

Méditerranée Infection Foundation
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Gordes

*SIGAPS, an innovative use
of bibliometrics for the
IHU*



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Assistance Publique
Hôpitaux de Marseille



Centre Hospitalier Régional
Universitaire de Lille

EVERYTHING IN A NUTSHELL

- SIGAPS software : analyzing collective scientific performance and informal research networks
- The scientific production of the IHU: astonishing numbers
- SIGAPS-IHU Méditerranée Infection, a new approach for bibliometrics and corporate communication
- An unrivalled experimentation

SIGAPS: ANALYZING COLLECTIVE SCIENTIFIC PERFORMANCE AND INFORMAL NETWORKS

- A software initially developed by Lille University Hospital in 2002 (CHU de Lille).
- In 2006, the french Ministry for Health decided to assess the scientific performance of french university hospitals with the SIGAPS software managed by Lille University Hospital.

SIGAPS: ANALYZING COLLECTIVE SCIENTIFIC PERFORMANCE AND INFORMAL NETWORKS

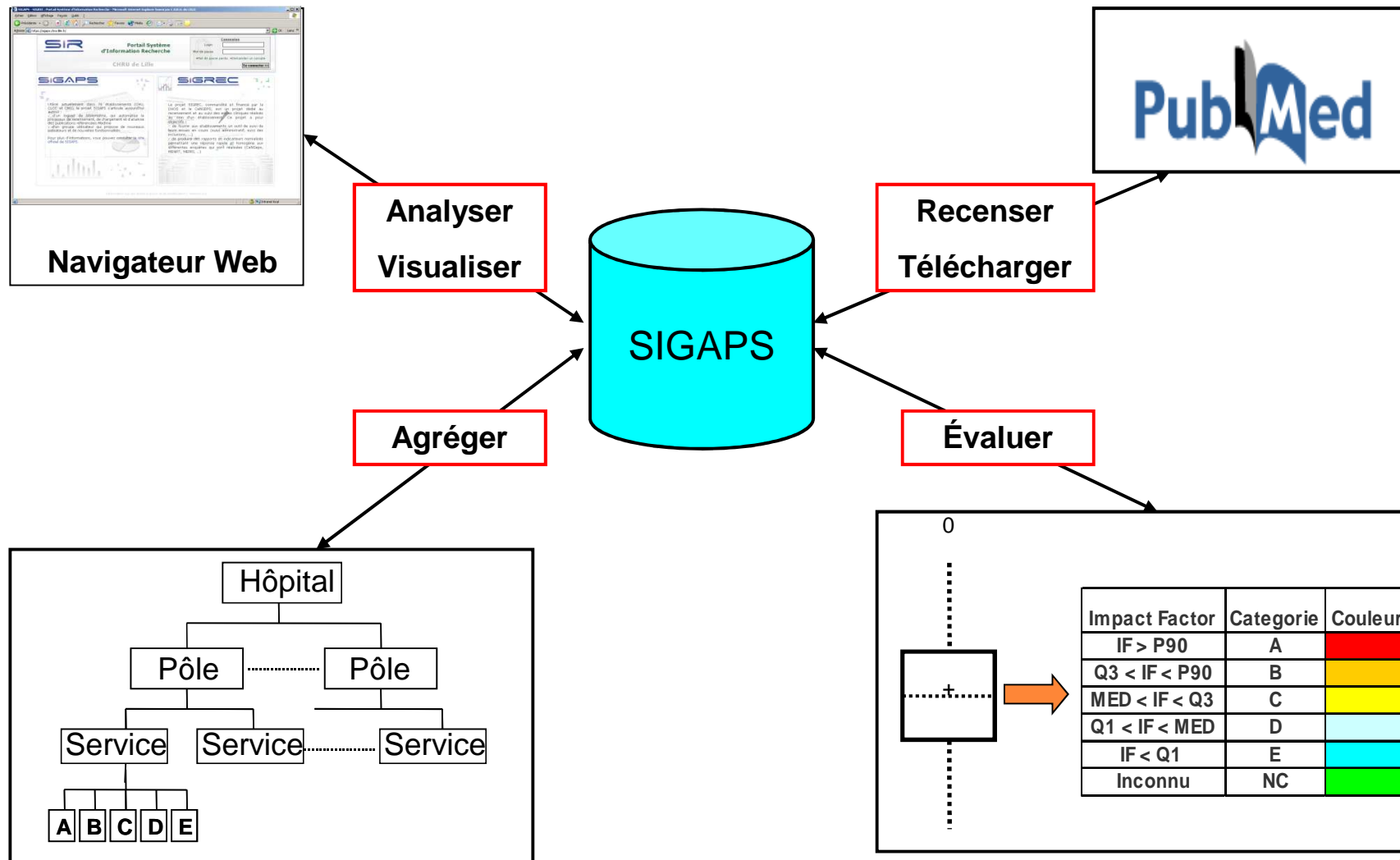
- Data bases such as Medline includes comprehensive scientific medical production.
- Pubmed provides access to abstracts, citations, and full articles from any author.
- But existing softwares do not evaluate and mapp research teams and fields.
- The attractiveness of a world level hub for biomedical research such as the IHU has to be shown through specific criteria:
 - Critical mass
 - Proportion of top level publications
 - Most effective collaborations

SIGAPS: ANALYZING COLLECTIVE SCIENTIFIC PERFORMANCE AND INFORMAL NETWORKS

- SIGAPS means « Système d'Interrogation, de Gestion et d'Analyse des Publications Scientifiques ».
- SIGAPS gives a survey of the research fields of a research team, as well as of its standard.
- A software to :
 - List
 - Analyse
 - Aggregate
 - Value

