



TIME ANALYSIS

FOR THE

IAAF World Championships

LONDON 2017

5,000 m Women's

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Table of Contents

INTRODUCTION	1
Final	2
COACH'S COMMENTARY	11
CONTRIBUTORS	12

INTRODUCTION

The women's 5000 m final was held on the evening of August 13th, the final day of the championships. The average speeds for each of the top eight athletes over every 400 m segment (and last 200 m) are included in this report, as well as a graph of each of these athletes' positions at each 400 m split (and last 200 m). The split data were provided by SEIKO. The results of the final are shown below.

RECORDS	RESULT NAME	COUNTRY	AGE	VENUE	DATE
World Record WR	14:11.15 Tirunesh DIBABA	ETH	23	Oslo (Bislett)	6 Jun 2008
Championships Record CR	14:26.83 Almaz AYANA	ETH	24	Beijing (National Stadium)	30 Aug 2015
World Leading WL	14:18.37 Hellen Onsando OBIRI	KEN	28	Roma (Stadio Olimpico)	8 Jun 2017
Area Record AR	National Record NR	Personal Best PB	Season Best SB		

13 August 2017 19:35 START TIME 22° C TEMPERATURE 35 % HUMIDITY

PLACE	NAME	COUNTRY	DATE of BIRTH	ORDER	RESULT
1	Hellen Onsando OBIRI	KEN	13 Dec 89	8	14:34.86
2	Almaz AYANA	ETH	21 Nov 91	15	14:40.35
3	Sifan HASSAN	NED	1 Jan 93	7	14:42.73
4	Senbere TEFERI	ETH	3 May 95	12	14:47.45
5	Margaret Chelimo KIPKEMBOI	KEN	9 Feb 93	6	14:48.74
6	Laura MUIR	GBR	9 May 93	9	14:52.07
7	Shella Chepkirui KIPROTICH	KEN	27 Dec 90	1	14:54.05
8	Susan KRUMINS	NED	8 Jul 86	14	14:58.33
9	Shannon ROWBURY	USA	19 Sep 84	11	14:59.92
10	Eilish MCCOLGAN	GBR	25 Nov 90	5	15:00.43
11	Letesenbet ØIDEY	ETH	20 Mar 98	4	15:04.99
12	Molly HUDDLE	USA	31 Aug 84	3	15:05.28
13	Shelby HOULIHAN	USA	8 Feb 93	13	15:06.40
14	Kalkidan BEZAHEONE	BRN	8 May 91	2	15:28.21
	Karoline Bjerkeli ØRØVDAL	NOR	14 Jun 90	10	DNF

Timing and Measurement by SEIKO AT-5000-W-1--1--.R51..v1 Issued at 19:53 on Sunday, 13 August 2017

Official Partners














Table 1. List of abbreviations used.

PB	Personal best time	DNF	Did not finish
SB	Season's best time		

Final

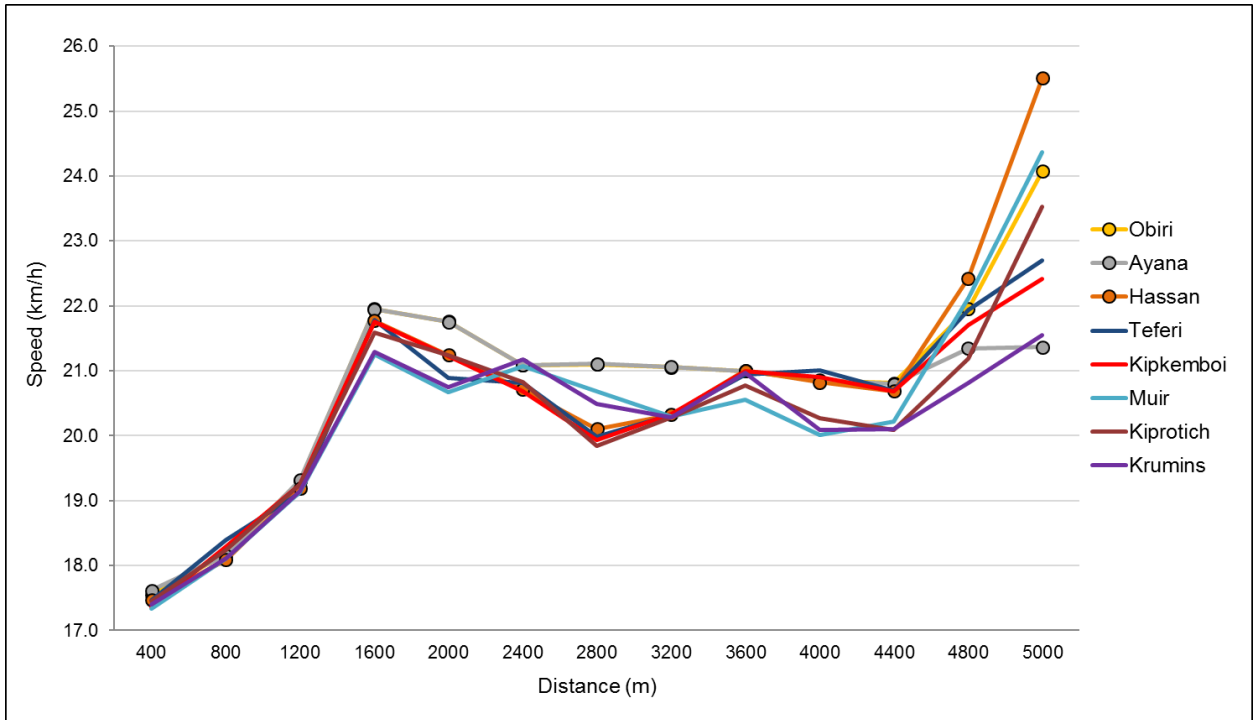


Figure 1. The mean speeds for each 400 m segment (and last 200 m) for the top eight athletes.

