

RESEARCH SPOTLIGHT

TRANSLATING SCIENCE TO PRACTICE

Scholarly Activity, Impact

Following is a snapshot of the scholarly activity of the Penn Dental Medicine standing faculty with the number of publications and the impact of research output (h index*) over the past five years (January 1, 2010 - December 31, 2014).** Listed are those investigators with an h index of 5 or higher, for articles published within the last five years, in journals covered by the Scopus database.

FACULTY	DEPARTMENT	# ARTICLES 2010-2014**	*H INDEX 2010-2014**
Dr. Songtao Shi	Anatomy & Cell Biology	90	22
Dr. George Hajishengallis	Microbiology	58	17
Dr. Henry Daniell	Biochemistry	37	14
Dr. Anh Le	Oral Surgery & Pharmacology	33	13
Dr. Elisabeth Barton	Anatomy & Cell Biology	39	12
Dr. Dana Graves	Periodontics	36	12
Dr. Hyun (Michel) Koo	Orthodontics/Div. of Community Oral Health/Div. of Pediatric Dentistry	33	12
Dr. Gary Cohen	Microbiology	27	11
Dr. Denis Kinane	Dean's Office	23	10
Dr. Claire Mitchell	Anatomy & Cell Biology	21	8
Dr. Yan Yuan	Microbiology	15	7
Dr. Hydar Ali	Pathology	13	7
Dr. Kathleen Boesze-Battaglia	Biochemistry	19	6
Dr. Frank Setzer	Endodontics	16	6
Dr. Sunday Akintoye	Oral Medicine	15	6
Dr. Kelly Jordan-Sciutto	Pathology	15	6
Dr. Bekir Karabucak	Endodontics	10	6
Dr. Markus Blatz	Preventive & Restorative Sciences	40	5
Dr. Faizan Alawi	Pathology	24	5
Dr. Marjorie Jeffcoat	Periodontics	11	5
Dr. Syngcuk Kim	Endodontics	9	5
Dr. Joseph DiRienzo	Microbiology	7	5



* The h index was developed by J.E. Hirsch, Department of Physics, UCSD, and it attempts to measure the impact of an individual or department's scientific research output. The calculation is based on a list of publications ranked in descending order by the "times cited" count. As an example, an h index of 20 means there are 20 items that have 20 citations or more each. Hirsch's full article on the h index can be found in PNAS 102 (46): 16569-16572 November 15 2005.

These lists were generated using the Scopus database, and the Author IDs found within that system. Articles published in journals that are not indexed in Scopus, are not included in the calculation. The articles that were included were published between January 1, 2010 and December 31, 2014. It should be noted that publication and citation practices differ among disciplines and specialties.

2014 High Impact Articles: Basic Science Departments

Among the original research articles published by standing faculty within the Penn Dental Medicine basic science departments in 2014, following are the articles by senior authors that appeared in journals with the five highest impact factors.*

AUTHORS	ARTICLES	JOURNAL	IMPACT FACTOR*	DEPARTMENT
Liu, Y., Yang, R., Liu, X., Zhou, Y., Qu, C., Kikuri, T., Wang, S., Zandi, E., Du, J., Ambudkar, I.S., Shi, S.	Hydrogen sulfide maintains mesenchymal stem cell function and bone homeostasis via regulation of Ca ²⁺ channel sulfhydration	<i>Cell Stem Cell</i>	22.2	Anatomy & Cell Biology
Moutsopoulos, N.M., Konkol, J., Sarmadi, M., Eskan, M.A., Wild, T., Dutzan, N., Abusleme, L., Zenobia, C., Hosur, K.B., Abe, T., Uzel, G., Chen, W., Chavakis, T., Holland, S.M., Hajishengallis, G.	Defective neutrophil recruitment in leukocyte adhesion deficiency type I disease causes local IL-17-driven inflammatory bone loss	<i>Science Translational Medicine</i>	14.4	Microbiology
Maekawa, T., Krauss, J.L., Abe, T., Jotwani, R., Triantafilou, M., Triantafilou, K., Hashim, A., Hoch, S., Curtis, M.A., Nussbaum, G., Lambris, J.D., Hajishengallis, G.	<i>P. gingivalis</i> manipulates complement and TLR signaling to uncouple bacterial clearance from inflammation and promote dysbiosis	<i>Cell Host and Microbe</i>	12.2	Microbiology
Sherman, A., Su, J., Lin, S., Wang, X., Herzog, R.W., Daniell, H.	Suppression of inhibitor formation against FVIII in a murine model of hemophilia A by oral delivery of antigens bioencapsulated in plant cells	<i>Blood</i>	9.8	Biochemistry
Moshaverinia, A., Xu, X., Chen, C., Ansari, S., Zadeh, H.H., Snead, M.L., Shi, S.	Application of stem cells derived from the periodontal ligament or gingival tissue sources for tendon tissue regeneration	<i>Biomaterials</i>	8.3	Anatomy & Cell Biology