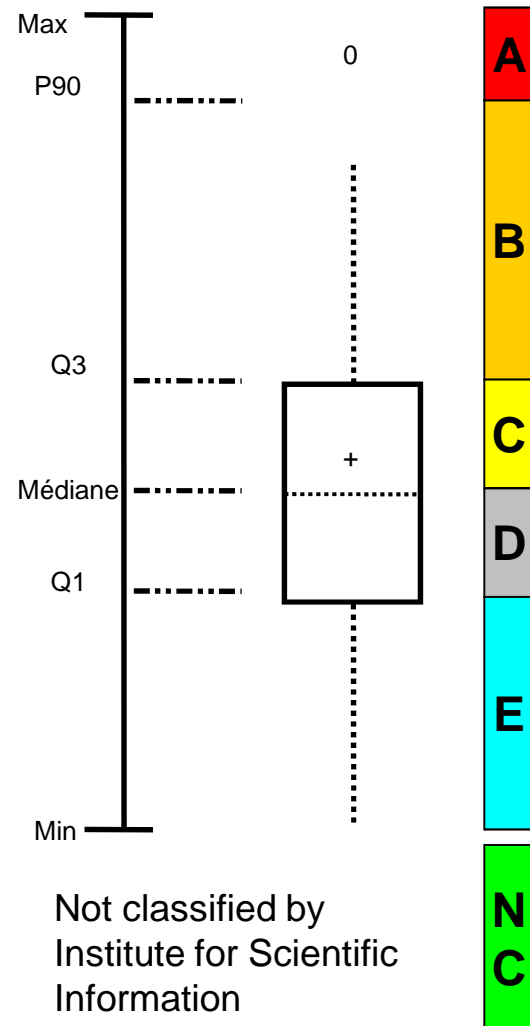
SIGAPS: ANALYZING COLLECTIVE SCIENTIFIC PERFORMANCE AND INFORMAL NETWORKS

- SIGAPS synthesizes scientific production, whether on an individual or a collective viewpoint.
- SIGAPS shows qualitative valuation:
 - Journal ranking
 - Author's position
 - Research fields (keywords)
 - Most effective collaborations



Impact Factor	Categorie	Couleur
IF > P90	A	Red
Q3 < IF < P90	B	Orange
MED < IF < Q3	C	Yellow
Q1 < IF < MED	D	Light Blue
IF < Q1	E	Cyan
Inconnu	NC	Green

A SIX LEVEL RANKING BASED ON THE IMPACT FACTOR



- Problem: the IF strongly varies according to the research fields:
 - Medical computer science, 0.513 à 3.59 (medium=1.65)
 - Cellular biology , 0.24 à 31.35 (medium =3.18)
- Statistic classification by research fields, 5 categories (A/B/C/D/E) corresponding to percentiles of the IF.
- Non registered reviews (congress acts, for instance), belong to the NC category.

Each medical discipline has 10% journals in A level, 15% in B, 25% in C, ...

SIGAPS, A SOFTWARE INITIALLY DEVELOPPED TO ASSESS THE SCIENTIFIC PERFORMANCE OF FRENCH UNIVERSITARY HOSPITALS

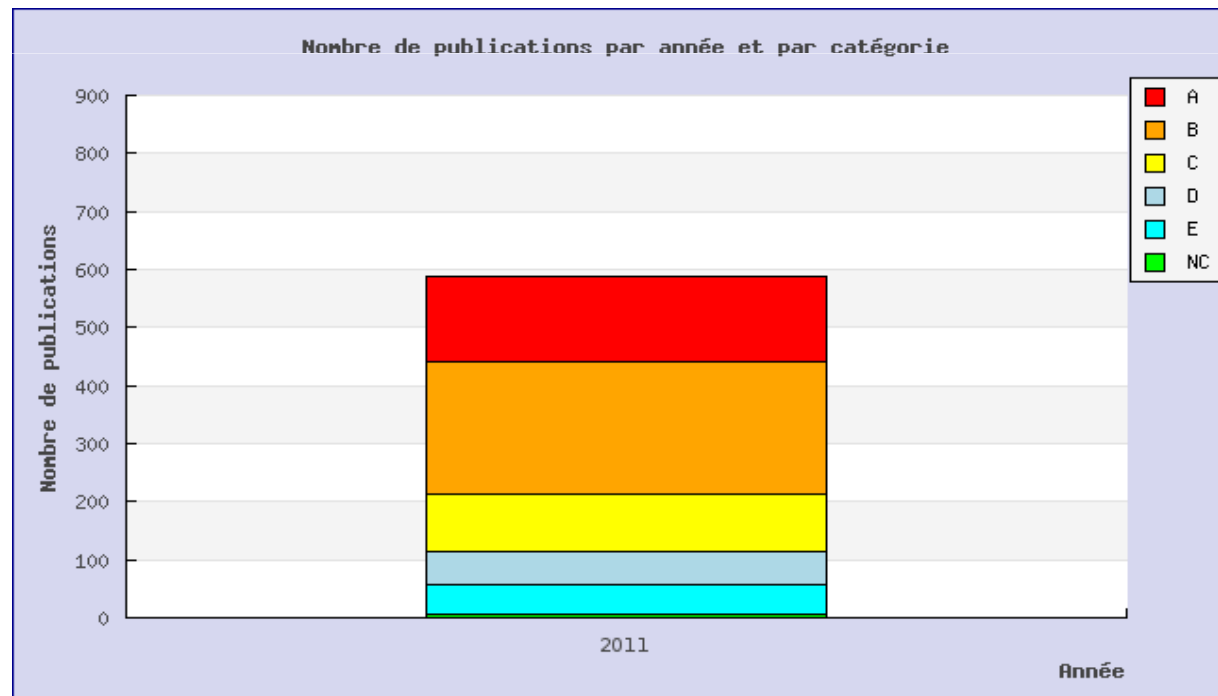
- Medline data base
- Quotation criteria:
 - Author's position
 - 1st or last author : 4 points
 - 2nd author: 3 points
 - 3rd author: 2 points
 - Other position: 1 point
 - Journal level
 - Top 10% of a discipline: 8 points
 - ...
 - Not classified: 1 point
- Multiplication of both scores: 1st author for an article published in Lancet Infectious Disease (A level journal): $4 \times 8 = 32$ points

SIGAPS, A SOFTWARE INITIALLY DEVELOPPED TO ASSESS THE SCIENTIFIC PERFORMANCE OF FRENCH UNIVERSITY HOSPITALS

- SIGAPS score allows an allocation for university hospitals from the french ministry for health:
 - SIGAPS point = 1 600 €
 - 32 points article = 51 200 €