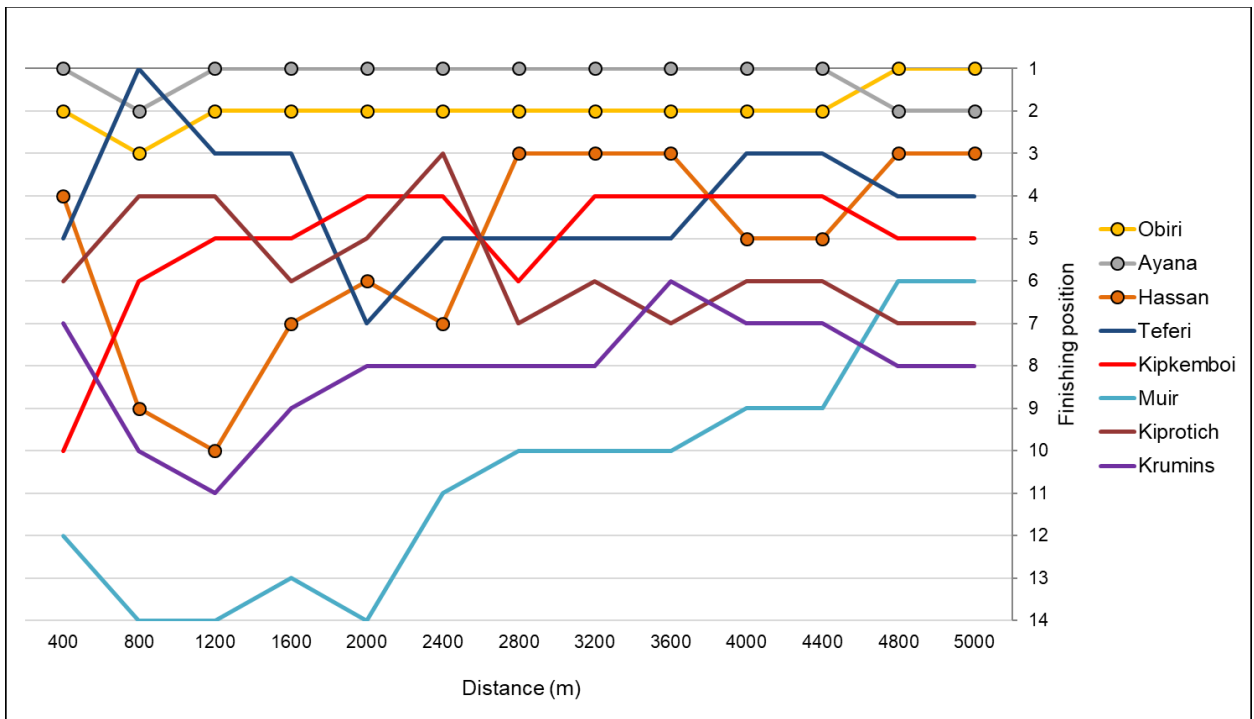


Figure 2. The position of the top eight athletes after each 400 m segment (and last 200 m).

4086		Obiri, Hellen Onsando (KEN)									Posn. 1
		100m	200m	300m	400m	500m	600m	700m	800m	900m	1000m
Race Time		17.69	36.52	59.23	1:22.03	1:41.16	2:03.09	2:22.26	2:41.23	3:00.38	3:19.05
100m		17.69	18.83	22.71	22.80	19.13	21.93	19.17	18.97	19.15	18.67
400m					1:22.03				1:19.20		
1000m											3:19.05
		1100m	1200m	1300m	1400m	1500m	1600m	1700m	1800m	1900m	2000m
Race Time		3:38.19	3:55.83	4:12.37	4:28.78	4:44.81	5:01.42	5:17.95	5:34.57	5:51.05	6:07.59
100m		19.14	17.64	16.54	16.41	16.03	16.61	16.53	16.62	16.48	16.54
400m			1:14.60				1:05.59				1:06.17
1000m											2:48.54
		2100m	2200m	2300m	2400m	2500m	2600m	2700m	2800m	2900m	3000m
Race Time		6:24.68	6:41.70	6:58.86	7:15.88	7:32.91	7:49.92	8:06.80	8:24.12	8:41.45	8:58.28
100m		17.09	17.02	17.16	17.02	17.03	17.01	16.88	17.32	17.33	16.83
400m					1:08.29				1:08.24		
1000m											2:50.69
		3100m	3200m	3300m	3400m	3500m	3600m	3700m	3800m	3900m	4000m
Race Time		9:15.20	9:32.52	9:49.78	10:06.86	10:23.86	10:41.10	10:58.59	11:15.67	11:32.58	11:50.16
100m		16.92	17.32	17.26	17.08	17.00	17.24	17.49	17.08	16.91	17.58
400m			1:08.40				1:08.58				1:09.06
1000m											2:51.88
		4100m	4200m	4300m	4400m	4500m	4600m	4700m	4800m	4900m	5000m
Race Time		12:08.01	12:25.35	12:42.79	12:59.36	13:16.78	13:34.42	13:50.64	14:04.95	14:19.65	14:34.86
100m		17.85	17.34	17.44	16.57	17.42	17.64	16.22	14.31	14.70	15.21
400m					1:09.20				1:05.59		
1000m											2:44.70

