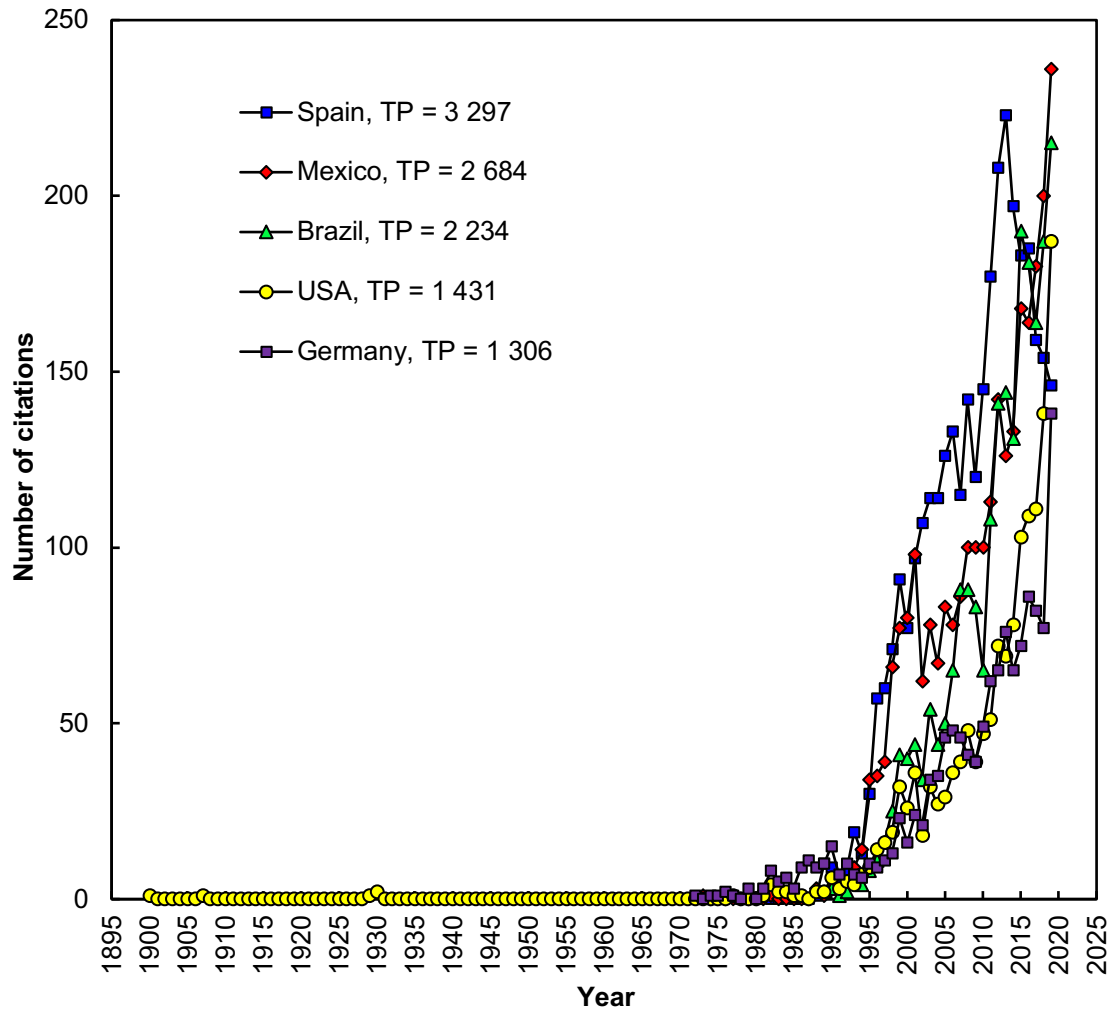


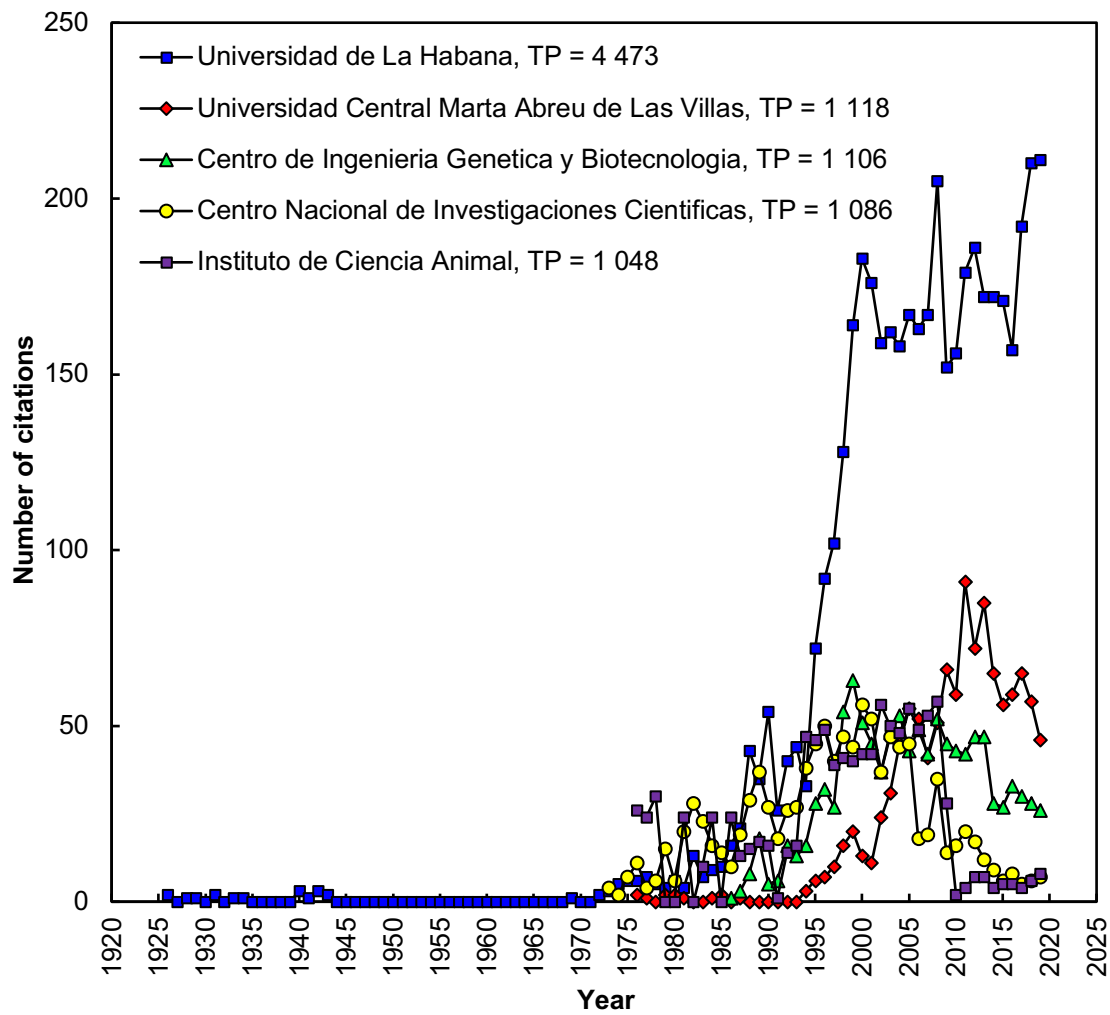
APPENDIX 1

Mean number of citations per year for articles published in collaboration with the top five countries with which