THE SCIENTIFIC PRODUCTION OF THE IHU ESTIMATED BY SIGAPS : SURPRISING NUMBERS

- 2011: 588 papers

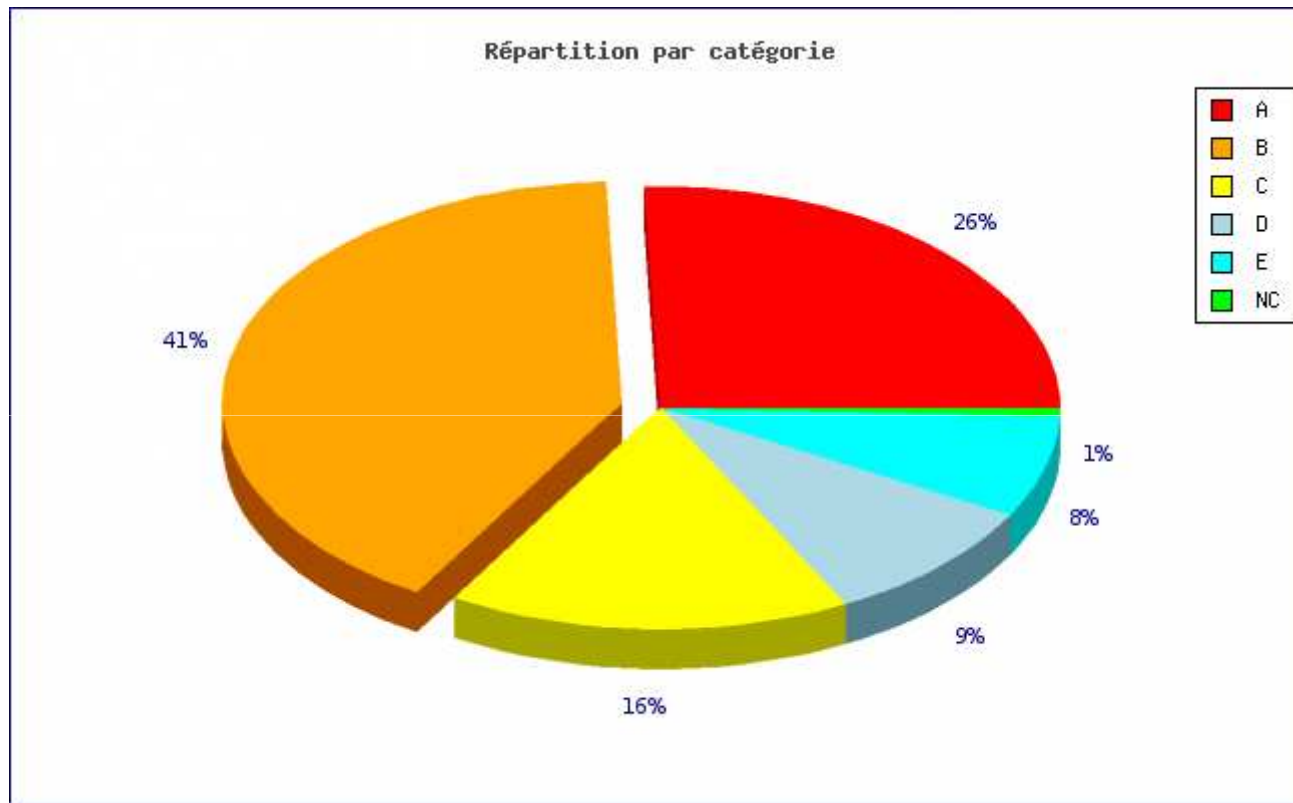


THE SCIENTIFIC PRODUCTION OF THE IHU ESTIMATED BY SIGAPS : SURPRISING NUMBERS

	Etablissement	Categorie	NbPub	Score	A	B	C	D	E	NC
1	Assistance Publique - Hôpitaux de Paris	CHRU	27339	383281	6154	5653	4478	2912	6053	2089
2	Hospices civils de Lyon	CHRU	5856	70935	1112	1203	1110	691	1351	389
3	Assistance Publique - Hôpitaux de Marseille	CHRU	4153	51959	686	904	697	479	1074	313
4	CHU - Hopitaux de Bordeaux	CHRU	3300	41293	690	732	608	360	696	214
5	CHRU de Lille	CHRU	3575	40266	653	700	563	457	917	285
6	CHU de Toulouse	CHRU	3150	37327	646	657	560	354	744	189
7	CHU de Montpellier	CHRU	2881	34748	553	645	480	344	655	204
8	CHU de Nantes	CHRU	2442	29862	511	555	430	249	552	145
9	Hôpitaux Universitaires de Strasbourg	CHRU	2585	29825	557	486	419	282	678	163
10	Villejuif - Institut Gustave Roussy	CLCC	2164	29317	566	602	394	195	333	74
11	Paris - Institut Curie	CLCC	1766	25433	480	567	279	143	208	89
12	IHU Méditerranée Infection	IHU	1618	23516	403	493	333	177	198	14
13	CHU de Nancy	CHRU	2014	22483	341	412	358	223	541	139
14	CHU de Grenoble	CHRU	1965	22356	370	399	348	228	487	133
15	CHU de Nice	CHRU	1684	20307	338	380	297	154	424	91
16	CHU de Rennes	CHRU	1710	19517	336	333	299	179	418	145
17	CHU de Rouen	CHRU	1611	17209	244	285	262	179	522	119
18	CHRU de Tours	CHRU	1562	17040	247	305	275	239	400	96
19	CHU d'Angers	CHRU	1417	16971	290	283	234	166	368	76
20	CHU de Dijon	CHRU	1360	16210	251	280	235	192	317	85

Caution: University Hospitals' production is estimated with Medline Database, and the IHU's with World of Science, which is slightly more exhaustive. This ranking is an approximation.

NOT GOOD SCIENCE, BREAKTHROUGH (2/3 ARTICLES IN TOP 25% JOURNALS).