3839		Ayana, Almaz (ETH) SB									Posn. 2
		100m	200m	300m	400m	500m	600m	700m	800m	900m	1000m
Race Time		16.71	36.49	59.39	1:21.75	1:40.89	2:03.07	2:22.02	2:41.04	3:00.17	3:18.82
100m		16.71	19.78	22.90	22.36	19.14	22.18	18.95	19.02	19.13	18.65
400m					1:21.75				1:19.29		
1000m											3:18.82
		1100m	1200m	1300m	1400m	1500m	1600m	1700m	1800m	1900m	2000m
Race Time		3:38.06	3:55.59	4:12.17	4:28.55	4:44.58	5:01.21	5:17.74	5:34.35	5:50.86	6:07.41
100m		19.24	17.53	16.58	16.38	16.03	16.63	16.53	16.61	16.51	16.55
400m			1:14.55				1:05.62				1:06.20
1000m											2:48.59
		2100m	2200m	2300m	2400m	2500m	2600m	2700m	2800m	2900m	3000m
Race Time		6:24.47	6:41.47	6:58.64	7:15.69	7:32.72	7:49.71	8:06.57	8:23.92	8:41.22	8:58.05
100m		17.06	17.00	17.17	17.05	17.03	16.99	16.86	17.35	17.30	16.83
400m					1:08.28				1:08.23		
1000m											2:50.64
		3100m	3200m	3300m	3400m	3500m	3600m	3700m	3800m	3900m	4000m
Race Time		9:14.98	9:32.30	9:49.60	10:06.63	10:23.64	10:40.88	10:58.39	11:15.48	11:32.38	11:49.95
100m		16.93	17.32	17.30	17.03	17.01	17.24	17.51	17.09	16.90	17.57
400m			1:08.38				1:08.58				1:09.07
1000m											2:51.90
		4100m	4200m	4300m	4400m	4500m	4600m	4700m	4800m	4900m	5000m
Race Time		12:07.79	12:25.11	12:42.60	12:59.19	13:16.54	13:34.21	13:50.50	14:06.65	14:23.54	14:40.35
100m		17.84	17.32	17.49	16.59	17.35	17.67	16.29	16.15	16.89	16.81
400m					1:09.24				1:07.46		
1000m											2:50.40

4127 Hassan, Sifan (NED)		Posn. 3									
		100m	200m	300m	400m	500m	600m	700m	800m	900m	1000m
Race Time		17.46	36.24	59.27	1:22.41	1:41.68	2:03.56	2:22.84	2:42.01	3:01.10	3:19.76
100m		17.46	18.78	23.03	23.14	19.27	21.88	19.28	19.17	19.09	18.66
400m					1:22.41				1:19.60		
1000m											3:19.76
		1100m	1200m	1300m	1400m	1500m	1600m	1700m	1800m	1900m	2000m
Race Time		3:39.00	3:57.04	4:14.11	4:30.34	4:46.80	5:03.18	5:20.02	5:36.99	5:54.28	6:10.97
100m		19.24	18.04	17.07	16.23	16.46	16.38	16.84	16.97	17.29	16.69
400m			1:15.03				1:06.14				1:07.79
1000m											2:51.21
		2100m	2200m	2300m	2400m	2500m	2600m	2700m	2800m	2900m	3000m
Race Time		6:28.35	6:45.37	7:02.79	7:20.49	7:39.00	7:56.87	8:14.93	8:32.12	8:49.91	9:07.69
100m		17.38	17.02	17.42	17.70	18.51	17.87	18.06	17.19	17.79	17.78
400m					1:09.52				1:11.63		
1000m											2:56.72
		3100m	3200m	3300m	3400m	3500m	3600m	3700m	3800m	3900m	4000m
Race Time		9:25.93	9:42.98	10:00.38	10:17.42	10:34.43	10:51.54	11:08.93	11:26.18	11:43.54	12:00.69
100m		18.24	17.05	17.40	17.04	17.01	17.11	17.39	17.25	17.36	17.15
400m			1:10.86				1:08.56				1:09.15
1000m											2:53.00
		4100m	4200m	4300m	4400m	4500m	4600m	4700m	4800m	4900m	5000m
Race Time		12:18.43	12:35.51	12:52.93	13:10.29	13:27.58	13:44.52	14:00.43	14:14.50	14:28.41	14:42.73
100m		17.74	17.08	17.42	17.36	17.29	16.94	15.91	14.07	13.91	14.32
400m					1:09.60				1:04.21		
1000m											2:42.04

3849 Teferi, Senbere (ETH)		Posn. 4									
		100m	200m	300m	400m	500m	600m	700m	800m	900m	1000m
Race Time		17.45	36.96	59.70	1:22.48	1:41.52	2:03.16	2:21.80	2:40.78	2:59.91	3:18.94
100m		17.45	19.51	22.74	22.78	19.04	21.64	18.64	18.98	19.13	19.03
400m					1:22.48				1:18.30		
1000m											3:18.94
		1100m	1200m	1300m	1400m	1500m	1600m	1700m	1800m	1900m	2000m
Race Time		3:38.31	3:56.08	4:12.69	4:29.09	4:45.44	5:02.18	5:19.26	5:36.30	5:54.07	6:11.10
100m		19.37	17.77	16.61	16.40	16.35	16.74	17.08	17.04	17.77	17.03
400m			1:15.30				1:06.10				1:08.92
1000m											2:52.16
		2100m	2200m	2300m	2400m	2500m	2600m	2700m	2800m	2900m	3000m
Race Time		6:28.52	6:45.07	7:02.59	7:20.27	7:38.84	7:57.09	8:14.84	8:32.34	8:49.68	9:07.51
100m		17.42	16.55	17.52	17.68	18.57	18.25	17.75	17.50	17.34	17.83
400m					1:09.17				1:12.07		
1000m											2:56.41
		3100m	3200m	3300m	3400m	3500m	3600m	3700m	3800m	3900m	4000m
Race Time		9:25.42	9:43.22	10:01.21	10:18.29	10:35.02	10:51.97	11:09.43	11:26.49	11:43.55	12:00.51
100m		17.91	17.80	17.99	17.08	16.73	16.95	17.46	17.06	17.06	16.96
400m			1:10.88				1:08.75				1:08.54
1000m											2:53.00
		4100m	4200m	4300m	4400m	4500m	4600m	4700m	4800m	4900m	5000m
Race Time		12:18.22	12:35.37	12:52.70	13:10.10	13:27.39	13:44.32	14:00.77	14:15.74	14:31.51	14:47.45
100m		17.71	17.15	17.33	17.40	17.29	16.93	16.45	14.97	15.77	15.94
400m					1:09.59				1:05.64		
1000m											2:46.94

