PRABAGARAN NARAYANASAMY (PRABA)
Department of Pathology and Microbiology,
University of Nebraska Medical Center,
985900 Nebraska Medical Center,
Omaha, NE 68198-5900
p.narayanasamy@unmc.edu
402-559-9120

EDUCATION

Ph.D.	*Indian Institute of Technology, Madras, India* Organic chemistry.	Jan/1997-Jul/2002
M.Sc.	*Pondicherry University, Pondicherry, India* Chemistry *(*with *Distinction)*	Jul/1994-Jul/1996
P.G.D.S.D.	*Brilliant Computer Center, Pondicherry, India* Computer Science & Applications *(*with *Distinction)*	1993-94 (part time)
B.Sc.	*Pondicherry University, Pondicherry, India* Chemistry	Jul/1991-Jun/94

POST DEGREE TRAINING

Research Fellow	*Colorado State University, Fort Collins*	Jul/2006-Jun/2008
Post-Doctoral Fellow	*Harvard University, USA* *University of Illinois, Urbana-Champaign, USA*	Apr/2004-Aug/2005 Aug/2005-Jun/2006
Post-Doctoral Fellow	*North Dakota State University, USA*	Jul/2002-Apr/2004

ACADEMIC APPOINTMENTS

Assistant Professor	*Dept. of Pathology and Microbiology***,** *University of Nebraska Medical Center, USA*	Jul/2014-present
Instructor	*Dept. of Pharmacology and Experimental Neurosciences, University of Nebraska Medical Center, USA*	Jul/2012-Jun/2014
Senior Research Associate	*Dept. of Pharmacology and Experimental Neurosciences, University of Nebraska Medical Center, USA*	Sep/2011-Jun/2012
Research	*Dept. of Microbiology, Immunology and Pathology, Colorado State*	

Scientist II (Assistant Professor Rank) *University, USA* Jul/2008 – Aug/2011

CERTIFICATIONS

Certificate for College teaching – Fort Collins, CSU- teaching portfolio at "http://tilt.colostate.edu/portfolios/portfolio.cfm?portfolioid=35"

GRANTS

Ongoing

1. Iron Acquisition by Mycobacterium Tuberculosis within Phagocytes, VA
Britigan (PI) 04/01/2010 - 09/30/2018 1.2 Calendar
1166554Merit BLRD $600,000
Role: Co-Investigator

Pending:

1. Development of Nanomedicine to Treat HIV-TB Co-Infection.
DHHS/NIH/R21
Role : PI: Prabagaran Narayanasamy 04/01/2017 – 03/31/2019 3.60 calendar
Total Dollars: $413,875 Direct Cost: $275,000

2. Enhanced therapeutics against TB infection by macrophage targeted nanoparticles.
DHHS/NIH/R01
Role : PI: Prabagaran Narayanasamy 04/01/2017 – 03/31/2022 3.96 calendar
Total Dollars: $1,809,561 Direct Cost: $1,250,000

3. CAREER: Stereochemical synthesis of substrates and inhibitors of MEP pathway for drug discovery and resistant.
NSF 15-555/Faculty Early Career Development Program (CAREER)
Role: PI: Prabagaran Narayanasamy 03/01/2017-02/28/2022 5.04 calendar
Total Dollars: $1,618,434 Direct Cost: $1,125,280

Completed

1. Gallium complexes and nanoparticles as an anti-tuberculosis reagent, Nebraska Research Initiative, 07/01/14-06/30/16: $100,000
Role: Principal Investigator

2. HTS Assays for the Methylerythritol-4-Phosphate pathway
CSU sub contract (NIH - RO1) - G-4228-1 Prabagaran Narayanasamy (PI)
07/01/2012- 4/30/2015: $203,756

(R01AI097550 Dean C. Crick (PI) 05/01/12-4/30/15)
NIH/NIAID "HTS Assays for the Methylerythritol-4-Phosphate pathway"
Role: Principal Investigator

