



UNIVERSITAT POLITÈCNICA
DE CATALUNYA
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Estudi comparatiu de la publicació científica de la UPC i l'Escola de Camins vs. altres universitats d'àmbit internacional (2000-2010)

Biblioteca Rector Gabriel Ferraté
Escola Tècnica Superior d'Enginyers de Camins,
Canals i Ports de Barcelona

Barcelona, 2013



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Canals i Ports de Barcelona



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1. Introducció

Objectiu i oportunitat

El present estudi sorgeix de la voluntat de continuar la tasca iniciada per l'Escola Tècnica Superior d'Enginyers de Camins, Canals i Ports de Barcelona (Escola de Camins) i per la seva biblioteca, la Biblioteca Rector Gabriel Ferraté (BRGF), l'any 2010 amb l'edició del primer *Estudi comparatiu de la publicació científica de la UPC i l'Escola de Camins vs. altres universitats d'àmbit internacional (1998-2008)*. Ambdós estudis pretenen:

- conèixer i analitzar els indicadors relatius a la publicació científico-tècnica del PDI vinculat a l'Escola de Camins
- situar, partint d'aquests indicadors, la posició de l' Escola de Camins en un context de recerca competitiu a nivell estatal i internacional
- identificar les revistes on publiquen més habitualment els investigadors dels àmbits de l'enginyeria civil vinculats a l' Escola de Camins
- identificar la dinàmica de publicació a la Universitat Politècnica de Catalunya (UPC) i a l'Escola en les revistes destacades per l' Escola de Camins

El present estudi mostra així mateix, com els estudis bibliomètrics poden aportar dades per a l'observació de l'evolució de la producció científica de la UPC i de l'Escola en un espai de temps determinat, comparant-se amb sí mateixes i amb d'altres institucions.

Per tal de donar uniformitat a ambdós estudis, s'han fet servir els mateixos recursos d'informació documentals accessibles a través de les biblioteques UPC que ja es van utilitzar al primer. Igualment, l'explotació i interrogació d'aquests recursos també ha seguit unes pautes similars. Sense que això disminueixi el seu valor, cal destacar que, ateses les pròpies característiques de les bases de dades utilitzades, aquest tipus d'estudis són per definició susceptibles de rebre interpretacions molt diverses quan s'entra en l'anàlisi excessivament detallada.

D'altra banda, cal tenir present, que dins l'àmbit de l'enginyeria civil les dinàmiques de publicació i les pautes de citació no són totalment homogènies, i es poden identificar especificitats puntuals en determinats camps de recerca.

Pel últim, els criteris usats han estat els més objectius i uniformitzadors possible però, cal tenir en compte que els resultats indiquen només tendències, indicadors comparatius i distints pesos de les institucions en el camp de la recerca en enginyeria civil. No es pretén doncs arribar a interpretacions úniques ni a la conclusió de què els resultats obtinguts són els únics possibles.

L'estructura de l'informe contempla:

- l'abast temàtic, geogràfic, cronològic i documental
- les fonts d'informació emprades
- la metodologia que s'ha utilitzat
- l'enunciat de dades bàsiques de les universitats analitzades
- l'anàlisi de dades quantitatives per institució i conjuntament
- l'anàlisi de dades de caire qualitatiu: quantitat de citacions rebudes per institució i conjuntament i índex H
- autors/articles més citats per a cada universitat
- revistes més recurrents a l'hora de publicar cada universitat i conjuntament
- conclusions



Abast de l'estudi

1. Abast temàtic

L'informe es centra en la publicació científica especialitzada en l'àmbit temàtic propi de l'Escola de Camins: l'enginyeria civil.

2. Abast geogràfic

Es comparen indicadors bibliomètrics de la UPC i l'Escola de Camins, amb els d'altres universitats internacionals amb activitat de recerca notable en l'àrea de l'enginyeria civil. Les universitats seleccionades són universitats europees, dels Estats Units i Llatinoamèrica escollides per la seva presència a diferents xarxes i rànquings internacionals, així com les altres dues universitats estatals amb més presència en l'àmbit de la recerca en enginyeria civil: la Universidad Politécnica de Madrid (UPM) i la Universitat Politècnica de València (UPV).

Aquesta selecció ha estat definida per la pròpia Escola en funció de la voluntat de l'Escola de Camins de comparar-se amb institucions de primera línia a nivell internacional.

3. Abast documental

Des del punt de vista de la tipologia documental, només s'ha treballat amb informació referent a articles publicats a revistes, deixant de banda comunicacions a congressos o altres tipologies pròpies de la publicació científica¹.

4. Abast cronològic

Les referències analitzades corresponen a articles publicats entre l'1 de gener de 2000 i el 31 de desembre de 2010.

Fonts d'informació

Les dades a partir de les quals s'ha elaborat l'estudi s'han extret de les bases de dades de Thomson-ISI: Web of Science (WoS), Journal Citation Reports (JCR) i Essential Science Indicators (ESI), totes tres abastament usades com a eina d'anàlisi bibliomètrica dins del món acadèmic.

¹ La base de dades Web of Science ja permet realitzar estudis de citacions de congressos, però les dades només es remonten a l'any 1990, a diferència de les dades referents a revistes que arrenquen el 1900.



2. Metodologia

1. Recuperació dels articles de les especialitats de enginyeria civil

L'Enginyeria civil, tal i com la defineixen les eines de referència consultades, és una branca de l'enginyeria que aplica els coneixements de diferents àmbits del saber (matemàtiques, física, geologia, química, etc.) a temes tant diversos com les estructures, l'energia, la construcció, els transports, la hidrologia o el medi ambient. La recuperació de revistes i articles al WoS, per tant, es fa molt difícil ja que caldria considerar desenes d'epígrafs diferents.

Com a alternativa, s'han definit quines són les àrees temàtiques més significatives en funció de l'activitat de recerca de l'Escola de Camins i s'han identificat les revistes més importants per a cadascuna d'aquestes àrees. Aquesta detecció s'ha portat a terme en dues fases. En primer lloc, es van identificar les revistes recollides al JCR dins de cadascuna de les especialitats que poden relacionar-se directament amb *civil engineering* i s'obtingué una llista de 1007 títols de revista. Concretament, es van escollir aquestes 21 *Subject Categories* des d'on es van extreure els llistats inicials de revistes a analitzar:

- Mechanics
- Mathematics, Interdisciplinary Applications
- Engineering, Multidisciplinary
- Geosciences, Multidisciplinary
- Engineering, Civil
- Water Resources
- Materials Science, Multidisciplinary
- Environmental Sciences
- Computer Science, Interdisciplinary Applications
- Physics, Fluids & Plasmas
- Engineering, Geological
- Construction & Building Technology
- Mathematics, Applied
- Engineering, Environmental
- Engineering, Mechanical
- Oceanography
- Engineering, Ocean
- Mining & Mineral Processing
- Transportation Science & Technology
- Transportation
- Geology

Els primers resultats obtinguts amb aquest conjunt de 1007 revistes van mostrar que l'impacte de l'Escola de Camins en el conjunt de les publicacions de la UPC és relativament escàs, si s'agafa aquesta base de revistes. Només al voltant del 30% de les publicacions de la UPC corresponen a professors adscrits al centre –percentatge gens sorprenent, atès que les temàtiques d'aquestes 21 *subject categories* són molt àmplies i abasten diverses branques de l'enginyeria-.

Per aconseguir el llistat definitiu de títols, l'Escola de Camins va reduir les 21 *Subject Categories* a les 7 que són del seu interès analitzar: *Construction & Building Technology*, *Engineering, Civil*, *Engineering, Geological*, *Engineering, Multidisciplinary*, *Transportation*, *Transportation Science & Technology* i *Water Resources*.



Finalment doncs, s'han executat cerques a WoS dels articles publicats a totes les revistes de les 7 *Subject Categories* seleccionades, tot aplicant els límits cronològics i documentals descrits anteriorment. Com a resultat, s'han obtingut referències dels articles publicats a 346 revistes –v. Annex 1- en les especialitats pròpies de l'Escola de Camins, durant el període en el que se centra l'estudi.

Com es veurà, el 70.88% de les publicacions UPC a les revistes finalment triades corresponen a l'Escola, de manera que es poden considerar representatives de l'enginyeria civil.

2. Recuperació dels articles publicats per autors de cada universitat

Una de les principals dificultats en l'elaboració d'estudis bibliomètrics prenen com a base WoS, és la manca generalitzada de normalització als noms d'autors i institucions. És important tenir en compte que *ISI Essential Science Indicators*, manté un llistat de formes normalitzades de noms d'institucions, però tot i així, les dades que apareixen als registres de les bases de dades Thomson-ISI, són les mateixes que els propis autors i editors van fer constar en els articles, tal i com aquests es van publicar originalment. Com a conseqüència, les institucions sovint apareixen consignades amb diverses variants dels seus noms, circumstància que complica en gran mesura la recuperació exhaustiva d'informació pertinent².

Per tal de donar una solució a aquest fet, i després d'examinar les especificitats de les institucions acadèmiques que s'analitzen, s'ha decidit aplicar una estratègia única i comuna en la construcció d'algorismes de cerca vàlida per a totes les universitats considerades. L'estratègia de cerca manté, com a principi bàsic, l'obtenció del màxim possible d'ítems per cadascuna de les institucions, sempre i quan no es trenqui la pertinença dels resultats, tot tenint en compte:

- les variants dels noms que s'han recollit són les següents:
 - forma normalitzada a *Essential Science Indicators*
 - sigles i abreviatures
 - variants en l'idioma/idiomes oficials
 - variants en anglès
 - altres formes alternatives no normalitzades
- el control dels resultats obtinguts mitjançant mostreigs significatius del conjunt de registres

Un cop executades les cerques, els resultats obtinguts s'han combinat amb els aconseguitos en la cerca per títols de revista, que es descriu a l'apartat anterior. Com a resultat s'ha obtingut un llistat d'articles publicats en revistes de les especialitats JCR abans detallades, escrits per autors membres de cadascuna de les universitats contemplades a l'estudi.

² En el cas de UPC aquest problema és especialment greu atès que es poden detectar fins a desenes d'aquestes variants.



3. Recuperació dels articles publicats per autors vinculats a l'Escola de Camins

Un cop recuperats els articles dels autors UPC, l'obtenció dels articles amb professors vinculats a l'Escola de Camins s'ha realitzat introduint limitacions a l'algorisme de cerca a través dels camps *Address* i *Zip Code*. D'aquesta manera ha estat possible recuperar els registres que inclouen com a mínim l'adreça d'un autor al Campus Nord de la UPC. Com que no tots els autors/editors inclouen dades relatives a l'adreça, s'ha efectuat una posterior correcció combinant aquest algorisme, amb un altre que ha inclòs la forma normalitzada del nom dels autors vinculats a l'Escola de Camins.

Cal remarcar que la manca de normalització en els noms dels autors pot haver exclòs de l'equació de cerca formes alternatives, no indexades per WoS.

4. Anàlisi de citacions rebudes

Les citacions rebudes constitueixen un indicador usat de forma comuna tant als estudis bibliomètrics com en la mesura de l'impacte de l'activitat de recerca.

Les dades s'han extret directament de WoS, fent servir la utilitat *Analyze Results*, que elabora rànquings d'autors amb més quantitat de publicació, títols de revista on més es publica, etc., i la utilitat *Create Citation Report*, que genera un recompte de citacions en dos gràfics: un per a la quantitat d'articles publicats per any, i un per al nombre de vegades que aquests articles han estat citats.

Al costat de les dades corresponents al nombre de cites rebudes per cada institució, s'inclou l'índex H³ de tot el conjunt d'articles publicats durant el període estudiat. Es proporcionen també els índex H del primer i de l'últim any d'aquest període.

5. Articles més citats de cada universitat i revistes on més publiquen

Les dades recollides en aquests dos apartats han estat extretes de WoS a través de la utilitat *Analyze Results*.

³ L'índex H és un indicador creat per Jorge Hirsch, de la Universitat de Califòrnia - San Diego determina el balanç entre les publicacions d'un científic o institució i la quantitat de citacions que aquestes publicacions reben.



3. Gràfics i dades d'articles publicats

Es recull a continuació el nombre d'articles publicats per cada institució en els 6 àmbits temàtics analitzats entre 2000 i 2010, en total i any a any, així com un gràfic comparatiu d'aquesta dada a nivell de totes les institucions.

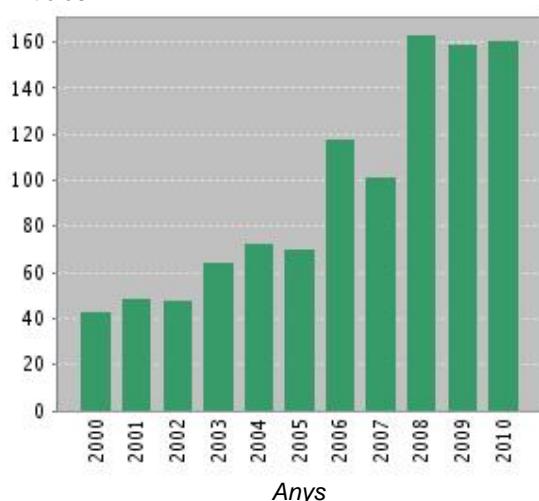
S'acaba amb la comparació d'àmbit estatal UPC vs. UPM i UPV.

3.1. Gràfics i dades d'articles publicats per universitats⁴

3.1.1. UPC - Universitat Politècnica de Catalunya

Total d'articles publicats: **1051**

Articles

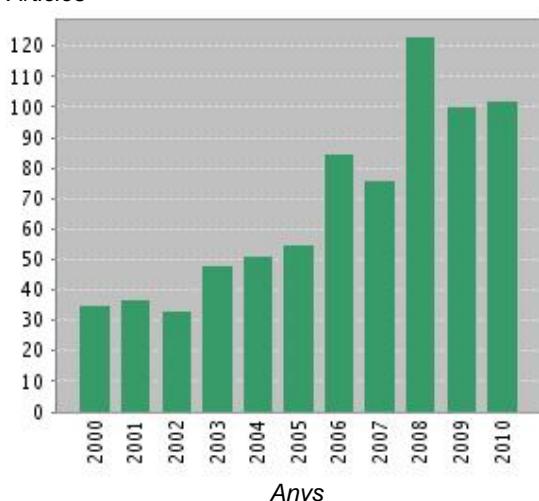


Any	# Articles
2000	43
2001	49
2002	48
2003	65
2004	73
2005	70
2006	118
2007	102
2008	163
2009	159
2010	161
Total	1051

3.1.1.1. Escola de Camins

Total d'articles publicats: **745**

Articles

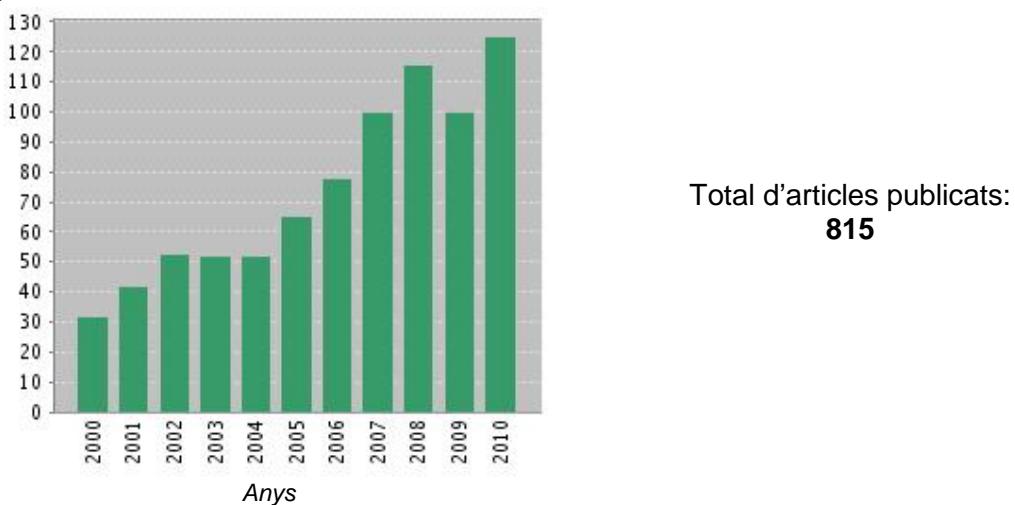


Any	# Articles
2000	35
2001	37
2002	33
2003	48
2004	51
2005	55
2006	85
2007	76
2008	123
2009	100
2010	102
Total	745