4080		Kipkemboi, Margaret Chelimo (KEN)									Posn. 5
		100m	200m	300m	400m	500m	600m	700m	800m	900m	1000m
Race Time		16.96	36.76	59.81	1:22.96	1:41.85	2:03.52	2:22.67	2:41.66	3:00.79	3:19.34
100m		16.96	19.80	23.05	23.15	18.89	21.67	19.15	18.99	19.13	18.55
400m					1:22.96				1:18.70		
1000m											3:19.34
		1100m	1200m	1300m	1400m	1500m	1600m	1700m	1800m	1900m	2000m
Race Time		3:38.51	3:56.45	4:13.14	4:29.69	4:45.86	5:02.65	5:19.57	5:36.51	5:53.56	6:10.49
100m		19.17	17.94	16.69	16.55	16.17	16.79	16.92	16.94	17.05	16.93
400m			1:14.79				1:06.20				1:07.84
1000m											2:51.15
		2100m	2200m	2300m	2400m	2500m	2600m	2700m	2800m	2900m	3000m
Race Time		6:27.86	6:44.88	7:02.33	7:20.11	7:38.58	7:56.74	8:14.66	8:32.35	8:49.84	9:07.64
100m		17.37	17.02	17.45	17.78	18.47	18.16	17.92	17.69	17.49	17.80
400m					1:09.62				1:12.24		
1000m											2:57.15
		3100m	3200m	3300m	3400m	3500m	3600m	3700m	3800m	3900m	4000m
Race Time		9:25.61	9:43.16	10:00.62	10:17.65	10:34.64	10:51.76	11:09.18	11:26.38	11:43.71	12:00.65
100m		17.97	17.55	17.46	17.03	16.99	17.12	17.42	17.20	17.33	16.94
400m			1:10.81				1:08.60				1:08.89
1000m											2:53.01
		4100m	4200m	4300m	4400m	4500m	4600m	4700m	4800m	4900m	5000m
Race Time		12:18.38	12:35.53	12:52.84	13:10.28	13:27.51	13:44.52	14:00.99	14:16.61	14:32.67	14:48.74
100m		17.73	17.15	17.31	17.44	17.23	17.01	16.47	15.62	16.06	16.07
400m					1:09.63				1:06.33		
1000m											2:48.09

3900		Muir, Laura (GBR)									Posn. 6
		100m	200m	300m	400m	500m	600m	700m	800m	900m	1000m
Race Time		17.10	36.97	59.82	1:23.07	1:42.20	2:04.08	2:23.64	2:42.60	3:01.84	3:20.66
100m		17.10	19.87	22.85	23.25	19.13	21.88	19.56	18.96	19.24	18.82
400m					1:23.07				1:19.53		
1000m											3:20.66
		1100m	1200m	1300m	1400m	1500m	1600m	1700m	1800m	1900m	2000m
Race Time		3:39.60	3:57.84	4:15.39	4:32.00	4:48.54	5:05.61	5:23.15	5:40.50	5:58.10	6:15.26
100m		18.94	18.24	17.55	16.61	16.54	17.07	17.54	17.35	17.60	17.16
400m			1:15.24				1:07.77				1:09.65
1000m											2:54.60
		2100m	2200m	2300m	2400m	2500m	2600m	2700m	2800m	2900m	3000m
Race Time		6:32.80	6:49.59	7:06.72	7:23.62	7:40.97	7:57.93	8:15.71	8:33.24	8:50.87	9:08.46
100m		17.54	16.79	17.13	16.90	17.35	16.96	17.78	17.53	17.63	17.59
400m					1:08.36				1:09.62		
1000m											2:53.20
		3100m	3200m	3300m	3400m	3500m	3600m	3700m	3800m	3900m	4000m
Race Time		9:26.73	9:44.20	10:02.16	10:19.32	10:36.55	10:54.26	11:12.25	11:30.19	11:48.35	12:06.21
100m		18.27	17.47	17.96	17.16	17.23	17.71	17.99	17.94	18.16	17.86
400m			1:10.96				1:10.06				1:11.95
1000m											2:57.75
		4100m	4200m	4300m	4400m	4500m	4600m	4700m	4800m	4900m	5000m
Race Time		12:24.35	12:42.11	12:59.80	13:17.42	13:35.06	13:51.61	14:07.56	14:22.52	14:37.46	14:52.07
100m		18.14	17.76	17.69	17.62	17.64	16.55	15.95	14.96	14.94	14.61
400m					1:11.21				1:05.10		
1000m											2:45.86