Cuban researchers participate in international projects



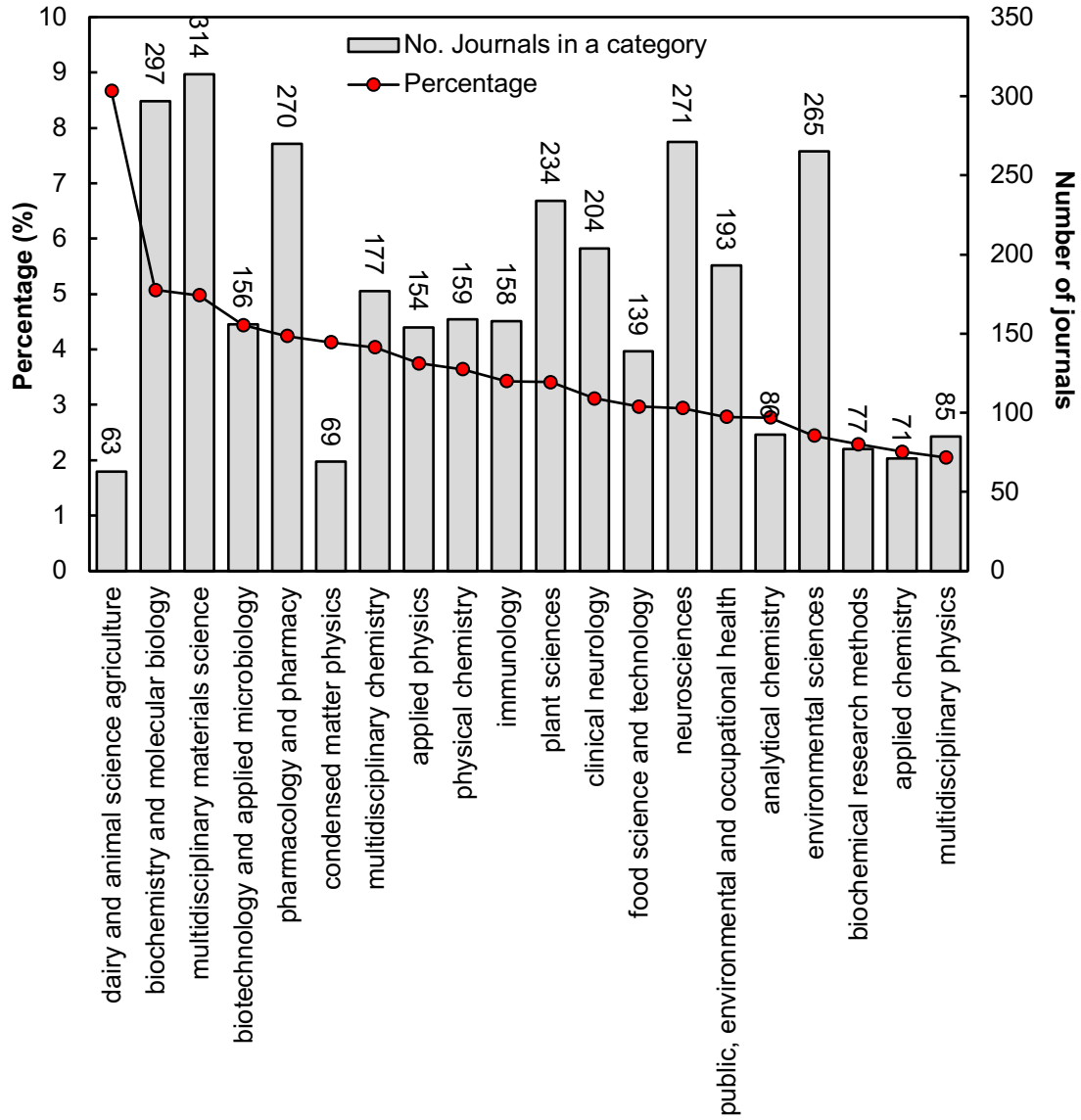
APPENDIX 2

Historical citation trend for the top five productive institutes in Cuba (1 000 articles or more)