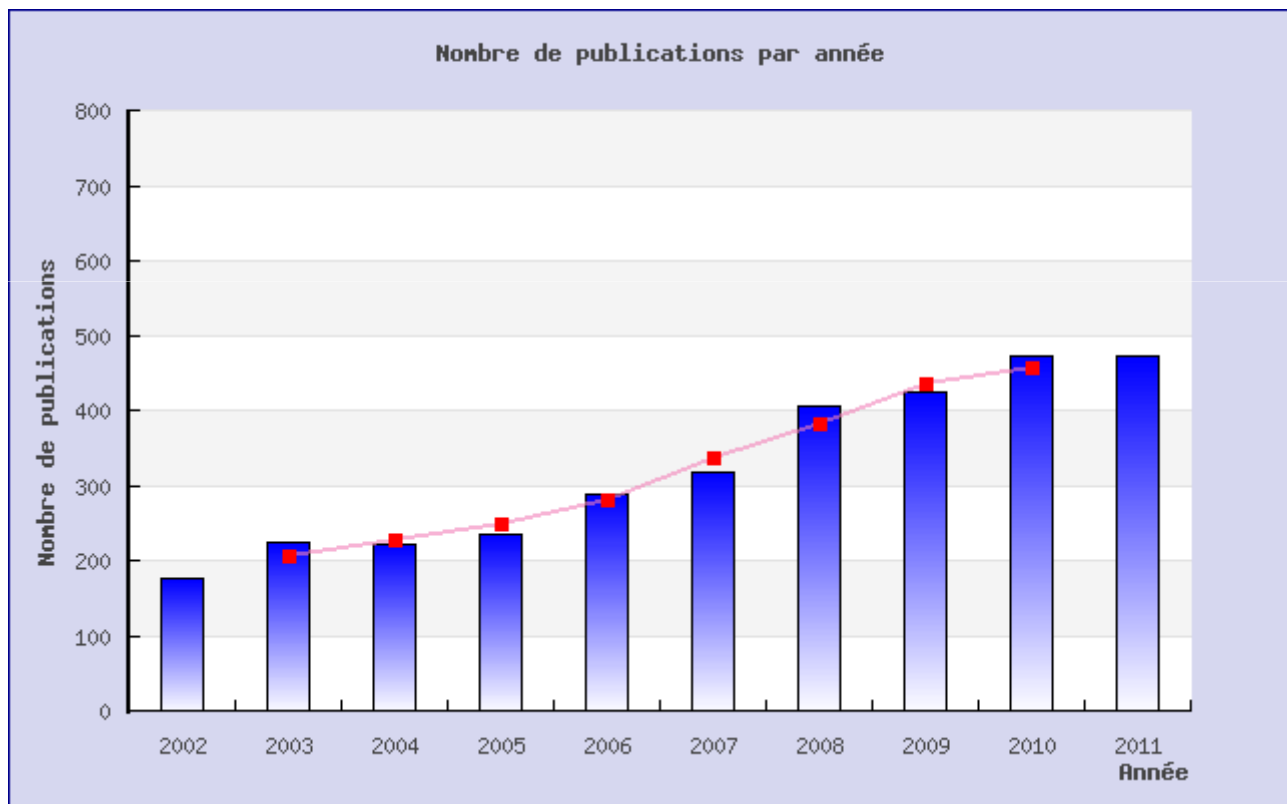


On the 2007-2010 era, the proportion of A+B articles of current IHU researchers was over 55%. On the same period, it was between 35% and 45% in the french university hospitals.

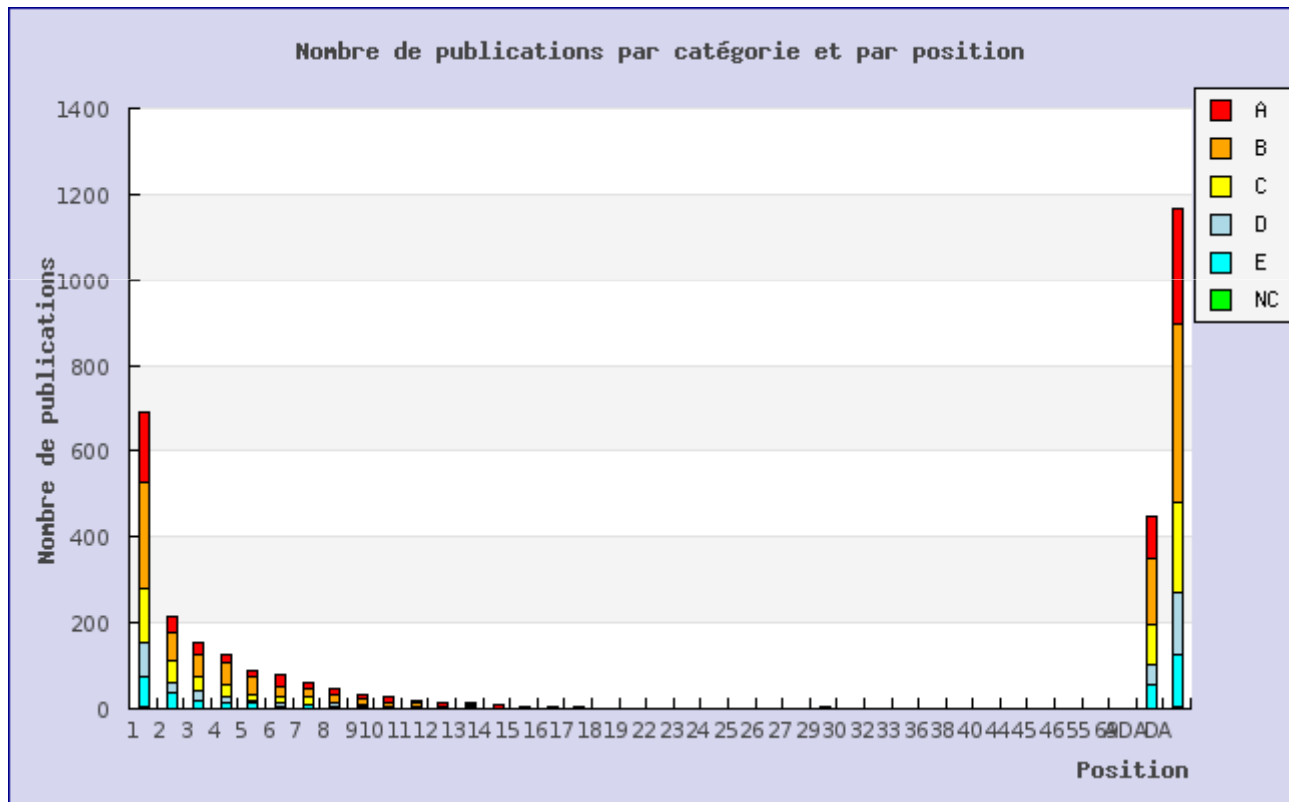
IHU MÉDITERRANÉE INFECTION, A TOP LEADER FOR SCIENTIFIC PRODUCTION IN I.D.