4081		Kiprotich, Sheila Chepkirui (KEN) PB									Posn. 7
		100m	200m	300m	400m	500m	600m	700m	800m	900m	1000m
Race Time		16.85	36.77	59.59	1:22.49	1:41.60	2:03.20	2:22.43	2:41.44	3:00.54	3:19.21
100m		16.85	19.92	22.82	22.90	19.11	21.60	19.23	19.01	19.10	18.67
400m					1:22.49				1:18.95		
1000m											3:19.21
		1100m	1200m	1300m	1400m	1500m	1600m	1700m	1800m	1900m	2000m
Race Time		3:38.32	3:56.24	4:12.89	4:29.42	4:46.10	5:02.93	5:19.76	5:36.73	5:53.77	6:10.73
100m		19.11	17.92	16.65	16.53	16.68	16.83	16.83	16.97	17.04	16.96
400m			1:14.80				1:06.69				1:07.80
1000m											2:51.52
		2100m	2200m	2300m	2400m	2500m	2600m	2700m	2800m	2900m	3000m
Race Time		6:28.10	6:45.14	7:02.29	7:19.89	7:38.35	7:56.52	8:14.69	8:32.48	8:50.07	9:07.87
100m		17.37	17.04	17.15	17.60	18.46	18.17	18.17	17.79	17.59	17.80
400m					1:09.16				1:12.59		
1000m											2:57.14
		3100m	3200m	3300m	3400m	3500m	3600m	3700m	3800m	3900m	4000m
Race Time		9:25.98	9:43.47	10:00.92	10:18.04	10:35.49	10:52.79	11:10.08	11:27.88	11:45.88	12:03.83
100m		18.11	17.49	17.45	17.12	17.45	17.30	17.29	17.80	18.00	17.95
400m			1:10.99				1:09.32				1:11.04
1000m											2:55.96
		4100m	4200m	4300m	4400m	4500m	4600m	4700m	4800m	4900m	5000m
Race Time		12:22.00	12:39.82	12:57.72	13:15.49	13:33.22	13:50.65	14:07.84	14:23.44	14:38.66	14:54.05
100m		18.17	17.82	17.90	17.77	17.73	17.43	17.19	15.60	15.22	15.39
400m					1:11.66				1:07.95		
1000m											2:50.22

4130		Krumins, Susan (NED)									Posn. 8
		100m	200m	300m	400m	500m	600m	700m	800m	900m	1000m
Race Time		17.90	37.22	59.96	1:22.73	1:41.93	2:03.68	2:23.01	2:42.22	3:01.39	3:20.07
100m		17.90	19.32	22.74	22.77	19.20	21.75	19.33	19.21	19.17	18.68
400m					1:22.73				1:19.49		
1000m											3:20.07
		1100m	1200m	1300m	1400m	1500m	1600m	1700m	1800m	1900m	2000m
Race Time		3:39.26	3:57.42	4:14.60	4:31.41	4:48.02	5:05.06	5:22.56	5:39.89	5:57.28	6:14.46
100m		19.19	18.16	17.18	16.81	16.61	17.04	17.50	17.33	17.39	17.18
400m			1:15.20				1:07.64				1:09.40
1000m											2:54.39
		2100m	2200m	2300m	2400m	2500m	2600m	2700m	2800m	2900m	3000m
Race Time		6:31.60	6:48.31	7:05.24	7:22.46	7:39.70	7:57.31	8:15.19	8:32.74	8:50.39	9:07.96
100m		17.14	16.71	16.93	17.22	17.24	17.61	17.88	17.55	17.65	17.57
400m					1:08.00				1:10.28		
1000m											2:53.50
		3100m	3200m	3300m	3400m	3500m	3600m	3700m	3800m	3900m	4000m
Race Time		9:26.17	9:43.74	10:01.44	10:18.01	10:34.96	10:52.41	11:10.37	11:28.23	11:46.14	12:04.09
100m		18.21	17.57	17.70	16.57	16.95	17.45	17.96	17.86	17.91	17.95
400m			1:11.00				1:11.68				1:11.68
1000m											2:56.13
		4100m	4200m	4300m	4400m	4500m	4600m	4700m	4800m	4900m	5000m
Race Time		12:22.26	12:40.05	12:57.97	13:15.74	13:33.54	13:50.91	14:08.21	14:24.91	14:41.84	14:58.33
100m		18.17	17.79	17.92	17.77	17.80	17.37	17.30	16.70	16.93	16.49
400m					1:11.65				1:09.17		
1000m											2:54.24

4366		Rowbury, Shannon (USA)									Posn. 9
		100m	200m	300m	400m	500m	600m	700m	800m	900m	1000m
Race Time		17.21	36.98	59.67	1:22.75	1:41.72	2:03.35	2:22.64	2:41.76	3:00.85	3:19.53
100m		17.21	19.77	22.69	23.08	18.97	21.63	19.29	19.12	19.09	18.68
400m					1:22.75				1:19.01		
1000m											3:19.53
		1100m	1200m	1300m	1400m	1500m	1600m	1700m	1800m	1900m	2000m
Race Time		3:38.77	3:56.82	4:13.86	4:30.82	4:47.91	5:05.10	5:22.64	5:39.96	5:57.60	6:14.63
100m		19.47	17.82	17.04	16.96	17.09	17.19	17.54	17.32	17.64	17.03
400m			1:15.06				1:08.28				1:09.53
1000m											2:55.10
		2100m	2200m	2300m	2400m	2500m	2600m	2700m	2800m	2900m	3000m
Race Time		6:31.83	6:48.55	7:05.46	7:22.67	7:40.01	7:57.50	8:15.42	8:32.97	8:50.58	9:08.20
100m		17.20	16.72	16.91	17.21	17.34	17.49	17.92	17.55	17.61	17.62
400m					1:08.04				1:10.30		
1000m											2:53.57
		3100m	3200m	3300m	3400m	3500m	3600m	3700m	3800m	3900m	4000m
Race Time		9:26.41	9:43.94	10:01.87	10:19.07	10:36.25	10:54.04	11:12.01	11:29.93	11:48.10	12:06.06
100m		18.21	17.53	17.93	17.20	17.18	17.79	17.97	17.92	18.17	17.96
400m			1:10.97				1:10.10				1:12.02
1000m											2:57.86
		4100m	4200m	4300m	4400m	4500m	4600m	4700m	4800m	4900m	5000m
Race Time		12:24.16	12:41.89	12:59.52	13:17.15	13:34.79	13:52.07	14:09.08	14:26.01	14:42.94	14:59.92
100m		18.10	17.73	17.63	17.63	17.64	17.28	17.01	16.93	16.93	16.98
400m					1:11.09				1:08.86		
1000m											2:53.86