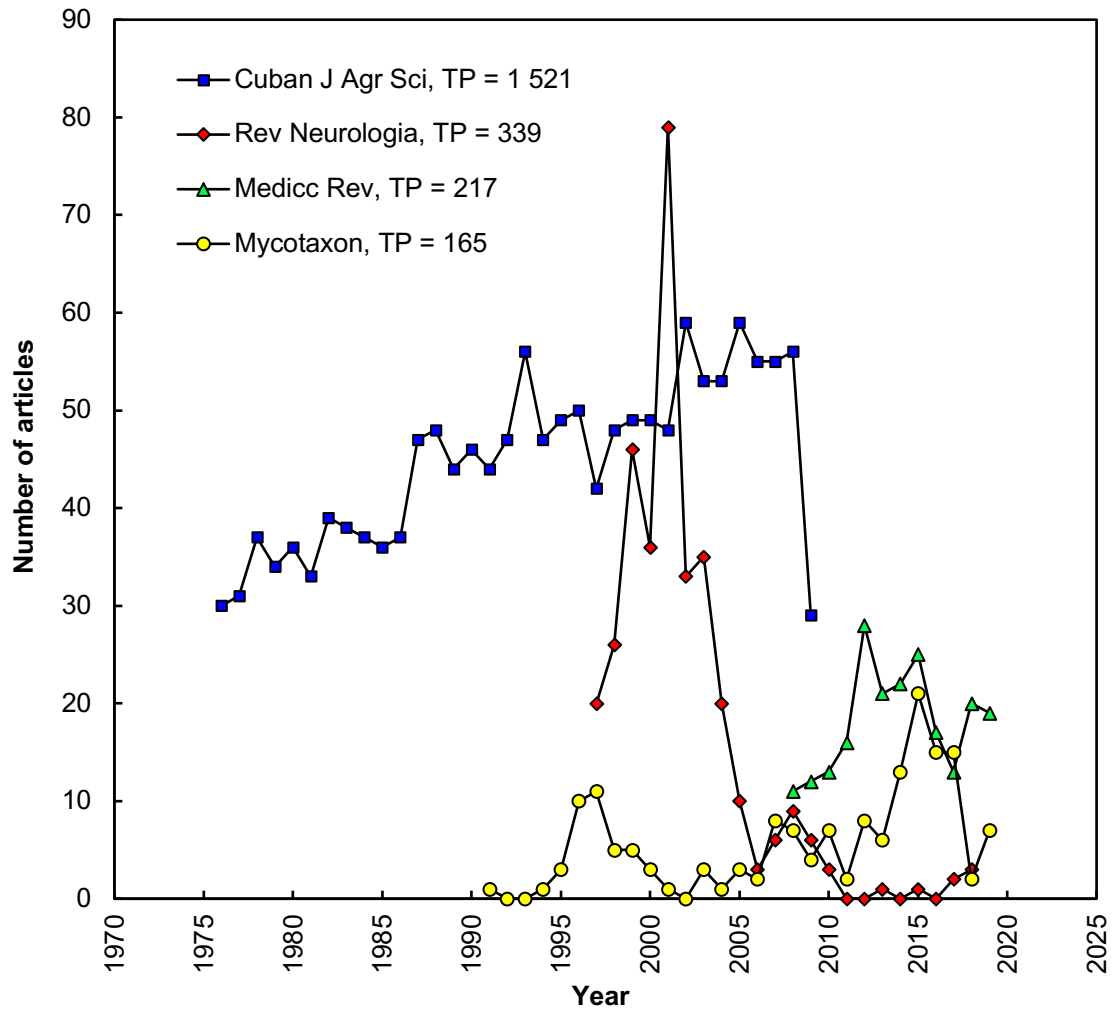
APPENDIX 3

Journal diversity (i.e. number of journals publishing Cuban articles from each particular subject) for the top 20 productive categories in the Science Citation Index Expanded



