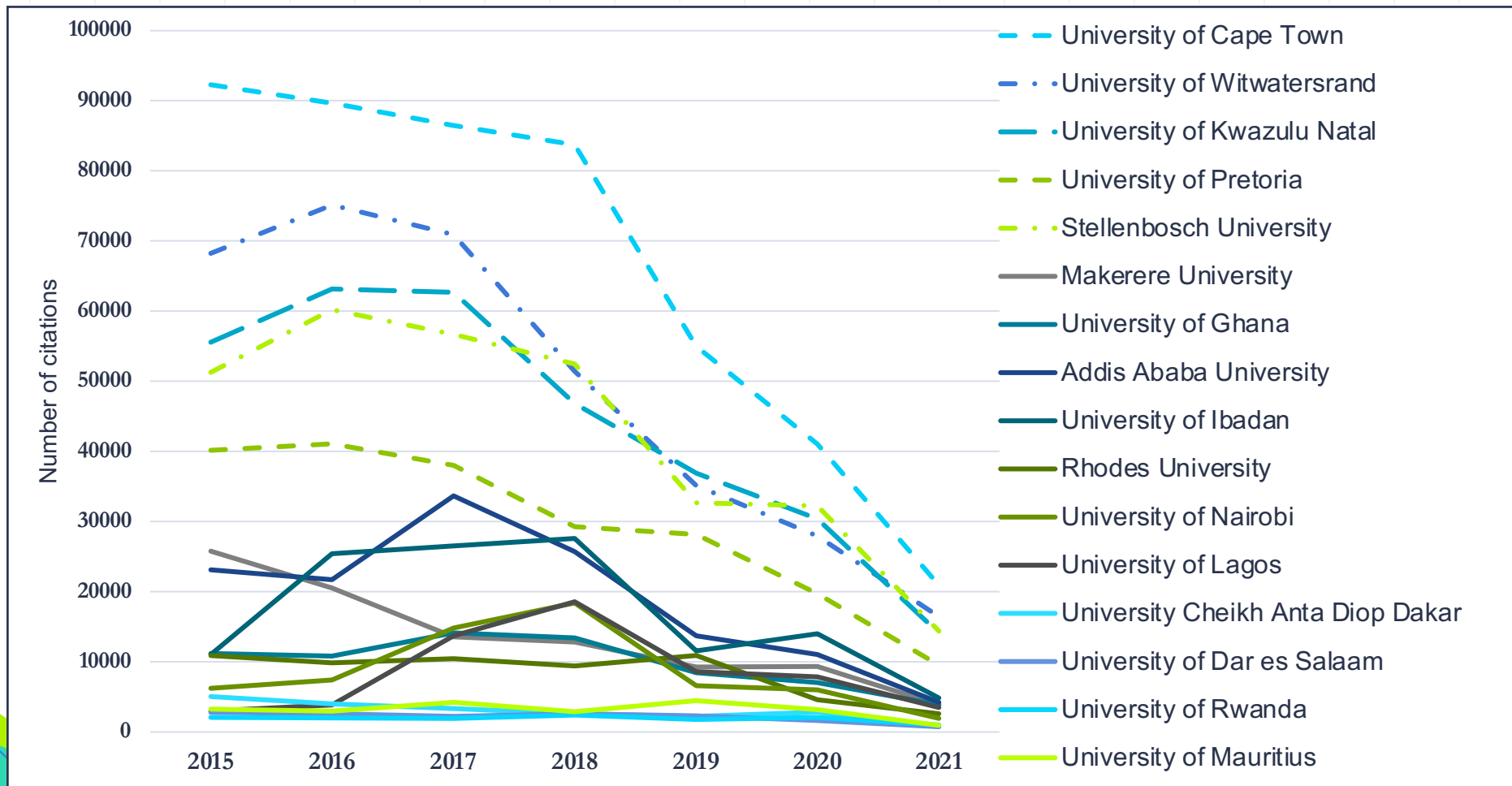
Publication by ARUA Universities



