

Supplementary Materials

Research Progress on Aerobiology in the Last 30 Years: A Focus on Methodology and Occupational Health

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Table S1. List of WoS categories (years 1990–2019), grouped in different clusters. Top terms are based on keyword log-likelihood ratio (LLR). Top terms are presented in the same format as the CiteSpace output, entirely in lowercase letters. Silhouette: value indicating the homogeneity of the cluster; mean year: mean year of publication; count: number of articles belonging to the category; centrality: value indicating how much a node is part of paths connecting other nodes.

Cluster	Silhouette	Mean Year	Top Terms (LLR)	WoS Category	Count	Centrality
0	1	2002	arid regions; vegetation history; volumetric sampling	Environmental Sciences	389	1.00
				Biology	175	0.00
				Meteorology & Atmospheric Sciences	105	0.60
				Biophysics	58	0.46
				Physiology	56	0.00
				Chemistry, Analytical	2	0.00
				Marine & Freshwater Biology	2	0.00
				Multidisciplinary Sciences	2	0.00
1	1	2003	vineyards; atmospheric scale; downy mildew	Plant Sciences	112	0.36
				Agronomy	24	0.44
				Forestry	13	0.53
				Horticulture	6	0.00
				Agriculture, Multidisciplinary	5	0.00
				Agricultural Economics & Policy	2	0.00
2	1	1998	asthma; skin test; chickens	Allergy	104	0.13
				Immunology	92	0.47
				Microbiology	23	0.13
				Biotechnology & Applied Microbiology	15	0.00
				Respiratory System	5	0.00
3	0.924	2011	microbial indicators; monitoring; underground water	Ecology	17	0.36
				Geosciences, Multidisciplinary	8	0.13
				Biodiversity Conservation	3	0.00
				Remote Sensing	2	0.00
4	0.928	2000	pollution; particles; conservation	Public, Environmental & Occupational Health	98	0.81
				Infectious Diseases	6	0.00
				Engineering, Environmental Construction & Building Technology	4	0.00
				Technology	4	0.00

Table S2. List of the most important publishing countries (years 1990–2019), grouped in different clusters. Top terms are based on keyword log-likelihood ratio (LLR). Countries and top terms are presented in the same format as the CiteSpace output, entirely in uppercase or lowercase letters. Silhouette: value indicating the homogeneity of the cluster; mean year: mean year of publication; count: number of articles belonging to the country; centrality: value indicating how much a node is part of paths connecting other nodes.

Cluster	Silhouette	Mean Year	Top Terms (LLR)	Country	Count	Centrality
0	0.846	2011	allergen; oral health care; microbial indicators	FRANCE	48	0.49
				CANADA	33	0.00
				GERMANY	29	0.09
				NETHERLANDS	5	0.28
				SLOVENIA	4	0.02
				ROMANIA	4	0.02
				BELGIUM	3	0.00
				SOUTH AFRICA	2	0.00
SCOTLAND	2	0.01				
1	0.832	2007	atmosphere; modeling; invasive weeds	ENGLAND	78	0.77
				DENMARK	14	0.54
				CROATIA	11	0.00
				SERBIA	9	0.00
				GREECE	8	0.02
				TURKEY	4	0.09
				SWEDEN	4	0.00
				LITHUANIA	2	0.00
2	0.941	2012	metadata; antarctica; chickens	AUSTRIA	25	0.55
				AUSTRALIA	19	0.00
				BRAZIL	3	0.00
				NEW ZEALAND	2	0.26
				URUGUAY	2	0.00
3	1	2008	trees; fraxinus; weeds	SPAIN	243	0.27
				MOROCCO	7	0.00
				MEXICO	5	0.00
				CUBA	2	0.00
4	1	2006	regression analysis; forecast models; skin test	ITALY	67	0.14
				POLAND	56	0.16
				PORTUGAL	25	0.00
				TUNISIA	2	0.00
5	1	2005	aeroallergen; monitoring network; big data	SWITZERLAND	22	0.18
				INDIA	22	0.00
				FINLAND	2	0.00
6	1	2000	long- distance aerial movement; flagellates; ciliates	USA	174	0.18
				TAIWAN	2	0.00
				NORWAY	2	0.00

Table S3. List of the most represented keywords (years 1990–2019), grouped in different clusters. Only the first 7 clusters are shown. Top terms are based on keyword log-likelihood ratio (LLR). Keywords are presented in the same format as the CiteSpace output, with no uppercase letters and no italics. Silhouette: value indicating the homogeneity of the cluster; mean year: mean year of publication; count: number of articles that contain the keyword; centrality: value indicating how much a node is part of path connecting other nodes.

Cluster	Silhouette	Mean Year	Top Terms (LLR)	Keyword	Count	Centrality
0	0.831	2008		pollen	113	0.55
				aeroallergen	15	0.04
				pollen calendar	13	0.03
				allergen	11	0.17
				meteorology	10	0.27
				epidemiology	6	0.00
				pollinosis; pollen monitoring	4	0.00
				ole e 1; monitoring	3	0.00
				atmospheric fraxinus	2	0.00
				pollen mould	2	0.00
				pollen index	2	0.11
				atmospheric pollen	2	0.00
				ole e 1	2	0.08
				correlation	2	0.00
environmental monitoring	2	0.00				
grass pollen count	2	0.00				
1	0.917	2008		allergy	65	0.35
				airborne pollen	27	0.20
				climate change	27	0.08
				alternaria	8	0.09
				spain	6	0.02
				ragweed	6	0.03
				biometeorology	4	0.03
				skin-prick test; spain; respiratory allergy	4	0.00
				predictive models	3	0.00
				skin-prick test	2	0.00
				mold	2	0.00
				time series	2	0.01
				elisa	2	0.00
				meteorologicalvariable	2	0.00
seasonal variation	2	0.00				
2	0.862	2012	phenology; observatory; hay fever	phenology	42	0.11
				poaceae	8	0.05
				modelling	5	0.05
				environment	4	0.17
				spore	4	0.00
				pollen count	3	0.02