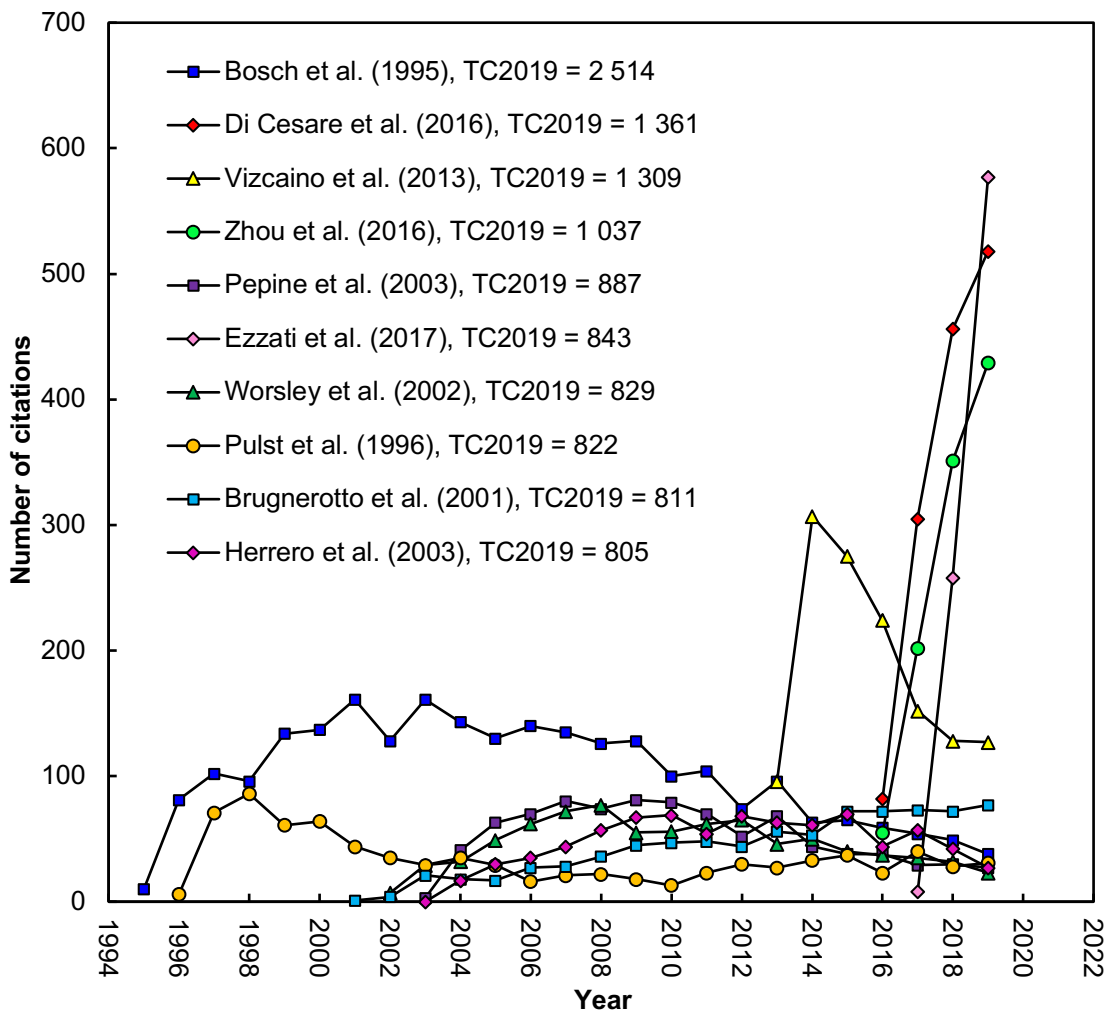
APPENDIX 4

Historical output trends for the top four productive journals publishing Cuban articles, as reflected by articles included in the SCI-EXPANDED



APPENDIX 5

Historical Web of Science Core Collection citation trend for the most cited Cuban articles (i.e. articles with over 800 citations until 2019: $TC_{2019} > 800$)



APPENDIX 6

Characteristics of document type (percentage from a total of 23 576 Cuba publications)

Document type	<i>TP</i>	%	<i>AU</i>	<i>APP</i>	<i>TC</i> ₂₀₁₉	<i>CPP</i> ₂₀₁₉
Article	19 352	82	407 360	21	283 393	15
Meeting abstract	1 632	6.9	11 664	7.1	308	0.19
Letter	1 185	5.0	2 747	2.3	2 474	2.1
Proceeding's paper	1 082	4.6	42 524	39	12 368	11
Review	639	2.7	6 642	10	20 736	32
Note	344	1.5	1 227	3.6	2 245	6.5
Editorial material	319	1.4	1 372	4.3	1 057	3.3
Correction	49	0.21	3 449	70	61	1.2
News item	19	0.081	163	8.6	101	5.3
Reprint	18	0.076	97	5.4	53	2.9
Biographical-item	8	0.034	30	3.8	0	0
Book chapter	7	0.030	133	19	339	48
Book review	5	0.021	5	1.0	0	0
Addition correction	4	0.017	14	3.5	3	0.75
Discussion	2	0.0085	3	1.5	4	2.0
Data paper	1	0.0042	15	15	5	5.0

TP: number of publications; *AU*: number of authors; *APP*: number of authors per publication; *TC*₂₀₁₉: the total number of citations from Web of Science Core Collection since publication year to the end of 2019; *CPP*₂₀₁₉: number of citations (*TC*₂₀₁₉) per publication (*TP*).

APPENDIX 7
 Characteristics of articles according to their language

Language	<i>TP</i>	%	<i>AU</i>	<i>APP</i>	<i>TC</i> ₂₀₁₉	<i>CPP</i> ₂₀₁₉
English	17 387	90	398 834	23	279 180	16
Spanish	1 629	8.4	7 237	4.4	3 379	2.1
Russian	126	0.65	483	3.8	252	2.0
Portuguese	100	0.52	447	4.5	297	3.0
German	64	0.33	195	3.0	124	1.9
French	29	0.15	107	3.7	121	4.2
Italian	5	0.026	22	4.4	5	1.0
Czech	4	0.021	9	2.3	1	0.25
Hungarian	3	0.016	5	1.7	3	1.0
Chinese	1	0.0052	4	4.0	25	25
Rumanian	1	0.0052	5	5.0	0	0
Ukrainian	1	0.0052	5	5.0	0	0
English, Spanish	1	0.0052	6	6.0	3	3.0
French, English	1	0.0052	1	1.0	3	3.0

TP: number of publications; *AU*: number of authors; *APP*: number of authors per publication; *TC*₂₀₁₉: the total number of citations from Web of Science Core Collection since publication year to the end of 2019; *CPP*₂₀₁₉: number of citations (*TC*₂₀₁₉) per publication (*TP*).

APPENDIX 8

Yearly distribution of articles, authors, pages and references for Cuban articles covered by the
SCI-EXPANDED

Year	<i>TP</i>	<i>AU</i>	<i>APP</i>	<i>NR</i>	<i>NR/TP</i>	<i>PG</i>	<i>PG/TP</i>
1900	22	22	1.0	1	0.045	51	2.3
1901	6	6	1.0	0	0	9	1.5
1902	3	3	1.0	0	0	18	6.0
1903	1	1	1.0	0	0	4	4.0
1904	0	0	N/A	0	N/A	0	N/A
1905	3	3	1.0	28	9.3	45	15
1906	5	5	1.0	29	5.8	33	6.6
1907	1	2	2.0	0	0	6	6.0
1908	0	0	N/A	0	N/A	0	N/A
1909	0	0	N/A	0	N/A	0	N/A
1910	0	0	N/A	0	N/A	0	N/A
1911	0	0	N/A	0	N/A	0	N/A
1912	1	1	1.0	0	0	5	5.0
1913	0	0	N/A	0	N/A	0	N/A
1914	0	0	N/A	0	N/A	0	N/A
1915	0	0	N/A	0	N/A	0	N/A
1916	2	2	1.0	14	7.0	57	29
1917	0	0	N/A	0	N/A	0	N/A
1918	0	0	N/A	0	N/A	0	N/A
1919	0	0	N/A	0	N/A	0	N/A
1920	2	3	1.5	2	1.0	6	3.0
1921	5	5	1.0	2	0	10	2.0
1922	1	2	2.0	8	8.0	8	8.0
1923	3	3	1.0	18	6.0	10	3.3
1924	0	0	N/A	0	N/A	0	N/A
1925	0	0	N/A	0	N/A	0	N/A
1926	4	4	1.0	20	5.0	26	6.5
1927	3	4	1.3	3	1.0	36	12
1928	5	5	1.0	16	3.2	19	3.8
1929	2	4	2.0	34	17	25	13
1930	4	4	1.0	34	8.5	30	7.5
1931	3	4	1.3	64	21	19	6.3
1932	0	0	N/A	0	N/A	0	N/A
1933	3	3	1.0	0	0.0	10	3.3
1934	1	1	1.0	23	23	13	13
1935	1	1	1.0	5	5.0	13	13
1936	0	0	N/A	0	N/A	0	N/A
1937	0	0	N/A	0	N/A	0	N/A