⁴ Bases de dades consultades el 8 de juliol de 2013

3.1.2. EPFL – École Polytechnique Fédérale de Lausanne

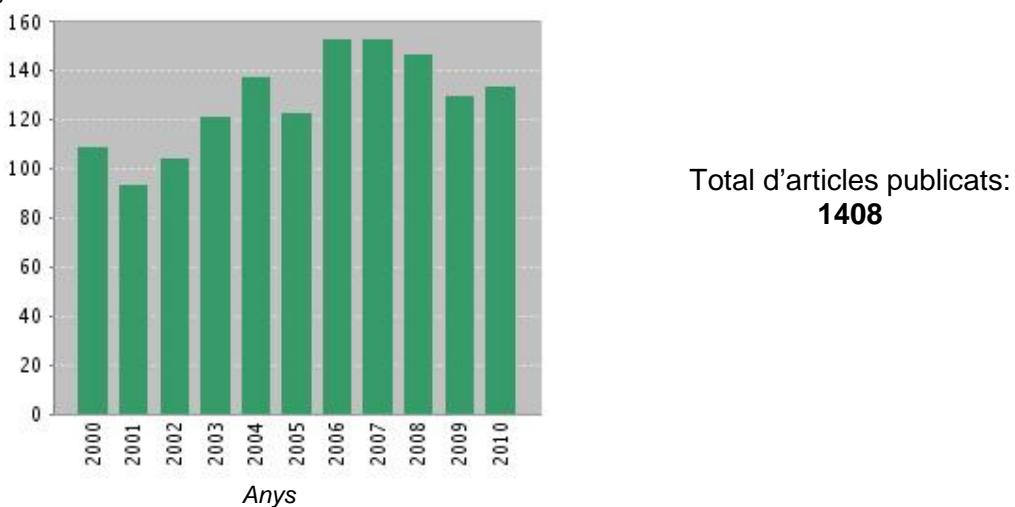
Articles



Total d'articles publicats:
815

3.1.3. Imperial College London

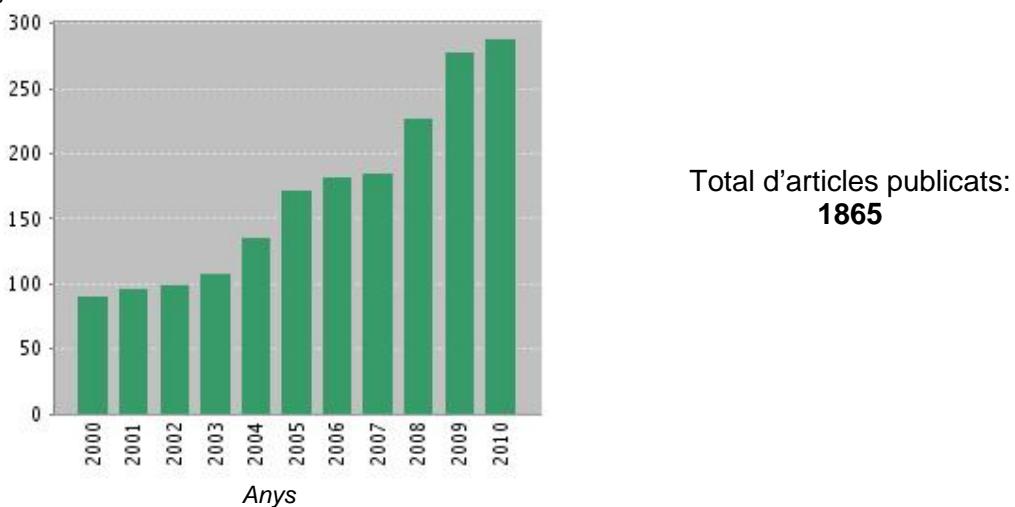
Articles



Total d'articles publicats:
1408

3.1.4. TU Delft - Technische Universiteit Delft

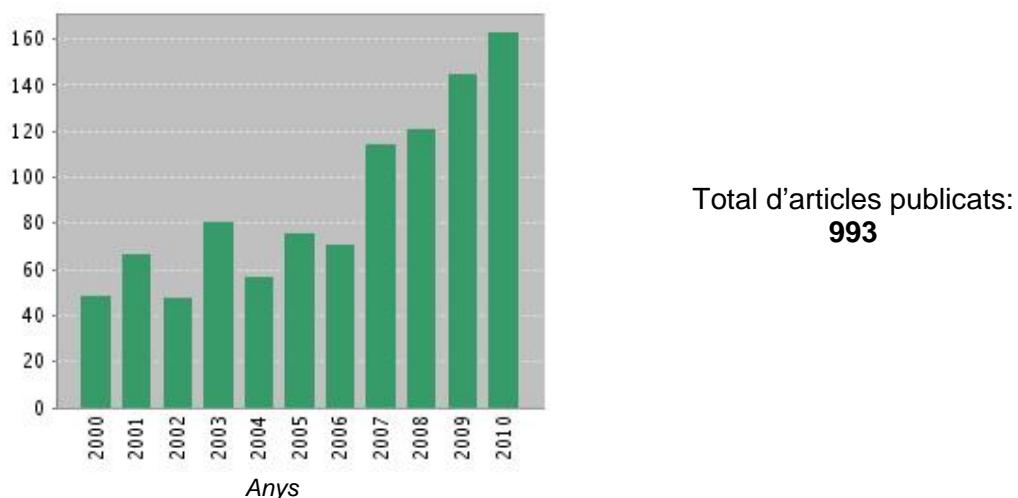
Articles



Total d'articles publicats:
1865

3.1.5. ETHZ – Swiss Federal Institute of Technology Zurich

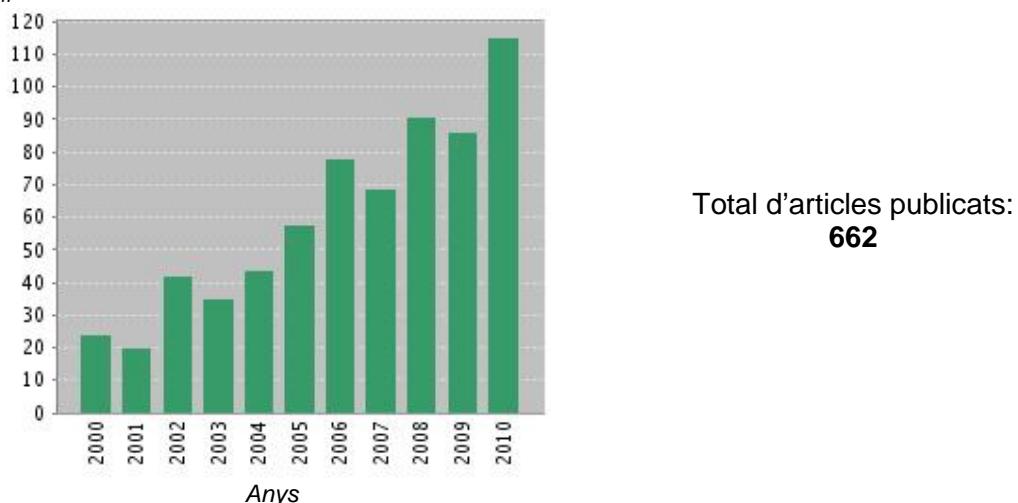
Articles



Total d'articles publicats:
993

3.1.6. ENPC / LCPC – École Nationale des Ponts et Chaussées / Laboratoire Central des Ponts et Chaussées

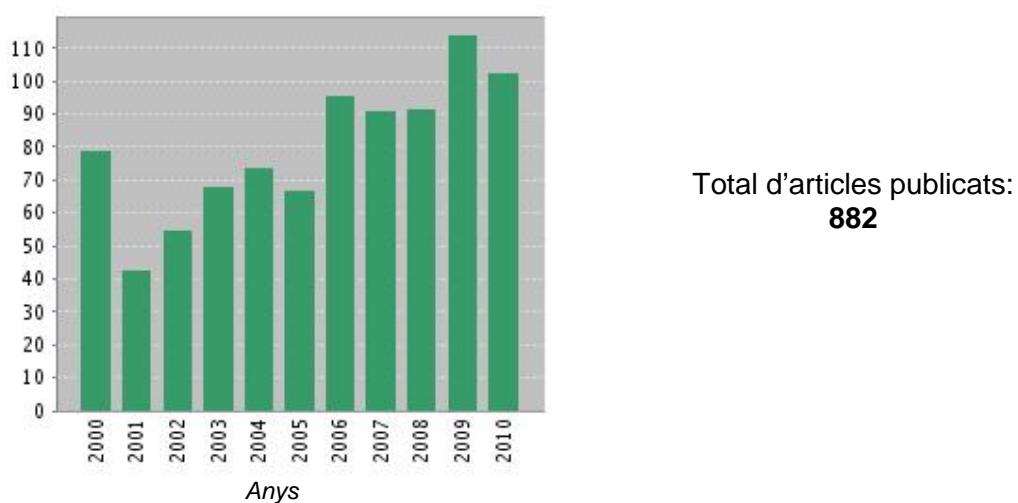
#Articles#



Total d'articles publicats:
662

3.1.7. Stanford University

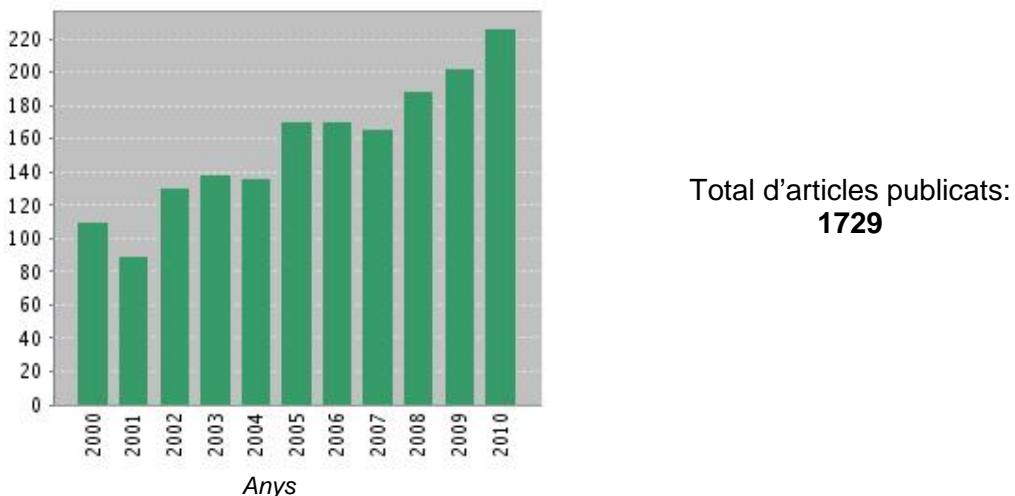
Articles



Total d'articles publicats:
882

3.1.8. TAMU - Texas A&M University

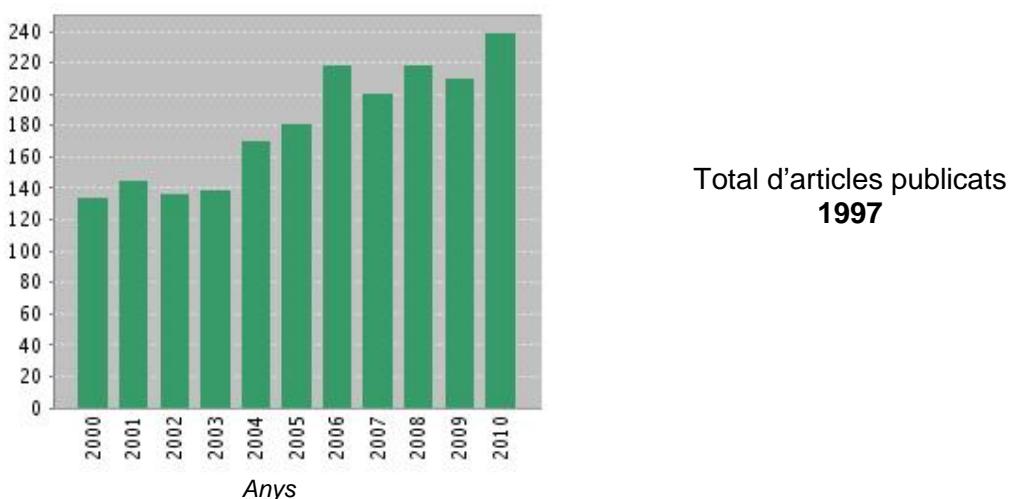
Articles



Total d'articles publicats:
1729

3.1.9. UI - University of Illinois

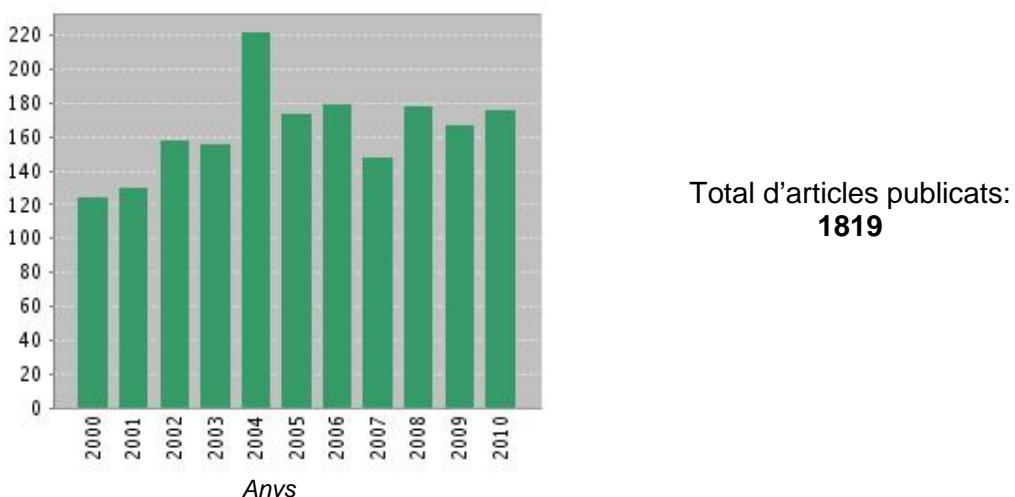
Articles



Total d'articles publicats:
1997

3.1.10. University of California Berkeley

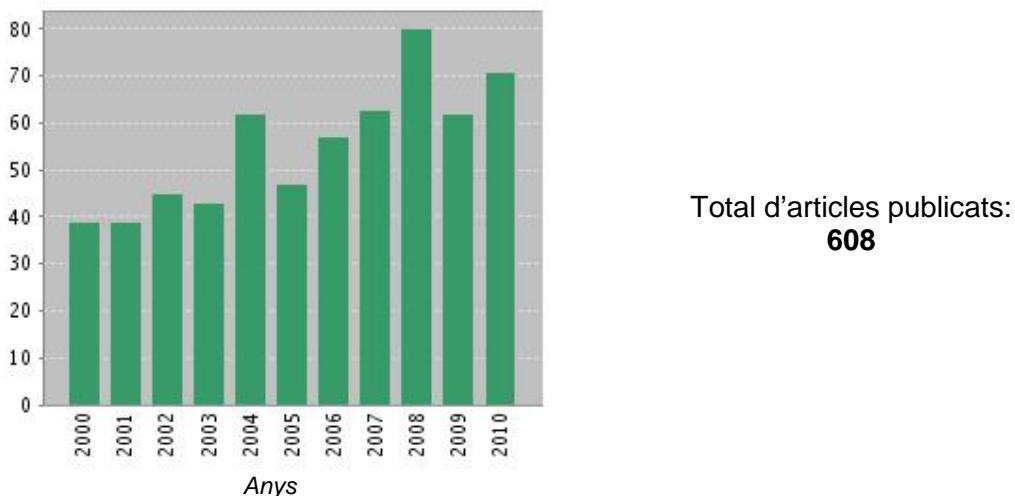
Articles



Total d'articles publicats:
1819

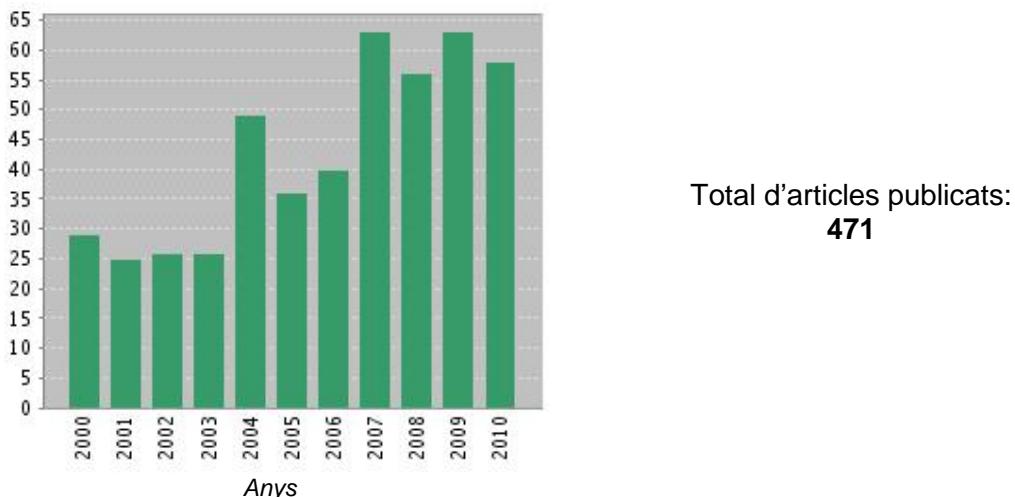
3.1.11. UNAM – Universidad Nacional Autónoma de México

Articles



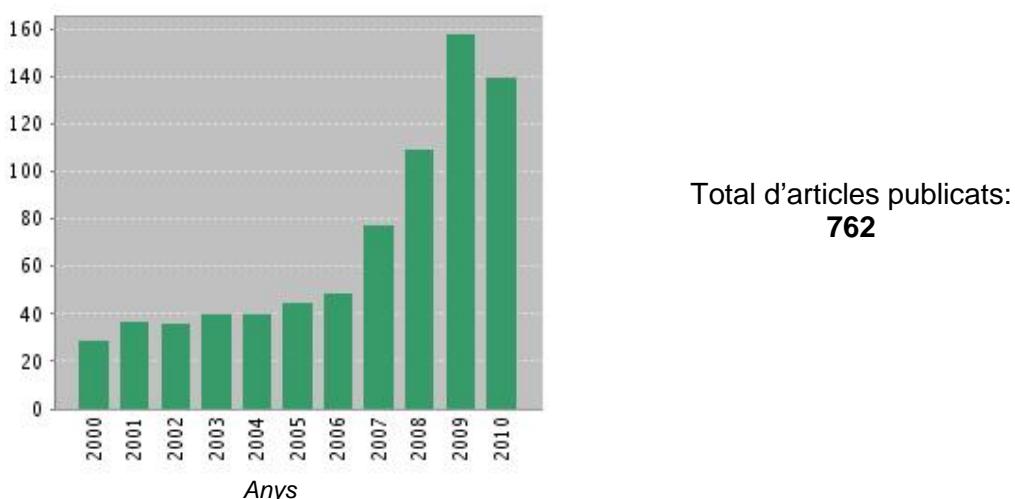
3.1.12. UFRJ – Universidade Federal do Rio de Janeiro

Articles



3.1.13. USP - Universidade de São Paulo

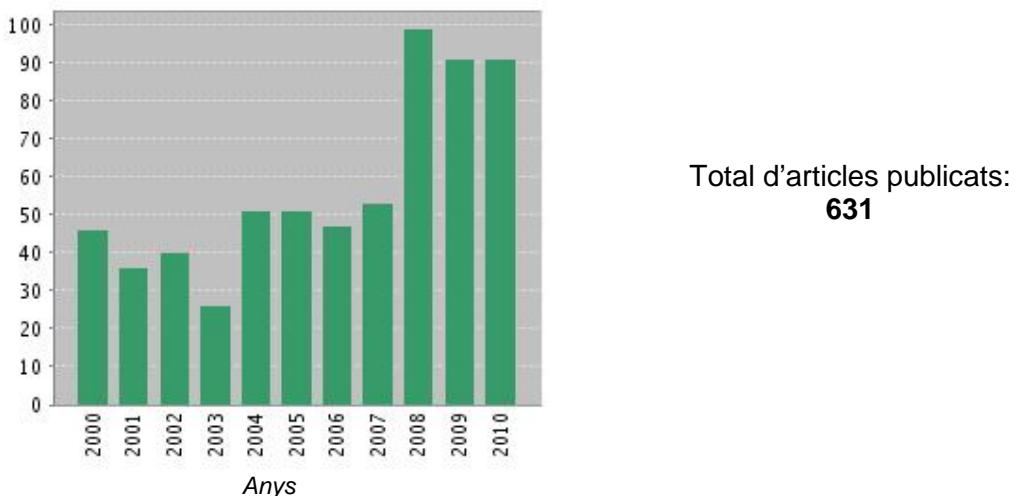
Articles





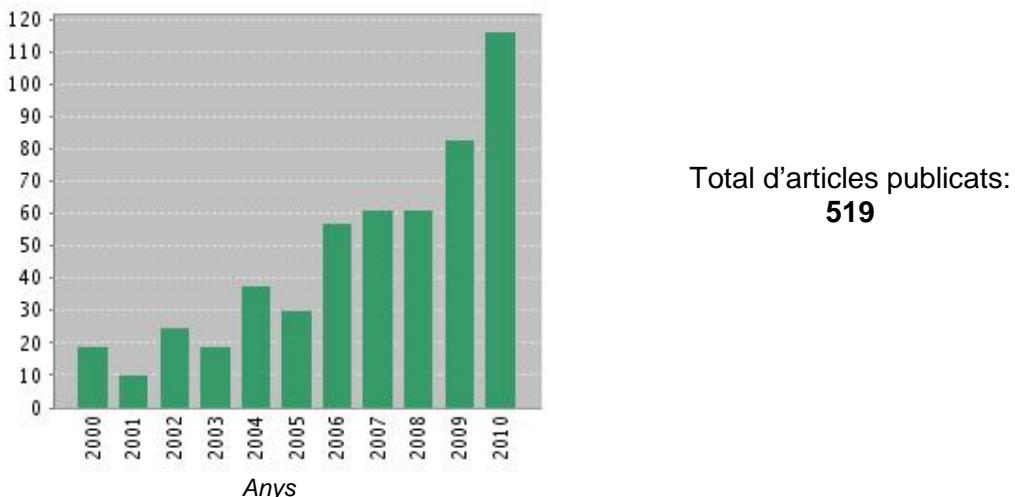
3.1.14. UTL - Universidade Técnica de Lisboa

Articles



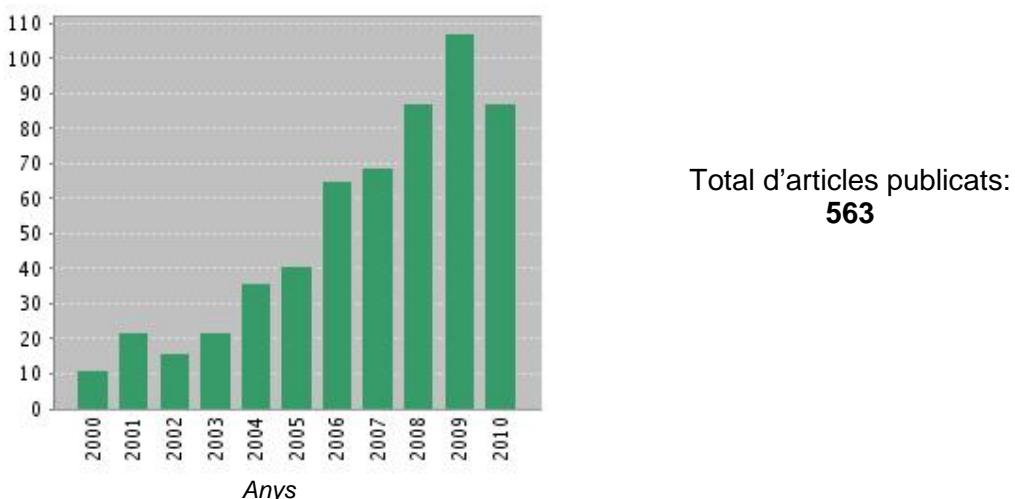
3.1.15. UPM - Universidad Politécnica de Madrid

Articles



3.1.16. UPV - Universitat Politècnica de València

Articles



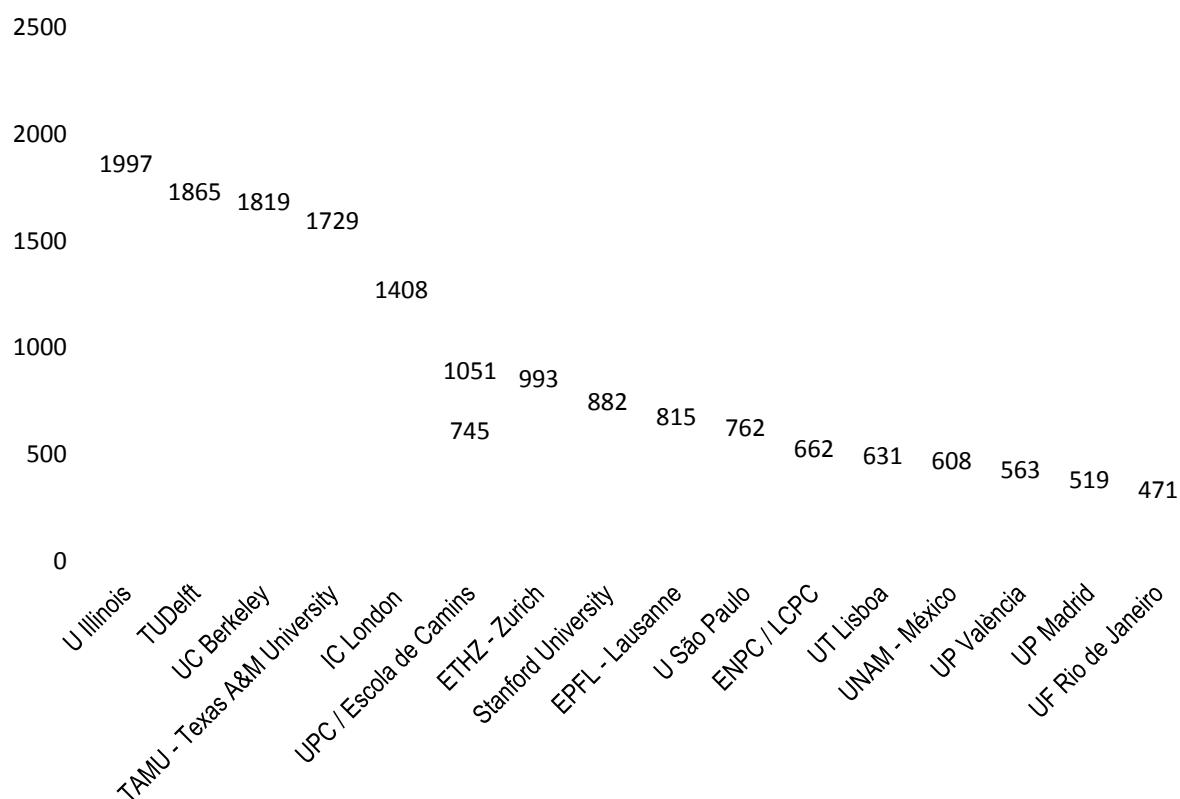


3.2. Gràfics i taula comparatius de quantitat de publicació científica

3.2.1 Gràfic UPC vs. UPM i UPV 2000-2010

3.2.2. Gràfic i taula global 2000-2010

Es destaca en color blau fosc la columna relativa a la producció UPC -995 articles-, i dins d'aquesta s'ha marcat – en color més clar– la xifra corresponent a publicacions que compten amb un o més professors assignats a l'Escola de Camins - 696 articles; el 69,94 % de la producció UPC-, independentment de que també hi participin altres professors de la UPC o de qualsevol altra institució. Aquesta distinció gràfica serà utilitzada en la totalitat de l'estudi.





Institució	Producció 1998-2008	Producció 2000-2010	Variació producció	Posició 1998- 2008	Posició actual ⁵
UIUC - University of Illinois at Urbana-Champaign	967	1997	106,51%	5	1 ↑
TUDelft - Technische Universiteit Delft	1274	1865	46,39%	2	2 ↔
University of California Berkeley	1390	1819	30,86%	1	3 ↓
TAMU - Texas A&M University	1025	1729	68,68%	4	4 ↔
Imperial College London	1230	1408	14,47%	3	5 ↓
UPC - Universitat Politècnica de Catalunya	753	1051	39,58%	6	6 ↔
ETHZ - Swiss Federal Institute of Technology Zurich	616	993	61,20%	8	7 ↑
Stanford University	645	882	36,74%	7	8 ↓
EPFL - École Polytechnique Fédérale de Lausanne	410	815	98,78%	10	9 ↑
USP – Universidade de São Paulo	317	762	140,38%	14	10 ↑
-Escola de Camins-	437	745	70,48%	9	11 ↓
ENPC / LCPC – École nationale des ponts et chaussées / Laboratoire Central des Ponts et Chaussées	349	662	89,68%	11	12 ↓
UTL - Universidade Técnica de Lisboa	286	631	120,63%	16	13 ↑
UNAM – Universidad Nacional Autónoma de México	324	608	87,65%	13	14 ↓
UPV - Universitat Politècnica de València	294	563	91,50%	15	15 ↔
UPM - Universidad Politécnica de Madrid	262	519	98,09%	17	16 ↑
UFRJ – Universidade Federal do Rio de Janeiro	335	471	40,60%	12	17 ↓

⁵.- Tot i que són 16 les universitats analitzades, el rànquing arriba fins el número 17 ja l'Escola de Camins s'hi inclou com una institució més.



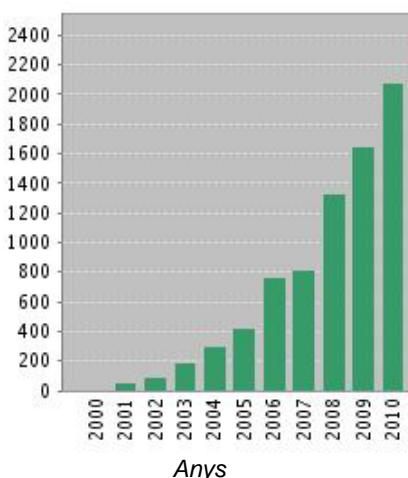
4. Gràfics i dades de citacions rebudes

Es detalla aquí el nombre de referències rebudes pels articles publicats per cada institució entre 2000 i 2010, així com altres dades d'interès -mitjana de citacions per ítem i índex H-. També s'inclou el gràfic comparatiu d'aquestes dades a nivell de totes les institucions i la comparació d'àmbit estatal UPC vs. UPM i UPV.

4.1. Gràfics i dades de citacions rebudes per universitats⁶

4.1.1. UPC - Universitat Politècnica de Catalunya

Citacions



Total d'articles publicats: **1051**

Quantitat de citacions rebudes: **13.687**

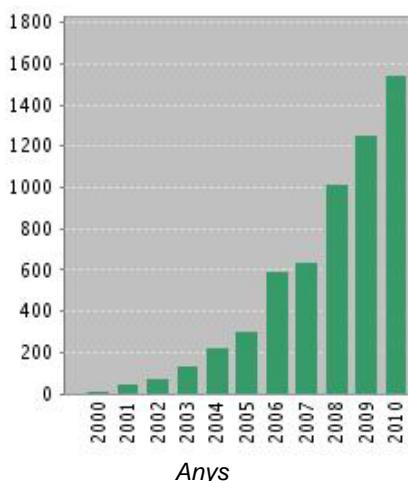
Mitjana de citacions per ítem: **13,02**

Índex H:

- primer any: **20**
- últim any: **13**
- període 2000-2010: **50**

4.1.1.1. Escola de Camins

Citacions



Total d'articles publicats: **745**

Quantitat de citacions rebudes: **10.214**

Mitjana de citacions per ítem: **13,71**

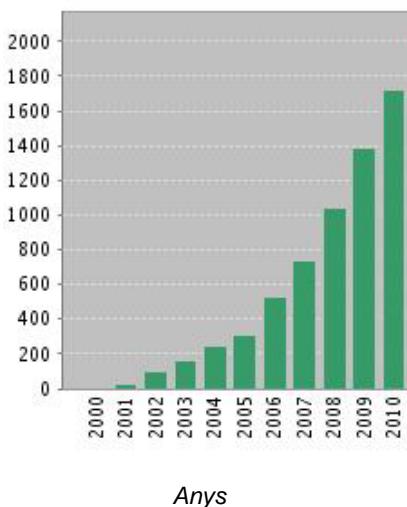
Índex H:

- primer any: **18**
- últim any: **12**
- període 2000-2010: **42**

⁶ Bases de dades consultades el 9 de juliol de 2013. S'inclouen, per tant, les cites rebudes pels articles durant l'any 2011, 2012 i part del 2013.