STUDY SECTIONS

1. DOD- Focused Program- Infectious disease Review Panel member, 2016

2. DOD – TB Review Panel member– PEER Reviewed Medical Research Program, 2016

3. UNMC - Drug discovery and development, Review member, 2014-current

4. NIH-Special emphasis panel-SBIR, Ad hoc Committee Member, 2015

PATENTS and LICENSES

a). Awarded

1. M. P. Sibi, N. Prabagaran, C. Jasperse, and S. Ghorpade. (2004). β-Amino acids synthesis and methods and intermediates for making same. *U S Patent* 8034974 B2, Oct 11, 2011.

b). Provisional Patent

1. P. Narayanasamy, S. Choi, J. Frandsen and B. Britigan (2016). Compounds and methods for inhibiting MenA in Gram-Positive Organisms. Docket #16076P and Serial # 62/345,061.

2. P. Narayanasamy and H. Gendelman (2012). Compositions and methods for delivery of antibiotics. Provisional patent no. 61/711365.

3. P. Narayanasamy and D.C. Crick (2009). Bicyclic derivatives as MenA inhibitor. Provisional Patent Docket no. 09-087 (61233017-9135), Appln. No. 61/371,416

c). Pending

1. P. Narayanasamy, J. Frandsen, and S. Choi (2016). Compounds Reduce Aging by Enhancing Glyoxalase Pathway. UNMC NIN # 17003.

2. P. Narayanasamy, (2015) Tricyclic and Phenolic IspD and IspE Inhibitors Against Pathogens. UNMC NIN # 16004.

3. P. Narayanasamy, (2014) Synthesis and Discovery of Naphthyl-Alkyl-Amine. UNMC NIN # 15003.

4. P. Narayanasamy and B. Britigan, (2014). Gallium complex and gallium nanoparticles as antiretroviral agents. UNMC NIN # 14035.

5. P. Narayanasamy, B. Britigan, and B. Switzer (2013). Gallium Amino acids: An effective Antimicrobial agent. UNMC NIN #14004.

6. P. Narayanasamy and D.C. Crick (2010). Bicyclic derivatives with amines as drug against pathogens. CSURFID-10-105

7. P. Narayanasamy and D.C. Crick (2010). Synthesis of CDPME. CSURFID-10-097

8. P. Narayanasamy and D.C. Crick (2010). Synthesis of CDPME2P. CSURFID-10-098

9. P. Narayanasamy and D.C. Crick (2008) Sulfonamide derivatives as IspD inhibitors and IspE inhibitors –CSURF-08-078

OTHER APPOINTMENTS

Courtesy Instructor	*Department of Pathology and Microbiology, UNMC,* Jan/2014-Jun/2014
Project officer	*Reliance Industries Ltd.* (overseen by *Indian Institute of Technology, Madras, India*), Jan/2002-Jun/2002
Chemist trainee	*Madras Rubber Factory (MRF) Tires,* Aug/1996-Dec/1996

CONSULTING POSITIONS

Editorial Board Member	Nature Group- Scientific Reports
Organizing Committee Member	Medchem & CADD-2016, Phoenix, AZ International conference.
Organizing Committee Member	Medchem & CADD-2015, Atlanta, GA International conference.
Organizing Committee Member	Medchem & CADD-2014, San Francisco, CA International conference.
Editorial Member	Chemical Sciences Journal (Omics)
Editorial Member	Organic Chemistry Letters

Organizing Committee Member	Medchem & CADD-2013, Las Vegas, NV International conference.
Scholar	School of Global Environmental Sustainability Colorado State University, 2010
Adhoc Reviewer	Journal of Medicinal Chemistry, ACS Chem. Neuroscience FASEB Journal, AACT, ACS Infectious Diseases Journal of Organic chemistry, IJMC Royal Society of Chemistry, Tetrahedron Asymmetry, Tetrahedron Letters, Arkivoc, Indian National Science Academy on Asymmetric Catalysis, Indian Journal of Chemistry, Molecules, PLoS ONE
Symposium Organizer	Macromolecules, Chennai, 2001 Indian National Science Academy, Chennai, 2000 Macromolecules, Chennai, 1998
Production Agent	The special issue of the Proceedings of Indian National Science Academy on Asymmetric Catalysis (PINSA-A), 2002
Advisor	United Nations Association for Colorado State University
Resident Secretary	Indian Institute of Technology, Madras, 2000-2001