1938	0	0	N/A	0	N/A	0	N/A
1939	0	0	N/A	0	N/A	0	N/A
1940	3	3	1.0	8	2.7	18	6.0
1941	1	1	1.0	15	15	9	9.0
1942	5	8	1.6	64	13	65	13
1943	5	9	1.8	51	10	34	6.8
1944	0	0	N/A	0	N/A	0	N/A
1945	0	0	N/A	0	N/A	0	N/A
1946	0	0	N/A	0	N/A	0	N/A
1947	0	0	N/A	0	N/A	0	N/A
1948	0	0	N/A	0	N/A	0	N/A
1949	0	0	N/A	0	N/A	0	N/A
1950	0	0	N/A	0	N/A	0	N/A
1951	0	0	N/A	0	N/A	0	N/A
1952	0	0	N/A	0	N/A	0	N/A
1953	0	0	N/A	0	N/A	0	N/A
1954	0	0	N/A	0	N/A	0	N/A
1955	0	0	N/A	0	N/A	0	N/A
1956	0	0	N/A	0	N/A	0	N/A
1957	0	0	N/A	0	N/A	0	N/A
1958	0	0	N/A	0	N/A	0	N/A
1959	0	0	N/A	0	N/A	0	N/A
1960	0	0	N/A	0	N/A	0	N/A
1961	0	0	N/A	0	N/A	0	N/A
1962	0	0	N/A	0	N/A	0	N/A
1963	0	0	N/A	0	N/A	0	N/A
1964	0	0	N/A	0	N/A	0	N/A
1965	0	0	N/A	0	N/A	0	N/A
1966	0	0	N/A	0	N/A	0	N/A
1967	0	0	N/A	0	N/A	0	N/A
1968	0	0	N/A	0	N/A	0	N/A
1969	1	1	1.0	24	24	11	11
1970	0	0	N/A	0	N/A	0	N/A
1971	0	0	N/A	0	N/A	0	N/A
1972	3	7	2.3	82	27	30	10
1973	22	72	3.3	297	14	159	7.2
1974	23	84	3.7	345	15	138	6.0
1975	23	70	3.0	349	15	202	8.8
1976	66	169	2.6	596	9	518	7.8
1977	68	201	3.0	573	8	524	7.7
1978	73	214	2.9	464	6	527	7.2
1979	106	318	3.0	965	9	710	6.7
1980	80	235	2.9	611	8	495	6.2
1981	105	311	3.0	867	8	778	7.4

1982	153	524	3.4	1 228	8	1 136	7.4
1983	135	407	3.0	1 151	9	908	6.7
1984	123	418	3.4	1 704	14	811	6.6
1985	108	329	3.0	1 245	12	716	6.6
1986	129	425	3.3	1 099	9	915	7.1
1987	163	556	3.4	1 233	8	1 050	6.4
1988	195	709	3.6	1 692	9	1 329	6.8
1989	211	825	3.9	2 054	10	1 432	6.8
1990	194	780	4.0	2420	12	1 292	6.7
1991	171	676	4.0	1 846	11	1 123	6.6
1992	214	916	4.3	2 651	12	1 405	6.6
1993	212	934	4.4	2 862	14	1 376	6.5
1994	217	991	4.6	3 450	16	1 555	7.2
1995	296	1 495	5.1	4 861	16	2 034	6.9
1996	396	1 724	4.4	7 586	19	2 660	6.7
1997	390	1 818	4.7	8 454	22	2 778	7.1
1998	485	2 322	4.8	10 605	22	3 585	7.4
1999	583	2 843	4.9	12 944	22	4 062	7.0
2000	596	2 805	4.7	13 290	22	3 980	6.7
2001	671	3 493	5.2	16 150	24	4 684	7.0
2002	574	2 792	4.9	12 994	23	4 038	7.0
2003	663	3 581	5.4	17 096	26	5 198	7.8
2004	602	3 752	6.2	15 574	26	4 481	7.4
2005	637	3 518	5.5	17 282	27	5 208	8.2
2006	699	3 950	5.7	19 811	28	5 750	8.2
2007	704	4 110	5.8	20 576	29	5 660	8.0
2008	774	4 686	6.1	23 862	31	6 685	8.6
2009	740	4 544	6.1	23 378	32	6 289	8.5
2010	694	13 798	20	26 051	38	6 898	9.9
2011	807	12 691	16	28 192	35	7 716	9.6
2012	807	28 725	36	29 311	36	7 779	9.6
2013	822	31 634	38	29 938	36	7 640	9.3
2014	747	26 704	36	30 539	41	8 099	11
2015	743	30 367	41	30 173	41	8 106	11
2016	726	45 542	63	29 879	41	8 127	11
2017	737	35 073	48	36 025	49	9 610	13
2018	775	38 355	49	35 337	46	9 431	12
2019	794	86 757	109	34 735	44	9 241	12
Total	19 352	407 360		564 890		169 458	
Average			21		29		8.8

TP: number of articles; *TP**: number of articles with author information; *AU*: number of authors; *NR*: number of cited references; *PG*: page counts.