4.1.2. EPFL – École Polytechnique Fédérale de Lausanne

Citacions



Total d'articles publicats: **815**

Quantitat de citacions rebudes: **11.349**

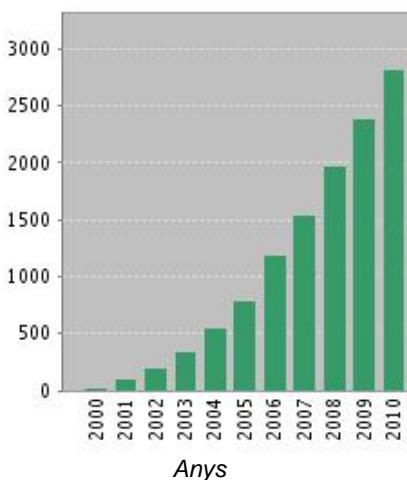
Mitjana de citacions per ítem: **13,93**

Índex H:

- primer any: **12**
- últim any: **13**
- període 2000-2010: **47**

4.1.3. Imperial College London

Citacions



Total d'articles publicats: **1.408**

Quantitat de citacions rebudes: **19.581**

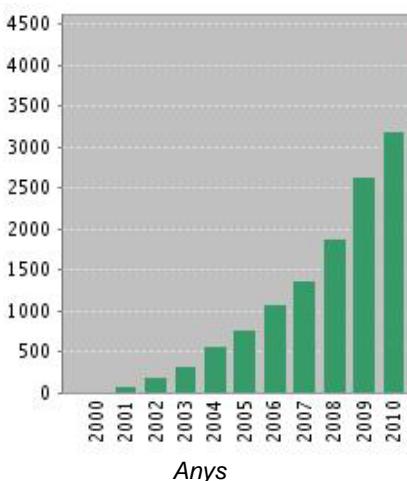
Mitjana de citacions per ítem: **13,91**

Índex H:

- primer any: **26**
- últim any: **12**
- període 2000-2010: **58**

4.1.4. TU Delft - Technische Universiteit Delft

Citacions



Total d'articles publicats: **1.865**

Quantitat de citacions rebudes: **22.695**

Mitjana de citacions per ítem: **12,17**

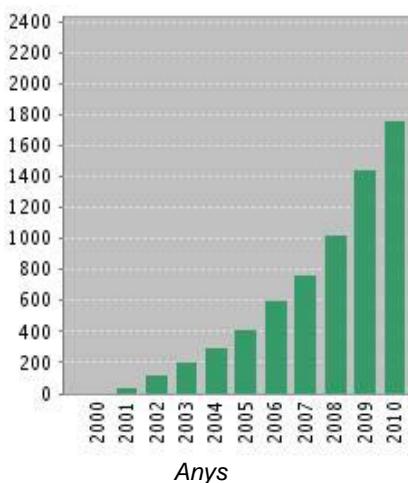
Índex H:

- primer any: **22**
- últim any: **18**
- període 2000-2010: **58**



4.1.5. ETHZ – Swiss Federal Institute of Technology Zurich

Citacions

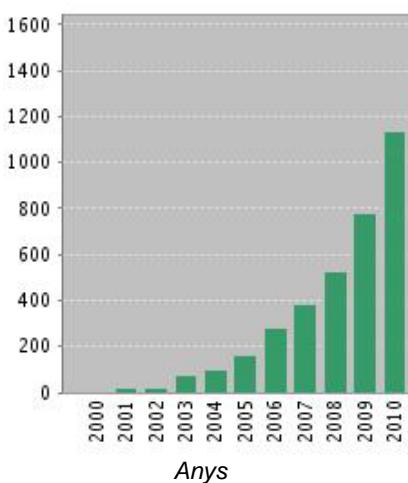
Total d'articles publicats: **993**Quantitat de citacions rebudes: **12.230**Mitjana de citacions per ítem: **12,32**

Índex H:

- primer any: **16**
- últim any: **16**
- període 2000-2010: **47**

4.1.6. ENPC / LCPC – École Nationale des Ponts et Chaussées / Laboratoire Central des Ponts et Chaussées

#Articles

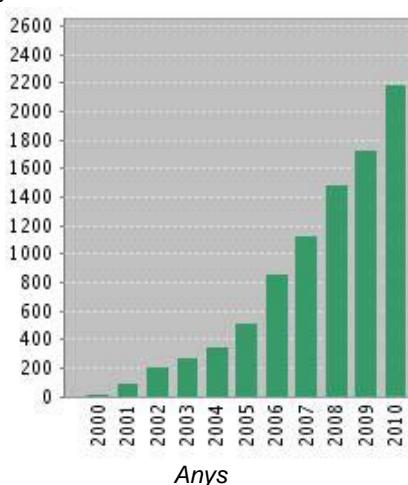
Total d'articles publicats: **662**Quantitat de citacions rebudes: **7.026**Mitjana de citacions per ítem: **10,61**

Índex H:

- primer any: **13**
- últim any: **13**
- període 2000-2010: **35**

4.1.7. Stanford University

Articles

Total d'articles publicats: **882**Quantitat de citacions rebudes: **15.020**Mitjana de citacions per ítem: **17,03**

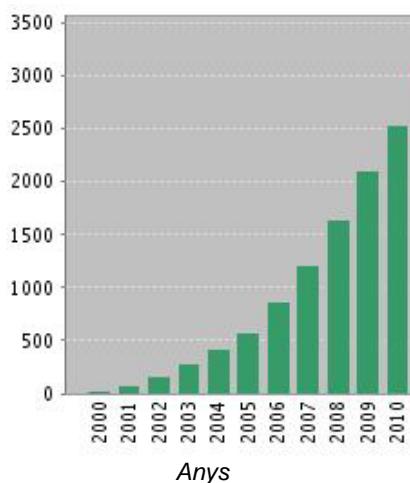
Índex H:

- primer any: **29**
- últim any: **12**
- període 2000-2010: **53**



4.1.8. TAMU - Texas A&M University

Citacions

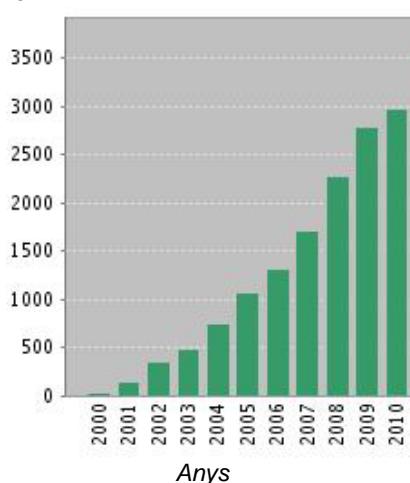
Total d'articles publicats: **1.729**Quantitat de citacions rebudes: **17.930**Mitjana de citacions per ítem: **10,37**

Índex H:

- primer any: **20**
- últim any: **16**
- període 2000-2010: **49**

4.1.9. UI - University of Illinois

Citacions

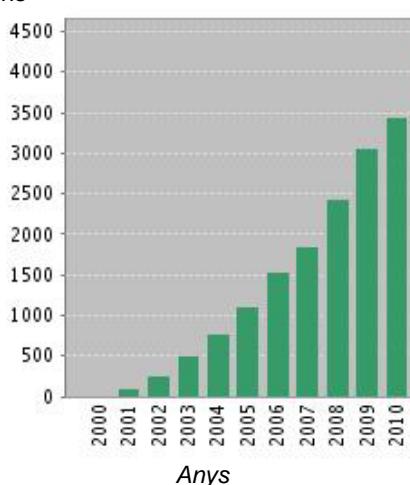
Total d'articles publicats: **1.997**Quantitat de citacions rebudes: **22.709**Mitjana de citacions per ítem: **11,37**

Índex H:

- primer any: **27**
- últim any: **14**
- període 2000-2010: **54**

4.1.10. University of California Berkeley

Citacions

Total d'articles publicats: **1.819**Quantitat de citacions rebudes: **25.654**Mitjana de citacions per ítem: **14,10**

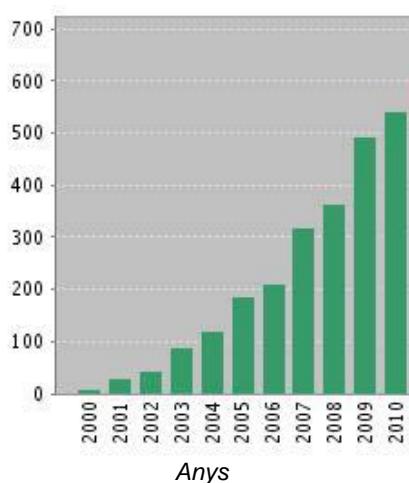
Índex H:

- primer any: **27**
- últim any: **14**
- període 2000-2010: **63**



4.1.11. UNAM – Universidad Nacional Autónoma de México

Citacions

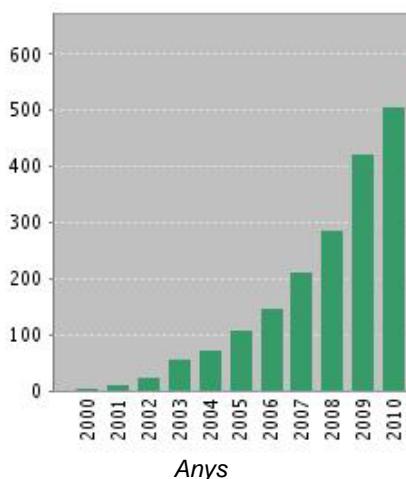
Total d'articles publicats: **608**Quantitat de citacions rebudes: **4.004**Mitjana de citacions per ítem: **6,59**

Índex H:

- primer any: **10**
- últim any: **8**
- període 2000-2010: **26**

4.1.12. UFRJ – Universidade Federal do Rio de Janeiro

Citacions

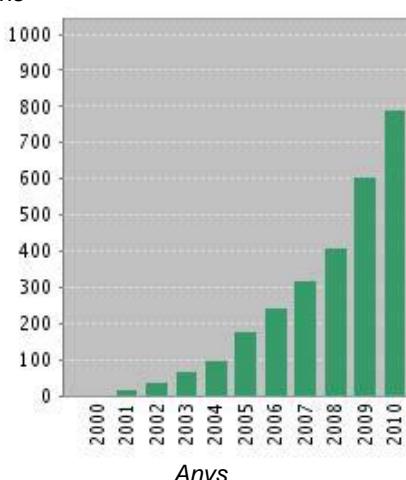
Total d'articles publicats: **471**Quantitat de citacions rebudes: **3.359**Mitjana de citacions per ítem: **7,13**

Índex H:

- primer any: **9**
- últim any: **8**
- període 2000-2010: **23**

4.1.13. USP - Universidade de São Paulo

Citacions

Total d'articles publicats: **762**Quantitat de citacions rebudes: **5.140**Mitjana de citacions per ítem: **6,75**

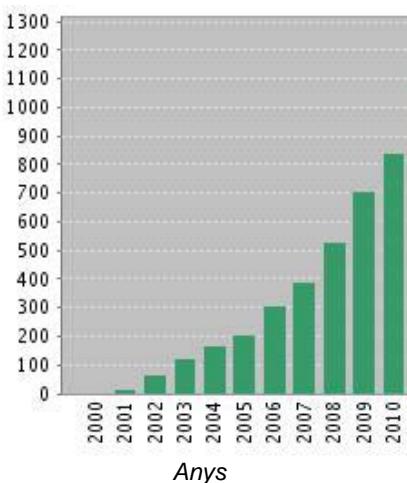
Índex H:

- primer any: **12**
- últim any: **11**
- període 2000-2010: **27**



4.1.14. UTL - Universidade Técnica de Lisboa

Citacions

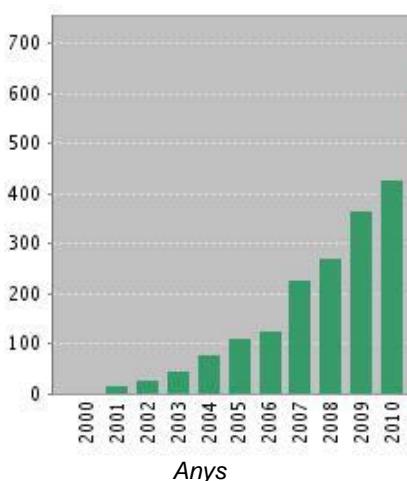
Total d'articles publicats: **631**Quantitat de citacions rebudes: **6.271**Mitjana de citacions per ítem: **9,94**

Índex H:

- primer any: **15**
- últim any: **8**
- període 2000-2010: **32**

4.1.15. UPM - Universidad Politécnica de Madrid

Citacions

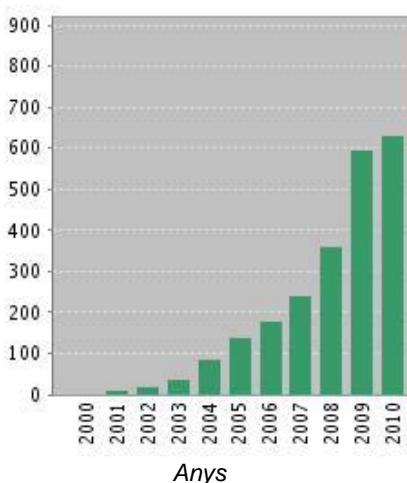
Total d'articles publicats: **519**Quantitat de citacions rebudes: **3.334**Mitjana de citacions per ítem: **6,42**

Índex H:

- primer any: **12**
- últim any: **9**
- període 2000-2010: **23**

4.1.16. UPV - Universitat Politècnica de València

Citacions

Total d'articles publicats: **563**Quantitat de citacions rebudes: **4.470**Mitjana de citacions per ítem: **7,94**

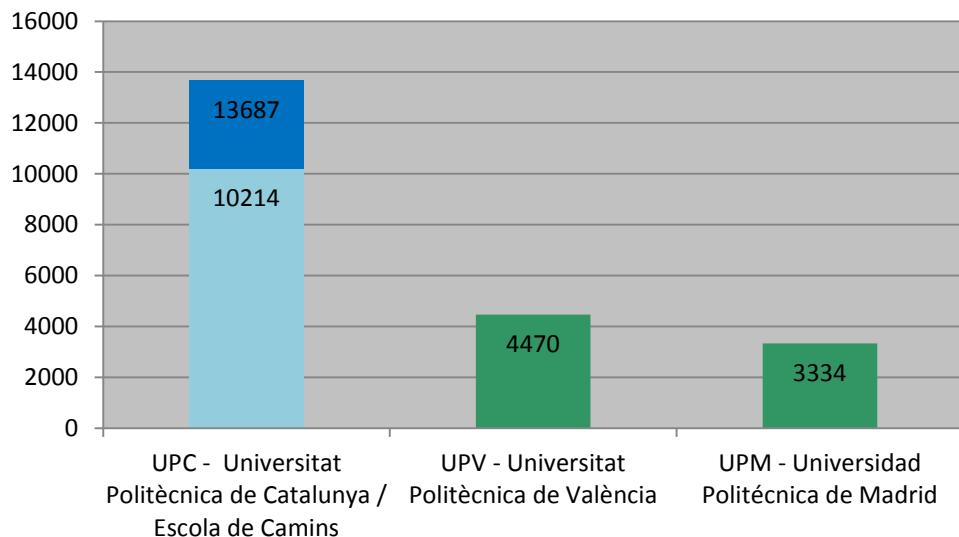
Índex H:

- primer any: **6**
- últim any: **10**
- període 2000-2010: **26**

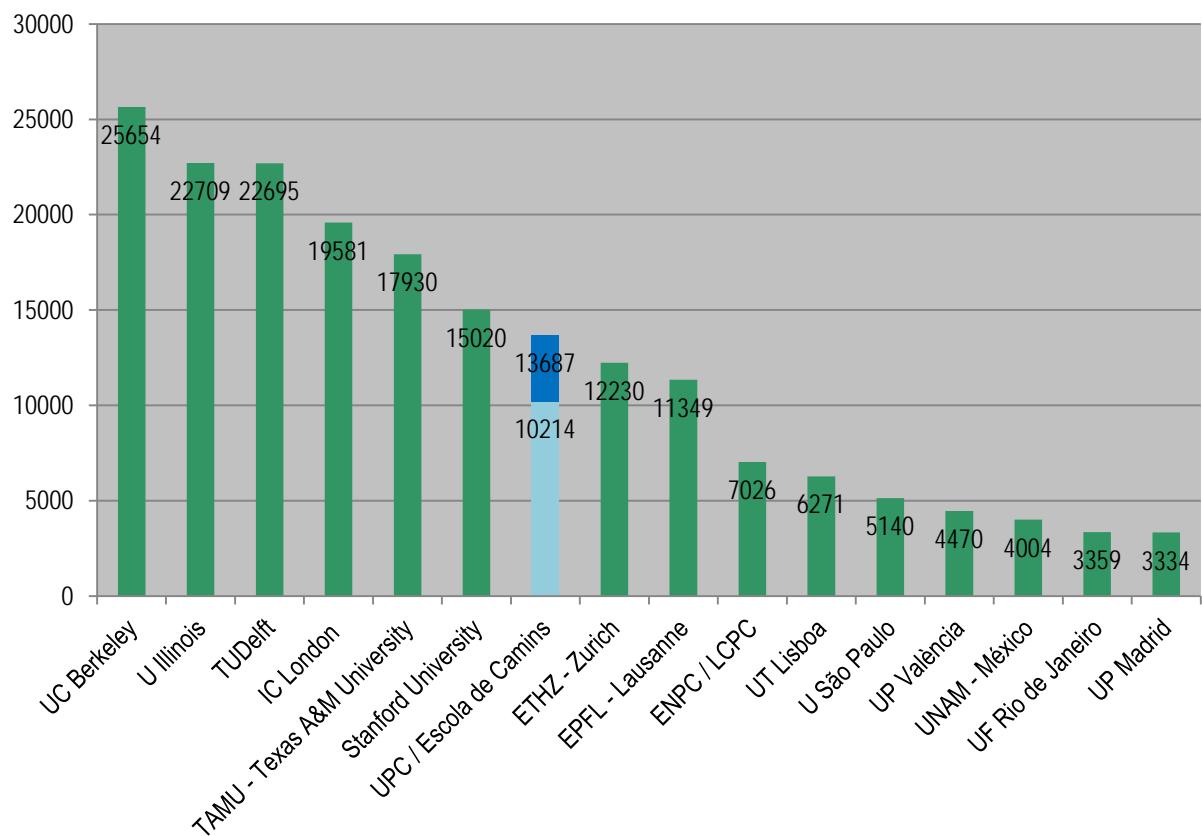


4.2. Gràfics i taula comparatius de les citacions a la publicació científica⁷

4.2.1. Gràfic UPC vs. UPM i UPV 2000-2010



4.2.2. Gràfic i taula global 2000-2010



⁷ Bases de dades consultades el 9 de juliol de 2013. S'inclouen, per tant, les cites rebudes pels articles durant els anys 2011, 2012 i part del 2013.

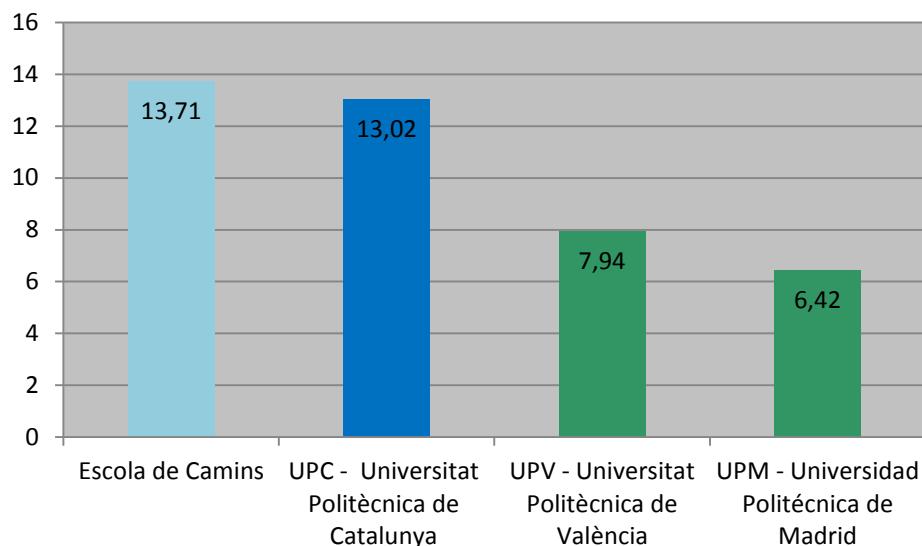


Institució	Total citacions rebudes 1998-2008	Total citacions rebudes 2000-2010	Variació citacions	Posició 1998-2008	Posició actual
University of California Berkeley	10884	25654	135,70%	1	1 ↔
UIUC - University of Illinois at Urbana-Champaign	10274	22709	121,03%	2	2 ↔
TUDelft - Technische Universiteit Delft	6249	22695	263,18%	6	3 ↑
Imperial College London	8121	19581	141,12%	3	4 ↓
TAMU - Texas A&M University	7441	17930	140,96%	4	5 ↓
Stanford University	6777	15020	121,63%	5	6 ↓
UPC - Universitat Politècnica de Catalunya	5216	13687	162,40%	8	7 ↑
ETHZ - Swiss Federal Institute of Technology Zurich	6131	12230	99,48%	7	8 ↓
EPFL - École Polytechnique Fédérale de Lausanne	3064	11349	270,40%	10	9 ↑
-Escola de Camins-	3992	10214	155,86%	9	10 ↓
ENPC / LCPC – École nationale des ponts et chaussées / Laboratoire Central des Ponts et Chaussées	1742	7026	303,33%	12	11 ↑
UTL - Universidade Técnica de Lisboa	2154	6271	191,13%	11	12 ↓
USP – Universidade de São Paulo	1598	5140	221,65%	13	13 ↔
UPV - Universitat Politècnica de València	1401	4470	219,06%	15	14 ↑
UNAM – Universidad Nacional Autónoma de México	1256	4004	218,79%	16	15 ↑
UFRJ – Universidade Federal do Rio de Janeiro	1450	3359	131,66%	14	16 ↓
UPM - Universidad Politécnica de Madrid	1095	3334	204,47%	17	17 ↔



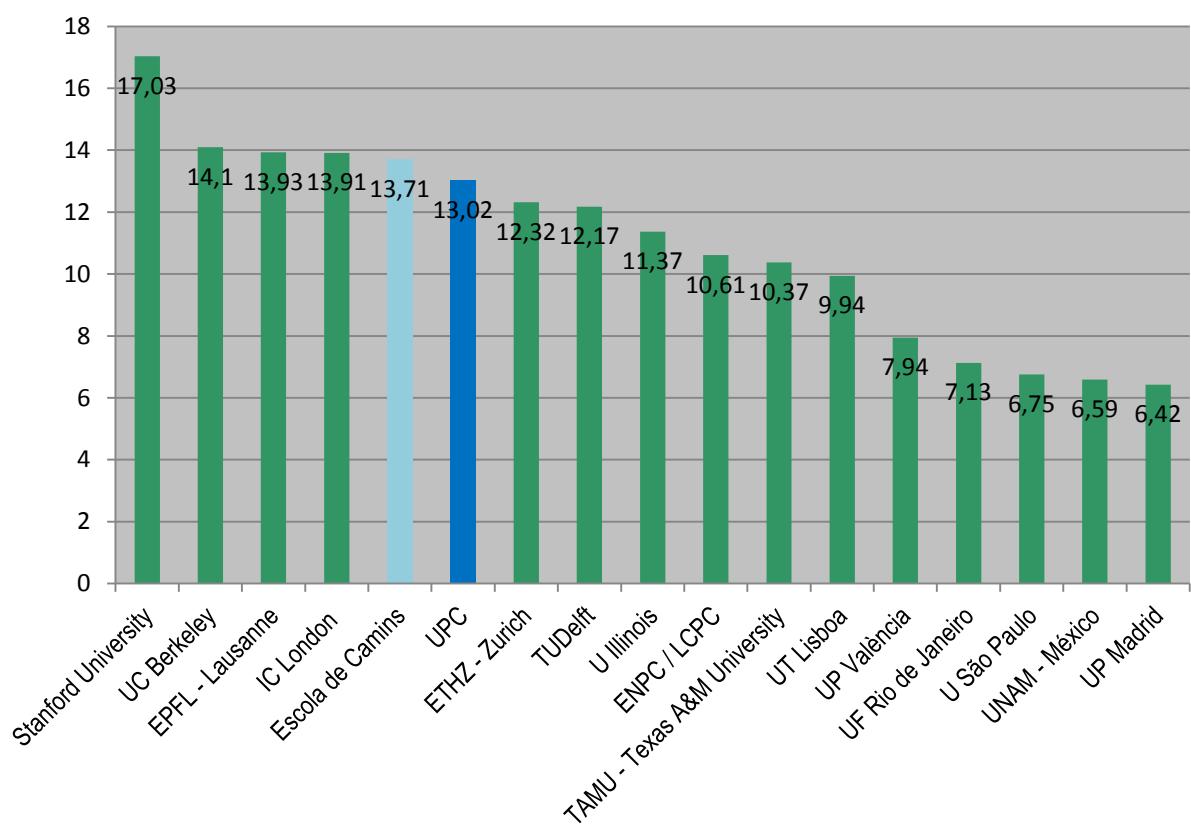
4.3. Gràfics i taula comparatius de la mitjana de citacions rebudes

4.3.1. Gràfic UPC vs. UPM i UPV 2000-2010



4.3.2. Gràfic i taula global 2000-2010

Per a major claretat en la presentació, en el següent gràfic s'utilitzen dues barres diferents per a la UPC –blau més fosc- i l'Escola de Camins –blau més clar-.





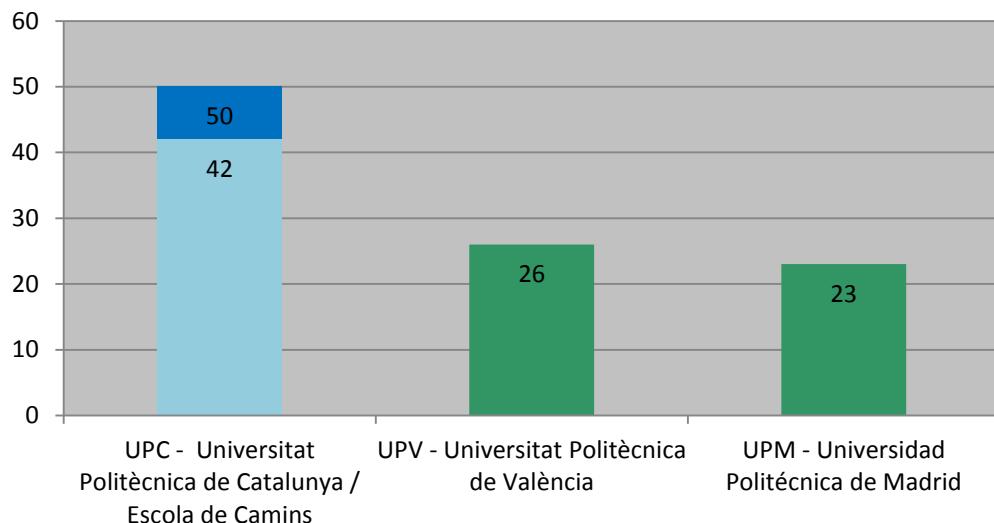
Institució	Mitjana citacions rebudes 1998-2008	Mitjana citacions rebudes 2000-2010	Variació mitjana	Posició 1998-2008	Posició actual
Standford University	11,00	17,03	6,03	1	1 ↔
University of California Berkeley	8,85	14,10	5,25	3	2 ↑
EPFL - École Polytechnique Fédérale de Lausanne	7,47	13,93	6,46	7	3 ↑
Imperial College London	7,92	13,91	5,99	6	4 ↑
Escola de Camins	9,14	13,71	4,57	2	5 ↓
UPC - Universitat Politècnica de Catalunya	8,09	13,02	4,93	5	6 ↓
ETHZ - Swiss Federal Institute of Technology Zurich	8,14	12,32	4,18	4	7 ↓
TUDelft - Technische Universiteit Delft	6,46	12,17	5,71	9	8 ↑
UIUC - University of Illinois at Urbana-Champaign	7,39	11,37	3,98	8	9 ↓
ENPC / LCPC – École nationale des ponts et chaussées / Laboratoire Central des Ponts et Chaussées	5,93	10,61	4,68	11	10 ↑
TAMU - Texas A&M University	5,84	10,37	4,53	12	11 ↑
UTL - Universidade Técnica de Lisboa	6,17	9,94	3,77	10	12 ↓
UPV - Universitat Politècnica de València	4,32	7,94	3,62	15	13 ↑
UFRJ – Universidade Federal do Rio de Janeiro	4,33	7,13	2,8	14	14 ↔
USP – Universidade de São Paulo	5,59	6,75	1,16	13	15 ↓
UNAM – Universidad Nacional Autónoma de México	3,96	6,59	2,63	17	16 ↑
UPM - Universidad Politécnica de Madrid	4,18	6,42	2,24	16	17 ↓



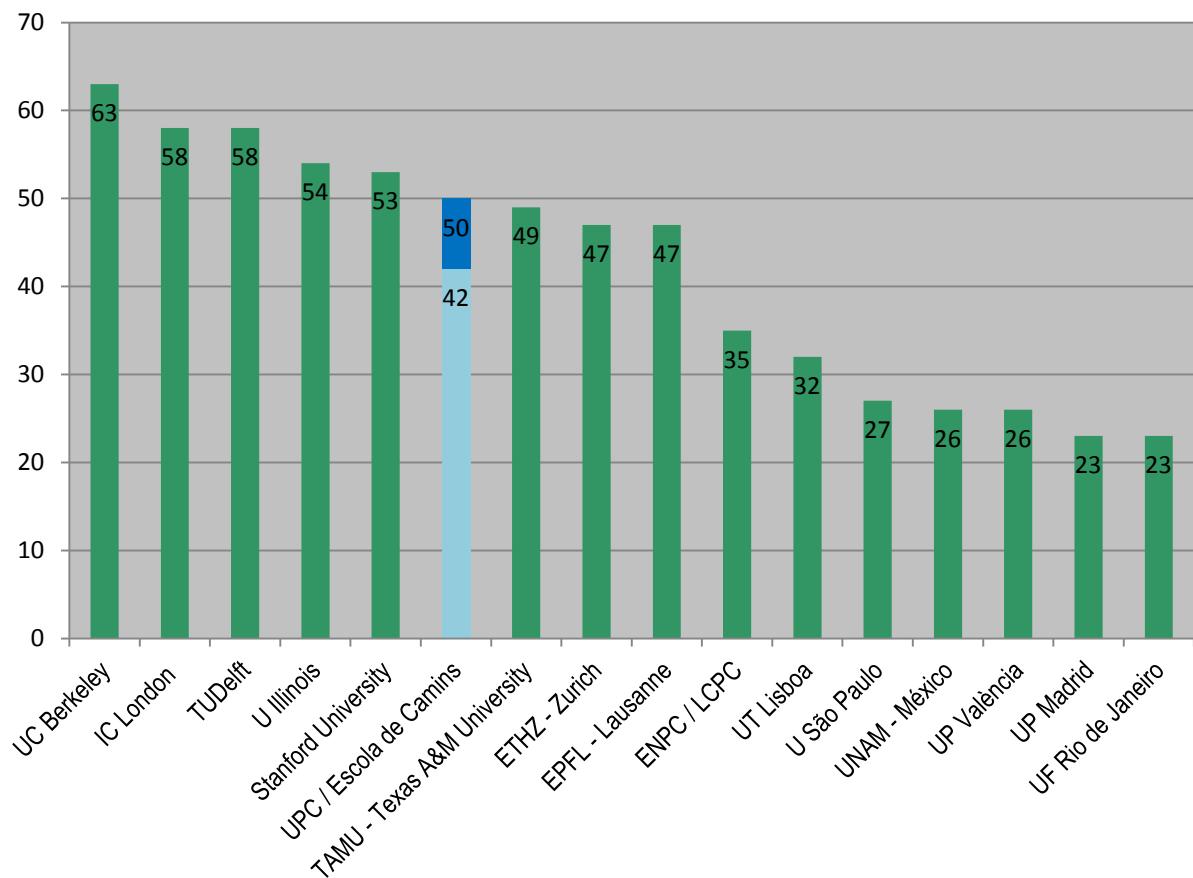
4.4. Gràfic i taula comparatius de l'índex H

Es comparen a continuació els índex H per al conjunt d'articles en el període estudiat i institució a institució.