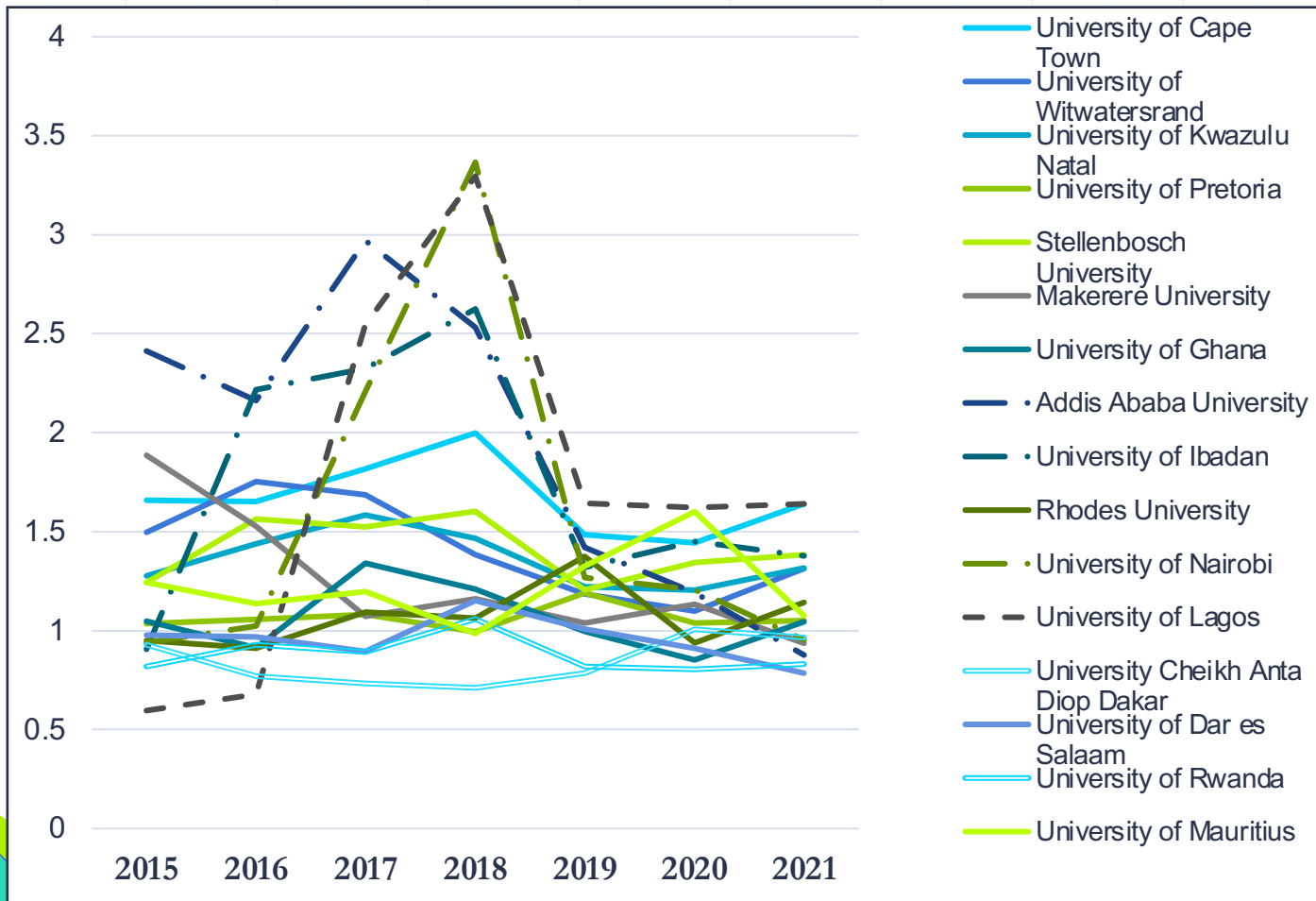
Publications per Permanent Academic Staff