CONSULTING – TECHNICAL REPORTS

Infrared (IR) spectroscopy analysis for *Porur polymer company*, Chennai, 2000-01

HONORS AND AWARDS

New invention Award	P. Narayanasamy, (2016) Novel MenA inhibitor against *S. aureus* and MRSA, UNMC.
New invention Award	P. Narayanasamy, (2015) Tricyclic and Phenolic IspD and IspE Inhibitors Against Pathogens, UNMC.

CoBRE Voucher Award	NCNS (The Nebraska Center for Neurosensory Systems)-2015
New invention Award	P. Narayanasamy, (2014) Synthesis and Discovery of Naphthyl-Alkyl-Amine, UNMC.
Editor-in-Chief	Chemical Sciences journal –OMICS, 2013-current
New invention Award	P. Narayanasamy, B. Britigan, and B. Switzer (2013). Gallium Amino acids: An effective Antimicrobial agent, UNMC.
Editorial Board	Organic chemistry letters, 2013-current
Judge-poster	Medchem & CADD-2013, Las Vegas International conference
Session Chair	Medchem & CADD-2013, Las Vegas International conference
Honorary Guest	Medchem & CADD-2013, Las Vegas International conference
New invention Award	P. Narayanasamy and H. Gendelman (2012). Compositions and methods for delivery of antibiotics, UNMC.
Invited Judge	Annual Colorado Science and Engineering fair, Colorado State University, 2007 & 2008; Celebrate Undergraduate Research and Creativity Symposium, Colorado State University, 2007 & 2008
Nominated	MIT's Global Indus Technovator Award, 2006, 2008
Senior Research Fellowship	Council of Scientific and Industrial Research (CSIR), 1999-2001
Junior Research Fellowship	Council of Scientific and Industrial Research (CSIR), 1997-1999
Lectureship	University Grand Commission (UGC) & Council of Scientific and Industrial Research (CSIR), 1996

Graduate Aptitude Test for Engineers	All India level distinction, 1996
Kothari Award for Undergraduates	First Rank, Pondicherry University, 1994

SCIENTIFIC MEMBERSHIP

American Society for Microbiology
American Heart Association
American Chemical Society
American Society for Nanomedicine

COMMITTEE ASSIGNMENTS

Chemical safety Committee	UNMC-2016-current
Selection Committee Member	SURP, UNMC- 2016-current (select 3 students from 80 applicants)

ORAL PRESENTATIONS

1. P. Narayanasamy (2016). A Novel MenA inhibitor against MRSA and its biofilm. International Conference on Gram Positive Pathogens, Omaha, NE

2. P. Narayanasamy (2015). Nanoparticles with novel methodology to treat infectious diseases. Medchem & CADD-2015, Atlanta, GA

3. P. Narayanasamy (2015). Novel methodology and drug to treat HIV-mycobacterium co-infection. Retrovirus-2015, Chicago, IL

4. P. Narayanasamy (2014). Drug discovery against category A-C pathogens through MEP pathway. Medchem & CADD-2014, San Francisco, CA

5. P. Narayanasamy. (2013). Discovery of novel bicyclic derivatives to stop the growth of mycobacterium tuberculosis by Inhibiting MenA. Medchem & CADD-2013, Las Vegas.

6. P. Narayanasamy, H. Eoh, P.J. Brennan, and D. C. Crick. (2008). 2-C-Methyl-D-Erythritol 2,4-Cyclodiphosphate Synthase: Synthesis of Substrate, Assay Development, and Partial Characterization. *Rocky Mountains Regional Centers of Excellence for Biodefense and Emerging Diseases Research*, Bozeman, Montana.