4.4.1. Gràfic UPC vs. UPM i UPV sobre l'índex H 2000-2010



4.4.2 Gràfic i taula global de l'índex H 2000-2010





Institució	Mitjana Índex H 1998-2008	Mitjana Índex H 2000-2010	Variació mitjana	Posició 1998- 2008	Posició actual
University of California Berkeley	40	63	14	1	1 ↔
Imperial College London	35	58	15	4	2 ↑
TUDelft - Technische Universiteit Delft	32	58	17	7	3 ↑
UIUC - University of Illinois at Urbana-Champaign	38	54	10	2	4 ↓
Stanford University	37	53	10	3	5 ↓
UPC - Universitat Politècnica de Catalunya	30	50	13	8	6 ↑
TAMU - Texas A&M University	34	49	9	5	7 ↓
ETHZ - Swiss Federal Institute of Technology Zurich	33	47	8	6	8 ↓
EPFL - École Polytechnique Fédérale de Lausanne	24	47	16	9	9 ↔
-Escola de Camins-	28	42	9	8	10 ↓
ENPC / LCPC – École nationale des ponts et chaussées / Laboratoire Central des Ponts et Chaussées	18	35	8	12	11 ↑
UTL - Universidade Técnica de Lisboa	20	32	7	10	12 ↓
USP – Universidade de São Paulo	18	27	6	11	13 ↓
UNAM – Universidad Nacional Autónoma de México	17	26	6	13	14 ↓
UPV - Universitat Politècnica de València	15	26	8	14	15 ↓
UPM - Universidad Politécnica de Madrid	14	23	6	16	16 ↔
UFRJ – Universidade Federal do Rio de Janeiro	15	23	4	15	17 ↓



5. Articles més citats 2000-2010

Institució a institució, es detalla a continuació la llista dels 10 articles més referenciat s durant el període de temps que abasta l'informe. Per a la UPC es recullen els 20 primers articles indexats al WoS.

5.1. UPC - Universitat Politècnica de Catalunya

Es destaquen en negreta aquells articles amb un o més autors amb assignació a l'Escola de Camins. S'observa que, dels 20 títols recollits, 16 pertanyen a aquesta categoria. Això representa un 80% del total dels articles esmentats.

Tot i així, cal aclarir que algun dels professors marcats com a Escola de Camins no estan actualment assignats a l'Escola –en aquest cas, també s'usa la negreta perquè quan es van publicar els articles recollits sí que ho estaven-.

#	Article / Autor	Revista	# Citacions ⁸
1	Title: Fenton and photo-Fenton oxidation of textile effluents Author(s): Perez, M; Torrades, F; Domenech, X; et al.	Source: WATER RESEARCH Volume: 36 Issue: 11 Pages: 2703-2710 DOI: 10.1016/S0043-1354(01)00506-1 Published: JUN 2002	193
2	Title: Removal of copper and nickel ions from aqueous solutions by grape stalks wastes Author(s): Villaescusa, I; Fiol, N; Martinez, M; et al.	Source: WATER RESEARCH Volume: 38 Issue: 4 Pages: 992-1002 DOI: 10.1016/j.watres.2003.10.040 Published: FEB 2004	169
3	Title: An elasto-plastic model for unsaturated soil incorporating the effects of suction and degree of saturation on mechanical behaviour Author(s): Gallipoli, D; Gens, A; Sharma, R; et al.	Source: GEOTECHNIQUE Volume: 53 Issue: 1 Pages: 123-135 DOI: 10.1680/geot.53.1.123.37251 Published: FEB 2003	142
5	Title: Arsenic sorption onto natural hematite, magnetite, and goethite Author(s): Gimenez, Javier; Martinez, Maria; de Pablo, Joan; et al.	Source: JOURNAL OF HAZARDOUS MATERIALS Volume: 141 Issue: 3 Pages: 575-580 DOI: 10.1016/j.jhazmat.2006.07.020 Published: MAR 22 2007	126
5	Title: Inverse problem in hydrogeology Author(s): Carrera, J; Alcolea, A; Medina, A; et al.	Source: HYDROGEOLOGY JOURNAL Volume: 13 Issue: 1 Pages: 206-222 DOI: 10.1007/s10040-004-0404-7 Published: MAR 2005	122
6	Title: Stabilized finite element approximation of transient incompressible flows using orthogonal subscales Author(s): Codina, R	Source: COMPUTER METHODS IN APPLIED MECHANICS AND ENGINEERING Volume: 191 Issue: 39-40 Pages: 4295-4321 Article Number: PII S0045-7825(02)00337-7 DOI:	120

⁸.- Bases de dades consultades durant el juliol de 2013. S'inclouen, per tant, les cites rebudes pels articles durant l'any 2011, 2012 i part del 2013



#	Article / Autor	Revista	# Citacions
7	Title: Removal of lead(II) and cadmium(II) from aqueous solutions using grape stalk waste Author(s): Martinez, M; Miralles, N; Hidalgo, S; et al.	Source: JOURNAL OF HAZARDOUS MATERIALS Volume: 133 Issue: 1-3 Pages: 203-211 DOI: 10.1016/j.hazmat.2005.10.030 Published: MAY 20 2006	116
8	Title: Stabilization of incompressibility and convection through orthogonal sub-scales in finite element methods Author(s): Codina, R	Source: COMPUTER METHODS IN APPLIED MECHANICS AND ENGINEERING Volume: 190 Issue: 13-14 Pages: 1579-1599 DOI: 10.1016/S0045-7825(00)00254-1 Published: 2000	100
9	Title: Imposing essential boundary conditions in mesh-free methods Author(s): Fernandez-Mendez, S; Huerta, A	Source: COMPUTER METHODS IN APPLIED MECHANICS AND ENGINEERING Volume: 193 Issue: 12-14 Pages: 1257-1275 DOI: 10.1016/j.cma.2003.12.019 Published: 2004	99
10	Title: Aquifer overexploitation: what does it mean? Author(s): Custodio, E	Source: HYDROGEOLOGY JOURNAL Volume: 10 Issue: 2 Pages: 254-277 DOI: 10.1007/s10040-002-0188-6 Published: APR 2002	99
11	Title: The particle finite element method: a powerful tool to solve incompressible flows with free-surfaces and breaking waves Author(s): Idelsohn, SR; Onate, E; Del Pin, F	Source: INTERNATIONAL JOURNAL FOR NUMERICAL METHODS IN ENGINEERING Volume: 61 Issue: 7 Pages: 964-989 DOI: 10.1002/nme.1096 Published: OCT 21 2004	98
12	Title: Mechanical behaviour of heavily compacted bentonite under high suction changes Author(s): Lloret, A; Villar, MV; Sanchez, M; et al.	Source: GEOTECHNIQUE Volume: 53 Issue: 1 Pages: 27-40 DOI: 10.1680/geot.53.1.27.37258 Published: FEB 2003	92
13	Title: Impact of imperfect rainfall knowledge on the efficiency and the parameters of watershed models Author(s): Andreassian, V; Perrin, C; Michel, C; et al.	Source: JOURNAL OF HYDROLOGY Volume: 250 Issue: 1-4 Pages: 206-223 DOI: 10.1016/S0022-1694(01)00437-1 Published: SEP 1 2001	90
14	Title: On the relationship between indicators of geostatistical, flow and transport connectivity Author(s): Knudby, C; Carrera, J	Source: ADVANCES IN WATER RESOURCES Volume: 28 Issue: 4 Pages: 405-421 DOI: 10.1016/j.advwatres.2004.09.001 Published: APR 2005	88



#	Article / Autor	Revista	# Citacions
15	Title: Enrichment and coupling of the finite element and meshless methods Author(s): Huerta, A; Fernandez-Mendez, S	Source: INTERNATIONAL JOURNAL FOR NUMERICAL METHODS IN ENGINEERING Volume: 48 Issue: 11 Pages: 1615-1636 DOI: 10.1002/1097-0207(20000820)48:11<1615::AID-NME883>3.0.CO;2-S Published: AUG 20 2000	84
16	Title: Influence of amount of recycled coarse aggregates and production process on properties of recycled aggregate concrete Author(s): Etxeberria, M.; Vazquez, E.; Mari, A.; et al.	Source: CEMENT AND CONCRETE RESEARCH Volume: 37 Issue: 5 Pages: 735-742 DOI: 10.1016/j.cemconres.2007.02.002 Published: MAY 2007	76
17	Title: The meshless finite element method Author(s): Idelsohn, SR; Onate, E; Calvo, N; et al.	Source: INTERNATIONAL JOURNAL FOR NUMERICAL METHODS IN ENGINEERING Volume: 58 Issue: 6 Pages: 893-912 DOI: 10.1002/nme.798 Published: OCT 14 2003	76
18	Title: The particle finite element method - an overview Author(s): Onate, E.; Idelsohn, S. R.; Del Pin, F.; et al.	Source: INTERNATIONAL JOURNAL OF COMPUTATIONAL METHODS Volume: 1 Issue: 2 Pages: 267-307 DOI: 10.1142/S0219876204000204 Published: SEP 2004	75
19	Title: On the calculation of deflections in structural stainless steel beams: an experimental and numerical investigation Author(s): Mirambell, E; Real, E	Source: JOURNAL OF CONSTRUCTIONAL STEEL RESEARCH Volume: 54 Issue: 1 Pages: 109-133 DOI: 10.1016/S0143-974X(99)00051-6 Published: APR 2000	75
20	Title: A stabilized finite element method for incompressible viscous flows using a finite increment calculus formulation Author(s): Onate, E	Source: COMPUTER METHODS IN APPLIED MECHANICS AND ENGINEERING Volume: 182 Issue: 3-4 Pages: 355-370 DOI: 10.1016/S0045-7825(99)00198-X Published: 2000	75



5.1.1. Escola de Camins

Molts dels professors de l'Escola publiquen no només en revistes directament vinculades a l'enginyeria civil, sinó també en revistes d'àrees científiques més bàsiques. Aquestes revistes no es poden incloure en aquest estudi perquè deixaria de ser representatiu de l'enginyeria civil. Tanmateix, són indicatives de la diversitat de la recerca a l'Escola i, a títol informatiu, s'inclou la taula següent amb la llista dels articles que han estat publicats en el període 2000-2010 i han rebut com a mínim 50 citacions, independentment de la revista on han aparegut.

#	Article / Autor	Revista	# Citacions ⁹
1.	Title: An elasto-plastic model for unsaturated soil incorporating the effects of suction and degree of saturation on mechanical behaviour. Author(s): Gallipoli, D; Gens, A ; Sharma, R; Vaunat, J.	Source: GEOTECHNIQUE Volume: 53 Issue: 1 Pages: 123-135 DOI: 10.1680/geot.53.1.123.37251 Published: FEB 2003	142
2.	Title: Inverse problem in hydrogeology. Author(s): Carrera, J ; Alcolea, A; Medina, A; Hidalgo, J; Slooten, LJ.	Source: HYDROGEOLOGY JOURNAL Volume: 13 Issue: 1 Pages: 206-222 DOI: 10.1007/s10040-004-0404-7 Published: MAR 2005	122
3.	Title: Stabilized finite element approximation of transient incompressible flows using orthogonal subscales. Author(s): Codina, R	Source: COMPUTER METHODS IN APPLIED MECHANICS AND ENGINEERING Volume: 191 Issue: 39-40 Pages: 4295-4321 Article Number: PII S0045-7825(02)00337-7 DOI:	120
4.	Title: Stabilization of incompressibility and convection through orthogonal sub-scales in finite element methods. Author(s): Codina, R	Source: COMPUTER METHODS IN APPLIED MECHANICS AND ENGINEERING Volume: 190 Issue: 13-14 Pages: 1579-1599 DOI: 10.1016/S0045-7825(00)00254-1 Published: 2000	100
5.	Title: Imposing essential boundary conditions in mesh-free methods. Author(s): Fernandez-Mendez, S ; Huerta, A	Source: COMPUTER METHODS IN APPLIED MECHANICS AND ENGINEERING Volume: 193 Issue: 12-14 Pages: 1257-1275 DOI: 10.1016/j.cma.2003.12.019 Published: 2004	99
6.	Title: Aquifer overexploitation: what does it mean?. Author(s): Custodio, E	Source: HYDROGEOLOGY JOURNAL Volume: 10 Issue: 2 Pages: 254-277 DOI: 10.1007/s10040-002-0188-6 Published: APR 2002	99
7.	Title: The particle finite element method: a powerful tool to solve incompressible flows with free-surfaces and breaking waves. Author(s): Idelsohn, SR ; Onate, E ; Del Pin, F	Source: INTERNATIONAL JOURNAL FOR NUMERICAL METHODS IN ENGINEERING Volume: 61 Issue: 7 Pages: 964-989 DOI: 10.1002/nme.1096 Published: OCT 21 2004	98

⁹.- Bases de dades consultades durant el 19 d'octubre de 2012: S'inclouen, per tant, les cites rebudes pels articles durant l'any 2011 i part del 2012



#	Article / Autor	Revista	# Citacions ¹⁰
8.	Title: Mechanical behaviour of heavily compacted bentonite under high suction changes. Author(s): Lloret, A ; Villar, MV; Sanchez, M; Gens, A ; Pintado, X; Alonso, EE .	Source: GEOTECHNIQUE Volume: 53 Issue: 1 Pages: 27-40 DOI: 10.1680/geot.53.1.27.37258 Published: FEB 2003	92
9.	Title: On the relationship between indicators of geostatistical, flow and transport connectivity. Author(s): Knudby, C; Carrera, J	Source: ADVANCES IN WATER RESOURCES Volume: 28 Issue: 4 Pages: 405-421 DOI: 10.1016/j.advwatres.2004.09.001 Published: APR 2005	88
10.	Title: Enrichment and coupling of the finite element and meshless methods. Author(s): Huerta, A ; Fernandez-Mendez, S	Source: INTERNATIONAL JOURNAL FOR NUMERICAL METHODS IN ENGINEERING Volume: 48 Issue: 11 Pages: 1615-1636 DOI: 10.1002/1097-0207(20000820)48:11<1615::AID-	84
11.	Title: Influence of amount of recycled coarse aggregates and production process on properties of recycled aggregate concrete. Author(s): Etxeberria, M. ; Vazquez, E. ; Mari, A. ; Barra, M.	Source: CEMENT AND CONCRETE RESEARCH Volume: 37 Issue: 5 Pages: 735-742 DOI: 10.1016/j.cemconres.2007.02.002 Published: MAY 2007	76
12.	Title: The meshless finite element method. Author(s): Idelsohn, SR ; Onate, E ; Calvo, N; Del Pin, F.	Source: INTERNATIONAL JOURNAL FOR NUMERICAL METHODS IN ENGINEERING Volume: 58 Issue: 6 Pages: 893-912 DOI: 10.1002/nme.798 Published: OCT 14 2003	76
13.	Title: THE PARTICLE FINITE ELEMENT METHOD - AN OVERVIEW. Author(s): Onate, E. ; Idelsohn, S. R. ; Del Pin, F.; Aubry, R.	Source: INTERNATIONAL JOURNAL OF COMPUTATIONAL METHODS Volume: 1 Issue: 2 Pages: 267-307 DOI: 10.1142/S0219876204000204 Published: SEP 2004	75
14.	Title: On the calculation of deflections in structural stainless steel beams: an experimental and numerical investigation. Author(s): Mirambell, E ; Real, E	Source: JOURNAL OF CONSTRUCTIONAL STEEL RESEARCH Volume: 54 Issue: 1 Pages: 109-133 DOI: 10.1016/S0143-974X(99)00051-6 Published: APR 2000	75
15.	Title: A stabilized finite element method for incompressible viscous flows using a finite increment calculus formulation. Author(s): Onate, E	Source: COMPUTER METHODS IN APPLIED MECHANICS AND ENGINEERING Volume: 182 Issue: 3-4 Pages: 355-370 DOI: 10.1016/S0045-7825(99)00198-X Published: 2000	75

¹⁰.- Bases de dades consultades durant el 19 d'octubre de 2012: S'inclouen, per tant, les cites rebudes pels articles durant l'any 2011 i part del 2012



#	Article / Autor	Revista	# Citacions ¹¹
16.	Title: A compilation of data on European flash floods. Author(s): Gaume, Eric; Bain, Valerie; Bernardara, Pietro; Newinger, O ; Barbuc, M; Bateman, A et al.	Source: JOURNAL OF HYDROLOGY Volume: 367 Issue: 1-2 Pages: 70-78 DOI: 10.1016/j.jhydrol.2008.12.028 Published: MAR 30 2009	74
17.	Title: Geometric approach to statistical analysis on the simplex. Author(s): Pawlowsky-Glahn, V; Egozcue, JJ	Source: STOCHASTIC ENVIRONMENTAL RESEARCH AND RISK ASSESSMENT Volume: 15 Issue: 5 Pages: 384-398 DOI: 10.1007/s00477-010-0077 Published: OCT 2001	73
18.	Title: Organic micropollutant removal in a full-scale surface flow constructed wetland fed with secondary effluent. Author(s): Matamoros, Victor; Garcia, Joan ; Bayona, Josep M.	Source: WATER RESEARCH Volume: 42 Issue: 3 Pages: 653-660 DOI: 10.1016/j.watres.2007.08.016 Published: FEB 2008	72
19.	Title: Micromechanical analysis of quasi-brittle materials using fracture-based interface elements. Author(s): Carol, I ; Lopez, CM ; Roa, O	Source: INTERNATIONAL JOURNAL FOR NUMERICAL METHODS IN ENGINEERING Volume: 52 Issue: 1-2 Pages: 193-215 DOI: 10.1002/nme.277 Published: SEP 10 2001	67
20.	Title: Rotation-free triangular plate and shell elements. Author(s): Onate, E ; Zarate, F	Source: INTERNATIONAL JOURNAL FOR NUMERICAL METHODS IN ENGINEERING Volume: 47 Issue: 1-3 Pages: 557-603 DOI: 10.1002/(SICI)1097-0207(20000110/30)47:1/3<557::AID	67
21.	Title: Using Global Positioning System techniques in landslide monitoring. Author(s): Gili, JA ; Corominas, J ; Rius, J	Source: ENGINEERING GEOLOGY Volume: 55 Issue: 3 Pages: 167-192 DOI: 10.1016/S0013-7952(99)00127-1 Published: FEB 2000	65
22.	Title: A stabilized finite element method for generalized stationary incompressible flows. Author(s): Codina, R	Source: COMPUTER METHODS IN APPLIED MECHANICS AND ENGINEERING Volume: 190 Issue: 20-21 Pages: 2681-2706 DOI: 10.1016/S0045-7825(00)00260-7 Published: 2001	63
23.	Title: Initial contaminant removal performance factors in horizontal flow reed beds used for treating urban wastewater. Author(s): Garcia, J ; Aguirre, P; Mujeriego, R ; Huang, YM; Ortiz, L ; Bayona, JM.	Source: WATER RESEARCH Volume: 38 Issue: 7 Pages: 1669-1678 DOI: 10.1016/j.watres.2004.01.011 Published: APR 2004	60

¹¹.- Bases de dades consultades durant el 19 d'octubre de 2012: S'inclouen, per tant, les cites rebudes pels articles durant l'any 2011 i part del 2012



#	Article / Autor	Revista	# Citacions ¹²
24.	Title: Kinetic energy of rain and its functional relationship with intensity. Author(s): Salles, C; Poesen, J; Sempere-Torres, D	Source: JOURNAL OF HYDROLOGY Volume: 257 Issue: 1-4 Pages: 256-270 DOI: 10.1016/S0022-1694(01)00555-8 Published: FEB 1 2002	59
25.	Title: Time dependent subscales in the stabilized finite element approximation of incompressible flow problems. Author(s): Codina, Ramon ; Principe, Javier; Guasch, Oriol; Badia, S.	Source: COMPUTER METHODS IN APPLIED MECHANICS AND ENGINEERING Volume: 196 Issue: 21-24 Pages: 2413-2430 DOI: 10.1016/j.cma.2007.01.002 Published: 2007	57
26.	Title: On stabilized finite element methods for linear systems of convection-diffusion-reaction equations. Author(s): Codina, R	Source: COMPUTER METHODS IN APPLIED MECHANICS AND ENGINEERING Volume: 188 Issue: 1-3 Pages: 61-82 DOI: 10.1016/S0045-7825(00)00177-8 Published: 2000	55
27.	Title: Finite element formulation and algorithms for unsaturated soils. Part I: Theory. Author(s): Sheng, DC; Sloan, SW; Gens, A ; Smith, DW.	Source: INTERNATIONAL JOURNAL FOR NUMERICAL AND ANALYTICAL METHODS IN GEOMECHANICS Volume: 27 Issue: 9 Pages: 745-765 DOI: 10.1002/nag.295 Published: AUG	54
28.	Title: A simple formula to estimate settling velocity of natural sediments. Author(s): Jimenez, JA ; Madsen, OS	Source: JOURNAL OF WATERWAY PORT COASTAL AND OCEAN ENGINEERING-ASCE Volume: 129 Issue: 2 Pages: 70-78 DOI: 10.1061/(ASCE)0733-	54
29.	Title: Environmental, physical and structural characterisation of geopolymers matrixes synthesised from coal (co-)combustion fly ashes. Author(s): Alvarez-Ayuso, E.; Querol, X.; Plana, F.; Alastuey, A; Moreno, N; Izquierdo, M; Font, O; Moreno, T; Diez, S; Vazquez, E ; Barra, M.	Source: JOURNAL OF HAZARDOUS MATERIALS Volume: 154 Issue: 1-3 Pages: 175-183 DOI: 10.1016/j.jhazmat.2007.10.008 Published: JUN 15 2008	53
30.	Title: Pilot points method incorporating prior information for solving the groundwater flow inverse problem. Author(s): Alcolea, Andres; Carrera, Jesus ; Medina, Agustin	Source: ADVANCES IN WATER RESOURCES Volume: 29 Issue: 11 Pages: 1678-1689 DOI: 10.1016/j.advwatres.2005.12.009 Published: NOV 2006	53
31.	Title: A GIS-based multivariate statistical analysis for shallow landslide susceptibility mapping in La Pobla de Lillet area (Eastern Pyrenees, Spain). Author(s): Santacana, N; Baeza, B; Corominas, J ; De Paz, A; Marturia, J.	Source: NATURAL HAZARDS Volume: 30 Issue: 3 Pages: 281-295 DOI: 10.1023/B:NHAZ.0000007169.2886 0.80 Published: NOV 2003	52

¹².- Bases de dades consultades durant el 19 d'octubre de 2012: S'inclouen, per tant, les cites rebudes pels articles durant l'any 2011 i part del 2012



#	Article / Autor	Revista	# Citacions ¹³
32.	Title: Field and monitoring data of debris-flow events in the Swiss Alps. Author(s): Hurlimann, M ; Rickenmann, D; Graf, C	Source: CANADIAN GEOTECHNICAL JOURNAL Volume: 40 Issue: 1 Pages: 161-175 DOI: 10.1139/T02-087 Published: FEB 2003	52
33.	Title: A new modelling approach for unsaturated soils using independent stress variables. Author(s): Sheng, Daichao; Fredlund, Delwyn G.; Gens, Antonio	Source: CANADIAN GEOTECHNICAL JOURNAL Volume: 45 Issue: 4 Pages: 511-534 DOI: 10.1139/T07-112 Published: APR 2008	51
34.	Title: Continuum approach to the numerical simulation of material failure in concrete. Author(s): Oliver, J ; Huespe, AE; Samaniego, E; Chaves, EWV.	Source: INTERNATIONAL JOURNAL FOR NUMERICAL AND ANALYTICAL METHODS IN GEOMECHANICS Volume: 28 Issue: 7-8 Pages: 609-632 DOI: 10.1002/nag.365 Published: JUN-	51
35.	Title: A Lagrangian meshless finite element method applied to fluid-structure interaction problems. Author(s): Idelsohn, SR ; Onate, E ; Del Pin, F	Source: COMPUTERS & STRUCTURES Volume: 81 Issue: 8-11 Pages: 655-671 DOI: 10.1016/S0045-7949(02)00477-7 Published: MAY 2003	51