2014 High Impact Articles: Clinical Departments

Among the original research articles published by standing faculty within the Penn Dental Medicine clinical departments in 2014, following are the articles by senior authors that appeared in journals with the five highest impact factors.*

AUTHORS	ARTICLES	JOURNAL	IMPACT FACTOR*	DEPARTMENT
Stoopler, E.T., Sollecito, T.P.	Recurrent gingival and oral mucosal lesions	<i>JAMA</i>	30.4	Oral Medicine
Jeffcoat, M.K., Jeffcoat, R.L., Gladowski, P.A., Bramson, J.B., Blum, J.J.	Impact of periodontal therapy on general health: Evidence from insurance data for five systemic conditions	<i>Am J of Preventive Medicine</i>	4.3	Periodontics
Falsetta, M.L., Klein, M.I., Colonne, P.M., Scott-Anne, K., Gregoire, S., Pai, C.-H., Gonzalez-Begne, M., Watson, G., Krysan, D.J., Bowen, W.H., Koo, H.	Symbiotic relationship between <i>Streptococcus mutans</i> and <i>Candida albicans</i> synergizes virulence of plaque biofilms in vivo	<i>Infection and Immunity</i>	4.2	Orthodontics/ Div. of Community Oral Health/Div. of Pediatrics
Bhattacharya, R., Xu, F., Dong, G., Li, S., Tian, C., Ponugoti, B., Graves, D.T.	Effect of bacteria on the wound healing behavior of oral epithelial cells	<i>PLoS ONE</i>	3.5	Periodontics
Nguyen, P.T.M., Falsetta, M.L., Hwang, G., Gonzalez-Begne, M., Koo, H.	α -mangostin disrupts the development of <i>Streptococcus mutans</i> biofilms and facilitates its mechanical removal	<i>PLoS ONE</i>	3.5	Orthodontics/ Div. of Community Oral Health/Div. of Pediatrics

2014 High Impact Review Articles

Among the review articles published by standing faculty within the Penn Dental Medicine in 2014, following are the articles by senior authors that appeared in journals with the five highest impact factors.*

AUTHORS	ARTICLES	JOURNAL	IMPACT FACTOR*	DEPARTMENT
Hajishengallis, G.	Immunomicrobial pathogenesis of periodontitis: Keystones, pathobionts, and host response	<i>Trends in Immunology</i>	12.0	Microbiology
Lamont R.J., Hajishengallis G.	Polymicrobial synergy and dysbiosis in inflammatory disease	<i>Trends in Molecular Medicine</i>	10.1	Microbiology
Setzer, F.C., Kim, S.	Comparison of long-term survival of implants and endodontically treated teeth	<i>Journal of Dental Research</i>	4.1	Endodontics
Hajishengallis, E., Hajishengallis, G.	Neutrophil homeostasis and periodontal health in children and adults	<i>Journal of Dental Research</i>	4.1	Microbiology/ Div. of Pediatrics
Sathish N, Wang X, Yuan Y.	Human papillomavirus (HPV)-associated oral cancers and treatment strategies.	<i>Journal of Dental Research</i>	4.1	Microbiology

*The Impact Factor identifies the frequency with which an average article from a journal is cited in a particular year. This number can be used to evaluate or compare a journal's relative importance to others in the same field. Journal impact factors are reported in Thomson Reuters Journal Citation Reports®. The JCR Science Edition, 2013, was used for these figures.

Research & Scholarship Facts & Figures

164 research articles were published by Penn Dental Medicine standing faculty in 2014.....a **164.5%** increase over 2009.

\$17.27M

was awarded to Penn Dental Medicine investigators for research grants in FY14.