Number by citations by ARUA universities



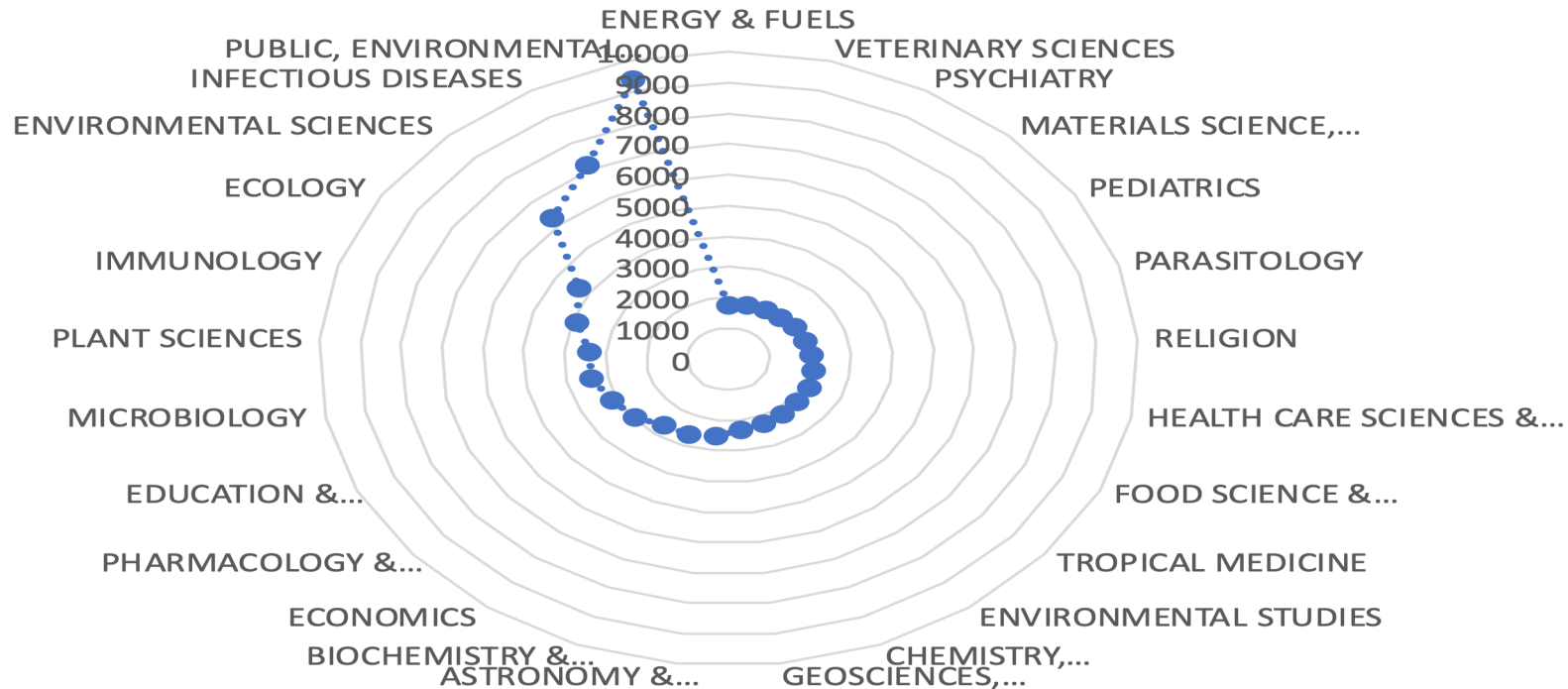
Category Normalised Citation Impact of ARUA Universities



ARUA is generally at par with the global average.