- Pr Didier RAOULT, a world top gun (top 3 in terms of citations in the microbiology literature)
- A performing team in every field of infectiology
- Top level university hospitals units:
 - Over 1000 publications/year (18% AP-HM)
 - 20% A level publications (top 10%)

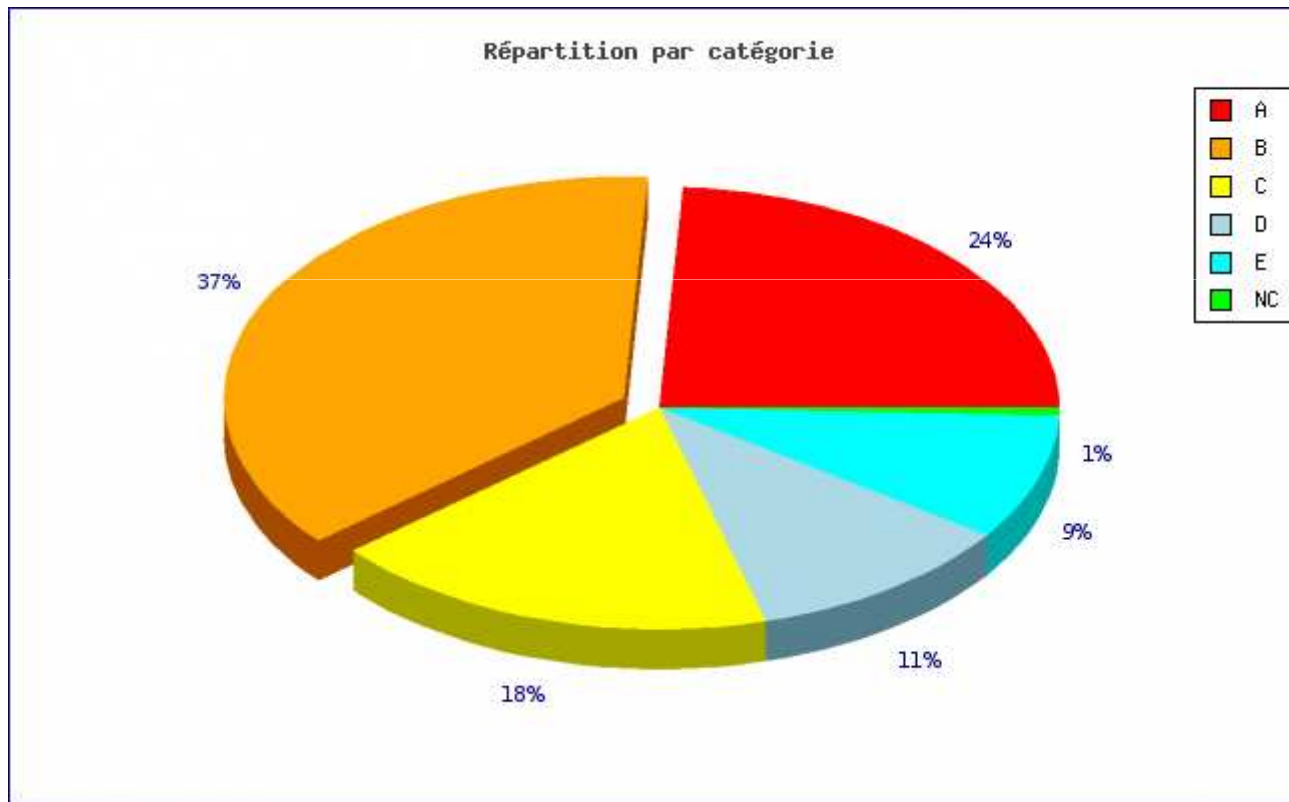
IHU RESEARCHERS: A GROWING SCIENTIFIC PRODUCTION



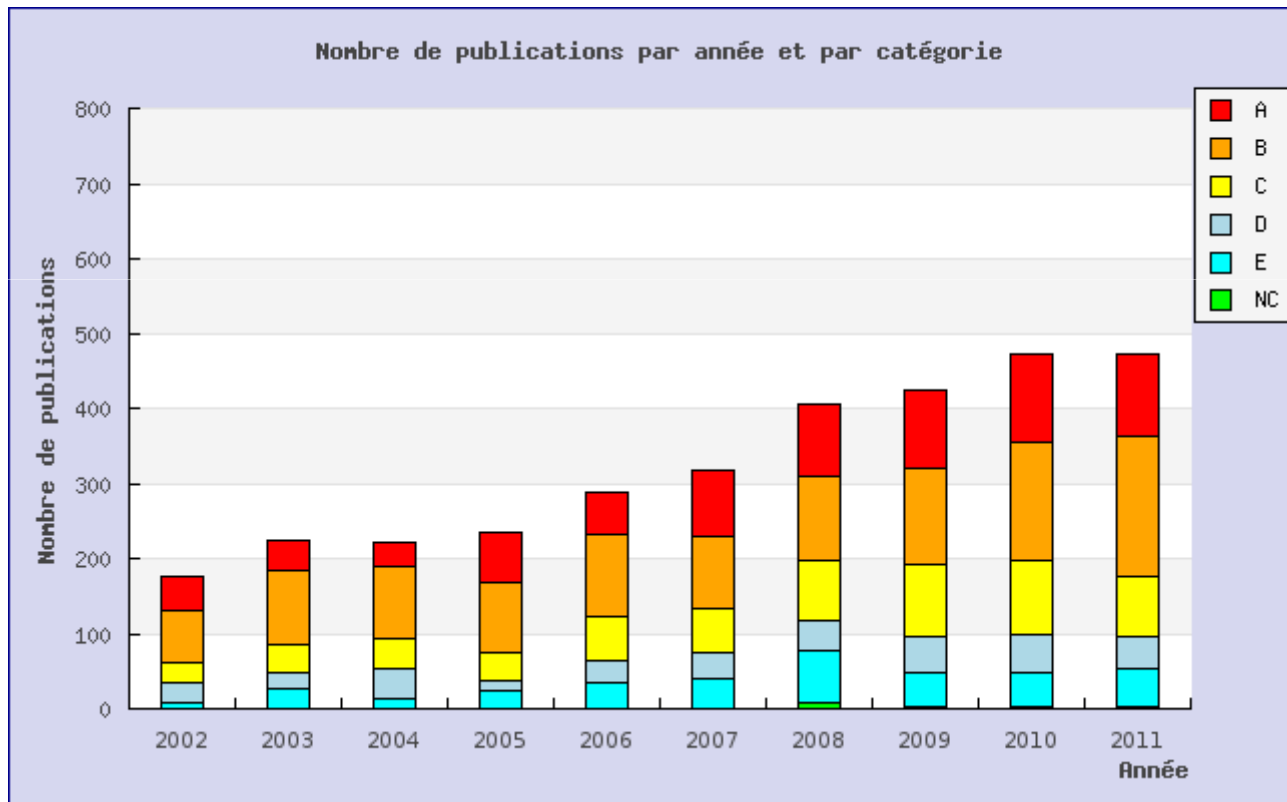
AUTHOR'S POSITION : EVIDENCE OF LEADERSHIP



A WIDE MAJORITY OF HIGH LEVEL JOURNALS (2002-2011)