¹³.- Bases de dades consultades durant el 19 d'octubre de 2012: S'inclouen, per tant, les cites rebudes pels articles durant l'any 2011 i part del 2012



5.2. EPFL - Ecole Polytechnique Fédérale de Lausanne

#	Article / Autor	Revista	# Citacions
1.	Title: On the coupling of 3D and 1D Navier-Stokes equations for flow problems in compliant vessels. Author(s): Formaggia, L; Gerbeau, JF; Nobile, F; et al.	Source: COMPUTER METHODS IN APPLIED MECHANICS AND ENGINEERING Volume: 191 Issue: 6-7 Pages: 561-582 Published: 2001	163
2.	Title: Comparative study on finite elements with embedded discontinuities. Author(s): Jirasek, M	Source: COMPUTER METHODS IN APPLIED MECHANICS AND ENGINEERING Volume: 188 Issue: 1-3 Pages: 307-330 Published: 2000	147
3.	Title: Backscattered electron imaging of cementitious microstructures: understanding and quantification. Author(s): Scrivener, KL	Source: CEMENT & CONCRETE COMPOSITES Volume: 26 Issue: 8 Pages: 935-945 Published: NOV 2004	129
4.	Title: Occurrence of several acidic drugs in sewage treatment plants in Switzerland and risk assessment. Author(s): Tauxe-Wuersch, A; De Alencastro, LF; Grandjean, D; et al.	Source: WATER RESEARCH Volume: 39 Issue: 9 Pages: 1761-1772 Published: MAY 2005	118
5.	Title: Threshold relations in subsurface stormflow: 2. The fill and spill hypothesis. Author(s): Tromp-van Meerveld, HJ; McDonnell, JJ	Source: WATER RESOURCES RESEARCH Volume: 42 Issue: 2 Article Number: W02411 Published: FEB 21 2006	106
6.	Title: A Newton method using exact jacobians for solving fluid-structure coupling. Author(s): Fernandez, MA; Moubachir, M	Source: COMPUTERS & STRUCTURES Volume: 83 Issue: 2-3 Pages: 127-142 Published: JAN 2005	98
7.	Title: Edge stabilization for Galerkin approximations of convection-diffusion-reaction problems. Author(s): Burman, E; Hansbo, P	Source: COMPUTER METHODS IN APPLIED MECHANICS AND ENGINEERING Volume: 193 Issue: 15-16 Pages: 1437-1453 Published: 2004	94
8.	Title: Exact energy and momentum conserving algorithms for general models in nonlinear elasticity. Author(s): Gonzalez, O	Source: COMPUTER METHODS IN APPLIED MECHANICS AND ENGINEERING Volume: 190 Issue: 13-14 Pages: 1763-1783 Published: 2000	94
9.	Title: Distributed fiber-optic temperature sensing for hydrologic systems. Author(s): Selker, John S.; Thevenaz, Luc; Huwald, Hendrik; et al.	Source: WATER RESOURCES RESEARCH Volume: 42 Issue: 12 Article Number: W12202 Published: DEC 6 2006	87
10.	Title: Influence of limestone on the hydration of Portland cements. Author(s): Lothenbach, Barbara; Le Saout, Gwenn; Gallucci, Emmanuel; et al.	Source: CEMENT AND CONCRETE RESEARCH Volume: 38 Issue: 6 Pages: 848-860 Published: JUN 2008	85



5.3. Imperial College London

#	Article / Autor	Revista	# Citacions
1.	Title: Aquatic environmental assessment of the top 25 English prescription pharmaceuticals. Author(s): Jones, OAH; Voulvoulis, N; Lester, JN	Source: WATER RESEARCH Volume: 36 Issue: 20 Pages: 5013-5022 Article Number: PII S0043-1354(02)00227-0 Published: DEC 2002	236
2.	Title: Finite element interface models for the delamination analysis of laminated composites: Mechanical and computational issues. Author(s): Alfano, G; Crisfield, MA	Source: INTERNATIONAL JOURNAL FOR NUMERICAL METHODS IN ENGINEERING Volume: 50 Issue: 7 Pages: 1701-1736 Published: MAR 10 2001	225
3.	Title: When can marine reserves improve fisheries management?. Author(s): Hilborn, R; Stokes, K; Maguire, JJ; et al.	Source: OCEAN & COASTAL MANAGEMENT Volume: 47 Issue: 3-4 Pages: 197-205 Published: 2004	206
4.	Title: A review of the classification of landslides of the flow type. Author(s): Hungr, O; Evans, SG; Bovis, MJ; et al.	Source: ENVIRONMENTAL & ENGINEERING GEOSCIENCE Volume: 7 Issue: 3 Pages: 221-238 Published: AUG 2001	180
5.	Title: Equations for the estimation of strong ground motions from shallow crustal earthquakes using data from Europe and the Middle East: Horizontal peak ground acceleration and spectral acceleration. Author(s): Ambraseys, N.	Source: BULLETIN OF EARTHQUAKE ENGINEERING Volume: 3 Issue: 1 Pages: 1-53 Published: 2005	155
6.	Title: Towards reduced uncertainty in conceptual rainfall-runoff modelling: Dynamic identifiability analysis. Author(s): Wagener, T; McIntyre, N; Lees, MJ; et al.	Source: HYDROLOGICAL PROCESSES Volume: 17 Issue: 2 Pages: 455-476 Published: FEB 15 2003	155
7.	Title: Detailed physics, predictive capabilities and macroscopic consequences for pore-network models of multiphase flow. Author(s): Blunt, MJ; Jackson, MD; Piri, M; et al.	Source: ADVANCES IN WATER RESOURCES Volume: 25 Issue: 8-12 Pages: 1069-1089 Article Number: PII S0309-1708(02)00049-0 Published: AUG-DEC 2002	154
8.	Title: River flow prediction using artificial neural networks: generalisation beyond the calibration range. Author(s): Imrie, CE; Durucan, S; Korre, A	Source: JOURNAL OF HYDROLOGY Volume: 233 Issue: 1-4 Pages: 138-153 Published: JUN 12 2000	131
9.	Title: Impact of relative permeability hysteresis on geological CO ₂ storage. Author(s): Juanes, R.; Spiteri, E. J.; Orr, F. M., Jr.; et al.	Source: WATER RESOURCES RESEARCH Volume: 42 Issue: 12 Article Number: W12418 Published: DEC 23 2006	129
10.	Title: A framework for development and application of hydrological models. Author(s): Wagener, T; Boyle, DP; Lees, MJ; et al.	Source: HYDROLOGY AND EARTH SYSTEM SCIENCES Volume: 5 Issue: 1 Pages: 13-26 Published: MAR 2001	129



5.4. TU Delft - Technische Universiteit Delft

#	Article / Autor	Revista	# Citacions
1.	Title: A new method for modelling cohesive cracks using finite elements. Author(s): Wells, GN; Sluys, LJ	Source: INTERNATIONAL JOURNAL FOR NUMERICAL METHODS IN ENGINEERING Volume: 50 Issue: 12 Pages: 2667-2682 Published: APR 30 2001	284
2.	Title: The SHARON((R))-Anammox((R)) process for treatment of ammonium rich wastewater. Author(s): van Dongen, U; Jetten, MSM; van Loosdrecht, MCM	Source: WATER SCIENCE AND TECHNOLOGY Volume: 44 Issue: 1 Pages: 153-160 Published: 2001	263
3.	Title: Development and validation of a three-dimensional morphological model. Author(s): Lesser, GR; Roelvink, JA; van Kester, JATM; et al.	Source: COASTAL ENGINEERING Volume: 51 Issue: 8-9 Pages: 883-915 Published: OCT 2004	236
4.	Title: Startup of reactors for anoxic ammonium oxidation: Experiences from the first full-scale anammox reactor in Rotterdam. Author(s): van der Star, W. R. L.; Abma, W.R.; Blommers, Dennis; et al.	Source: WATER RESEARCH Volume: 41 Issue: 18 Pages: 4149-4163 Published: OCT 2007	195
5.	Title: Completely autotrophic nitrogen removal over nitrite in one single reactor. Author(s): Sliekers, AO; Derwort, N; Campos-Gomez, JL; et al.	Source: WATER RESEARCH Volume: 36 Issue: 10 Pages: 2475-2482 Article Number: PII S0043-1354(01)00476-6 Published: MAY 2002	183
6.	Title: Aerobic granulation in a sequencing batch airlift reactor. Author(s): Beun, JJ; van Loosdrecht, MCM; Heijnen, JJ	Source: WATER RESEARCH Volume: 36 Issue: 3 Pages: 702-712 Published: FEB 2002	162
7.	Title: Iterative image deformation methods in PIV. Author(s): Scarano, F	Source: MEASUREMENT SCIENCE & TECHNOLOGY Volume: 13 Issue: 1 Pages: R1-R19 Published: JAN 2002	158
8.	Title: Filamentous bulking sludge - a critical review. Author(s): Martins, AMP; Pagilla, K; Heijnen, JJ; et al.	Source: WATER RESEARCH Volume: 38 Issue: 4 Pages: 793-817 Published: FEB 2004	144
9.	Title: Dynamic Effect in the Capillary Pressure-Saturation Relationship and its Impacts on Unsaturated Flow. Author(s): Hassanizadeh, S. Majid; Celia, Michael A.; Dahle, Helge K.	Source: VADOSE ZONE JOURNAL Volume: 1 Issue: 1 Pages: 38-57 Published: AUG 2002	123
10.	Title: Moving beyond heterogeneity and process complexity: A new vision for watershed hydrology. Author(s): McDonnell, J. J.; Sivapalan, M.; Vache, K.; et al.	Source: WATER RESOURCES RESEARCH Volume: 43 Issue: 7 Article Number: W07301 Published: JUL 26 2007	120



5.5. ETHZ – Swiss Federal Institute of Technology Zurich

#	Article / Autor	Revista	# Citacions
1.	Title: Stationary-frame generalized integrators for current control of active power filters with zero steady-state error for current harmonics of concern under unbalanced and distorted operating conditions. Author(s): Yuan, XM; Merk, W; Stemmler, H; et al.	Source: IEEE TRANSACTIONS ON INDUSTRY APPLICATIONS Volume: 38 Issue: 2 Pages: 523-532 Article Number: PII S0093-9994(02)02666-X Published: MAR-APR 2002	226
2.	Title: Reactions of chlorine with inorganic and organic compounds during water treatment - Kinetics and mechanisms: A critical review. Author(s): Deborde, Marie; von Gunten, Urs	Source: WATER RESEARCH Volume: 42 Issue: 1-2 Pages: 13-51 Published: JAN 2008	146
3.	Title: Practical identifiability analysis of large environmental simulation models. Author(s): Brun, R; Reichert, P; Kunsch, HR	Source: WATER RESOURCES RESEARCH Volume: 37 Issue: 4 Pages: 1015-1030 Published: APR 2001	134
4.	Title: Practical identifiability of ASM2d parameters - systematic selection and tuning of parameter subsets. Author(s): Brun, R; Kuhnli, M; Siegrist, H; et al.	Source: WATER RESEARCH Volume: 36 Issue: 16 Pages: 4113-4127 Article Number: PII S0043-1354(02)00104-5 Published: SEP 2002	110
5.	Title: Finite elements for elliptic problems with stochastic coefficients. Author(s): Frauenfelder, P; Schwab, C; Todor, RA	Source: COMPUTER METHODS IN APPLIED MECHANICS AND ENGINEERING Volume: 194 Issue: 2-5 Special Issue: SI Pages: 205-228 Published: 2005	109
6.	Title: Temporal evolution of clear-water pier and abutment scour. Author(s): Oliveto, G; Hager, WH	Source: JOURNAL OF HYDRAULIC ENGINEERING-ASCE Volume: 128 Issue: 9 Pages: 811-820 Published: SEP 2002	102
7.	Title: Numerical analysis of initiation and progressive failure in natural rock slopes - the 1991 Randa rockslide. Author(s): Eberhardt, E; Stead, D; Coggan, JS	Source: INTERNATIONAL JOURNAL OF ROCK MECHANICS AND MINING SCIENCES Volume: 41 Issue: 1 Pages: 69-87 Published: JAN 2004	100
8.	Title: Streamflow trends in Switzerland. Author(s): Birsan, MV; Molnar, P; Burlando, P; et al.	Source: JOURNAL OF HYDROLOGY Volume: 314 Issue: 1-4 Pages: 312-329 Published: NOV 25 2005	94
9.	Title: Observing the rhythms of daily life: A six-week travel diary. Author(s): Axhausen, KW; Zimmermann, A; Schonfelder, S; et al.	Source: TRANSPORTATION Volume: 29 Issue: 2 Pages: 95-124 Published: MAY 2002	90
10.	Title: Temporal behavior of a solute cloud in a heterogeneous porous medium 1. Point-like injection. Author(s): Dentz, M; Kinzelbach, H; Attinger, S; et al.	Source: WATER RESOURCES RESEARCH Volume: 36 Issue: 12 Pages: 3591-3604 Published: DEC 2000	90



5.6. ENPC / LCPC – École Nationale des Ponts et Chaussées / Laboratoire Central des Ponts et Chaussées

#	Article / Autor	Revista	# Citacions
1.	Title: IAHS decade on Predictions in Ungauged Basins (PUB), 2003-2012: Shaping an exciting future for the hydrological sciences. Author(s): Sivapalan, M; Takeuchi, K; Franks, SW; et al.	Source: HYDROLOGICAL SCIENCES JOURNAL-JOURNAL DES SCIENCES HYDROLOGIQUES Volume: 48 Issue: 6 Pages: 857-880 .Published: DEC 2003	306
2.	Title: Evidence for global runoff increase related to climate warming. Author(s): Labat, D; Godderis, Y; Probst, JL; et al.	Source: ADVANCES IN WATER RESOURCES Volume: 27 Issue: 6 Pages: 631-642 Published: JUN 2004	146
3.	Title: Hydrological analysis of the river Aude, France, flash flood on 12 and 13 November 1999. Author(s): Gaume, E; Livet, M; Desbordes, M; et al.	Source: JOURNAL OF HYDROLOGY Volume: 286 Issue: 1-4 Pages: 135-154 Published: JAN 30 2004	81
4.	Title: A compilation of data on European flash floods. Author(s): Gaume, Eric; Bain, Valerie; Bernardara, Pietro; et al.	Source: JOURNAL OF HYDROLOGY Volume: 367 Issue: 1-2 Pages: 70-78 Published: MAR 30 2009	74
5.	Title: Contribution of different sources to the pollution of wet weather flows in combined sewers. Author(s): Gromaire, MC; Garnaud, S; Saad, M; et al.	Source: WATER RESEARCH Volume: 35 Issue: 2 Pages: 521-533 Published: FEB 2001	70
6.	Title: A thixotropy model for fresh fluid concretes: Theory, validation and applications. Author(s): Roussel, Nicolas	Source: CEMENT AND CONCRETE RESEARCH Volume: 36 Issue: 10 Pages: 1797-1806 Published: OCT 2006	65
7.	Title: The use of thermal analysis in assessing the effect of temperature on a cement paste. Author(s): Alarcon-Ruiz, L; Platret, G; Massieu, E; et al.	Source: CEMENT AND CONCRETE RESEARCH Volume: 35 Issue: 3 Pages: 609-613 Published: MAR 2005	65
8.	Title: Modelling of leaching in pure cement paste and mortar. Author(s): Mainguy, M; Tognazzi, C; Torrenti, JM; et al.	Source: CEMENT AND CONCRETE RESEARCH Volume: 30 Issue: 1 Pages: 83-90 Published: JAN 2000	62
9.	Title: Comparison of the hydraulic behaviour and the quality of highway runoff water according to the type of pavement. Author(s): Pagotto, C; Legret, M; Le Cloirec, P	Source: WATER RESEARCH Volume: 34 Issue: 18 Pages: 4446-4454 Published: DEC 2000	59
10.	Title: On the thermal consolidation of Boom clay. Author(s): Delage, P; Sultan, N; Cui, YJ	Source: CANADIAN GEOTECHNICAL JOURNAL Volume: 37 Issue: 2 Pages: 343-354 Published: APR 2000	57



5.7. Stanford University

#	Article / Autor	Revista	# Citacions
1.	Title: Probabilistic basis for 2000 SAC Federal Emergency Management Agency steel moment frame guidelines. Author(s): Cornell, CA; Jalayer, F; Hamburger, RO; et al.	Source: JOURNAL OF STRUCTURAL ENGINEERING-ASCE Volume: 128 Issue: 4 Pages: 526-533 Published: APR 2002	198
2.	Title: Engineering design thinking, teaching, and learning. Author(s): Dym, CL; Agogino, AM; Eris, O; et al.	Source: JOURNAL OF ENGINEERING EDUCATION Volume: 94 Issue: 1 Pages: 103-120 Published: JAN 2005	172
3.	Title: Outflow boundary conditions for three-dimensional finite element modeling of blood flow and pressure in arteries. Author(s): Vignon-Clementel, IE; Figueiredo, CA; Jansen, KE; et al.	Source: COMPUTER METHODS IN APPLIED MECHANICS AND ENGINEERING Volume: 195 Issue: 29-32 Pages: 3776-3796 Published: 2006	170
4.	Title: Design for variety: developing standardized and modularized product platform architectures. Author(s): Martin, MV; Ishii, K	Source: RESEARCH IN ENGINEERING DESIGN-THEORY APPLICATIONS AND CONCURRENT ENGINEERING Volume: 13 Issue: 4 Pages: 213-235 Published: NOV 2002	139
5.	Title: Continuous/discontinuous finite element approximations of fourth-order elliptic problems in structural and continuum mechanics with applications to thin beams and plates, and strain gradient elasticity. Author(s): Engel, G; Garikipati, K; Hughes, TJR; et al.	Source: COMPUTER METHODS IN APPLIED MECHANICS AND ENGINEERING Volume: 191 Issue: 34 Pages: 3669-3750 Article Number: PII S0045-7825(02)00286-4 Published: 2002	134
6.	Title: Impact of relative permeability hysteresis on geological CO ₂ storage. Author(s): Juanes, R.; Spiteri, E. J.; Orr, F. M., Jr.; et al.	Source: WATER RESOURCES RESEARCH Volume: 42 Issue: 12 Article Number: W12418 Published: DEC 23 2006	129
7.	Title: A tutorial on geometric programming. Author(s): Boyd, Stephen; Kim, Seung-Jean; Vandenberghe, Lieven; et al.	Source: OPTIMIZATION AND ENGINEERING Volume: 8 Issue: 1 Pages: 67-127 Published: MAR 2007	127
8.	Title: Information sharing in a supply chain. Author(s): Lee, HL; Whang, SJ	Source: INTERNATIONAL JOURNAL OF TECHNOLOGY MANAGEMENT Volume: 20 Issue: 3-4 Pages: 373-387 Published: 2000	126
9.	Title: Hydrologic-response simulations for the R-5 catchment with a comprehensive physics-based model. Author(s): VanderKwaak, JE; Loague, K	Source: WATER RESOURCES RESEARCH Volume: 37 Issue: 4 Pages: 999-1013 Published: APR 2001	122
10.	Title: Shock tube determination of ignition delay times in full-blend and surrogate fuel mixtures. Author(s): Gauthier, BM; Davidson, DF; Hanson, RK	Source: COMBUSTION AND FLAME Volume: 139 Issue: 4 Pages: 300-311 Published: DEC 2004	120



5.8. TAMU - Texas A&M University

#	Article / Autor	Revista	# Citacions
1.	Title: Analysis of functionally graded plates. Author(s): Reddy, JN	Source: INTERNATIONAL JOURNAL FOR NUMERICAL METHODS IN ENGINEERING Volume: 47 Issue: 1-3 Pages: 663-684 Published: JAN 10 2000	423
2.	Title: The design and analysis of the Generalized Finite Element Method. Author(s): Strouboulis, T; Babuska, I; Coppers, KL	Source: COMPUTER METHODS IN APPLIED MECHANICS AND ENGINEERING Volume: 181 Issue: 1-3 Pages: 43-69 Published: JAN 7 2000	247
3.	Title: The generalized finite element method. Author(s): Strouboulis, T; Coppers, K; Babuska, I	Source: COMPUTER METHODS IN APPLIED MECHANICS AND ENGINEERING Volume: 190 Issue: 32-33 Pages: 4081-4193 Published: 2001	223
4.	Title: Nonlocal theories for bending, buckling and vibration of beams. Author(s): Reddy, J. N.	Source: INTERNATIONAL JOURNAL OF ENGINEERING SCIENCE Volume: 45 Issue: 2-8 Pages: 288-307 Published: FEB-AUG 2007	210
5.	Title: A global sensitivity analysis tool for the parameters of multi-variable catchment models. Author(s): van Griensven, A; Meixner, T; Grunwald, S; et al.	Source: JOURNAL OF HYDROLOGY Volume: 324 Issue: 1-4 Pages: 10-23 Published: JUN 15 2006	187
6.	Title: An overview of projection methods for incompressible flows. Author(s): Guermond, J. L.; Minev, P.; Shen, Jie	Source: COMPUTER METHODS IN APPLIED MECHANICS AND ENGINEERING Volume: 195 Issue: 44-47 Pages: 6011-6045 Published: 2006	153
7.	Title: Damage identification in beam-type structures: frequency-based method vs mode-shape-based method. Author(s): Kim, JT; Ryu, YS; Cho, HM; et al.	Source: ENGINEERING STRUCTURES Volume: 25 Issue: 1 Pages: 57-67 Article Number: PII S0141-0296(02)00118-9 Published: JAN 2003	149
8.	Title: Poisson, Poisson-gamma and zero-inflated regression models of motor vehicle crashes: balancing statistical fit and theory. Author(s): Lord, D; Washington, SP; Ivan, JN	Source: ACCIDENT ANALYSIS AND PREVENTION Volume: 37 Issue: 1 Pages: 35-46 Published: JAN 2005	136
9.	Title: Modelling hydrology and water quality in the pre-alpine/alpine Thur watershed using SWAT. Author(s): Abbaspour, Karim C.; Yang, Jing; Maximov, Ivan; et al.	Source: JOURNAL OF HYDROLOGY Volume: 333 Issue: 2-4 Pages: 413-430 Published: FEB 15 2007	119
10.	Title: Numerical implementation of a shape memory alloy thermomechanical constitutive model using return mapping algorithms. Author(s): Qidwai, MA; Lagoudas, DC	Source: INTERNATIONAL JOURNAL FOR NUMERICAL METHODS IN ENGINEERING Volume: 47 Issue: 6 Pages: 1123-1168 Published: FEB 28 2000	119



5.9. UI - University of Illinois at Urbana-Champaign

#	Article / Autor	Revista	# Citacions
1.	Title: State of the art of structural control. Author(s): Spencer, BF; Nagarajaiah, S	Source: JOURNAL OF STRUCTURAL ENGINEERING-ASCE Volume: 129 Issue: 7 Pages: 845-856 Published: JUL 2003	277
2.	Title: Comparative studies of metamodelling techniques under multiple modelling criteria. Author(s): Jin, R; Chen, W; Simpson, TW	Source: STRUCTURAL AND MULTIDISCIPLINARY OPTIMIZATION Volume: 23 Issue: 1 Pages: 1-13 Published: DEC 2001	222
3.	Title: Probabilistic basis for 2000 SAC Federal Emergency Management Agency steel moment frame guidelines. Author(s): Cornell, CA; Jalayer, F; Hamburger, RO; et al.	Source: JOURNAL OF STRUCTURAL ENGINEERING-ASCE Volume: 128 Issue: 4 Pages: 526-533 Published: APR 2002	198
4.	Title: Topology optimization of non-linear elastic structures and compliant mechanisms. Author(s): Bruns, TE; Tortorelli, DA	Source: COMPUTER METHODS IN APPLIED MECHANICS AND ENGINEERING Volume: 190 Issue: 26-27 Pages: 3443-3459 Published: 2001	183
5.	Title: Finite element evaluation of mixed mode stress intensity factors in functionally graded materials. Author(s): Kim, JH; Paulino, GH	Source: INTERNATIONAL JOURNAL FOR NUMERICAL METHODS IN ENGINEERING Volume: 53 Issue: 8 Pages: 1903-1935 Published: MAR 20 2002	128
6.	Title: A survey of recent shell finite elements. Author(s): Yang, HTY; Saigal, S; Masud, A; et al.	Source: INTERNATIONAL JOURNAL FOR NUMERICAL METHODS IN ENGINEERING Volume: 47 Issue: 1-3 Pages: 101-127 Published: JAN 10 2000	128
7.	Title: Moving beyond heterogeneity and process complexity: A new vision for watershed hydrology. Author(s): McDonnell, J. J.; Sivapalan, M.; Vache, K.; et al.	Source: WATER RESOURCES RESEARCH Volume: 43 Issue: 7 Article Number: W07301 Published: JUL 26 2007	120
8.	Title: Open channel flow resistance. Author(s): Yen, BC	Source: JOURNAL OF HYDRAULIC ENGINEERING-ASCE Volume: 128 Issue: 1 Pages: 20-39 Published: JAN 2002	119
9.	Title: The atomic-scale finite element method. Author(s): Liu, B; Huang, Y; Jiang, H; et al.	Source: COMPUTER METHODS IN APPLIED MECHANICS AND ENGINEERING Volume: 193 Issue: 17-20 Pages: 1849-1864 Published: 2004	116
10.	Title: Mean flow and turbulence structure of open-channel flow through non-emergent vegetation. Author(s): Lopez, F; Garcia, MH	Source: JOURNAL OF HYDRAULIC ENGINEERING-ASCE Volume: 127 Issue: 5 Pages: 392-402 Published: MAY 2001	116