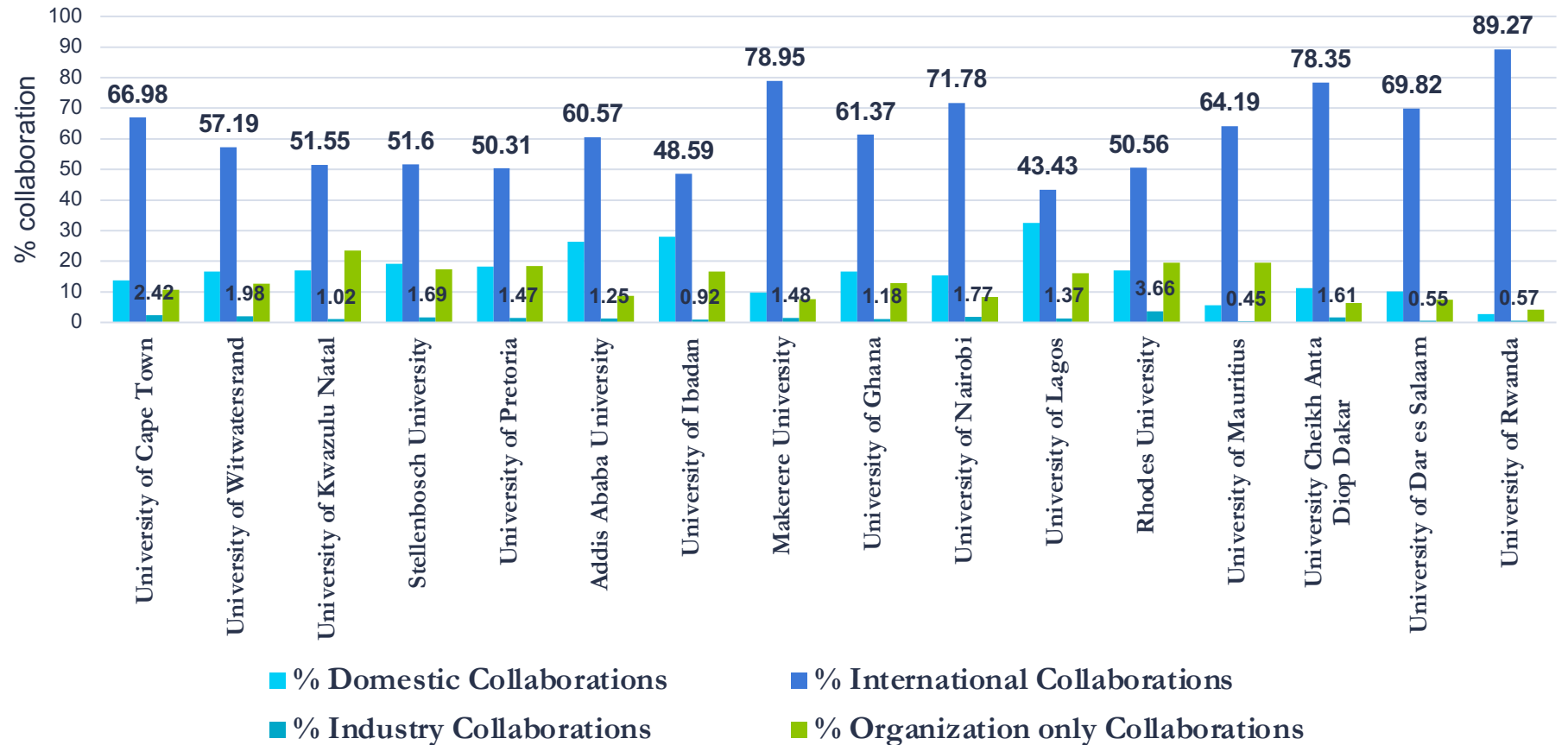
Lagos, Nairobi, Addis Ababa and **Ibadan** had values above two (twice the world average)

Leading Research Topics in ARUA Universities - *Top 25 research areas for ARUA Universities*