7. P. Narayanasamy, (2009) Asymmetric synthesis and cyclizations by new catalytic methods, Chennai, IIT.

8. P. Narayanasamy, (2009) Asymmetric synthesis and cyclizations by new catalytic methods, Pondicherry University, Pondicherry.

9. P. Narayanasamy, (2006) Highly selective C-N, C-H, C-O, C-C, C-S bond formations and cyclizations by new catalytic methods, Lubrizol, Cleveland.

10. P. Narayanasamy, (2006) Highly selective C-N, C-H, C-O, C-C, C-S bond formations and cyclizations by new catalytic methods, Berkshire polymers, Denver.

11. P. Narayanasamy, (2001) Glucose imprinted biopolymer, Madras Science Association, Chennai.

12. P. Narayanasamy, (2000) The magic of DNA, Don Bosco School, Chennai.

COMMUNITY SERVICE

Volunteer Teacher: Methods to characterize organic compounds, Pondicherry, 1995-1996.
Volunteer Teacher: Chemistry and Biology for basic science, Chennai, 1998-1999.
Judge - Colorado science and engineering fair, 2007 and 2008.
NSF spelling bee Judge, Omaha, 2013.
Judge - Midwest Student Biomedical Research Forum, 2016.

PUBLICATIONS

a). Published

1. G. Sundararajan and N. Prabagaran. (2001). A new polymer-anchored chiral catalyst for asymmetric Michael addition reactions. *Organic Letters*, 3, 389-392.

2. G. Sundararajan, N. Prabagaran, and B. Varghese. (2001). First asymmetric synthesis of quinoline derivatives by Inverse Electron Demand (IED) Diels-Alder reaction using chiral Ti(IV) complex. *Organic Letters*, 3, 1973-1976.

3. N. Prabagaran and G. Sundararajan (2002). Asymmetric Michael addition reactions using heterobimetallic chiral catalyst bearing amino diolate. *Arkivoc*, **(VII)**, 212-226.

4. N. Prabagaran and G. Sundararajan. (2002). Asymmetric Michael addition reactions using La-Na heterobimetallic chiral catalyst. *Tetrahedron: Asymmetry*, 13, 1053-1058.

5. M. P. Sibi, N. Prabagaran, S. Ghorpade, and C. Jasperse. (2003). Enantioselective

synthesis of α,β-disubstituted β-Amino acids. *Journal of American Chemical Society*, 125, 11796-11797.

6. M. P. Sibi and N. Prabagaran. (2004). Chiral relay in enantioselective conjugate radical additions using pyrazolidine templates. How does metal geometry impact selectivity? *Synthetic Letters*, 13, 2421-2424.

7. M. P. Sibi, Z. Ma, K. Itoh, N. Prabagaran, and C. Jasperse. (2005). Enantioselective cycloadditions with α,β-disubstituted acrylimides. *Organic Letters*, 7, 2349-2352.

8. M. S. Chen, N. Prabagaran, N. Labenz, and M. C. White. (2005). Serial ligand catalysis: A highly selective allylic C-H oxidation. *Journal of American Chemical Society*, 127, 6970-6971.

9. K. Fraunhoffer, N. Prabagaran, L. Sirois, and M. C. White. (2006). Macrolactonization via hydrocarbon oxidation. *Journal of American Chemical Society*, 128, 9032-9033. PMC2720785

10. M. Kurosu, S. Mahapatra, P. Narayanasamy, and D. C. Crick. (2007). Chemoenzymatic synthesis of Park's nucleotide: toward the development of high-throughput screening for MraY inhibitors. *Tetrahedron Letters*, 48, 799-803.

11. M. Kurosu, P. Narayanasamy, and D. C. Crick. (2007). Synthetic studies toward the generation of uridine-amino alcohol based small optimized libraries. *Heterocycles*, 72, 339-352.

12. M. Kurosu, P. Narayanasamy, K. Biswas, R. Dhiman, and D. C. Crick. (2007). Discovery of 1, 4-dihydroxy-2-naphthoate prenyl transferase inhibitors: New drug leads for Multidrug-Resistant gram-positive pathogens. *Journal of Medicinal Chemistry*, 3973-3975. PMC2591091

13. M. Kurosu, P. Narayanasamy, K. Biswas, and D. C. Crick. (2007). Acid and base stable esters: A new protecting group for carboxylic acids. *Synthesis*, 2513-2516.