VISIBLE IMPROVEMENT



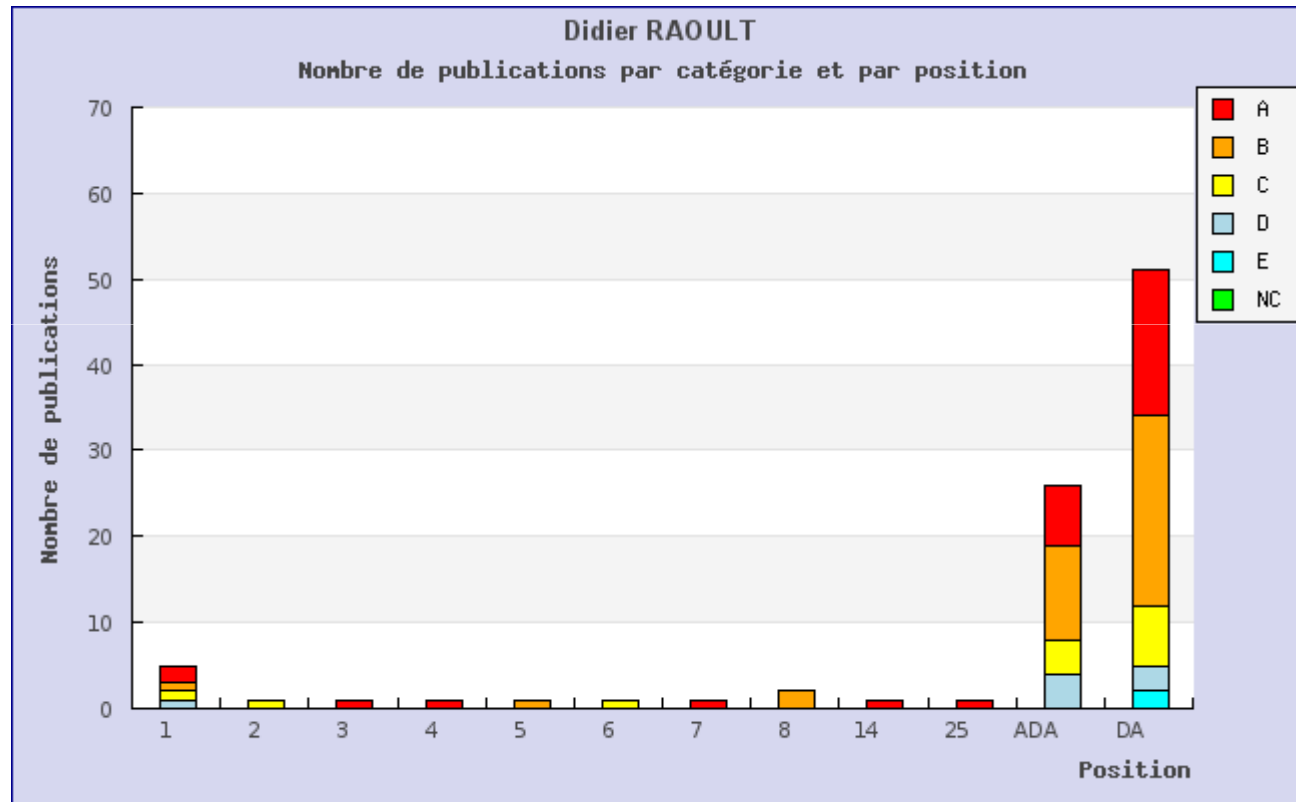
MOST COMMON JOURNALS

Revue	Total
Emerg. Infect. Dis	153
Clin. Microbiol. Infect.	111
PLoS One	97
J. Clin. Microbiol.	88
J. Biol. Chem.	85
Ann.NY Acad.Sci.	56
J. Immunol.	52
Clin. Infect. Dis.	52
Arch. Pediatr.	47
Intensive Care Med.	44
Aids	43
Eur. J. Immunol.	42
Antiviral Res.	40
Proc. Natl. Acad. Sci. U. S. A.	39
Rev. Mal. Respir.	38
J. Infect. Dis.	38
Am. J. Trop. Med. Hyg.	37
Crit. Care Med.	37
Antimicrob. Agents Chemother.	36
J. Antimicrob. Chemother.	35

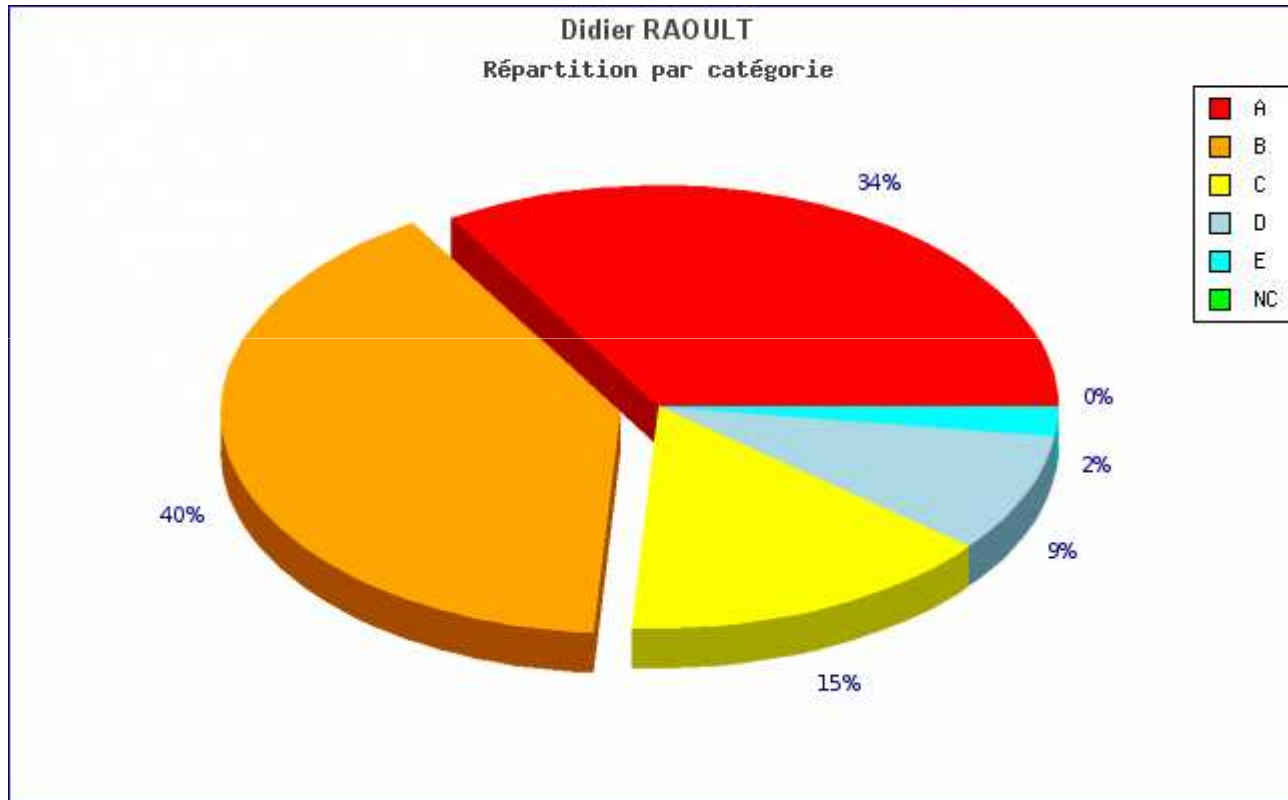
KEYWORDS (MESH TERMS YET TO COME)