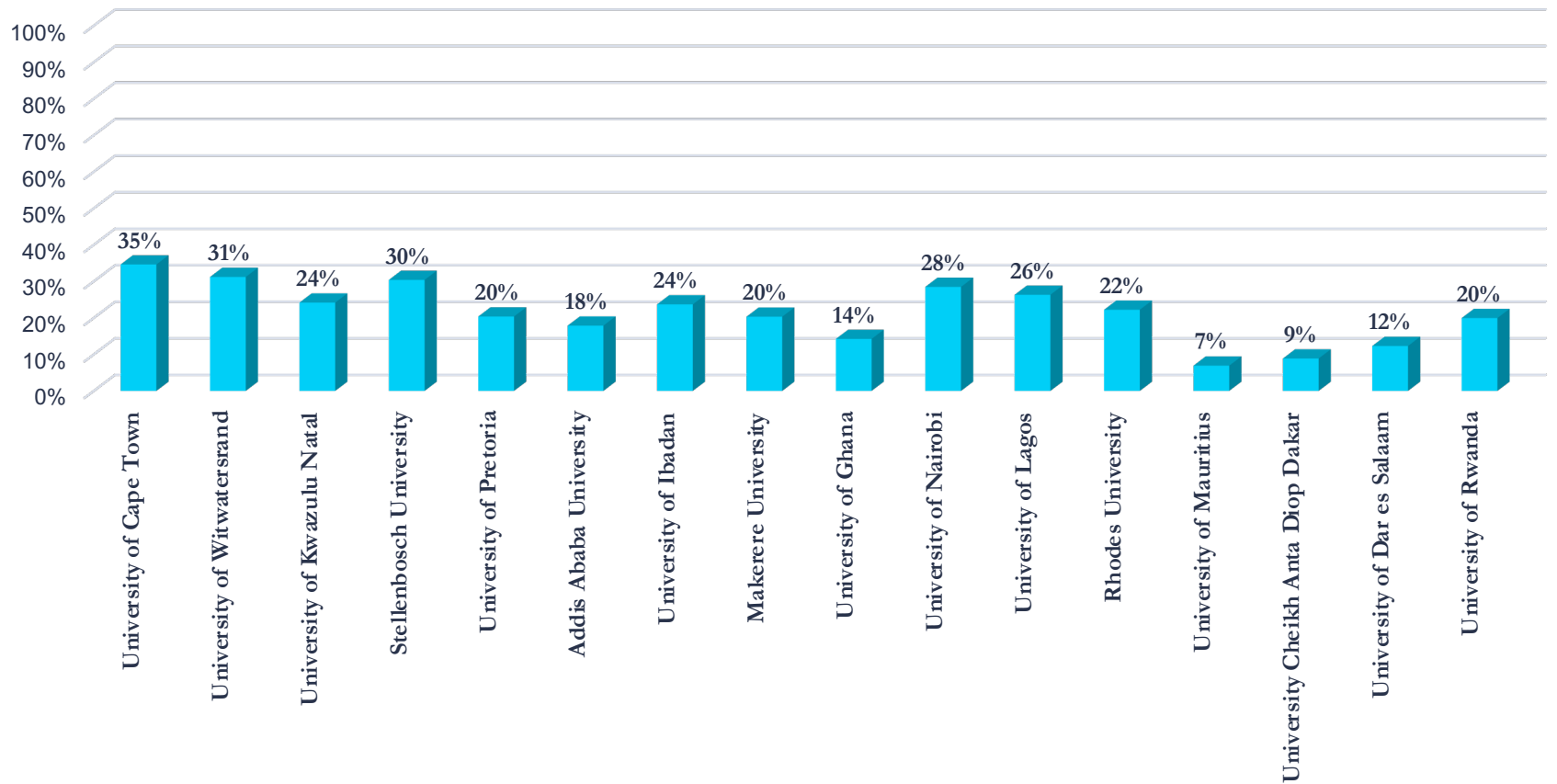


Public, Environmental & Occupational Health (9372 pubs)