5.10. University of California Berkeley

#	Article / Autor	Revista	# Citacions
1.	Title: Liquefaction resistance of soils: Summary report from the 1996 NCEER and 1998 NCEER/NSF Workshops on Evaluation of Liquefaction Resistance of Soils. Author(s): Youd, TL; Idriss, IM; Andrus, RD; et al.	Source: JOURNAL OF GEOTECHNICAL AND GEOENVIRONMENTAL ENGINEERING Volume: 127 Issue: 10 Pages: 817-833 Published: OCT 2001	340
2.	Title: IAHS decade on Predictions in Ungauged Basins (PUB), 2003-2012: Shaping an exciting future for the hydrological sciences. Author(s): Sivapalan, M; Takeuchi, K; Franks, SW;	Source: HYDROLOGICAL SCIENCES JOURNAL-JOURNAL DES SCIENCES HYDROLOGIQUES Volume: 48 Issue: 6 Pages: 857-880 Published: DEC 2003	306
3.	Title: Measuring Soil Water Content with Ground Penetrating Radar: A Review. Author(s): Huisman, J. A.; Hubbard, S. S.; Redman, J. D.; et al.	Source: VADOSE ZONE JOURNAL Volume: 2 Issue: 4 Pages: 476-491 Published: NOV 2003	226
4.	Title: NGA ground motion model for the geometric mean horizontal component of PGA, PGV, PGD and 5% damped linear elastic response spectra for periods ranging from 0.01 to 10 s. Author(s): Campbell, Kenneth W.; Bozorgnia,	Source: EARTHQUAKE SPECTRA Volume: 24 Issue: 1 Pages: 139-171 Published: FEB 2008	203
5.	Title: Engineering design thinking, teaching, and learning. Author(s): Dym, CL; Agogino, AM; Eris, O; et al.	Source: JOURNAL OF ENGINEERING EDUCATION Volume: 94 Issue: 1 Pages: 103-120 Published: JAN 2005	172
6.	Title: Indoor air quality, ventilation and health symptoms in schools: an analysis of existing information. Author(s): Daisey, JM; Angell, WJ; Apte, MG	Source: INDOOR AIR Volume: 13 Issue: 1 Pages: 53-64 Published: MAR 2003	162
7.	Title: A mechanistic model for river incision into bedrock by saltating bed load. Author(s): Sklar, LS; Dietrich, WE	Source: WATER RESOURCES RESEARCH Volume: 40 Issue: 6 Article Number: W06301 Published: JUN 18 2004	151
8.	Title: Getting the right answers for the right reasons: Linking measurements, analyses, and models to advance the science of hydrology. Author(s): Kirchner, JW	Source: WATER RESOURCES RESEARCH Volume: 42 Issue: 3 Article Number: W03S04 Published: MAR 18 2006	141
9.	Title: Continuous/discontinuous finite element approximations of fourth-order elliptic problems in structural and continuum mechanics with applications to thin beams and plates, and strain gradient elasticity. Author(s): Engel, G; Garikipati, K; Hughes, TJR; et al.	Source: COMPUTER METHODS IN APPLIED MECHANICS AND ENGINEERING Volume: 191 Issue: 34 Pages: 3669-3750 Article Number: PII S0045-7825(02)00286-4 Published: 2002	134
10.	Title: Joint mixed logit models of stated and revealed preferences for alternative-fuel vehicles. Author(s): Brownstone, D; Bunch, DS; Train, K	Source: TRANSPORTATION RESEARCH PART B-METHODOLOGICAL Volume: 34 Issue: 5 Pages: 315-338 Published: JUN 2000	134



5.11. UNAM – Universidad Nacional Autónoma de México

#	Article / Autor	Revista	# Citacions
1.	Title: Heavy metal removal with Mexican clinoptilolite: Multi-component ionic exchange. Author(s): Mier, MV; Callejas, RL; Gehr, R; et al.	Source: WATER RESEARCH Volume: 35 Issue: 2 Pages: 373-378 Published: FEB 2001	111
2.	Title: The implications of projected climate change for freshwater resources and their management. Author(s): Kundzewicz, Z. W.; Mata, L. J.; Arnell, N. W.; et al.	Source: HYDROLOGICAL SCIENCES JOURNAL-JOURNAL DES SCIENCES HYDROLOGIQUES Volume: 53 Issue: 1 Pages: 3-10 Published: FEB 2008	99
3.	Title: Hg(II) removal from water by chitosan and chitosan derivatives: A review. Author(s): Miretzky, P.; Fernandez Cirelli, A.	Source: JOURNAL OF HAZARDOUS MATERIALS Volume: 167 Issue: 1-3 Pages: 10-23 Published: AUG 15 2009	75
4.	Title: Influence of rainfall spatial variability on flood prediction. Author(s): Arnaud, P; Bouvier, C; Cisneros, L; et al.	Source: JOURNAL OF HYDROLOGY Volume: 260 Issue: 1-4 Pages: 216-230 Article Number: PII S0022-1694(01)00611-4 Published: MAR 15 2002	67
5.	Title: Cr(VI) and Cr(III) removal from aqueous solution by raw and modified lignocellulosic materials: A review. Author(s): Miretzky, P.; Fernandez Cirelli, A.	Source: JOURNAL OF HAZARDOUS MATERIALS Volume: 180 Issue: 1-3 Pages: 1-19 Published: AUG 15 2010	63
6.	Title: The role of arsenic-bearing rocks in groundwater pollution at Zimapán Valley, Mexico. Author(s): Armienta, MA; Villasenor, G; Rodriguez, R; et al.	Source: ENVIRONMENTAL GEOLOGY Volume: 40 Issue: 4-5 Pages: 571-581 Published: FEB 2001	56
7.	Title: Site effects at Euroseistest - I. Determination of the valley structure and confrontation of observations with 1D analysis. Author(s): Raptakis, D; Chavez-Garcia, FJ; Makra, K; et al.	Source: SOIL DYNAMICS AND EARTHQUAKE ENGINEERING Volume: 19 Issue: 1 Pages: 1-22 Published: JAN 2000	46
8.	Title: Use of abstraction regime and knowledge of hydrogeological conditions to control high-fluoride concentration in abstracted groundwater: San Luis Potosí basin, Mexico. Author(s): Carrillo-Rivera, JJ; Cardona, A; Edmunds, WM	Source: JOURNAL OF HYDROLOGY Volume: 261 Issue: 1-4 Pages: 24-47 Article Number: PII S0022-1694(01)00566-2 Published: APR 15 2002	44
9.	Title: Geochemical evolution of groundwater beneath Mexico City. Author(s): Edmunds, WM; Carrillo-Rivera, JJ; Cardona, A	Source: JOURNAL OF HYDROLOGY Volume: 258 Issue: 1-4 Pages: 1-24 Published: FEB 28 2002	42
10.	Title: Site effects at Euroseistest - II. Results from 2D numerical modeling and comparison with observations. Author(s): Chavez-Garcia, FJ; Raptakis, D; Makra, K; et al.	Source: SOIL DYNAMICS AND EARTHQUAKE ENGINEERING Volume: 19 Issue: 1 Pages: 23-39 Published: JAN 2000	40



5.12. UFRJ – Universidade Federal do Rio de Janeiro

#	Article / Autor	Revista	# Citacions
1.	Title: Ozonation and advanced oxidation technologies to remove endocrine disrupting chemicals (EDCs) and pharmaceuticals and personal care products (PPCPs) in water effluents. Author(s): Esplugas, S; Bila, D.M.; Krause, L.G.T.; et al.	Source: JOURNAL OF HAZARDOUS MATERIALS Volume: 149 Issue: 3 Pages: 631-642 Published: NOV 19 2007	161
2.	Title: Efficient use of airport capacity. Author(s): Fernandes, E; Pacheco, RR	Source: TRANSPORTATION RESEARCH PART A-POLICY AND PRACTICE Volume: 36 Issue: 3 Pages: 225-238 Published: MAR 2002	59
3.	Title: Durability of alkali-sensitive sisal and coconut fibres in cement mortar composites. Author(s): Toledo, RD; Scrivener, K; England, GL; et al.	Source: CEMENT & CONCRETE COMPOSITES Volume: 22 Issue: 2 Pages: 127-143 Published: APR 2000	55
4.	Title: Development of vegetable fibre-mortar composites of improved durability. Author(s): Toledo, RD; Ghavami, K; England, GL; et al.	Source: CEMENT & CONCRETE COMPOSITES Volume: 25 Issue: 2 Pages: 185-196 Article Number: PII S0958-9465(02)00018-5 Published: FEB 2003	53
5.	Title: Optimization of a sequencing batch reactor for biological nitrogen removal. Author(s): Coelho, MAZ; Russo, C; Araujo, OQF	Source: WATER RESEARCH Volume: 34 Issue: 10 Pages: 2809-2817 Published: JUL 2000	48
6.	Title: Ozonation of a landfill leachate: evaluation of toxicity removal and biodegradability improvement. Author(s): Bila, DM; Montalvao, AF; Silva, AC; et al.	Source: JOURNAL OF HAZARDOUS MATERIALS Volume: 117 Issue: 2-3 Pages: 235-242 Published: JAN 31 2005	45
7.	Title: Oilfield wastewater treatment by combined microfiltration and biological processes. Author(s): Campos, JC; Borges, RMH; Oliveira, AM; et al.	Source: WATER RESEARCH Volume: 36 Issue: 1 Pages: 95-104 Published: JAN 2002	44
8.	Title: Methylmercury production and accumulation in sediments and soils of an amazonian floodplain - Effect of seasonal inundation. Author(s): Roulet, M; Guimaraes, JRD; Lucotte, M	Source: WATER AIR AND SOIL POLLUTION Volume: 128 Issue: 1-2 Pages: 41-60 Published: MAY 2001	42
9.	Title: Pozzolanic activity and filler effect of sugar cane bagasse ash in Portland cement and lime mortars. Author(s): Cordeiro, G. C.; Toledo Filho, R. D.; Tavares, L. M.; et al.	Source: CEMENT & CONCRETE COMPOSITES Volume: 30 Issue: 5 Pages: 410-418 Published: MAY 2008	37
10.	Title: Active control of axisymmetric shells with piezoelectric layers: a mixed laminated theory with a high order displacement field. Author(s): Correia, IFP; Soares, CMM; Soares, CAM; et al.	Source: COMPUTERS & STRUCTURES Volume: 80 Issue: 27-30 Pages: 2265-2275 Article Number: PII S0045-7949(02)00239-0 Published: NOV 2002	36



5.13. USP - Universidade de São Paulo

#	Article / Autor	Revista	# Citacions
1.	IAHS decade on Predictions in Ungauged Basins (PUB), 2003-2012: Shaping an exciting future for the hydrological sciences. Sivapalan, M; Takeuchi, K; Franks, SW; et al.	Source: HYDROLOGICAL SCIENCES JOURNAL-JOURNAL DES SCIENCES HYDROLOGIQUES Volume: 48 Issue: 6 Pages: 857-880 Published: DEC 2003	279
2.	Monitoring the transport of biomass burning emissions in South America. Freitas, SR; Longo, KM; Diasb, MAFS; et al.	Source: ENVIRONMENTAL FLUID MECHANICS Volume: 5 Issue: 1-2 Pages: 135-167 Published: APR 2005	63
3.	Second-order statistics for diversity-combining, techniques in Nakagami-fading channels. Yacoub, MD; da Silva, CRCM; Bautista, JEV	Source: IEEE TRANSACTIONS ON VEHICULAR TECHNOLOGY Volume: 50 Issue: 6 Pages: 1464-1470 Published: NOV 2001	58
4.	Recovery of copper from printed circuit boards scraps by mechanical processing and electrometallurgy. Veit, Hugo Marcelo; Bernardes, Andrea Moura; Ferreira, Jane Zoppas; et al.	Source: JOURNAL OF HAZARDOUS MATERIALS Volume: 137 Issue: 3 Pages: 1704-1709 Published: OCT 11 2006	48
5.	Oxidation of the pesticide atrazine at DSA (R) electrodes. Malpass, G. R. P.; Miwa, D. W.; Machado, S. A. S.; et al.	Source: JOURNAL OF HAZARDOUS MATERIALS Volume: 137 Issue: 1 Pages: 565-572 Published: SEP 1 2006	44
6.	Adaptation of the Thornthwaite scheme for estimating daily reference evapotranspiration. Pereira, AR; Pruitt, WO	Source: AGRICULTURAL WATER MANAGEMENT Volume: 66 Issue: 3 Pages: 251-257 Published: MAY 1 2004	43
7.	Simultaneous flow injection preconcentration of lead and cadmium using cloud point extraction and determination by atomic absorption spectrometry. Silva, Edson Luiz; Roldan, Paulo dos Santos	Source: JOURNAL OF HAZARDOUS MATERIALS Volume: 161 Issue: 1 Pages: 142-147 Published: JAN 15 2009	40
8.	Simultaneous preconcentration of copper, zinc, cadmium, and nickel in water samples by cloud point extraction using 4-(2-pyridylazo)-resorcinol and their determination by inductively coupled plasma optic emission spectrometry.	Source: JOURNAL OF HAZARDOUS MATERIALS Volume: 171 Issue: 1-3 Pages: 1133-1138 Published: NOV 15 2009	38
9.	Soil moisture dynamics in an eastern Amazonian tropical forest. Bruno, Rogerio D.; da Rocha, Humberto R.; de Freitas, Helber C.; et al.	Source: HYDROLOGICAL PROCESSES Volume: 20 Issue: 12 Pages: 2477-2489 Published: AUG 15 2006	38
10.	Electrochemical treatment of tannery wastewater using DSA (R) electrodes. Costa, Carla Regina; Botta, Clarice M. R.; Espindola, Evaldo L. G.; et al.	Source: JOURNAL OF HAZARDOUS MATERIALS Volume: 153 Issue: 1-2 Pages: 616-627 Published: MAY 2008	37



5.14. Universidade Técnica de Lisboa

#	Article / Autor	Revista	# Citacions
1.	Title: Virtual-flux-based direct power control of three-phase PWM rectifiers. Author(s): Malinowski, M; Kazmierkowski, MP; Hansen, S; et al.	Source: IEEE TRANSACTIONS ON INDUSTRY APPLICATIONS Volume: 37 Issue: 4 Pages: 1019-1027 Published: JUL-AUG 2001	207
2.	Title: Pesticides in Portuguese surface and ground waters. Author(s): Cerejeira, MJ; Viana, P; Batista, S; et al.	Source: WATER RESEARCH Volume: 37 Issue: 5 Pages: 1055-1063 Article Number: PII S0043-1354(01)00462-6 Published: MAR 2003	145
3.	Title: Irrigation management under water scarcity. Author(s): Pereira, LS; Oweis, T; Zairi, A	Source: AGRICULTURAL WATER MANAGEMENT Volume: 57 Issue: 3 Pages: 175-206 Article Number: PII S0378-3774(02)00075-6 Published: DEC 30 2002	128
4.	Title: Chloride-induced corrosion on reinforcing steel: from the fundamentals to the monitoring techniques. Author(s): Montemor, MF; Simoes, AMP; Ferreira, MGS	Source: CEMENT & CONCRETE COMPOSITES Volume: 25 Issue: 4-5 Pages: 491-502 Published: MAY-JUL 2003	69
5.	Title: Numerical simulation of a mild combustion burner. Author(s): Coelho, PJ; Peters, N	Source: COMBUSTION AND FLAME Volume: 124 Issue: 3 Pages: 503-518 Published: FEB 2001	69
6.	Title: Modelling and design of adaptive composite structures. Author(s): Correia, VMF; Gomes, MAA; Suleman, A; et al.	Source: COMPUTER METHODS IN APPLIED MECHANICS AND ENGINEERING Volume: 185 Issue: 2-4 Pages: 325-346 Published: 2000	68
7.	Title: Mechanical behaviour of concrete made with fine recycled concrete aggregates. Author(s): Evangelista, L.; de Brito, J.	Source: CEMENT & CONCRETE COMPOSITES Volume: 29 Issue: 5 Pages: 397-401 Published: MAY 2007	58
8.	Title: FAO-56 dual crop coefficient method for estimating evaporation from soil and application extensions. Author(s): Allen, RG; Pereira, LS; Smith, M; et al.	Source: JOURNAL OF IRRIGATION AND DRAINAGE ENGINEERING-ASCE Volume: 131 Issue: 1 Pages: 2-13 Published: JAN-FEB 2005	55
9.	Title: First-order generalised beam theory for arbitrary orthotropic materials. Author(s): Silvestre, N; Camotim, D	Source: THIN-WALLED STRUCTURES Volume: 40 Issue: 9 Pages: 755-789 Article Number: PII S0263-8231(02)00025-3 Published: SEP 2002	55
10.	Title: Reactive textile dye colour removal in a sequencing batch reactor. Author(s): Lourenco, ND; Novais, JM; Pinheiro, HM	Source: WATER SCIENCE AND TECHNOLOGY Volume: 42 Issue: 5-6 Pages: 321-328 Published: 2000	55



5.15. UPM - Universidad Politécnica de Madrid

#	Article / Autor	Revista	# Citacions
1.	Title: Static and dynamic behaviour of recycled tyre rubber-filled concrete. Author(s): Hernandez-Olivares, F; Barluenga, G; Bollati, M; et al.	Source: CEMENT AND CONCRETE RESEARCH Volume: 32 Issue: 10 Pages: 1587-1596 Article Number: PII S0008-8846(02)00833-5 Published: OCT 2002	79
2.	Title: Three-dimensional finite-element simulation of the dynamic Brazilian tests on concrete cylinders. Author(s): Ruiz, G; Ortiz, M; Pandolfi, A	Source: INTERNATIONAL JOURNAL FOR NUMERICAL METHODS IN ENGINEERING Volume: 48 Issue: 7 Pages: 963-994 Published: JUL 10 2000	66
3.	Title: Challenges to manage the risk of water scarcity and climate change in the Mediterranean. Author(s): Iglesias, Ana; Garrote, Luis; Flores, Francisco; et al.	Source: WATER RESOURCES MANAGEMENT Volume: 21 Issue: 5 Pages: 775-788 Published: MAY 2007	49
4.	Title: Multiagent architectures for intelligent traffic management systems. Author(s): Hernandez, JZ; Ossowski, S; Garcia-Serrano, A	Source: TRANSPORTATION RESEARCH PART C-EMERGING TECHNOLOGIES Volume: 10 Issue: 5-6 Pages: 473-506 Article Number: PII S0968-090X(02)00032-3 Published: OCT-DEC 2002	49
5.	Title: Fire performance of recycled rubber-filled high-strength concrete. Author(s): Hernandez-Olivares, F; Barluenga, G	Source: CEMENT AND CONCRETE RESEARCH Volume: 34 Issue: 1 Pages: 109-117 Published: JAN 2004	46
6.	Title: Occurrence of copper resistant mutants in the toxic cyanobacteria <i>Microcystis aeruginosa</i> : characterisation and future implications in the use of copper sulphate as algaecide. Author(s): Garcia-Villada, L; Rico, M; Altamirano, M;	Source: WATER RESEARCH Volume: 38 Issue: 8 Pages: 2207-2213 Published: APR 2004	45
7.	Title: Efficient ray-tracing acceleration techniques for radio propagation modeling. Author(s): Agelet, FA; Formella, A; Rabanos, JMH; et al.	Source: IEEE TRANSACTIONS ON VEHICULAR TECHNOLOGY Volume: 49 Issue: 6 Pages: 2089-2104 Published: NOV 2000	42
8.	Title: Fractal and multifractal analysis of pore-scale images of soil. Author(s): Bird, N; Diaz, MC; Saa, A; et al.	Source: JOURNAL OF HYDROLOGY Volume: 322 Issue: 1-4 Pages: 211-219 Published: MAY 15 2006	41
9.	Title: VIRTUOUS: Vision-based road transportation for unmanned operation on urban-like scenarios. Author(s): Sotelo, MA; Rodriguez, FJ; Magdalena, L	Source: IEEE TRANSACTIONS ON INTELLIGENT TRANSPORTATION SYSTEMS Volume: 5 Issue: 2 Pages: 69-83 Published: JUN 2004	38
10.	Title: Assessment of the decrease of CO ₂ emissions in the construction field through the selection of materials: Practical case study of three houses of low environmental impact. Author(s): Gonzalez, MJ; Navarro, JG	Source: BUILDING AND ENVIRONMENT Volume: 41 Issue: 7 Pages: 902-909 Published: JUL 2006	36



5.16. UPV - Universitat Politècnica de València

#	Article / Autor	Revista	# Citacions
1.	Title: Influence of soil properties on the aggregation of some Mediterranean soils and the use of aggregate size and stability as land degradation indicators. Author(s): Boix-Fayos, C; Calvo-Cases, A; Imeson, AC; et al.	Source: CATENA Volume: 44 Issue: 1 Pages: 47-67 Published: MAY 18 2001	86
2.	Title: Validation of a new method for the diagnosis of rotor bar failures via wavelet transform in industrial induction machines. Author(s): Antonino-Daviu, J.A.; Riera-Guasp, M.; Folch, J.R.; et al.	Source: IEEE TRANSACTIONS ON INDUSTRY APPLICATIONS Volume: 42 Issue: 4 Pages: 990-996 Published: JUL-AUG 2006	71
3.	Title: Use of systematic, palaeoflood and historical data for the improvement of flood risk estimation. review of scientific methods. Author(s): Benito, G; Lang, M; Barriendos, M; et al.	Source: NATURAL HAZARDS Volume: 31 Issue: 3 Pages: 623-643 Published: MAR 2004	63
4.	Title: A review and numerical assessment of the random walk particle tracking method. Author(s): Salamon, P.; Fernandez-Garcia, D.; Gomez-Hernandez, J.J.	Source: JOURNAL OF CONTAMINANT HYDROLOGY Volume: 87 Issue: 3-4 Pages: 277-305 Published: OCT 10 2006	54
5.	Title: Molecular detection of pathogens in water - The pros and cons of molecular techniques. Author(s): Girones, R.; Antonia Ferrus, M.; Luis Alonso, J.; et al.	Source: WATER RESEARCH Volume: 44 Issue: 15 Pages: 4325-4339 Published: AUG 2010	47
6.	Title: Evaluation of the pozzolanic activity of fluid catalytic cracking catalyst residue (FC3R). Thermogravimetric analysis studies on FC3R-Portland cement pastes. Author(s): Paya, J; Monzo, J; Borrachero, MV; et al.	Source: CEMENT AND CONCRETE RESEARCH Volume: 33 Issue: 4 Pages: 603-609 Article Number: PII S0008-8846(02)01026-8 Published: APR 2003	47
7.	Title: Coupled inverse modelling of groundwater flow and mass transport and the worth of concentration data. Author(s): Franssen, HJH; Gomez-Hernandez, J; Sahuquillo, A	Source: JOURNAL OF HYDROLOGY Volume: 281 Issue: 4 Pages: 281-295 Published: OCT 20 2003	46
8.	Title: Reuse of wastewater of the textile industry after its treatment with a combination of physico-chemical treatment and membrane technologies. Author(s): Bes-Pia, A; Mendoza-Roca, JA; Alcaina-Miranda, MI; et al.	Source: DESALINATION Volume: 149 Issue: 1-3 Special Issue: SI Pages: 169-174 Article Number: PII S0011-9164(02)00750-6 Published: SEP 10 2002	44
9.	Title: The use of the wavelet approximation signal as a tool for the diagnosis of rotor bar failures. Author(s): Riera-Guasp, M.; Antonino-Daviu, J.A.; Roger-Folch, J.; et al.	Source: IEEE TRANSACTIONS ON INDUSTRY APPLICATIONS Volume: 44 Issue: 3 Pages: 716-726 Published: MAY-JUN 2008	41
10.	Title: Combination of physico-chemical treatment and nanofiltration to reuse wastewater of a printing, dyeing and finishing textile industry. Author(s): Bes-Pia, A; Mendoza-Roca, JA; Alcaina-Miranda, MI; et al.	Source: DESALINATION Volume: 157 Issue: 1-3 Special Issue: SI Pages: 73-80 Article Number: PII S0011-9164(03)00385-0 Published: AUG 1 2003	41



6. Revistes on més publiquen els professors

Les següents taules mostren, universitat a universitat, els títols de les revistes, indexades al *Web of Science*, on més publiquen els professors.

Per a cada institució es donen els 25 títols de revista on més publiquen els autors, excepte per a la UPC on es detallen els 50 títols de revista on més es publica.

S'acaba l'apartat amb la llista de les revistes que apareixen 10 o més vegades en aquestes taules i amb la llista unificada dels 25 títols de revista en els quals s'han publicat més articles sumant el conjunt de les universitats.