148 articles were published by standing faculty in 2013

103 articles were published by standing faculty in 2010

116 articles were published by standing faculty in 2012

62 articles were published by standing faculty in 2009

126 articles were published by standing faculty in 2011

Top Clinical Department Grant Awards

In 2014, the top five new/competing renewals/non-competing grant awards within the Penn Dental Medicine clinical departments included:

Expanding Public Health Experiential Learning in Predoctoral Dental Education

Principal Investigator: Dr. Joan Gluch, Div. of Community Oral Health (Health Resources & Services Administration, \$493,956, 7/1/2014 - 6/30/2015)

Diabetes-Enhanced Experimental Periodontitis

Principal Investigator: Dr. Dana Graves, Dept. of Periodontics (National Institutes of Health, \$455,041, 12/1/2014 - 11/30/2015)

Dendritic Cells and Periodontal Disease

Principal Investigator: Dr. Dana Graves, Dept. of Periodontics (National Institutes of Health, \$400,000, 6/1/2014 - 5/31/2015)

Scholarships for Disadvantaged Students (SDS)

Principal Investigator: Dr. Joan Gluch, Div. of Community Oral Health (Health Resources & Services Administration, \$381,122, 7/1/2014 - 6/30/2015)

Diabetic Fracture Healing

Principal Investigator: Dr. Dana Graves, Dept. of Periodontics (National Institutes of Health, \$351,918, 9/1/2014 - 8/31/2015)

Top Basic Science Department Grant Awards

In 2014, the top five new/competing renewals/non-competing grant awards within the Penn Dental Medicine basic science departments included:

Chloroplast F.VII-CTB for Oral Tolerance Induction

Principal Investigator: Dr. Henry Daniell, Dept. of Biochemistry (Novo Nordisk Pharmaceuticals, Inc., \$1,549,999, 5/1/2014 - 4/30/2017)

Oligodendrocyte Damage and Dysfunction in HIV-Associated Neurocognitive Disorder

Principal Investigator: Dr. Kelly Jordan-Sciutto, Dept. of Pathology (National Institutes of Health, \$532,571, 7/1/2014 - 6/30/2015)

Degradative Processes in RPE-Photoreceptor Renewal

Principal Investigator: Dr. Kathleen Boesze-Battaglia, Dept. of Biochemistry (National Institutes of Health, \$482,081, 2/1/2014 - 1/31/2015)

Oral Immune Modulatory Therapy Using Antigens Bioencapsulated in Plant Cells

Principal Investigator: Dr. Henry Daniell, Dept. of Biochemistry (National Institutes of Health, \$416,573, 4/1/2014 - 3/31/2015)

Molecular Biology of Virulence in Periodontal Disease

Principal Investigator: Dr. Edward Lally, Dept. of Pathology (National Institutes of Health, \$414,550, 3/14/2014 - 1/31/2015)

Top Overall Cumulative Award Amounts

In 2014, those Penn Dental Medicine principal investigators with the top five cumulative grant award amounts included the following.

FACULTY	ARTICLES	2014 TOTAL AWARDS
Dr. Henry Daniell	Biochemistry	\$2,180,092
Dr. George Hajishengallis	Microbiology	\$1,956,079
Dr. Dana Graves	Periodontics	\$1,368,229
Dr. Elisabeth Barton	Anatomy & Cell Biology	\$939,725
Dr. Kathleen Boesze- Battaglia	Biochemistry	\$882,081

Patents by the Numbers

PROVISIONAL PATENTS Filed between July 2012 – February 2015

17 PROVISIONAL PATENTS were filed by Penn Dental Medicine faculty between July 2012 – February 2015

8 in the Department of ANATOMY & CELL BIOLOGY
6 to Dr. Henry Daniell
2 to Dr. Elisabeth Barton

4 in the Department of MICROBIOLOGY
2 to Dr. Robert Ricciardi
1 to Dr. George Hajishengallis
1 to Dr. Yan Yuan

2 in the Department of PATHOLOGY
to Dr. Kelly Jordan-Sciotto

2 in the Department of PERIODONTICS
1 to Dr. Joseph Fiorellini
1 to Dr. Dana Graves

1 in the Department of ORTHODONTICS/DIV. OF COMMUNITY ORAL HEALTH/DIV. OF PEDIATRICS
to Dr. Hyun (Michel) Koo

US PATENTS Issued between July 2012 – February 2015

4 US PATENTS were issued to Penn Dental Medicine faculty between July 2012 – February 2015

3 in the Department of MICROBIOLOGY
2 to Mihai Ciustea, Dr. Robert Ricciardi, Janice Elaine Young
1 to Dr. Joseph DiRienzo

1 in the Dept. of PREVENTIVE & RESTORATIVE SCIENCES/ DEPT. OF ENDODONTICS
to Miri Kim, Dr. Francis Mante, Dr. Syngcuk Kim