14. M. Kurosu, P. Narayanasamy, and D. C. Crick. (2008). High throughput synthesis of substituted hydrazine derivatives. *Heterocycles*, 169-176.

15. P. Narayanasamy* and D. C. Crick. (2008). Enantiomeric Synthesis of 2-C-Methyl-D-erythritol 2, 4- cyclodiphosphate. *Heterocycles*, 76, 243-249. PMC2658599

16. P. Narayanasamy,* H. Eoh, and D. C. Crick. (2008). Chemoenzymatic synthesis of 4-Diphosphocytidyl-2-C-methyl-D-erythritol: A substrate for IspE. *Tetrahedron Letters*, 4461-4463. PMC2832204

17. R. K. Dhiman, S. Mahapatra, R. A. Slayden, M. E. Boyne, A. Lenaerts, J. C. Hinshaw, S. K. Angala, D. Chatterjee, K. Biswas, P. Narayanasamy, M. Kurosu, D.

C. Crick. (2009). Menaquinone synthesis is critical for maintaining mycobacterial viability during exponential growth and recovery from non-replicating persistence. *Mol. Microbiol.* 72, 85-97. PMC4747042

18. P. Narayanasamy, H. Eoh, A. C. Brown, T. Parish, P. J. Brennan, and D. C. Crick. (2009). Expression and characterization of soluble 4-diphosphocytidyl-2-C-methyl-D-erythritol kinase from bacterial pathogens. *Chemistry and Biology*, 16, 1230-1239. PMC4020808

19. R.W. Honaker, R.K. Dhiman, P. Narayanasamy, D.C. Crick, M.I. Voskuil.(2010) DosS responds to a reduced electron transport system to induce the Mycobacterium tuberculosis DosR regulon.. *J Bacteriol*. 192, 6447-6455. PMC3008535
20. P. Narayanasamy*, H. Eoh, P. J. Brennan, and D. C. Crick. (2010) Synthesis of 4-diphosphocytidyl-2-*C*-methyl-D-erythritol 2-phosphate and kinetic studies of *Mycobacterium Tuberculosis* IspF. *Chemistry and Biology*, 17, 117-122. PMC2837070

21. I. Kadiu, P. Narayanasamy, P. Das, W. Zhang, H. Gendelman. (2012) Biochemical and biologic characterization of exosomes and microvesicles as facilitators of HIV-1 infection in macrophages. *J. Immunology*. 744-754. PMC3786185

22. Epstein AA, Narayanasamy P, Dash PK, High R, Bathena SP, Gorantla S, Poluektova LY, Alnouti Y, Gendelman HE, Boska MD. (2013) Combinatorial assessments of brain tissue metabolomics and histopathology in rodent models of human immunodeficiency virus infection. *J Neuroimmune Pharmacol*. 8(5): 1224-38. PMC3889226

23. Edagwa, B., Wang, Y., Narayanasamy, P. (2013), Synthesis of azide derivative and discovery of glyoxalase pathway inhibitor against pathogenic bacteria, *Bioorganic & Medicinal Chemistry Letters*, 23(22), 6138-6140. PMC3833347

24. Edagwa, B., Narayanasamy, P. (2013), Synthesis of chirally pure 1-deoxy-D-xylulose-5-phosphate : A substrate for IspC assay to determine *M. tb* inhibitor. *Chem. Sci. J.*, 4: 079. doi: 10.4172/2150-3494.1000079. PMC4032121

25. Edagwa, B., Guo, D., Puligujja, P., Chen, H., McMillan, J., Liu, X., Gendelman, H., Narayanasamy, P. (2014) Long-acting antituberculous therapeutic nanoparticles target macrophage endosomes. *FASEB J*., 28(12), 5071-82. PMC4232285