6.1. Taules de revistes amb major nombre d'articles per a cada universitat

6.1.1. UPC - Universitat Politècnica de Catalunya

Revista	# Articles	% sobre el total (1051)
COMPUTER METHODS IN APPLIED MECHANICS AND ENGINEERING	103	9.800 %
INTERNATIONAL JOURNAL FOR NUMERICAL METHODS IN ENGINEERING	53	5.043 %
JOURNAL OF HAZARDOUS MATERIALS	42	3.996 %
WATER RESOURCES RESEARCH	36	3.425 %
ENGINEERING STRUCTURES	32	3.045 %
ENGINEERING GEOLOGY	29	2.759 %
WATER RESEARCH	26	2.474 %
GEOTECHNIQUE	25	2.379 %
COMPUTERS STRUCTURES	22	2.093 %
JOURNAL OF HYDRAULIC RESEARCH	21	1.998 %
JOURNAL OF HYDROLOGY	21	1.998 %
WATER SCIENCE AND TECHNOLOGY	20	1.903 %
INTERNATIONAL JOURNAL FOR NUMERICAL AND ANALYTICAL METHODS IN GEOMECHANICS	19	1.808 %
COASTAL ENGINEERING	18	1.713 %
IEEE TRANSACTIONS ON VEHICULAR TECHNOLOGY	18	1.713 %
MEASUREMENT SCIENCE TECHNOLOGY	18	1.713 %
ADVANCES IN WATER RESOURCES	16	1.522 %
COMMUNICATIONS IN NUMERICAL METHODS IN ENGINEERING	14	1.332 %
CEMENT AND CONCRETE RESEARCH	13	1.237 %
HYDROGEOLOGY JOURNAL	13	1.237 %
INGENIERIA HIDRAULICA EN MEXICO	13	1.237 %
ARCHIVES OF COMPUTATIONAL METHODS IN ENGINEERING	12	1.142 %
JOURNAL OF HYDRAULIC ENGINEERING ASCE	12	1.142 %
REVISTA INTERNACIONAL DE METODOS NUMERICOS PARA CALCULO Y DISENO EN INGENIERIA	12	1.142 %
INTERNATIONAL JOURNAL OF ENGINEERING SCIENCE	11	1.047 %
MATERIALS AND STRUCTURES	11	1.047 %
PHYSICS AND CHEMISTRY OF THE EARTH	11	1.047 %



TRANSPORTATION RESEARCH RECORD	11	1.047 %
CANADIAN GEOTECHNICAL JOURNAL	10	0.951 %
CONSTRUCTION AND BUILDING MATERIALS	10	0.951 %
JOURNAL OF CONSTRUCTIONAL STEEL RESEARCH	10	0.951 %
JOURNAL OF CONTAMINANT HYDROLOGY	10	0.951 %
MATERIALES DE CONSTRUCCION	10	0.951 %
ENGINEERING COMPUTATIONS	9	0.856 %
ENVIRONMENTAL GEOLOGY	9	0.856 %
THIN WALLED STRUCTURES	9	0.856 %
COMPUTERS AND GEOTECHNICS	8	0.761 %
INFORMES DE LA CONSTRUCCION	8	0.761 %
NATURAL HAZARDS	8	0.761 %
NATURAL HAZARDS AND EARTH SYSTEM SCIENCES	8	0.761 %
COMBUSTION AND FLAME	7	0.666 %
GROUND WATER	7	0.666 %
JOURNAL OF STRUCTURAL ENGINEERING ASCE	7	0.666 %
PROCEEDINGS OF THE INSTITUTION OF CIVIL ENGINEERS STRUCTURES AND BUILDINGS	7	0.666 %
WATER SA	7	0.666 %
COMPUTER APPLICATIONS IN ENGINEERING EDUCATION	6	0.571 %
GEOTECHNICAL TESTING JOURNAL	6	0.571 %
HVAC R RESEARCH	6	0.571 %
LANDSLIDES	6	0.571 %
OCEAN COASTAL MANAGEMENT	6	0.571 %



6.1.2. EPFL - Ecole Polytechnique Fédérale de Lausanne

Revista	# Articles	% sobre el total (815)
WATER RESOURCES RESEARCH	58	7.117 %
CEMENT AND CONCRETE RESEARCH	38	4.663 %
COMPUTER METHODS IN APPLIED MECHANICS AND ENGINEERING	36	4.417 %
WATER RESEARCH	29	3.558 %
ADVANCES IN WATER RESOURCES	28	3.436 %
ENERGY AND BUILDINGS	24	2.945 %
JOURNAL OF HYDRAULIC ENGINEERING ASCE	22	2.699 %
JOURNAL OF HYDROLOGY	19	2.331 %
INTERNATIONAL JOURNAL FOR NUMERICAL AND ANALYTICAL METHODS IN GEOMECHANICS	18	2.209 %
CANADIAN JOURNAL OF CIVIL ENGINEERING	16	1.963 %
COMPUTERS STRUCTURES	16	1.963 %
ENGINEERING STRUCTURES	16	1.963 %
JOURNAL OF HYDRAULIC RESEARCH	15	1.840 %
ACI STRUCTURAL JOURNAL	14	1.718 %
COMPOSITES PART B ENGINEERING	14	1.718 %
MEASUREMENT SCIENCE TECHNOLOGY	14	1.718 %
IEEE TRANSACTIONS ON INDUSTRY APPLICATIONS	13	1.595 %
INTERNATIONAL JOURNAL FOR NUMERICAL METHODS IN ENGINEERING	13	1.595 %
WATER SCIENCE AND TECHNOLOGY	13	1.595 %
HOUILLE BLANCHE REVUE INTERNATIONALE DE L EAU	12	1.472 %
JOURNAL OF STRUCTURAL ENGINEERING ASCE	12	1.472 %
JOURNAL OF COMPOSITES FOR CONSTRUCTION	11	1.350 %
TRANSPORTATION RESEARCH PART B METHODOLOGICAL	11	1.350 %
TUNNELLING AND UNDERGROUND SPACE TECHNOLOGY	11	1.350 %
ROCK MECHANICS AND ROCK ENGINEERING	10	1.227 %



6.1.3. Imperial College London

Revista	# Articles	% sobre el total (1408)
GEOTECHNIQUE	74	5.256 %
JOURNAL OF CONSTRUCTIONAL STEEL RESEARCH	60	4.261 %
INTERNATIONAL JOURNAL OF ROCK MECHANICS AND MINING SCIENCES	53	3.764 %
ENGINEERING STRUCTURES	42	2.983 %
WATER RESEARCH	39	2.770 %
WATER RESOURCES RESEARCH	35	2.486 %
WATER SCIENCE AND TECHNOLOGY	32	2.273 %
CEMENT AND CONCRETE RESEARCH	30	2.131 %
JOURNAL OF HYDROLOGY	29	2.060 %
COMBUSTION AND FLAME	27	1.918 %
TRANSPORTATION RESEARCH RECORD	27	1.918 %
INTERNATIONAL JOURNAL FOR NUMERICAL METHODS IN ENGINEERING	26	1.847 %
MAGAZINE OF CONCRETE RESEARCH	25	1.776 %
PROCEEDINGS OF THE INSTITUTION OF CIVIL ENGINEERS STRUCTURES AND BUILDINGS	24	1.705 %
INTERNATIONAL JOURNAL OF PRESSURE VESSELS AND PIPING	22	1.563 %
COMPUTER METHODS IN APPLIED MECHANICS AND ENGINEERING	21	1.491 %
JOURNAL OF ENGINEERING MATHEMATICS	21	1.491 %
JOURNAL OF EARTHQUAKE ENGINEERING	20	1.420 %
JOURNAL OF HAZARDOUS MATERIALS	20	1.420 %
MEASUREMENT SCIENCE TECHNOLOGY	20	1.420 %
QUARTERLY JOURNAL OF ENGINEERING GEOLOGY AND HYDROGEOLOGY	20	1.420 %
JOURNAL OF ENVIRONMENTAL ENGINEERING ASCE	19	1.349 %
COMPUTERS STRUCTURES	18	1.278 %
BULLETIN OF EARTHQUAKE ENGINEERING	17	1.207 %
DESALINATION	17	1.207 %



6.1.4. TU Delft - Technische Universiteit Delft

Revista	# Articles	% sobre el total (1865)
WATER SCIENCE AND TECHNOLOGY	141	7.560 %
TRANSPORTATION RESEARCH RECORD	91	4.879 %
WATER RESEARCH	89	4.772 %
WATER RESOURCES RESEARCH	70	3.753 %
COASTAL ENGINEERING	67	3.592 %
PHYSICS AND CHEMISTRY OF THE EARTH	57	3.056 %
HYDROLOGY AND EARTH SYSTEM SCIENCES	54	2.895 %
COMPUTER METHODS IN APPLIED MECHANICS AND ENGINEERING	46	2.466 %
INTERNATIONAL JOURNAL FOR NUMERICAL METHODS IN ENGINEERING	42	2.252 %
MEASUREMENT SCIENCE TECHNOLOGY	36	1.930 %
JOURNAL OF HYDROLOGY	34	1.823 %
CEMENT AND CONCRETE RESEARCH	30	1.609 %
TRANSPORT REVIEWS	28	1.501 %
TRANSPORTATION PLANNING AND TECHNOLOGY	28	1.501 %
EUROPEAN JOURNAL OF TRANSPORT AND INFRASTRUCTURE RESEARCH	26	1.394 %
DESALINATION	25	1.340 %
HYDROLOGICAL PROCESSES	24	1.287 %
MATERIALS AND STRUCTURES	23	1.233 %
CEMENT CONCRETE COMPOSITES	21	1.126 %
ADVANCES IN WATER RESOURCES	20	1.072 %
CONSTRUCTION AND BUILDING MATERIALS	20	1.072 %
JOURNAL OF HAZARDOUS MATERIALS	20	1.072 %
JOURNAL OF HYDRAULIC ENGINEERING ASCE	20	1.072 %
SCIENCE AND ENGINEERING ETHICS	18	0.965 %
COMPUTERS STRUCTURES	17	0.912 %



6.1.5. ETHZ – Swiss Federal Institute of Technology Zurich

Revista	# Articles	% sobre el total (993)
JOURNAL OF HYDRAULIC ENGINEERING ASCE	68	6.848 %
WATER RESOURCES RESEARCH	59	5.942 %
JOURNAL OF HYDROLOGY	51	5.136 %
WATER RESEARCH	43	4.330 %
BAUINGENIEUR	28	2.820 %
HYDROLOGICAL PROCESSES	26	2.618 %
ADVANCES IN WATER RESOURCES	23	2.316 %
HYDROLOGY AND EARTH SYSTEM SCIENCES	21	2.115 %
JOURNAL OF HYDRAULIC RESEARCH	21	2.115 %
WATER SCIENCE AND TECHNOLOGY	21	2.115 %
JOURNAL OF CONTAMINANT HYDROLOGY	17	1.712 %
TRANSPORTATION RESEARCH RECORD	17	1.712 %
COMBUSTION AND FLAME	16	1.611 %
MEASUREMENT SCIENCE TECHNOLOGY	14	1.410 %
BAUPHYSIK	13	1.309 %
COMPUTER METHODS IN APPLIED MECHANICS AND ENGINEERING	13	1.309 %
INTERNATIONAL JOURNAL FOR NUMERICAL METHODS IN ENGINEERING	13	1.309 %
INTERNATIONAL JOURNAL OF ROCK MECHANICS AND MINING SCIENCES	12	1.208 %
TRANSPORTATION	12	1.208 %
VADOSE ZONE JOURNAL	12	1.208 %
CEMENT AND CONCRETE RESEARCH	11	1.108 %
IEEE TRANSACTIONS ON INDUSTRY APPLICATIONS	11	1.108 %
INTERNATIONAL JOURNAL OF TECHNOLOGY MANAGEMENT	11	1.108 %
MATERIALS AND STRUCTURES	10	1.007 %
NATURAL HAZARDS AND EARTH SYSTEM SCIENCES	10	1.007 %

6.1.6. ENPC / LCPC –**École Nationale des Ponts et Chaussées / Laboratoire Central des Ponts et Chaussées**

Revista	# Articles	% sobre el total (662)
CEMENT AND CONCRETE RESEARCH	74	11.178 %
HOUILLE BLANCHE REVUE INTERNATIONALE DE L EAU	43	6.495 %
MATERIALS AND STRUCTURES	35	5.287 %
WATER SCIENCE AND TECHNOLOGY	32	4.834 %
INTERNATIONAL JOURNAL FOR NUMERICAL AND ANALYTICAL METHODS IN GEOMECHANICS	30	4.532 %
ROAD MATERIALS AND PAVEMENT DESIGN	24	3.625 %
COMPUTERS AND GEOTECHNICS	23	3.474 %
JOURNAL OF HYDROLOGY	23	3.474 %
COMPUTER METHODS IN APPLIED MECHANICS AND ENGINEERING	20	3.021 %
GEOTECHNIQUE	18	2.719 %
CONSTRUCTION AND BUILDING MATERIALS	17	2.568 %
ENGINEERING GEOLOGY	17	2.568 %
SOIL DYNAMICS AND EARTHQUAKE ENGINEERING	16	2.417 %
CANADIAN GEOTECHNICAL JOURNAL	14	2.115 %
MAGAZINE OF CONCRETE RESEARCH	12	1.813 %
TRANSPORTATION RESEARCH RECORD	10	1.511 %
BULLETIN OF EARTHQUAKE ENGINEERING	9	1.360 %
SOILS AND FOUNDATIONS	9	1.360 %
WATER RESEARCH	9	1.360 %
CEMENT CONCRETE COMPOSITES	8	1.208 %
IEEE TRANSACTIONS ON INTELLIGENT TRANSPORTATION SYSTEMS	8	1.208 %
ADVANCES IN WATER RESOURCES	7	1.057 %
GEOTECHNICAL TESTING JOURNAL	7	1.057 %
INTERNATIONAL JOURNAL OF ROCK MECHANICS AND MINING SCIENCES	7	1.057 %
TRANSPORTATION RESEARCH RECORD SERIES	7	1.057 %

6.1.7. Stanford University

Revista	# Articles	% sobre el total (882)
WATER RESOURCES RESEARCH	97	10.998 %
COMPUTER METHODS IN APPLIED MECHANICS AND ENGINEERING	53	6.009 %
COMBUSTION AND FLAME	47	5.329 %
INTERNATIONAL JOURNAL FOR NUMERICAL METHODS IN ENGINEERING	44	4.989 %
JOURNAL OF STRUCTURAL ENGINEERING ASCE	38	4.308 %
EARTHQUAKE ENGINEERING STRUCTURAL DYNAMICS	35	3.968 %
ISSUES IN SCIENCE AND TECHNOLOGY	32	3.628 %
JOURNAL OF CONSTRUCTION ENGINEERING AND MANAGEMENT ASCE	29	3.288 %
IEEE TRANSACTIONS ON VEHICULAR TECHNOLOGY	26	2.948 %
JOURNAL OF CONTAMINANT HYDROLOGY	20	2.268 %
WATER RESEARCH	17	1.927 %
MEASUREMENT SCIENCE TECHNOLOGY	16	1.814 %
AI EDAM ARTIFICIAL INTELLIGENCE FOR ENGINEERING DESIGN ANALYSIS AND MANUFACTURING	15	1.701 %
GROUND WATER	15	1.701 %
JOURNAL OF ENGINEERING EDUCATION	15	1.701 %
HYDROLOGICAL PROCESSES	14	1.587 %
EARTHQUAKE SPECTRA	13	1.474 %
ADVANCES IN WATER RESOURCES	12	1.361 %
ADVANCED ENGINEERING INFORMATICS	11	1.247 %
JOURNAL OF COMPUTING IN CIVIL ENGINEERING	11	1.247 %
WATER SCIENCE AND TECHNOLOGY	11	1.247 %
JOURNAL OF HYDROLOGY	10	1.134 %
ACTA GEOTECHNICA	9	1.020 %
JOURNAL OF HAZARDOUS MATERIALS	8	0.907 %
JOURNAL OF HYDRAULIC ENGINEERING ASCE	8	0.907 %



6.1.8. TAMU - Texas A&M University

Revista	# Articles	% sobre el total (1729)
TRANSPORTATION RESEARCH RECORD	216	12.493 %
WATER RESOURCES RESEARCH	64	3.702 %
JOURNAL OF HYDROLOGY	62	3.586 %
JOURNAL OF HAZARDOUS MATERIALS	52	3.008 %
JOURNAL OF MATERIALS IN CIVIL ENGINEERING	51	2.950 %
JOURNAL OF HYDROLOGIC ENGINEERING	46	2.660 %
OCEAN ENGINEERING	45	2.603 %
JOURNAL OF STRUCTURAL ENGINEERING ASCE	41	2.371 %
JOURNAL OF THE AMERICAN WATER RESOURCES ASSOCIATION	40	2.313 %
IEEE TRANSACTIONS ON INDUSTRY APPLICATIONS	37	2.140 %
JOURNAL OF TRANSPORTATION ENGINEERING ASCE	37	2.140 %
COMPUTER METHODS IN APPLIED MECHANICS AND ENGINEERING	34	1.966 %
IEEE TRANSACTIONS ON VEHICULAR TECHNOLOGY	28	1.619 %
INTERNATIONAL JOURNAL OF ENGINEERING SCIENCE	28	1.619 %
JOURNAL OF GEOTECHNICAL AND GEOENVIRONMENTAL ENGINEERING	27	1.562 %
HYDROLOGICAL PROCESSES	26	1.504 %
ADVANCES IN WATER RESOURCES	25	1.446 %
ENGINEERING STRUCTURES	22	1.272 %
WATER RESEARCH	22	1.272 %
JOURNAL OF HYDRAULIC ENGINEERING ASCE	21	1.215 %
JOURNAL OF CONSTRUCTION ENGINEERING AND MANAGEMENT ASCE	20	1.157 %
ACCIDENT ANALYSIS AND PREVENTION	19	1.099 %
COMPUTER AIDED CIVIL AND INFRASTRUCTURE ENGINEERING	19	1.099 %
INTERNATIONAL JOURNAL OF OFFSHORE AND POLAR ENGINEERING	19	1.099 %
JOURNAL OF WATERWAY PORT COASTAL AND OCEAN ENGINEERING ASCE	19	1.099 %



6.1.9. UI - University of Illinois at Urbana-Champaign

Revista	# Articles	% sobre el total (1997)
TRANSPORTATION RESEARCH RECORD	135	6.760 %
COMPUTER METHODS IN APPLIED MECHANICS AND ENGINEERING	80	4.006 %
WATER RESOURCES RESEARCH	79	3.956 %
INTERNATIONAL JOURNAL FOR NUMERICAL METHODS IN ENGINEERING	69	3.455 %
WATER RESEARCH	69	3.455 %
JOURNAL OF STRUCTURAL ENGINEERING ASCE	47	2.354 %
JOURNAL OF ENVIRONMENTAL ENGINEERING ASCE	46	2.303 %
COMBUSTION AND FLAME	44	2.203 %
JOURNAL OF HYDRAULIC ENGINEERING ASCE	43	2.153 %
ENGINEERING STRUCTURES	41	2.053 %
JOURNAL OF GEOTECHNICAL AND GEOENVIRONMENTAL ENGINEERING	39	1.953 %
JOURNAL OF CONSTRUCTION ENGINEERING AND MANAGEMENT ASCE	37	1.853 %
WATER SCIENCE AND TECHNOLOGY	35	1.753 %
JOURNAL OF EARTHQUAKE ENGINEERING	31	1.552 %
JOURNAL OF TRANSPORTATION ENGINEERING ASCE	30	1.502 %
JOURNAL OF WATER RESOURCES PLANNING AND MANAGEMENT ASCE	30	1.502 %
ADVANCES IN WATER RESOURCES	22	1.102 %
COMBUSTION SCIENCE AND TECHNOLOGY	22	1.102 %
CLAYS AND CLAY MINERALS	21	1.052 %
PCI JOURNAL	21	1.052 %
WATER ENVIRONMENT RESEARCH	21	1.052 %
ACI STRUCTURAL JOURNAL	20	1.002 %
JOURNAL OF HYDRAULIC RESEARCH	19	0.951 %
JOURNAL OF COMPUTING IN CIVIL ENGINEERING	18	0.901 %
SMART STRUCTURES AND SYSTEMS	18	0.901 %



6.1.10. University of California Berkeley

Revista	# Articles	% sobre el total (1819)
WATER RESOURCES RESEARCH	170	9.346 %
TRANSPORTATION RESEARCH RECORD	128	7.037 %
JOURNAL OF GEOTECHNICAL AND GEOENVIRONMENTAL ENGINEERING	70	3.848 %
COMPUTER METHODS IN APPLIED MECHANICS AND ENGINEERING	55	3.024 %
JOURNAL OF STRUCTURAL ENGINEERING ASCE	55	3.024 %
VADOSE ZONE JOURNAL	51	2.804 %
INTERNATIONAL JOURNAL FOR NUMERICAL METHODS IN ENGINEERING	43	2.364 %
EARTHQUAKE ENGINEERING STRUCTURAL DYNAMICS	41	2.254 %
TRANSPORTATION RESEARCH PART B METHODOLOGICAL	41	2.254 %
CEMENT AND CONCRETE RESEARCH	40	2.199 %
EARTHQUAKE SPECTRA	35	1.924 %
JOURNAL OF CONTAMINANT HYDROLOGY	33	1.814 %
WATER RESEARCH	28	1.539 %
JOURNAL OF CONSTRUCTION ENGINEERING AND MANAGEMENT ASCE	27	1.484 %
JOURNAL OF HYDROLOGY	27	1.484 %
ENERGY AND BUILDINGS	26	1.429 %
INDOOR AIR	26	1.429 %
COMBUSTION AND FLAME	25	1.374 %
ACI MATERIALS JOURNAL	23	1.264 %
INTERNATIONAL JOURNAL OF ROCK MECHANICS AND MINING SCIENCES	22	1.209 %
ISSUES IN SCIENCE AND TECHNOLOGY	22	1.209 %
ADVANCES IN WATER RESOURCES	21	1.154 %
BUILDING AND ENVIRONMENT	21	1.154 %
ENVIRONMENTAL GEOLOGY	21	1.154 %
TRANSPORTATION RESEARCH PART A POLICY AND PRACTICE	20	1.100 %



6.1.11. UNAM – Universidad Nacional Autónoma de México

Revista	# Articles	% sobre el total (608)
WATER SCIENCE AND TECHNOLOGY	93	15.296 %
INGENIERIA HIDRAULICA EN MEXICO	76	12.500 %
ENVIRONMENTAL GEOLOGY	31	5.099 %
SOIL DYNAMICS AND EARTHQUAKE ENGINEERING	28	4.605 %
JOURNAL OF APPLIED RESEARCH AND TECHNOLOGY	26	4.276 %
WATER AIR AND SOIL POLLUTION	19	3.125 %
NATURAL HAZARDS AND EARTH SYSTEM SCIENCES	16	2.632 %
EARTHQUAKE ENGINEERING STRUCTURAL DYNAMICS	15	2.467 %
WATER RESEARCH	15	2.467 %
CATENA	14	2.303 %
ENGINEERING STRUCTURES	13	2.138 %
NATURAL HAZARDS	13	2.138 %
EARTHQUAKE SPECTRA	11	1.809 %
JOURNAL OF EARTHQUAKE ENGINEERING	11	1.809 %
JOURNAL OF HAZARDOUS MATERIALS	10	1.645 %
JOURNAL OF HYDROLOGY	9	1.480 %
MEASUREMENT SCIENCE TECHNOLOGY	8	1.316 %
PHYSICS AND CHEMISTRY OF THE EARTH	8	1.316 %
HYDROGEOLOGY JOURNAL	7	1.151 %
OCEAN ENGINEERING	7	1.151 %
COASTAL ENGINEERING	6	0.987 %
ENGINEERING GEOLGY	6	0.987 %
AGRICULTURAL WATER MANAGEMENT	5	0.822 %
GEOTECHNIQUE	5	0.822 %
JOURNAL OF GEOTECHNICAL AND GEOENVIRONMENTAL ENGINEERING	5	0.822 %



6.1.12. UFRJ – Universidade Federal do Rio de Janeiro

Revista	# Articles	% sobre el total (471)
JOURNAL OF HAZARDOUS MATERIALS	30	6.369 %
INVERSE PROBLEMS IN SCIENCE AND ENGINEERING	28	5.945 %
COMMUNICATIONS IN NUMERICAL METHODS IN ENGINEERING	26	5.520 %
COMPUTER METHODS IN APPLIED MECHANICS AND ENGINEERING	25	5.308 %
INTERNATIONAL JOURNAL FOR NUMERICAL METHODS IN ENGINEERING	22	4.671 %
ENGINEERING ANALYSIS WITH BOUNDARY ELEMENTS	19	4.034 %
COMPUTERS STRUCTURES	15	3.185 %
OCEAN ENGINEERING	15	3.185 %
WATER AIR AND SOIL POLLUTION	13	2.760 %
MATERIALS AND STRUCTURES	12	2.548 %
ENGENHARIA SANITARIA E AMBIENTAL	11	2.335 %
STRUCTURAL AND MULTIDISCIPLINARY OPTIMIZATION	11	2.335 %
REM REVISTA ESCOLA DE MINAS	10	2.123 %
JOURNAL OF CONSTRUCTIONAL STEEL RESEARCH	9	1.911 %
JOURNAL OF GEOTECHNICAL AND GEOENVIRONMENTAL ENGINEERING	8	1.699 %
APPLIED MATHEMATICAL MODELLING	7	1.486 %
CANADIAN GEOTECHNICAL JOURNAL	7	1.486 %
DESALINATION	7	1.486 %
ENGINEERING GEOLOGY	7	1.486 %
JOURNAL OF HYDROLOGY	7	1.486 %
WATER SCIENCE AND TECHNOLOGY	7	1.486 %
CEMENT AND CONCRETE RESEARCH	6	1.274 %
CEMENT CONCRETE COMPOSITES	5	1.062 %
HYDROLOGICAL PROCESSES	5	1.062 %
JOURNAL OF AIR TRANSPORT MANAGEMENT	5	1.062 %



6.1.13. USP - Universidade de São Paulo

Revista	# Articles	% sobre el total (762)
ENGENHARIA SANITARIA E AMBIENTAL	74	9.711 %
REM REVISTA ESCOLA DE MINAS	62	8.136 %
WATER SCIENCE AND TECHNOLOGY	40	5.249 %
JOURNAL OF HAZARDOUS MATERIALS	29	3.806 %
MATHEMATICAL PROBLEMS IN ENGINEERING	24	3.150 %
ENGINEERING ANALYSIS WITH BOUNDARY ELEMENTS	21	2.756 %
CEMENT CONCRETE COMPOSITES	19	2.493 %
CONSTRUCTION AND BUILDING MATERIALS	19	2.493 %
COMPUTERS STRUCTURES	16	2.100 %
WATER AIR AND SOIL POLLUTION	14	1.837 %
ENVIRONMENTAL GEOLOGY	12	1.575 %
INTERNATIONAL JOURNAL FOR NUMERICAL METHODS IN ENGINEERING	12	1.575 %
MATERIALS AND STRUCTURES	12	1.575 %
WATER RESEARCH	12	1.575 %
AGRICULTURAL WATER MANAGEMENT	11	1.444 %
CEMENT AND CONCRETE RESEARCH	11	1.444 %
COMPUTER METHODS IN APPLIED MECHANICS AND ENGINEERING	11	1.444 %
JOURNAL OF GEOTECHNICAL AND GEOENVIRONMENTAL ENGINEERING	11	1.444 %
JOURNAL OF HYDROLOGY	11	1.444 %
LATIN AMERICAN JOURNAL OF SOLIDS AND STRUCTURES	10	1.312 %
VADOSE ZONE JOURNAL	10	1.312 %
APPLIED MATHEMATICAL MODELLING	9	1.181 %
DESALINATION	9	1.181 %
BULLETIN OF ENGINEERING GEOLOGY AND THE ENVIRONMENT	8	1.050 %
CATENA	8	1.050 %