APPENDIX 9

Countries that appear more frequently in the addresses of authors in international collaborative articles with the participation of Cuban researchers (articles with over 500 total citations each, $TP > 500$)

Country	TP	$TP R$ (%)	$FP R$ (%)	$RP R$ (%)	CPP_{2019}
Spain	3 297	1 (17)	1 (7.8)	1 (8.5)	23
Mexico	2 684	2 (14)	2 (5.8)	2 (6.2)	19
Brazil	2 234	3 (12)	3 (4.4)	3 (4.8)	22
USA	1 431	4 (7.4)	5 (2.1)	4 (2.2)	42
Germany	1 306	5 (6.7)	4 (2.1)	5 (2.1)	35
Italy	1 153	6 (6.0)	6 (2.0)	6 (2.0)	36
France	1 052	7 (5.4)	7 (1.5)	7 (1.6)	35
UK	1 035	8 (5.3)	8 (1.1)	9 (1.2)	45
Belgium	664	9 (3.4)	9 (1.1)	8 (1.3)	25
China	628	10 (3.2)	16 (0.57)	17 (0.55)	44
Russia	619	11 (3.2)	11 (0.69)	12 (0.67)	37
Switzerland	602	12 (3.1)	20 (0.45)	19 (0.49)	53
Canada	535	13 (2.8)	10 (1.0)	10 (1.0)	45
Japan	527	14 (2.7)	23 (0.3)	23 (0.32)	46
Netherlands	520	15 (2.7)	22 (0.32)	21 (0.36)	48
Sweden	505	16 (2.6)	19 (0.49)	22 (0.33)	50

$TP R$ (%): total number of articles and rank; $FP R$ (%): total number of first-author articles and rank; $RP R$ (%): total number of corresponding-author articles and rank; CPP_{2019} : citations per publication ($CPP_{2019} = TC_{2019}/TP$)

APPENDIX 10

Top ten institutions that appear in international projects where Cuban researchers participate

Institute	<i>TP</i>	<i>TP R (%)</i>	<i>FP R (%)</i>	<i>RP R (%)</i>	<i>CPP</i> ₂₀₁₉
National Autonomous University of Mexico, Mexico	1 007	1 (5.2)	2 (1.2)	2 (1.3)	24
University of Sao Paulo, Brazil	757	2 (3.9)	3 (0.64)	3 (0.69)	35
Spanish National Research Council (CSIC), Spain	540	3 (2.8)	1 (1.4)	1 (1.3)	24
University of Oslo, Norway	324	4 (1.7)	84 (0.067)	91 (0.064)	58
University of Roma La Sapienza, Italy	321	5 (1.7)	140 (0.047)	105 (0.059)	43
Goethe University of Frankfurt, Germany	320	6 (1.7)	93 (0.062)	80 (0.070)	45
Lund University, Sweden	319	7 (1.6)	140 (0.047)	183 (0.037)	57
University of Copenhagen, Denmark	314	8 (1.6)	156 (0.041)	116 (0.054)	53
University of Tokyo, Japan	313	9 (1.6)	542 (0.010)	529 (0.011)	58
University of Cape Town, South Africa	311	10 (1.6)	200 (0.031)	212 (0.032)	50

TP: total number of articles; *TP R (%)*: rank of total number of articles and percentage; *FP R (%)*: rank of first-author articles and percentage; *RP R (%)*: rank of corresponding-author articles and percentage; *CPP*₂₀₁₉: citations per publication ($CPP_{2019} = TC_{2019}/TP$).

APPENDIX 11

Top productive institutes in Cuba with over 300 publications each ($TP > 300$)

Institute	TP	TP R (%)	IP R (%)	CP R (%)	FP R (%)	RP R (%)	SP R (%)	CPP_{2019}
Universidad de La Habana	4 473	1 (23)	2 (10)	1 (28)	1 (9.7)	1 (9.5)	1 (12)	14
Universidad Central Marta Abreu de Las Villas	1 118	2 (5.8)	6 (3.4)	2 (6.7)	5 (3.0)	6 (2.9)	4 (4.5)	16
Centro de Ingeniería Genética y Biotecnología	1 106	3 (5.7)	5 (6.7)	3 (5.4)	3 (3.8)	3 (3.8)	10 (2.5)	19
Centro Nacional de Investigaciones Científicas	1 086	4 (5.6)	4 (8.8)	5 (4.5)	4 (3.7)	4 (3.6)	7 (3.1)	16
Instituto de Ciencia Animal	1 048	5 (5.4)	1 (17)	24 (1.3)	2 (4.9)	2 (5.1)	3 (6.0)	1.9
Academia de Ciencias de Cuba	742	6 (3.8)	3 (10)	14 (1.7)	6 (2.9)	5 (3.0)	2 (10)	3
Instituto de Medicina Tropical Pedro Kouri	736	7 (3.8)	7 (2.8)	6 (4.2)	7 (2.2)	7 (2.1)	16 (1.1)	20
Universidad de Oriente	705	8 (3.6)	13 (1.1)	4 (4.6)	8 (1.8)	8 (1.7)	14 (1.5)	8.8
Centro de Aplicaciones Tecnológicas y Desarrollo Nuclear	596	9 (3.1)	23 (0.71)	7 (3.9)	21 (0.52)	18 (0.51)	31 (0.4)	29
Universidad Tecnológica de La Habana José Antonio Echeverría	530	10 (2.7)	8 (1.6)	8 (3.2)	9 (1.3)	9 (1.3)	7 (3.1)	9.9
Instituto de Cibernética-Matemática y Física	417	11 (2.2)	12 (1.2)	10 (2.5)	12 (0.91)	12 (1)	6 (3.2)	9.1
Instituto Superior de Tecnologías y Ciencias Aplicadas	406	12 (2.1)	31 (0.54)	9 (2.7)	14 (0.7)	17 (0.63)	31 (0.4)	12
Centro de Neurociencias de Cuba	388	13 (2)	16 (1)	11 (2.4)	18 (0.61)	15 (0.65)	24 (0.53)	32
Centro de Inmunología Molecular	385	14 (2)	10 (1.5)	12 (2.2)	11 (1.1)	11 (1.2)	12 (1.7)	22
Centro de Química Farmacéutica	335	15 (1.7)	20 (0.83)	13 (2.1)	15 (0.67)	14 (0.67)	46 (0.27)	23

TP : total number of articles; $TP R$ (%): the rank and the percentage of total articles in the total number of articles; $IP R$ (%): the rank and the percentage of single-institutional articles in the total single-institutional articles; $CP R$ (%): the rank and the percentage of inter-institutionally collaborative articles in the total inter-institutionally collaborative articles; $FP R$ (%): the rank and the percentage of first-author articles in the total first-author articles; $RP R$ (%): the rank and the percentage of the corresponding-author articles in the total corresponding-author articles; $SP R$ (%): the rank and the percentage of the single-author articles in the total single-author articles; CPP_{2019} : citations per publication ($CPP_{2019} = TC_{2019}/TP$).