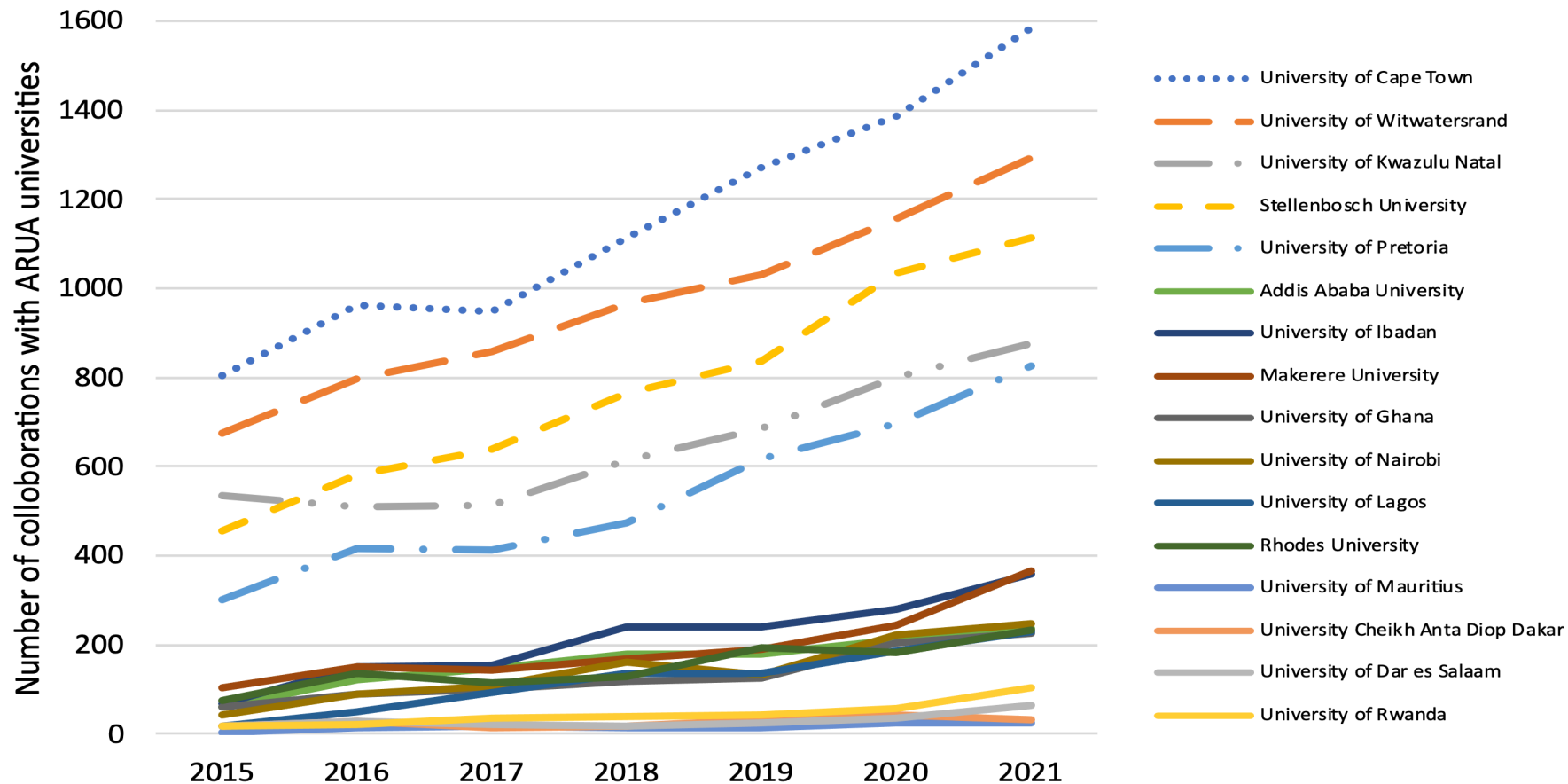
Patterns of Co-authorship by ARUA universities (Cumulative 2015-2021)



Co-authorships – within the ARUA network (% of total publications)



Co-authorships among ARUA Universities (2015-2021)



Key observations:

- ARUA universities have recorded progress across all the metrics - proportion of PG enrolments, proportion of female students, female academics, academics with doctorates, etc.
- Most ARUA universities are still predominantly undergraduate universities.
- Most of the universities improved the proportion of doctoral students who completed their doctoral studies within four years, with Makerere recording the highest improvement – from 21.2% in 2015 to 47% in 2021.
- The majority of the academics at the ARUA universities occupy senior ranks. Except for Makerere, UDSM, UKZN, Addis Ababa and Nairobi, more than 60% of the academics at the other universities were either professors, associate professors, or senior lecturers.

- ARUA universities play a leading role in advancing research in Africa as evidenced by publications output and citations.
- ARUA universities are research leaders in various research fields - *Public, environmental and occupational health, infectious diseases, environmental sciences, ecology, immunology and plant science.*
- The research fields align with the major challenges confronting the continent and the world.
- Co-authorship among ARUA universities is relatively low.





ARUA
African Research
Universities Alliance

Discussion