				inhalant allergy	2	0.00
				grass pollen	2	0.01
				pollination	2	0.00
				monitoring network	2	0.00
				observatory	2	0.00
				olea europaea l	2	0.00
				olive	2	0.00
				hay fever	2	0.01
				fungal spore	24	0.23
				meteorological parameter	23	0.17
				aerosol	12	0.00
				airborne	4	0.05
3	0.848	2010	airborne; tetouan; morocco	pollen spectrum	4	0.00
				morocco	3	0.00
				virus	2	0.03
				slovakia	2	0.00
				indoor	2	0.07
				tetouan	2	0.03
				portugal	2	0.00
				outdoor	2	0.03
				bioaerosol	23	0.16
				aeromycology	4	0.18
				infection	2	0.00
4	0.916	2016	air quality; bioaerosols; modeling	poaceae pollen	2	0.00
				urban area	2	0.05
				forest pathogen	2	0.03
				air quality	2	0.00
				mycobiota	2	0.00
				metabarcoding	2	0.00
				aerobiology	555	0.19
				allergenic pollen	6	0.00
				dispersal	3	0.03
5	1	2003	absl-4; issue 116; bsl-4	issue 116	2	0.00
				absl-4	2	0.05
				migration	2	0.00
				bsl-4	2	0.00
				aeropalinology	2	0.00
				asthma	20	0.40
				pollen allergy	12	0.07
6	0.822	1998	asthma; burkard; partrap fa 52	pollinosis	8	0.09
				pollen grain	8	0.00
				burkard	4	0.00
				greece	2	0.00
				partrap fa 52	2	0.00
				air pollution	2	0.01

Top 11 Subject Categories with the Strongest Citation Bursts

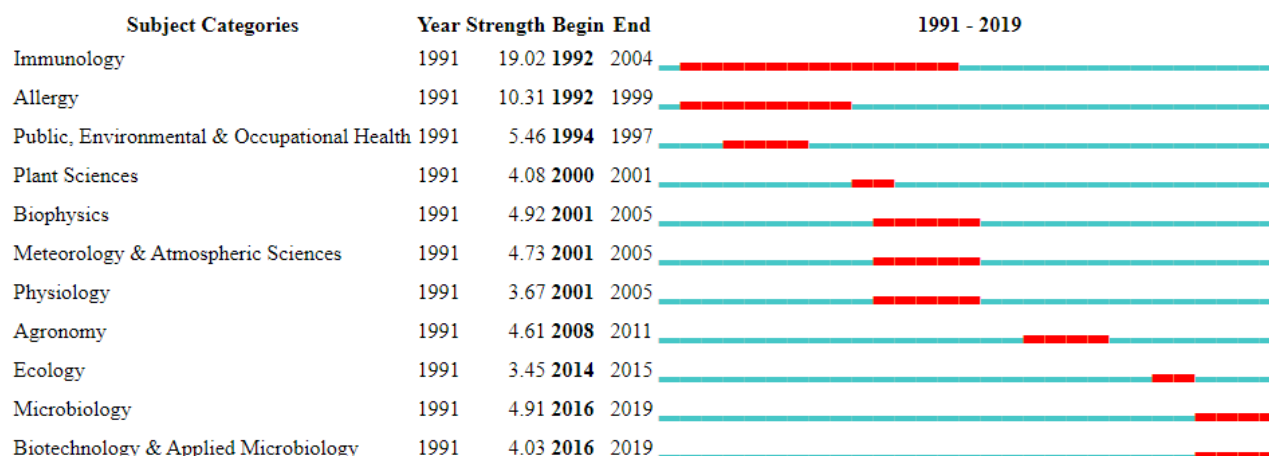


Figure S1. List of categories with the strongest citation bursts (years 1990–2019). The red segments indicate the years of the burst. Year: starting year of the analysis; strength: intensity of the burst; begin/end: initial and final year of the burst.

Top 4 Countries with the Strongest Citation Bursts



Figure S2. List of countries with the strongest citation bursts (years 1990–2019). The red segments indicate the years of the burst. Year: starting year of the analysis; strength: intensity of the burst; begin/end: initial and final year of the burst.

Top 4 Keywords with the Strongest Citation Bursts

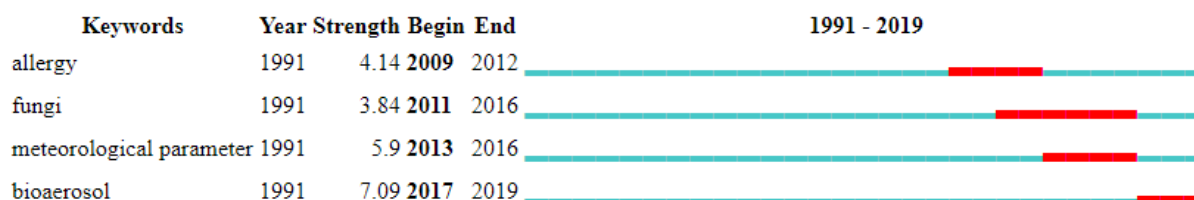


Figure S3. List of keywords with the strongest citation bursts (years 1990–2019). The red segments indicate the years of the burst. Year: starting year of the analysis; strength: intensity of the burst; begin/end: initial and final year of the burst.