APPENDIX 12

Top productive Web of Science categories and the number of journals publishing articles from each field

Web of Science categories	<i>TP</i>	%	No. Journals
Dairy and animal science agriculture	1 675	8.7	63
Biochemistry and molecular biology	981	5.1	297
Multidisciplinary materials science	962	5.0	314
Biotechnology and applied microbiology	858	4.4	156
Pharmacology and pharmacy	820	4.2	270
Condensed matter physics	798	4.1	69
Multidisciplinary chemistry	781	4.0	177
Applied physics	725	3.8	154
Physical chemistry	704	3.6	159
Immunology	662	3.4	158

TP: number of Cuba articles.

APPENDIX 13

Journals where most Cuban articles included in the SCI-EXPANDED are produced

Journal	<i>TP</i> (%)	<i>IF</i> ₂₀₁₉	Web of Science category	<i>APP</i>	<i>CPP</i> ₂₀₁₉
Cuban Journal of Agricultural Science	1 521 (7.9)	N/A	dairy and animal science agriculture	3.5	1.4
Revista de Neurología	339 (1.8)	0.562	clinical neurology	5.0	3.3
Medic Review	217 (1.1)	0.644	public, environmental and occupational health	5.6	4.9
Mycotaxon	165 (0.85)	0.538	Mycology	4.4	3.9
Afinidad	144 (0.74)	0.324	multidisciplinary chemistry	4.3	0.69
Physical Review B	128 (0.66)	3.575	multidisciplinary materials science applied physics condensed matter physics	3.5	21
Journal of Essential Oil Research	122 (0.63)	1.148	applied chemistry food science and technology	4.0	5.6
Vaccine	118 (0.61)	3.143	immunology research and experimental medicine	10	22
Revista Mexicana De Fisica	117 (0.6)	0.527	multidisciplinary physics	3.9	1.4
PLoS One	98 (0.51)	2.74	multidisciplinary sciences	11	13

TP (%): rank and the percentage of number of articles; *IF*₂₀₁₉: journal impact factor in 2019; *TC*₂₀₁₉: the total number of citations from Web of Science Core Collection since publication year to the end of 2019; *CPP*₂₀₁₉: number of citations (*TC*₂₀₁₉) per publication (*TP*).

APPENDIX 14

Most frequent words in Cuban article titles, and their change by decade (e.g.1980-89 means 1980-1999)

Words in title	<i>TP</i>	1900-2019 rank (%)	1980-89 rank (%)	1990-99 rank (%)	2000-09 rank (%)	2010-19 rank (%)
Cuba	1 643	1 (8.5)	2 (7.3)	1 (7.4)	1 (8.0)	1 (9.5)
effect	983	2 (5.1)	1 (11)	2 (6.2)	2 (4.8)	5 (3.3)
Cuban	681	3 (3.5)	11 (3.1)	7 (2.7)	7 (3.0)	3 (4.3)
analysis	670	4 (3.5)	33 (1.8)	10 (2.5)	5 (3.4)	2 (4.3)
effects	597	5 (3.1)	9 (3.4)	5 (3.0)	3 (3.5)	14 (2.7)
properties	560	6 (2.9)	71 (1.1)	6 (2.8)	4 (3.5)	9 (2.9)
characterization	544	7 (2.8)	20 (2.2)	4 (3.0)	6 (3.1)	11 (2.7)
production	508	8 (2.6)	27 (1.9)	7 (2.7)	17 (2.1)	7 (3.2)
patients	492	9 (2.5)	47 (1.4)	9 (2.6)	8 (2.7)	13 (2.7)
activity	461	10 (2.4)	78 (1.0)	28 (1.6)	9 (2.7)	11 (2.7)
species	451	11 (2.3)	71 (1.1)	17 (2.1)	24 (1.7)	6 (3.3)
system	430	12 (2.2)	85 (0.93)	14 (2.3)	10 (2.6)	18 (2.1)
protein	422	13 (2.2)	33 (1.8)	3 (3.4)	11 (2.5)	35 (1.4)
evaluation	417	14 (2.2)	18 (2.5)	36 (1.5)	14 (2.2)	16 (2.4)
model	403	15 (2.1)	200 (0.50)	24 (1.8)	15 (2.2)	15 (2.5)
growth	399	16 (2.1)	38 (1.6)	15 (2.3)	12 (2.4)	21 (1.8)
human	387	17 (2.0)	25 (2.0)	12 (2.4)	13 (2.2)	24 (1.7)
approach	359	18 (1.9)	408 (0.29)	41 (1.4)	16 (2.2)	17 (2.1)
influence	342	19 (1.8)	38 (1.6)	19 (1.9)	22 (1.8)	26 (1.6)
method	341	20 (1.8)	21 (2.1)	31 (1.6)	21 (1.9)	25 (1.6)
synthesis	335	21 (1.7)	54 (1.3)	13 (2.4)	20 (1.9)	33 (1.5)
molecular	321	22 (1.7)	408 (0.29)	39 (1.4)	25 (1.7)	19 (2.1)
against	302	23 (1.6)	170 (0.57)	73 (0.92)	22 (1.8)	20 (1.9)
magnetic	288	24 (1.5)	170 (0.57)	24 (1.8)	18 (2.0)	52 (1.2)
treatment	281	25 (1.5)	60 (1.2)	24 (1.8)	35 (1.5)	42 (1.4)
collisions	272	26 (1.4)	N/A	N/A	1771 (0.09)	4 (3.5)
disease	269	27 (1.4)	302 (0.36)	57 (1.1)	40 (1.4)	27 (1.6)
determination	265	28 (1.4)	27 (1.9)	22 (1.8)	28 (1.6)	94 (0.86)
structure	261	29 (1.3)	85 (0.93)	32 (1.6)	32 (1.5)	49 (1.3)
systems	257	30 (1.3)	65 (1.1)	48 (1.2)	47 (1.2)	30 (1.5)