3898		McColgan, Eilish (GBR)									Posn. 10
		100m	200m	300m	400m	500m	600m	700m	800m	900m	1000m
Race Time		17.31	37.22	1:00.13	1:23.38	1:42.37	2:03.77	2:23.38	2:42.28	3:01.48	3:20.11
100m		17.31	19.91	22.91	23.25	18.99	21.40	19.61	18.90	19.20	18.63
400m					1:23.38				1:18.90		
1000m											3:20.11
		1100m	1200m	1300m	1400m	1500m	1600m	1700m	1800m	1900m	2000m
Race Time		3:39.12	3:57.56	4:15.20	4:32.24	4:48.84	5:05.76	5:23.34	5:40.42	5:57.97	6:15.02
100m		19.01	18.44	17.64	17.04	16.60	16.92	17.58	17.08	17.55	17.05
400m			1:15.28				1:08.20				1:09.26
1000m											2:54.91
		2100m	2200m	2300m	2400m	2500m	2600m	2700m	2800m	2900m	3000m
Race Time		6:32.45	6:49.35	7:06.35	7:23.91	7:41.13	7:58.32	8:16.08	8:33.86	8:51.68	9:09.15
100m		17.43	16.90	17.00	17.56	17.22	17.19	17.76	17.78	17.82	17.47
400m					1:08.89				1:09.95		
1000m											2:54.13
		3100m	3200m	3300m	3400m	3500m	3600m	3700m	3800m	3900m	4000m
Race Time		9:27.12	9:44.91	10:02.90	10:20.71	10:38.15	10:55.92	11:14.64	11:32.73	11:50.82	12:08.70
100m		17.97	17.79	17.99	17.81	17.44	17.77	18.72	18.09	18.09	17.88
400m			1:11.05				1:11.01				1:12.78
1000m											2:59.55
		4100m	4200m	4300m	4400m	4500m	4600m	4700m	4800m	4900m	5000m
Race Time		12:26.64	12:44.38	13:02.00	13:19.70	13:37.86	13:55.29	14:11.95	14:28.23	14:44.52	15:00.43
100m		17.94	17.74	17.62	17.70	18.16	17.43	16.66	16.28	16.29	15.91
400m					1:11.00				1:08.53		
1000m											2:51.73

3845		Gidey, Letesenbet (ETH)									Posn. 11
		100m	200m	300m	400m	500m	600m	700m	800m	900m	1000m
Race Time		17.86	36.76	59.51	1:22.30	1:41.40	2:03.31	2:22.46	2:41.48	3:00.60	3:19.29
100m		17.86	18.90	22.75	22.79	19.10	21.91	19.15	19.02	19.12	18.69
400m					1:22.30				1:19.18		
1000m											3:19.29
		1100m	1200m	1300m	1400m	1500m	1600m	1700m	1800m	1900m	2000m
Race Time		3:38.55	3:56.55	4:13.39	4:29.75	4:46.29	5:02.62	5:19.61	5:36.33	5:53.32	6:10.23
100m		19.26	18.00	16.84	16.36	16.54	16.33	16.99	16.72	16.99	16.91
400m			1:15.07				1:06.07				1:07.61
1000m											2:50.94
		2100m	2200m	2300m	2400m	2500m	2600m	2700m	2800m	2900m	3000m
Race Time		6:27.61	6:44.67	7:02.08	7:20.36	7:39.13	7:56.75	8:14.48	8:32.26	8:50.16	9:07.71
100m		17.38	17.06	17.41	18.28	18.77	17.62	17.73	17.78	17.90	17.55
400m					1:10.13				1:11.90		
1000m											2:57.48
		3100m	3200m	3300m	3400m	3500m	3600m	3700m	3800m	3900m	4000m
Race Time		9:25.75	9:43.49	10:01.48	10:18.65	10:36.04	10:53.83	11:11.83	11:29.86	11:48.11	12:06.44
100m		18.04	17.74	17.99	17.17	17.39	17.79	18.00	18.03	18.25	18.33
400m			1:11.23				1:10.34				1:12.61
1000m											2:58.73
		4100m	4200m	4300m	4400m	4500m	4600m	4700m	4800m	4900m	5000m
Race Time		12:24.76	12:42.88	13:01.06	13:19.30	13:37.79	13:55.69	14:13.15	14:30.22	14:47.57	15:04.99
100m		18.32	18.12	18.18	18.24	18.49	17.90	17.46	17.07	17.35	17.42
400m					1:12.86				1:10.92		
1000m											2:58.55