Keyword	Total
IDENTIFICATION	428
INFECTION	407
DIAGNOSIS	397
CRYSTAL-STRUCTURE	247
DISEASE	235
EXPRESSION	208
ENDOCARDITIS	171
PROTEIN	170
DISEASES	155
POLYMERASE-CHAIN-REACTION	152
DNA	150
INFECTIONS	145
ESCHERICHIA-COLI	140
PHYLOGENETIC ANALYSIS	135
PCR	134
ACTIVATION	133
MORTALITY	122
THERAPY	119
EVOLUTION	119
CHILDREN	117

AN EXAMPLE: PR RAOULT (YEAR 2011)



74% ARTICLES IN TOP 25% JOURNALS



Pr RAOULT

TOP 20 JOURNALS

Revue	Total
Emerg. Infect. Dis	14
PLoS One	11
J. Antimicrob. Chemother.	6
Lancet Infect. Dis.	4
Eur. J. Clin. Microbiol. Infect. Dis.	3
Proc. Natl. Acad. Sci. U. S. A.	3
Clin. Microbiol. Infect.	3
Clin. Infect. Dis.	3
Plos Neglect. Trop. Dis.	2
Ann. Trop. Med. Parasitol.	2
Anaerobe	2
J. Infect. Dis.	2
Comp. Immunol. Microbiol. Infect. Dis.	2
Int. J. Antimicrob. Agents	2
Vector-Borne Zoonotic Dis.	2
Biol. Direct	2
Trop. Med. Int. Health	1
New Microbiol.	1
Int. J. Infect. Dis.	1
Trends Mol. Med	1

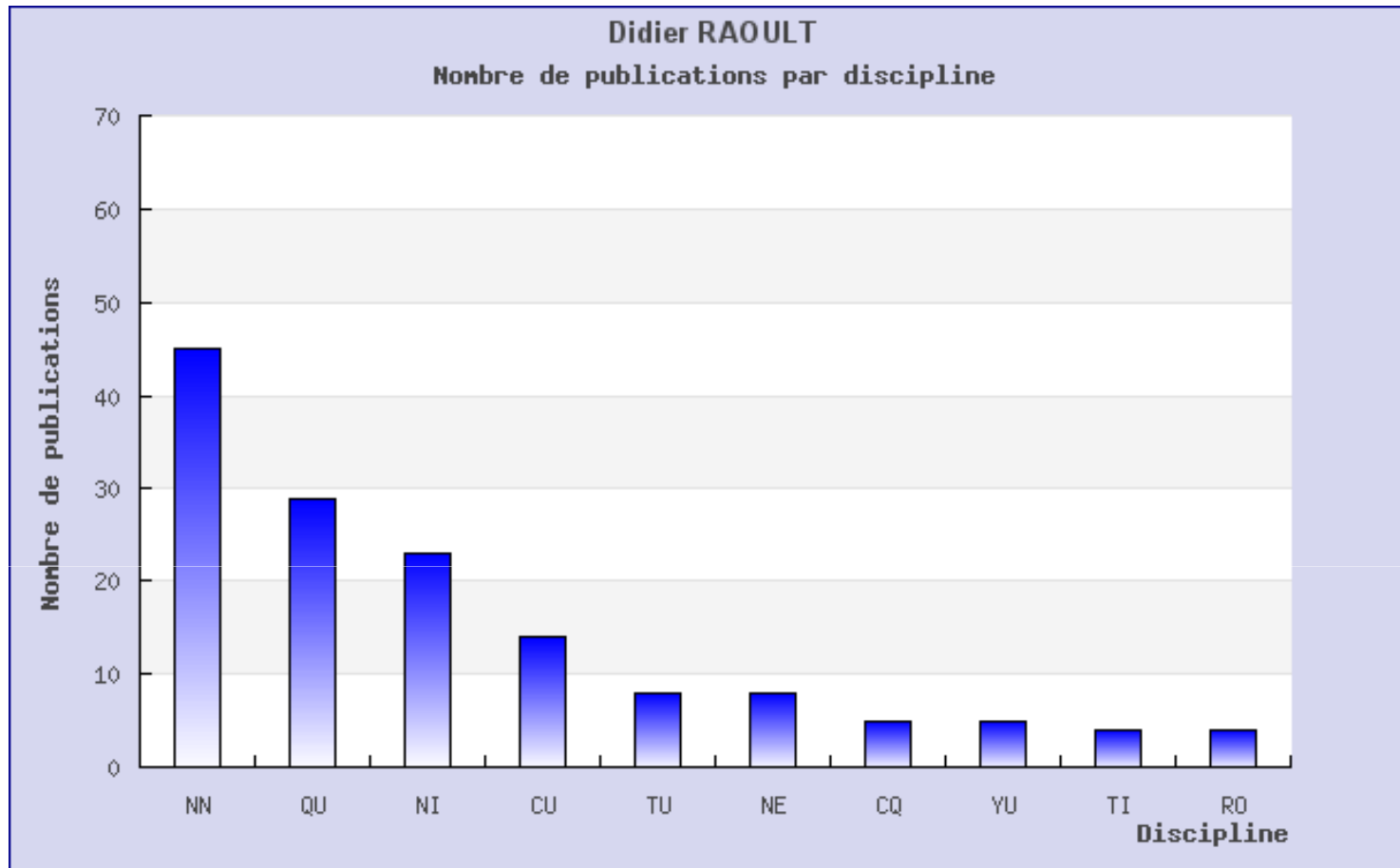
MOST COMMON COLLABORATIONS

Auteur	Total
Michel DRANCOURT	14
Jean-Marc ROLAIN	13
Philippe PAROLA	10
DAVOUST BERNARD	8
Bernard LA SCOLA	8
MEDIANNIKOV OLEG	7
SOCOLOVSCHI CRISTINA	6
Pierre-Edouard FOURNIER	6
RICHET HERVE	6
GEORGIADES KALLIOPI	6
Florence FENOLLAR	5
ANGELAKIS EMMANOUIL	5
Matthieu MILLION	5
Franck THUNY	5
MERHEJ VICKY	5
RENVOISE AURELIE	5
Christelle DESNUES	4
ROBERT CATHERINE	4
TRAN THINGUYENNY	4
CABRE OLIVIER	4