APPENDIX 15

Most frequent keywords used by Cuban authors in their articles

Author keywords	<i>TP</i>	1990-2019 R (%)	90-99 R (%)	00-09 R (%)	10-19 R (%)
Cuba	733	1 (5.7)	1 (4.3)	1 (3.8)	1 (7.6)
taxonomy	216	2 (1.7)	57 (0.41)	8 (0.67)	2 (2.8)
QSAR	112	3 (0.87)	968 (0.058)	2 (1.4)	12 (0.65)
systematics	110	4 (0.86)	8 (1.4)	9 (0.65)	4 (0.87)
vaccine	102	5 (0.80)	13 (0.93)	4 (0.75)	5 (0.79)
hyphomycetes	100	6 (0.78)	7 (1.5)	12 (0.57)	7 (0.74)
oxidative stress	85	7 (0.66)	423 (0.12)	7 (0.69)	5 (0.79)
Caribbean	84	8 (0.66)	233 (0.17)	65 (0.31)	3 (1.1)
essential oil composition	77	9 (0.60)	N/A	3 (1.2)	60 (0.31)
growth	70	10 (0.55)	13 (0.93)	11 (0.59)	34 (0.40)
epidemiology	67	11 (0.52)	74 (0.35)	18 (0.51)	14 (0.58)
tropical fungi	62	12 (0.48)	8 (1.4)	41 (0.37)	53 (0.32)
sugarcane	61	13 (0.48)	20 (0.69)	5 (0.71)	112 (0.23)
dengue	60	14 (0.47)	968 (0.058)	16 (0.53)	17 (0.53)
ozone	60	14 (0.47)	57 (0.41)	5 (0.71)	69 (0.29)
pigs	60	14 (0.47)	3 (2.3)	37 (0.39)	4 174 (0.016)
risk factors	60	14 (0.47)	102 (0.29)	88 (0.26)	10 (0.68)
broilers	58	18 (0.45)	4 (1.9)	27 (0.47)	1971 (0.032)
monoclonal antibody	56	19 (0.44)	233 (0.17)	12 (0.57)	34 (0.40)
chitosan	54	20 (0.42)	233 (0.17)	16 (0.53)	34 (0.40)
saccharina	54	20 (0.42)	2 (2.8)	377 (0.12)	N/A
X-ray diffraction	53	22 (0.41)	74 (0.35)	9 (0.65)	100 (0.24)
anamorphic fungi	52	23 (0.41)	N/A	186 (0.18)	9 (0.70)
modeling	52	23 (0.41)	102 (0.29)	33 (0.43)	31 (0.42)
policosanol	52	23 (0.41)	6 (1.7)	37 (0.39)	749 (0.065)
children	48	26 (0.37)	152 (0.23)	120 (0.22)	17 (0.53)
phylogeny	48	26 (0.37)	423 (0.12)	227 (0.16)	13 (0.61)
crystal structure	47	28 (0.37)	423 (0.12)	33 (0.43)	38 (0.39)
animal study	46	29 (0.36)	N/A	N/A	7 (0.74)
cytotoxicity	46	29 (0.36)	152 (0.23)	186 (0.18)	17 (0.53)

APPENDIX 16

Cuban articles most frequently cited in the SCI-EXPANDED (over 800 citations)

Rank (TC_{2019})	Ran k (C_{2019})	Article titles	references
1 (514)	(2 (40 (38)	Prevalence of human papillomavirus in cervical-cancer - a worldwide perspective	Bosch et al. (1995)
2 (361)	(1 (2 (51 (8)	Trends in adult body-mass index in 200 countries from 1975 to 2014: a pooled analysis of 1698 population-based measurement studies with 19.2 million participants	Di Cesare et al. (2016)
3 (309)	(1 (7 (12 (7)	The Proteomics Identifications (PRIDE) database and associated tools: status in 2013	Vizcaino et al. (2013)
4 (037)	(1 (3 (42 (9)	Worldwide trends in diabetes since 1980: a pooled analysis of 751 population-based studies with 4.4 million participants	Zhou et al. (2016)
5 (887)	(72 (27)	A calcium antagonist vs a non-calcium antagonist hypertension treatment strategy for patients with Coronary artery disease - The International Verapamil-Trandolapril Study (INVEST): A randomized controlled trial	Pepine et al. (2003)
6 (843)	(1 (57 (7)	Worldwide trends in body-mass index, underweight, overweight, and obesity from 1975 to 2016: a pooled analysis of 2416 population-based measurement studies in 128.9 million children, adolescents, and adults	Ezzati et al. (2017)
7 (829)	(88 (23)	A general statistical analysis for fMRI data	Worsley et al. (2002)
8 (822)	(55 (31)	Moderate expansion of a normally biallelic trinucleotide repeat in spinocerebellar ataxia type 2	Pulst et al. (1996)
9 (811)	(9 (77)	An infrared investigation in relation with chitin and chitosan characterization	Brugnerotto et al. (2001)
10 (805)	(72 (27)	Human papillomavirus and oral cancer: The international agency for research on cancer multicenter study	Herrero et al. (2003)

TC_{2019} : the total number of citations from Web of Science Core Collection since publication year to the end of 2019; C_{2019} : number of citations in 2019.