4343		Huddle, Molly (USA)									Posn. 12
		100m	200m	300m	400m	500m	600m	700m	800m	900m	1000m
Race Time		17.59	37.52	1:00.18	1:22.96	1:42.17	2:03.77	2:23.05	2:41.94	3:01.13	3:19.76
100m		17.59	19.93	22.66	22.78	19.21	21.60	19.28	18.89	19.19	18.63
400m					1:22.96				1:18.98		
1000m											3:19.76
		1100m	1200m	1300m	1400m	1500m	1600m	1700m	1800m	1900m	2000m
Race Time		3:38.93	3:57.02	4:14.35	4:31.14	4:48.16	5:05.38	5:22.87	5:40.30	5:57.87	6:15.02
100m		19.24	18.02	17.33	16.79	17.02	17.22	17.49	17.43	17.57	17.15
400m			1:15.08				1:08.36				1:09.64
1000m											2:55.26
		2100m	2200m	2300m	2400m	2500m	2600m	2700m	2800m	2900m	3000m
Race Time		6:32.56	6:49.04	7:06.13	7:23.56	7:40.73	7:58.08	8:15.98	8:33.70	8:51.42	9:08.98
100m		17.54	16.48	17.09	17.43	17.17	17.35	17.90	17.72	17.72	17.56
400m					1:08.54				1:10.14		
1000m											2:53.96
		3100m	3200m	3300m	3400m	3500m	3600m	3700m	3800m	3900m	4000m
Race Time		9:26.99	9:44.78	10:02.66	10:20.39	10:37.90	10:55.96	11:14.50	11:32.69	11:50.84	12:09.21
100m		18.01	17.79	17.88	17.73	17.51	18.06	18.54	18.19	18.15	18.37
400m			1:11.08				1:11.18				1:13.25
1000m											3:00.23
		4100m	4200m	4300m	4400m	4500m	4600m	4700m	4800m	4900m	5000m
Race Time		12:27.74	12:46.31	13:04.69	13:23.27	13:41.82	13:59.76	14:16.65	14:33.65	14:49.84	15:05.28
100m		18.53	18.57	18.38	18.58	18.55	17.94	16.89	17.00	16.19	15.44
400m					1:14.06				1:10.38		
1000m											2:56.07

4342		Houlihan, Shelby (USA)									Posn. 13
		100m	200m	300m	400m	500m	600m	700m	800m	900m	1000m
Race Time		17.94	37.51	1:00.30	1:23.45	1:42.50	2:04.14	2:23.68	2:42.70	3:01.89	3:20.88
100m		17.94	19.57	22.79	23.15	19.05	21.64	19.54	19.02	19.19	18.99
400m					1:23.45				1:19.25		
1000m											3:20.88
		1100m	1200m	1300m	1400m	1500m	1600m	1700m	1800m	1900m	2000m
Race Time		3:39.64	3:58.09	4:15.69	4:32.61	4:49.31	5:06.29	5:23.51	5:40.83	5:58.32	6:15.64
100m		18.76	18.45	17.60	16.92	16.70	16.98	17.22	17.32	17.49	17.32
400m			1:15.39				1:08.20				1:09.35
1000m											2:54.76
		2100m	2200m	2300m	2400m	2500m	2600m	2700m	2800m	2900m	3000m
Race Time		6:33.23	6:50.27	7:07.53	7:24.74	7:42.13	7:59.66	8:17.30	8:35.14	8:52.95	9:10.73
100m		17.59	17.04	17.26	17.21	17.39	17.53	17.64	17.84	17.81	17.78
400m					1:09.10				1:10.40		
1000m											2:55.09
		3100m	3200m	3300m	3400m	3500m	3600m	3700m	3800m	3900m	4000m
Race Time		9:28.54	9:46.65	10:04.63	10:22.63	10:40.43	10:58.26	11:16.24	11:34.20	11:52.19	12:10.70
100m		17.81	18.11	17.98	18.00	17.80	17.83	17.98	17.96	17.99	18.51
400m			1:11.51				1:11.61				1:12.44
1000m											2:59.97
		4100m	4200m	4300m	4400m	4500m	4600m	4700m	4800m	4900m	5000m
Race Time		12:28.93	12:47.24	13:05.35	13:23.52	13:41.91	13:59.50	14:16.43	14:33.40	14:49.73	15:06.40
100m		18.23	18.31	18.11	18.17	18.39	17.59	16.93	16.97	16.33	16.67
400m					1:12.82				1:09.88		
1000m											2:55.70

3703		Gezahegne, Kalkidan (BRN)									Posn. 14
		100m	200m	300m	400m	500m	600m	700m	800m	900m	1000m
Race Time		16.40	36.54	59.59	1:22.75	1:41.94	2:03.82	2:23.20	2:42.34	3:01.40	3:18.62
100m		16.40	20.14	23.05	23.16	19.19	21.88	19.38	19.14	19.06	17.22
400m					1:22.75				1:19.59		
1000m											3:18.62
		1100m	1200m	1300m	1400m	1500m	1600m	1700m	1800m	1900m	2000m
Race Time		3:37.86	3:56.45	4:13.67	4:30.63	4:47.72	5:04.91	5:22.43	5:39.87	5:57.46	6:14.84
100m		19.24	18.59	17.22	16.96	17.09	17.19	17.52	17.44	17.59	17.38
400m			1:14.11				1:08.46				1:09.93
1000m											2:56.22
		2100m	2200m	2300m	2400m	2500m	2600m	2700m	2800m	2900m	3000m
Race Time		6:32.61	6:49.88	7:07.37	7:25.17	7:43.23	8:01.23	8:19.24	8:37.44	8:55.99	9:14.24
100m		17.77	17.27	17.49	17.80	18.06	18.00	18.01	18.20	18.55	18.25
400m					1:10.33				1:12.27		
1000m											2:59.40
		3100m	3200m	3300m	3400m	3500m	3600m	3700m	3800m	3900m	4000m
Race Time		9:33.10	9:51.80	10:10.79	10:29.61	10:48.53	11:07.21	11:26.08	11:44.92	12:03.83	12:22.82
100m		18.86	18.70	18.99	18.82	18.92	18.68	18.87	18.84	18.91	18.99
400m			1:14.36				1:15.41				1:15.61
1000m											3:08.58
		4100m	4200m	4300m	4400m	4500m	4600m	4700m	4800m	4900m	5000m
Race Time		12:41.99	13:00.72	13:19.47	13:38.47	13:57.54	14:15.77	14:34.08	14:52.32	15:10.52	15:28.21
100m		19.17	18.73	18.75	19.00	19.07	18.23	18.31	18.24	18.20	17.69
400m					1:15.65				1:13.85		
1000m											3:05.39