KEYWORDS

Keyword	Total
DIAGNOSIS	11
INFECTION	9
IDENTIFICATION	8
EVOLUTION	7
DISEASE	7
UNITED-STATES	6
PREVALENCE	5
BACTERIA	5
OUTBREAK	5
MICROBIOTA	4
EPIDEMIOLOGY	4
INFECTIONS	4
ENDOCARDITIS	4
EXPRESSION	4
FRANCE	4
BODY LOUSE	3
MOLECULAR-DETECTION	3
LARGE DNA VIRUSES	3
MICROORGANISMS	3
MORTALITY	3

Pr RAOULT



NN INFECTIOUS DISEASES / QU MICROBIOLOGY / NI IMMUNOLOGY / CU BIOLOGY / TU PHARMACOLOGY & PHARMACY / NE PUBLIC, ENVIRONMENTAL & OCCUPATIONAL HEALTH / CQ BIOCHEMISTRY & MOLECULAR BIOLOGY / YU TROPICAL MEDICINE / TI PARASITOLOGY / RO MULTIDISCIPLINARY SCIENCES

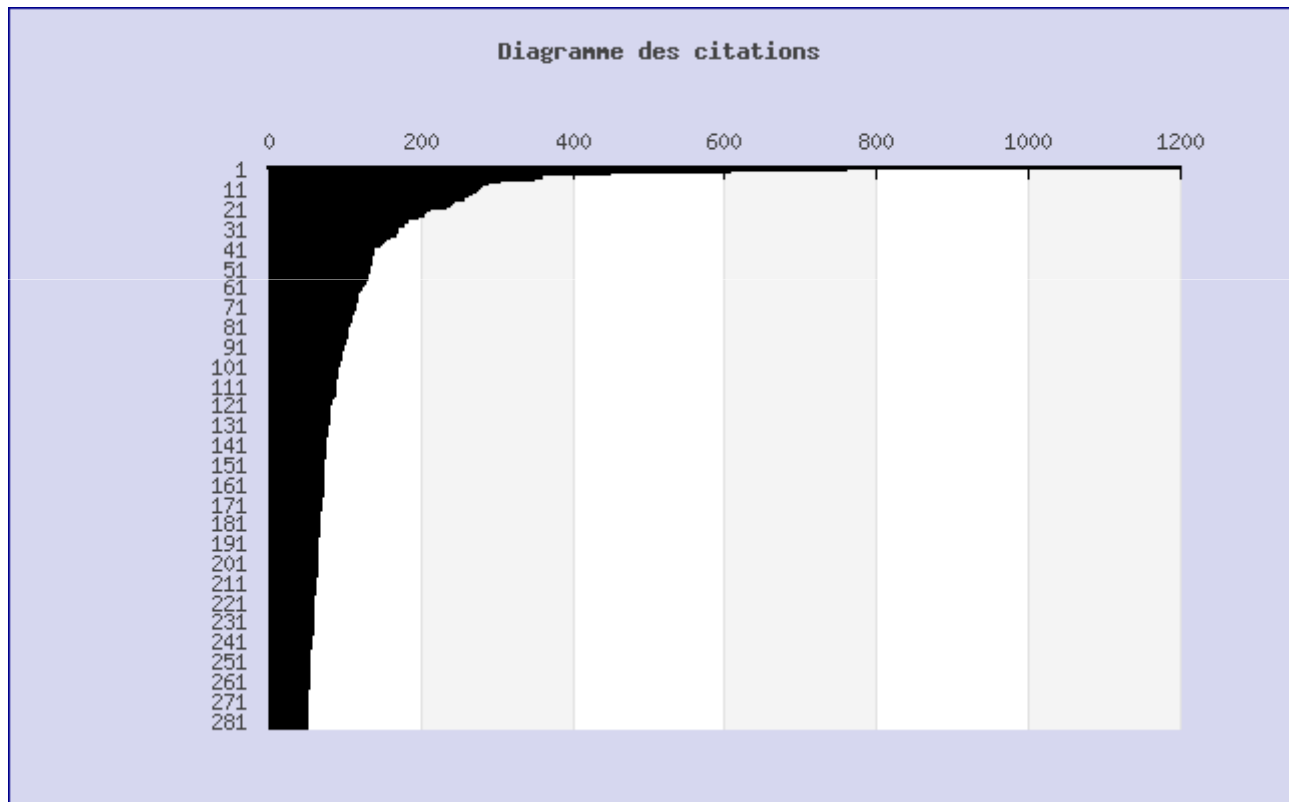
SIGAPS-IHU MÉDITERRANÉE INFECTION, A NEW APPROACH FOR BIBLIOMETRICS AND CORPORATE COMMUNICATION

- An upgraded SIGAPS for the IHU
- Transparency and open data

AN UPGRADED SIGAPS FOR THE IHU

- Additional tools for the IHU:
 - Citation index
 - H factor
 - A more comprehensive data base: World of Science

CITATION INDEX



H FACTOR: 95

Période : 2002 - 2011						
Nombre de publications	Nombre total de citations	Nombre moyen de citations/articles	1er Quartile	Nombre médian de citations	3eme Quartile	Facteur h
4209	64567	15.34	1	5	17	95

TRANSPARENCY AND OPEN DATA

- IHU Méditerranée Infection, first non university hospital user of SIGAPS
- Tester for the others IHU
- A crisscross logic : SIGAPS as a communication tool

TRANSPARENCY AND OPEN DATA

- SIGAPS data are to be published on the Foundation's website.
- SIGAPS as a communication tool :
 - Let researchers have a look at IHU's overview
 - Let potential sponsors know the IHU's impressive numbers

A new management for bibliometrics.