6.1.14. Universidade Técnica de Lisboa

Revista	# Articles	% sobre el total (631)
OCEAN ENGINEERING	39	6.181 %
COMPUTERS STRUCTURES	33	5.230 %
AGRICULTURAL WATER MANAGEMENT	23	3.645 %
INTERNATIONAL JOURNAL FOR NUMERICAL METHODS IN ENGINEERING	20	3.170 %
DESALINATION	19	3.011 %
MEASUREMENT	19	3.011 %
WATER SCIENCE AND TECHNOLOGY	18	2.853 %
COASTAL ENGINEERING	17	2.694 %
JOURNAL OF HYDRAULIC ENGINEERING ASCE	17	2.694 %
THIN WALLED STRUCTURES	17	2.694 %
CONSTRUCTION AND BUILDING MATERIALS	16	2.536 %
ENGINEERING ANALYSIS WITH BOUNDARY ELEMENTS	15	2.377 %
ENGINEERING STRUCTURES	15	2.377 %
JOURNAL OF CONSTRUCTIONAL STEEL RESEARCH	14	2.219 %
COMPUTER METHODS IN APPLIED MECHANICS AND ENGINEERING	13	2.060 %
CEMENT CONCRETE COMPOSITES	9	1.426 %
COMBUSTION AND FLAME	9	1.426 %
COMBUSTION SCIENCE AND TECHNOLOGY	9	1.426 %
JOURNAL OF SHIP RESEARCH	9	1.426 %
JOURNAL OF MARINE SCIENCE AND TECHNOLOGY	8	1.268 %
MARINE STRUCTURES	8	1.268 %
IEEE TRANSACTIONS ON VEHICULAR TECHNOLOGY	7	1.109 %
INTERNATIONAL JOURNAL OF OFFSHORE AND POLAR ENGINEERING	7	1.109 %
INTERNATIONAL JOURNAL OF STRUCTURAL STABILITY AND DYNAMICS	7	1.109 %
JOURNAL OF HYDRAULIC RESEARCH	7	1.109 %



6.1.15. UPM - Universidad Politécnica de Madrid

Revista	# Articles	% sobre el total (519)
INFORMES DE LA CONSTRUCCION	37	7.129 %
MATERIALES DE CONSTRUCCION	31	5.973 %
CONSTRUCTION AND BUILDING MATERIALS	19	3.661 %
JOURNAL OF WIND ENGINEERING AND INDUSTRIAL AERODYNAMICS	16	3.083 %
COMPUTER METHODS IN APPLIED MECHANICS AND ENGINEERING	15	2.890 %
COMPUTERS STRUCTURES	14	2.697 %
CEMENT AND CONCRETE RESEARCH	13	2.505 %
INTERNATIONAL JOURNAL FOR NUMERICAL METHODS IN ENGINEERING	13	2.505 %
INTERNATIONAL JOURNAL OF ROCK MECHANICS AND MINING SCIENCES	12	2.312 %
COMBUSTION AND FLAME	11	2.119 %
DESALINATION	11	2.119 %
ENGINEERING STRUCTURES	10	1.927 %
VADOSE ZONE JOURNAL	9	1.734 %
BUILDING AND ENVIRONMENT	8	1.541 %
DYNA	8	1.541 %
JOURNAL OF HAZARDOUS MATERIALS	7	1.349 %
MEASUREMENT SCIENCE TECHNOLOGY	7	1.349 %
OCEAN ENGINEERING	7	1.349 %
COMPUTER APPLICATIONS IN ENGINEERING EDUCATION	6	1.156 %
IEEE TRANSACTIONS ON INTELLIGENT TRANSPORTATION SYSTEMS	6	1.156 %
JOURNAL OF HYDROLOGY	6	1.156 %
JOURNAL OF STRUCTURAL ENGINEERING ASCE	6	1.156 %
ROCK MECHANICS AND ROCK ENGINEERING	6	1.156 %
WATER RESOURCES MANAGEMENT	6	1.156 %
WATER RESOURCES RESEARCH	6	1.156 %



6.1.16. UPV - Universitat Politècnica de València

Revista	# Articles	% sobre el total (563)
DESALINATION	66	11.723 %
ENGINEERING APPLICATIONS OF ARTIFICIAL INTELLIGENCE	22	3.908 %
MEASUREMENT SCIENCE TECHNOLOGY	22	3.908 %
PROCEEDINGS OF THE INSTITUTION OF MECHANICAL ENGINEERS PART D JOURNAL OF AUTOMOBILE ENGINEERING	18	3.197 %
WATER RESEARCH	18	3.197 %
ENGINEERING STRUCTURES	17	3.020 %
JOURNAL OF HYDROLOGY	16	2.842 %
WATER SCIENCE AND TECHNOLOGY	16	2.842 %
INTERNATIONAL JOURNAL FOR NUMERICAL METHODS IN ENGINEERING	14	2.487 %
JOURNAL OF IRRIGATION AND DRAINAGE ENGINEERING ASCE	13	2.309 %
DESALINATION AND WATER TREATMENT	12	2.131 %
WATER RESOURCES RESEARCH	12	2.131 %
JOURNAL OF HAZARDOUS MATERIALS	11	1.954 %
CEMENT AND CONCRETE RESEARCH	8	1.421 %
JOURNAL OF WATER RESOURCES PLANNING AND MANAGEMENT ASCE	8	1.421 %
MATERIALES DE CONSTRUCCION	8	1.421 %
NOISE CONTROL ENGINEERING JOURNAL	8	1.421 %
BUILDING AND ENVIRONMENT	7	1.243 %
COMPUTERS STRUCTURES	7	1.243 %
ENERGY AND BUILDINGS	7	1.243 %
HYDROLOGY AND EARTH SYSTEM SCIENCES	7	1.243 %
IEEE TRANSACTIONS ON VEHICULAR TECHNOLOGY	7	1.243 %
INGENIERIA HIDRAULICA EN MEXICO	7	1.243 %
INTERNATIONAL JOURNAL OF VEHICLE DESIGN	7	1.243 %
ADVANCES IN CEMENT RESEARCH	6	1.066 %



6.2. Taula de coincidències de les revistes amb major presència en les llistes de publicacions amb més articles

Revista	# Aparicions en universitats distintes
COMPUTER METHODS IN APPLIED MECHANICS AND ENGINEERING	14
JOURNAL OF HYDROLOGY	14
INTERNATIONAL JOURNAL FOR NUMERICAL METHODS IN ENGINEERING	13
WATER RESEARCH	13
WATER SCIENCE AND TECHNOLOGY	13
CEMENT AND CONCRETE RESEARCH	11
WATER RESOURCES RESEARCH	11
JOURNAL OF HAZARDOUS MATERIALS	10
ADVANCES IN WATER RESOURCES	9
COMPUTERS STRUCTURES	9

6.3. Taula unificada de revistes amb major presència en les llistes de publicacions amb més articles

Revista	# Articles	Factor d'impacte
WATER RESOURCES RESEARCH	686	3.149
TRANSPORTATION RESEARCH RECORD	642	0.442
COMPUTER METHODS IN APPLIED MECHANICS AND ENGINEERING	525	2.617
WATER SCIENCE AND TECHNOLOGY	479	1.102
WATER RESEARCH	416	4.655
INTERNATIONAL JOURNAL FOR NUMERICAL METHODS IN ENGINEERING	384	2.056
JOURNAL OF HYDROLOGY	325	2.964
CEMENT AND CONCRETE RESEARCH	274	3.112
JOURNAL OF HAZARDOUS MATERIALS	229	3.925
JOURNAL OF HYDRAULIC ENGINEERING ASCE	211	1.276
ENGINEERING STRUCTURES	208	1.713
JOURNAL OF STRUCTURAL ENGINEERING ASCE	206	1.206
COMBUSTION AND FLAME	186	3.599
ADVANCES IN WATER RESOURCES	174	2.412
JOURNAL OF GEOTECHNICAL AND GEOENVIRONMENTAL ENGINEERING	160	1.156
COMPUTERS STRUCTURES	158	1.509
MEASUREMENT SCIENCE TECHNOLOGY	155	1.435
DESALINATION	154	3.041
GEOTECHNIQUE	122	1.481
JOURNAL OF CONSTRUCTION ENGINEERING AND MANAGEMENT ASCE	113	0.876
OCEAN ENGINEERING	113	1.161
COASTAL ENGINEERING	108	2.239
INTERNATIONAL JOURNAL OF ROCK MECHANICS AND MINING SCIENCES	106	1.200
MATERIALS AND STRUCTURES	103	1.184
CONSTRUCTION AND BUILDING MATERIALS	101	2.293



7. Conclusions

Sobre les institucions

- Les institucions que s'analitzen en el present estudi són les mateixes que en l'edició anterior del mateix informe i que abastava el període 1998-2008¹⁴. Com en aquell cas, no ha estat possible discriminar per a cada una de les universitats el pes específic que ocupa l'enginyeria civil dins el conjunt global de les institucions.
- La impossibilitat de comparar de manera fiable i uniforme les estructures orgàniques -i la quantitat de professors de cadascuna d'aquestes estructures- de les universitats analitzades ha impedit que es poguessin portar a terme comparacions complementàries d'interès, principalment relatives a la productivitat de les universitats/professors i a la ràtio de citacions per professor de cadascuna de les institucions.
- La conformació organitzativa i administrativa de l'École Nationale des Ponts et Chaussées / Laboratoire Central des Ponts et Chaussées (ENPC / LCPC), directament vinculada al l'organisme estatal Centre Nationale de la Recherche Scientifique (CNRS) impedeixen arribar a resultats mínimament fiables sobre la quantitat i incidència de la seva producció científica.
Atès que molta de la recerca desenvolupada des de l'École i el Laboratoire de París queda a WoS únicament assignada al CNRS, no és possible recuperar-la –si es recuperés com a CNRS també hi quedaria sumada la producció científica de la resta de centres francesos que hi són integrats-. Òbviament, aquest fet va en detriment de les xifres ENPC / LCPC.

Sobre la base documental utilitzada per a l'estudi

- La metodologia utilitzada, anàlisi de les revistes indexades sota les categories més vinculades a l'enginyeria civil, no permet considerar aquest estudi com un informe exhaustiu però sí obtenir una visió suficientment indicativa de la recerca en enginyeria civil a la UPC i a l'Escola de Camins en els àmbits analitzats.
- Sobre les mateixes categories esmentades en el paràgraf anterior, l'estudi ofereix també una visió comparativa amb les institucions amb les quals l'Escola de Camins li ha interessat comparar-se.

Publicació d'articles

- Les universitats amb estudis en enginyeria civil que, en el període abastat, han tingut una major producció científica a les categories estudiades són: University of Illinois, amb 1997 documents, TU Delft amb 1865 i UC Berkeley, amb 1819.
- La UPC, incloent-hi l'Escola de Camins, ocupa la posició número 6 en aquest rànquing (1051 documents) i l'Escola de Camins per sí mateixa ocupa la posició número 11 en aquest rànquing (745 documents).

¹⁴ Es pot consultar aquesta edició anterior a:

http://bibliotecnica.upc.edu/BRGF/continguts/serveis/bibliometria/Estudi_bibliometric_ETSECCPB_1998_2008.pdf



- El personal docent i investigador vinculat a l'Escola de Camins concentra el 70.88% de l'autoria en la publicació a la UPC en les àrees estudiades. Per tant, la dinàmica de publicació del conjunt de professors vinculat a l'Escola és molt determinant per a la dinàmica global de la UPC.
- Del conjunt d'universitats polítècniques de l'Estat espanyol, la UPC és la que presenta un major nombre de publicacions –un 46.4% superior a la UPV i un 50.62% superior a la UPM-.
- L'Escola de Camins per sí sola ha publicat, en les revistes estudiades a les bases de dades ISI-Thomson, i entre els anys 2000 i 2010, més que el conjunt de la UPV -182 articles més- i que el conjunt de la UPM -226 articles més.
- Des d'un punt de vista geogràfic, de les 4 universitats dels Estats Units estudiades, 3 se situen en els 5 primers llocs en quant a producció d'articles. La TU Delft també se situa en els primers llocs, concretament en la 2a. posició-. Mentre que en l'àmbit Iberoamericà, la primera universitat és la Universidade de São Paulo –que ocupa el 10è. lloc-.
- Les gràfiques semblen mostrar 3 patrons de comportament pel que fa a l'evolució de la quantitat d'articles publicats durant els anys 2000-2010:
 - 7 de les 16 universitats estudiades:
 - École Polytechnique Fédérale de Lausanne
 - Technische Universiteit Delft
 - Swiss Federal Institute of Technology Zurich
 - École Nationale des Ponts et Chaussées / Laboratoire Central des Ponts et Chaussées
 - Texas A&M University
 - University of Illinois
 - Universidad Politécnica de Madrid
- mostren en general una corba ascendent que continua fins el 2010;
- 7 universitats:
 - Stanford University
 - Imperial College London
 - Universidad Nacional Autónoma de México
 - Universidade Federal do Rio de Janeiro
 - Universidade de São Paulo
 - Universidade Técnica de Lisboa
 - Universitat Politècnica de València
- mostren una corba més aviat descendant en el(s) darrer(s) any(s), després del dibuix ascendent comú a totes les institucions durant bona part del període;
- les 2 altres universitats:
 - University of California Berkeley
 - Universitat Politècnica de Catalunya
- mostren més aviat una corba que tendeix a l'estancament en els darrers anys després d'un dibuix ascendent durant bona part del període estudiat o presenta força irregularitats (sovintegen les pujades i baixades).
- L'Escola de Camins per si mateixa estaria inclosa en el primer grup.



Citacions rebudes

- L'increment de les citacions rebudes és constant en totes les universitats estudiades durant el període 2000-2010. Això també és vàlid tant per a la UPC com per a l'Escola de Camins, en les quals, malgrat el descens de producció observat en els darrers anys, el creixement de citacions als seus articles continua presentant una corba clarament ascendent.
- Les universitats que han rebut més citacions són: University of California Berkeley amb 25654 citacions, la University of Illinois amb 22709 i la TU Delft amb 22695.
- Els cinc primers llocs del rànquing estan ocupats per 3 universitats dels Estats Units - University of California Berkeley, University of Illinois i Texas A&M University- i per 2 europees -TU Delft i Imperial College London-.
- Els professors vinculats a l'Escola de Camins reben el 74,6% del total de citacions de la UPC durant el període analitzat. De la mateixa manera que amb la quantitat de publicacions, la dinàmica de citacions rebudes pels articles vinculats a l'ETSECCPB és determinant per a la dinàmica global de la UPC.
- La UPC es troba a la posició 7 de 16 en del rànquing de citacions.
- Els articles publicats per l'Escola de Camins reben una mitjana de 13.71 citacions per article. Això situa l'Escola en la cinquena mitjana més alta de les universitats estudiades si la considerem aïlladament, només superada per la Stanford University -17.03 citacions per article-, la University of California Berkeley -14.10 citacions per article-, l'École Polytechnique Fédérale de Lausanne -13.93 citacions per article- i l' Imperial College London -13.91 citacions per article-. La UPC se situa en el seu conjunt en la sisena posició d'aquest rànquing -13.02 citacions per article-.
- La UPC és la universitat de l'Estat amb més citacions durant el període estudiat – un 60.98% superior a la UPV i un 49.3% superior a la UPM-.
- La UPC ha rebut més citacions que la UPM i la UPV juntes, concretament, n'ha rebut 5883 més.
- La mitjana de citacions rebudes per article corresponent als autors vinculats a la UPC durant el període analitzat és superior a la mitjana de la UPV i la UPM. En el cas de la UPV, la UPC té una mitjana 5.08 punts per sobre. Pel que fa a la UPM, la diferència és de 6.6 punts. Si comparem l'Escola de Camins amb la resta d'universitats estatals, el resultats són encara més contrastats donat que la diferència entre l'ETSECCPB i la UPV és de 5.77 punts i amb la UPM de 7.29 punts. Això vol dir que els articles publicats pel PDI de l'Escola dobrén sobradament la mitjana de citacions rebudes per article respecte a UPM però no arriben a doblar les citacions als articles de la UPV.
- Les universitats amb un índex H més alt sobre el conjunt d'articles estudiats són: University of California Berkeley (63), Imperial College London (58), TU Delft (58) i University of Illinois (54).
- La UPC, amb un índex H 50 sobre aquest corpus d'articles, se situa en la banda alta del rànquing -6a. posició-, 3 punts per darrera de la Stanford University (53). L'Escola de Camins té un índex H 42, la qual cosa significa que la majoria dels articles -excepte 8- que contribueixen a l'índex H de la UPC, tenen com a autors professors l'Escola.
- La UPC és la universitat de l'Estat amb un índex H més alt: 50 per 26 de la UPV i 23 de la UPM.



Autors i articles

- L'article que ha rebut més citacions del conjunt de les 16 universitats està signat per investigadors de la Texas A&M University. El seu títol és *Analysis of functionally graded plates*, publicat l'any 2000 a la revista *International journal for numerical methods in engineering*. Durant el període estudiat ha rebut 423 citacions.
- El segon i el tercer lloc del rànquing de citacions l'ocupen respectivament articles signats per investigadors de la University of California Berkeley -340 citacions- i, en tercer lloc, l'ENPC / LCPC (École Nationale des Ponts et Chaussées / Laboratoire Central des Ponts et Chaussées) -306 citacions-.
- L'article *Fenton and photo-Fenton oxidation of textile effluents* és el més citat dels que compten amb algun(s) autor(s) de la UPC: Està signat per M. Pérez, F. Torrades, X. Domenech i J. Peral, ha rebut 193 citacions durant el període estudiat i està publicat a la revista *Water Research*.
- L'article *An elasto-plastic model for unsaturated soil incorporating the effects of suction and degree of saturation on mechanical behaviour* és el més citat dels que compten amb algun(s) autor(s) de l'Escola de Camins: Està signat per D. Gallipoli, A. Gens, R. Sharma i J. Vaunat, ha rebut 142 citacions durant el període estudiat i està publicat a la revista *Géotechnique*.

Revistes

- No hi ha cap títol que estigui present en totes les taules de les revistes on més publiquen les 16 universitats analitzades. Els apareixen amb més freqüència són *Journal of Hydrology* -14 vegades-, *Computer Methods in Applied Mechanics and Engineering* -14 vegades-, *International Journal for Numerical Methods in Engineering* -13 vegades-, *Water Research* -14 vegades- i *Water Science and Technology* -13 vegades-.
- Les tres revistes on més publiquen els professors del conjunt de les universitats analitzades són: *Water Resources Research* -686 articles-, *Transportation Research Record* -642 articles- i *Computer Methods in Applied Mechanics and Engineering* -525 articles-.
- Entre les estudiades, *Computer Methods in Applied Mechanics and Engineering* és amb molta diferència la revista preferida pels autors de la UPC / Escola de Camins a l'hora publicar: 103 articles –quasi el 10% del total- s'han publicat allí. *International Journal for Numerical Methods in Engineering* -53 articles-, *Chemosphere* i *Journal of Hazardous Materials* -42 articles cadascuna-, són altres títols de revistes pels quals els autors UPC / Escola de Camins mostren preferència a l'hora de publicar.



Continuïtat de l'estudi

Aquest informe ofereix informació rellevant per als objectius previstos inicialment. Per aquest motiu la BRGF i l'Escola de Camins tenen la intenció de repartir-lo regularment com a observatori de la publicació científica directament lligada a l'Escola i, per extensió, a l'enginyeria civil en l'entorn UPC.

Així mateix, aquest estudi pot representar una plataforma per al desenvolupament d'estudis bibliomètrics més detallats en els camps d'interès de l'Escola de Camins.



8. Annex 1

Llista completa de les 346 revistes usades per a l'estudi ordre alfàbetic de títols

- ACCIDENT ANALYSIS AND PREVENTION
- ACI MATERIALS JOURNAL
- ACI STRUCTURAL JOURNAL
- ACTA GEOTECHNICA
- ACTA GEOTECHNICA SLOVENICA
- ACTA POLYTECHNICA HUNGARICA
- ADVANCES IN CEMENT RESEARCH
- ADVANCED ENGINEERING INFORMATICS
- ADVANCED STEEL CONSTRUCTION
- ADVANCES IN STRUCTURAL ENGINEERING
- ADVANCES IN WATER RESOURCES
- AFRICAN JOURNAL OF AQUATIC SCIENCE
- AGRICULTURAL WATER MANAGEMENT
- AI EDAM ARTIFICIAL INTELLIGENCE FOR ENGINEERING DESIGN ANALYSIS AND MANUFACTURING
- APPLIED MATHEMATICAL MODELLING
- AQUATIC CONSERVATION MARINE AND FRESHWATER ECOSYSTEMS
- ARCHIVES OF CIVIL AND MECHANICAL ENGINEERING
- ARCHIVES OF COMPUTATIONAL METHODS IN ENGINEERING
- ASHRAE JOURNAL
- ATOMIZATION AND SPRAYS
- AUTOMATION IN CONSTRUCTION
- BULLETIN OF EARTHQUAKE ENGINEERING
- BULLETIN OF ENGINEERING GEOLOGY AND THE ENVIRONMENT
- BULLETIN OF THE POLISH ACADEMY OF SCIENCES TECHNICAL SCIENCES
- BALTIC JOURNAL OF ROAD AND BRIDGE ENGINEERING
- BAUINGENIEUR
- BAUPHYSIK
- BAUTECHNIK
- BETON UND STAHLBETONBAU
- BIOINSPIRATION BIOMIMETICS
- BUILDING AND ENVIRONMENT
- BUILDING RESEARCH AND INFORMATION
- BUILDING SERVICES ENGINEERING RESEARCH & TECHNOLOGY
- BUILDING SIMULATION



- CANADIAN GEOTECHNICAL JOURNAL
- CANADIAN JOURNAL OF CIVIL ENGINEERING
- CANADIAN WATER RESOURCES JOURNAL
- CATENA
- CEMENT WAPNO BETON
- CEMENT & CONCRETE COMPOSITES
- CEMENT AND CONCRETE RESEARCH
- CHINA OCEAN ENGINEERING
- CIVIL ENGINEERING AND ENVIRONMENTAL SYSTEMS
- CIVIL ENGINEERING
- CLAYS AND CLAY MINERALS
- CLEAN SOIL AIR WATER
- CMC COMPUTERS MATERIALS CONTINUA
- COASTAL ENGINEERING
- COASTAL ENGINEERING JOURNAL
- COLD REGIONS SCIENCE AND TECHNOLOGY
- COMBUSTION EXPLOSION AND SHOCK WAVES
- COMBUSTION AND FLAME
- COMBUSTION SCIENCE AND TECHNOLOGY
- COMMUNICATIONS IN NUMERICAL METHODS IN ENGINEERING
- COMPOSITES PART B ENGINEERING
- COMPUTER APPLICATIONS IN ENGINEERING EDUCATION
- COMPUTERS AND CONCRETE
- COMPUTERS AND GEOTECHNICS
- COMPUTER METHODS IN APPLIED MECHANICS AND ENGINEERING
- COMPUTERS STRUCTURES
- COMPUTER AIDED CIVIL AND INFRASTRUCTURE ENGINEERING
- CONSTRUCTION AND BUILDING MATERIALS
- DESALINATION AND WATER TREATMENT
- DESALINATION
- DESIGN STUDIES
- DISASTER ADVANCES
- DYNA
- DYNA COLOMBIA
- EARTHQUAKE ENGINEERING AND ENGINEERING VIBRATION
- EARTHQUAKE ENGINEERING STRUCTURAL DYNAMICS
- EARTHQUAKE SPECTRA
- EKSPLOATACJA I NIEZAWODNOSC MAINTENANCE AND RELIABILITY
- ENERGY AND BUILDINGS



- ENGINEERING ANALYSIS WITH BOUNDARY ELEMENTS
- ENGINEERING APPLICATIONS OF ARTIFICIAL INTELLIGENCE
- ENGINEERING APPLICATIONS OF COMPUTATIONAL FLUID MECHANICS
- ENGINEERING COMPUTATIONS
- ENGINEERING GEOLOGY
- ENGINEERING JOURNAL AMERICAN INSTITUTE OF STEEL CONSTRUCTION
- ENGINEERING OPTIMIZATION
- ENGENHARIA SANITARIA E AMBIENTAL
- ENGINEERING STRUCTURES
- ENVIRONMENTAL EARTH SCIENCES
- ENVIRONMENTAL ENGINEERING GEOSCIENCE
- ENVIRONMENTAL FLUID MECHANICS
- ENVIRONMENTAL GEOCHEMISTRY AND HEALTH
- ENVIRONMENTAL GEOLOGY
- ENVIRONMENTAL PROGRESS
- ENVIRONMENTAL TOXICOLOGY
- EUROPEAN JOURNAL OF TRANSPORT AND INFRASTRUCTURE RESEARCH
- FIRE SAFETY JOURNAL
- FIRE TECHNOLOGY
- FORSCHUNG IM INGENIEURWESEN ENGINEERING RESEARCH
- GEFÄHRSTOFFE REINHALTUNG DER LUFT
- GEOSYNTHETICS INTERNATIONAL
- GEOTECHNICAL TESTING JOURNAL
- GEOTECHNIQUE
- GEOTEXTILES AND GEOMEMBRANES
- GRADEVINAR
- GROUND WATER
- GROUND WATER MONITORING AND REMEDIATION
- GRUNDWASSER
- HOUILLE BLANCHE REVUE INTERNATIONALE DE L EAU
- HVAC&R RESEARCH
- HYDROGEOLOGY JOURNAL
- HYDROLOGY AND EARTH SYSTEM SCIENCES
- HYDROLOGICAL PROCESSES
- HYDROLOGY RESEARCH
- HYDROLOGIE UND WASSERBEWIRTSCHAFTUNG
- HYDROLOGICAL SCIENCES JOURNAL JOURNAL DES SCIENCES HYDROLOGIQUES
- IEEE JOURNAL OF OCEANIC ENGINEERING



- IEEE TRANSACTIONS ON INDUSTRY APPLICATIONS
- IEEE TRANSACTIONS ON INTELLIGENT TRANSPORTATION SYSTEMS
- IEEE TRANSACTIONS ON VEHICULAR TECHNOLOGY
- IEEE VEHICULAR TECHNOLOGY MAGAZINE
- IET INTELLIGENT TRANSPORT SYSTEMS
- INDIAN JOURNAL OF ENGINEERING AND MATERIALS SCIENCES
- INDOOR AIR
- INFORMES DE LA CONSTRUCCION
- INFORMATION AN INTERNATIONAL INTERDISCIPLINARY JOURNAL
- INGENIERIA HIDRAULICA EN MEXICO
- INSTRUMENTS AND EXPERIMENTAL TECHNIQUES
- INTERNATIONAL JOURNAL OF ARCHITECTURAL HERITAGE
- INTERNATIONAL JOURNAL OF AUTOMOTIVE TECHNOLOGY
- INTERNATIONAL JOURNAL OF CIVIL ENGINEERING
- INTERNATIONAL JOURNAL OF COMPUTATIONAL METHODS
- INTERNATIONAL JOURNAL OF ENGINEERING SCIENCE
- INTERNATIONAL JOURNAL OF ENGINE RESEARCH
- INTERNATIONAL JOURNAL OF HEAVY VEHICLE SYSTEMS
- INTERNATIONAL JOURNAL FOR MULTISCALE COMPUTATIONAL ENGINEERING
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