26. Narayanasamy, P. (2014) Nanomedicines: Future Against Infections. *Chem Sci J* 5: e105. doi: 10.4172/2150-3494.1000e105. (Editorial)

27. Narayanasamy, P., Switzer, B.L. & Britigan, B.E. (2015) Prolonged-acting, Multi-targeting Gallium Nanoparticles Potently Inhibit Growth of Both HIV and Mycobacteria in Co-Infected Human Macrophages. *Sci. Rep.* 5, 8824; DOI: 10.1038/ srep08824. PMC4351534 (online 7 pages)

28. Bade, A.N., Zhou, B., McMillan, J., Narayanasamy, P., Veerubhotla, R., Gendelman, H.E., Boska, M.D., Liu, Y. (2015) Potential of N-acetylated-para-aminosalicylic Acid to Accelerate Manganese Enhancement Decline for Long-term MEMRI in Rodent Brain. *J Neurosci Methods.* 251, 92-98. pii: S0165-0270(15)00192-2. doi: 10.1016/j.jneumeth.2015.05.013 PMC4500662

29. Narayanasamy, P. (2015) MEP pathway: A novel Pathway for New antibiotics. *Chem Sci J.* 6: e111. doi:10.4172/2150-3494.1000e111. (Editorial)

30. Choi, S., Larson, M. A., Hinrichs, S. H., Bartling, A. M., Frandsen, J., Narayanasamy, P. (2016). Discovery of bicyclic inhibitors against menaquinone biosynthesis. *Future Medicinal Chemistry*, 8(1), 11-16. PMID: 26699277

31. Choi, S., Larson, M. A., Hinrichs, S. H., Narayanasamy, P. (2016). Development of potential broad spectrum antimicrobials using C2 symmetric 9-fluorenone alkyl amine *Bioorganic & Medicinal Chemistry Letters*, 26, 1997-1999.

32. Choi, S., Frandsen, J. and Narayanasamy, P. (2017). Novel long-chain compounds with both immunomodulatory and MenA inhibitory activities against *Staphylococcus aureus* and its biofilm. *Sci. Rep.* 7, 40077; doi: 10.1038/srep40077

b). In press

1. Choi, S., Britigan, B. and Narayanasamy, P. (2017). Ga(III) Nanoparticles Inhibit Growth of Both TB and HIV and Release of IL-6 and IL-8 in Co-Infected Macrophages. *Antimicrob. Agents Chemother.* (in press)

c). Submitted

1. Seoung-ryoung Choi, Bradley E. Britigan, David Moran and Prabagaran Narayanasamy. Extensive-acting Antibiotic-Containing Nanoparticles Inhibit Growth of Virulent *Mycobacteria tuberculosis* in Macrophages and Facilitates Phagosome Maturation. (*PlosOne 2017*)

2. Joel Frandsen and Prabagaran Narayanasamy. Enhancement of Glyoxalase Pathway in Cerebellar Neurons by Flavonoids to Reduce Aging. (*Sci. Rep.2017*)

3. Joel Frandsen and Prabagaran Narayanasamy. Neuroprotection through Flavonoid Enhancement of the Glyoxalase Pathway. (*ACS Chem. Neuro. 2017*)

g). Abstracts

1. Joel Frandsen and P. Narayanasamy (2016) Flavanoid enhancement of glyoxalase pathway in cerebellar neurons to reduce aging. APSA Midwest Regional conference, Omaha, NE. (2^{nd} best poster award)

2. S.R. Choi, B. E. Britigan and P. Narayanasamy. (2016) Long-acting nanoparticles Inhibit against Virulent Mycobacteria tuberculosis and promoting Phagosome in Macrophages. International Conference on Gram Positive Pathogens, Omaha, NE

3. P. Narayanasamy (2016). Gallium Nanoparticle: A Single Drug Targeting Iron Metabolism and IKK-β/NF-κB Pathway to Treat HIV-TB Co-infection in Human Macrophages. Colorado Mycobacteria Conference-2016, Fort Collins, CO

4. S.R. Choi, P. Narayanasamy, and B. E. Britigan. (2015) Gallium Nanoparticle: A Single Drug Targeting Iron Metabolism to Treat HIV-TB Co-Infection in Human Macrophages. IBIS-2015, Shanghai, China.