4153		Grøvdal, Karoline Bjerkeli (NOR)									DNF
		100m	200m	300m	400m	500m	600m	700m	800m	900m	1000m
Race Time		17.60	37.29	59.95	1:23.17	1:42.07	2:03.94	2:23.28	2:42.39	3:01.56	3:20.31
100m		17.60	19.69	22.66	23.22	18.90	21.87	19.34	19.11	19.17	18.75
400m					1:23.17				1:19.22		
1000m											3:20.31
		1100m	1200m	1300m	1400m	1500m	1600m	1700m	1800m	1900m	2000m
Race Time		3:39.44	3:57.63	4:14.74	4:31.65	4:48.18	5:05.28	5:22.80	5:40.15	5:57.81	6:14.85
100m		19.13	18.19	17.11	16.91	16.53	17.10	17.52	17.35	17.66	17.04
400m			1:15.24				1:07.65				1:09.57
1000m											2:54.54
		2100m	2200m	2300m	2400m	2500m	2600m	2700m	2800m	2900m	3000m
Race Time		6:32.05	6:49.39	7:06.62	7:24.11	7:41.66	7:59.40	8:17.33	8:35.35	8:53.23	9:11.02
100m		17.20	17.34	17.23	17.49	17.55	17.74	17.93	18.02	17.88	17.79
400m					1:09.26				1:11.24		
1000m											2:56.17
		3100m	3200m	3300m	3400m	3500m	3600m	3700m	3800m	3900m	4000m
Race Time		9:28.93	9:46.97	10:04.95	10:22.87	10:40.76	10:58.70	11:17.16	11:35.74		
100m		17.91	18.04	17.98	17.92	17.89	17.94	18.46	18.58		
400m			1:11.62				1:11.73				
1000m											
		4100m	4200m	4300m	4400m	4500m	4600m	4700m	4800m	4900m	5000m
Race Time											
100m											
400m											
1000m											

COACH'S COMMENTARY

The women's 5000 m final was characterised by both extreme variations of pace and a remarkable consistency of pace within the same race. It is the unpredictable nature of global finals that is a challenge to athletes and coaches. But what is predictable is that finishing speed normally determines the medals, if not the exact finishing order. To win, athletes need to finish fast from the correct position in the race. Similarly, slightly lower ranking athletes need to ensure they put themselves in a position where they have not started too fast, but have kept up with their rivals for the silver or bronze medals.

In this race the analysis indicates that the first 1600 m included laps run in times as slow as 82 s and as quickly as 65 s. Coaches will be aware that athletes typically learn in training to be physiologically economical at particular paces. The challenge is to prepare for both extremes, and all those between.

After 1600 m the race pace was remarkably consistent. Six laps were run within one second at around 69 s per lap, with Obiri and Ayana more even-paced than their rivals during the mid-section of the race. Therefore, almost half the race was even-paced running which, combined with the extreme variation of pace over the first 1600 m, indicates the need for athletes to be adaptable in their psychological preparation for the tactics in global finals.

Finishing speed is, as with the men's race, a key requirement. Bronze medallist Hassan ran the fastest last 1000 m, in 2.42:04. As a measure of how variable pace was in this race, this 1000 m was only 0.003 s slower than her time for the opening 800 m. The fastest 400 m in the race was also from Hassan at 58.21 s (the last 400 m). Despite these fastest sections, she failed to win, having been simply too far behind the other medallists with one lap remaining. Obiri allowed Ayana to lead through most of the race, only overtaking her on the last lap. Ayana's finishing 200 m was just under four seconds slower than Obiri's, and might have been a result of fatigue from her exertions eight days earlier in the 10,000 m final. The women's races often show a large spread between the finishing times of the finalists and this race was similar. In endurance races, the distribution of effort and optimum positioning are essential in maximising results.

CONTRIBUTORS

Dr Brian Hanley is a Senior Lecturer in Sport and Exercise Biomechanics. Brian's particular research interests are in the area of elite athletics, especially race walking and distance running, as well as the pacing profiles adopted by endurance athletes. He is also interested in musculotendon profiling of athletes to appreciate internal limiting and contributing factors affecting performance, in addition to longitudinal studies measuring the technical development of junior athletes as they progress to become senior athletes.



Dr Athanassios Bissas is the Head of the Biomechanics Department in the Carnegie School of Sport at Leeds Beckett University. His research includes a range of topics but his main expertise is in the areas of biomechanics of sprint running, neuromuscular adaptations to resistance training, and measurement and evaluation of strength and power. Dr Bissas has supervised a vast range of research projects whilst having a number of successful completions at PhD level. Together with his team he has produced over 100 research outputs and he is actively involved in research projects with institutions across Europe.



Malcolm Brown has coached at five Olympic Games in two different sports. He was National Event coach for Endurance with British Athletics from 1991 to 2000. He then established the Leeds Triathlon centre in 2003 and coached the Brownlee brothers, with colleagues from British Triathlon, to four Olympic medals. In the Rio Olympics, his athletes from Leeds finished 1st 2nd 3rd and 4th across the men's and women's races.