5. B. Edagwa, D. Guo, P. Puligujja, J. McMillan, X. Liu, H. Gendelman and P. Narayanasamy (2014) Macrophage Targeted Nanomedicines for Mycobacterial Infections. CROI, Boston. (Travel Award to B.E.)

6. P. Narayanasamy, B. Edagwa and D. Crick (2013) Synthesis of substrate, Development of assay and Discovery of inhibitor against mycobacteria. *American Chemical Society 245th National meeting*, New Orleans, Book of Abstract, Biol. 223.

7. P. Narayanasamy, H. Eoh, and D. C. Crick. (2009). Identification of isopentenyl diphosphate synthesis inhibitors in *Burkholderia*. *Rocky Mountains Regional Centers of Excellence for Biodefense and Emerging Diseases Research*, Logan, Utah.

8. H. Eoh, P. Narayanasamy, P. J. Brennan and D. C. Crick. (2009). *Mycobacterium tuberculosis* 2-C-methyl-D-erythritol 2, 4-cyclodiphosphate synthase and synthesis of its substrate. *Keystone symposia*, Keystone, CO.

9. H. Eoh, P. Narayanasamy, P. J. Brennan and D. C. Crick (2008). Characterization Of *Mycobacterium tuberculosis* 4-diphosphocytidyl-2C-methyl-D-erythritol Kinase As A New Drug Target. *ICAAC/IDSA 46th Annual Meeting*. Washington D.C.

10. D. C. Crick, H. Eoh, and P. Narayanasamy. (2008). IspE – Substrate synthesis, characterization and development of a high through-put screen. *Fifth National Meeting of the Regional Centers of Excellence for Biodefense and Emerging Diseases*, Chicago.

h. Published audiovisual

1. Nanoparticles with novel methodology to treat Infectious Diseases. 4th International Conference on Medicinal Chemistry & Computer Aided Drug Designing. November 02-04, 2015 Atlanta, USA. Youtube :

https://www.youtube.com/watch?v=jfavg7FDGL8

2. Chemical Sciences Journal - Enantioselective Reactions-free radical – peer reviewed Slides. http://www.omicsonline.com/editor-biography/Prabagaran_Narayanasamy

3. Drug discovery against category A-C pathogens through MEP pathway 3rd International Conference on Medicinal Chemistry & Computer Aided Drug Designing. December 08-10, 2014 San Francisco, USA. Youtube : https://www.youtube.com/watch?v=P6zxxWwHCbY

4. Novel methodology and drug to treat HIV-mycobacterium co-infection. Retrovirus-2015, Chicago, IL, USA. Youtube: https://www.youtube.com/watch?v=JyKnc0szGqA

TEACHING EXPERIENCE

a. Listing of lectures given in team-taught courses

1. Pharm 507 – Basic Pharmacology – PA Team taught course – 2014 - 1 lecture – 4 credits
2. PAMM 950 – Special topics in drug discovery against infectious diseases – 2 credits – 5 lecture – 2016
3. PAMM 992 – Drug/therapy resistance – 2017 – 16 lectures – 1 credit

b. Listing of courses for which you were coordinator/supervisor

1. PAMM 992 – Drug/therapy resistance -2017
2. PAMM 950 – Special topics in drug discovery against infectious diseases – 2016
3. PEN 950-1 – Special topics in Pharmacology –2013-14
4. MIP 298 – Introduction to Research, 2010.

c. Listing of courses taught by you giving the total number of hours

1. PAMM 992 – Drug/therapy resistance -2017, 16 hours.
2. Inter Professional Education (IPE day) – Facilitator – 2016, 4 hours.
3. Inter Professional Education (IPE day) – Facilitator – 2014, 4 hours.
4. PEN 950-1 – Special topics in Pharmacology –2013-14, 8 hours.
5. PAMM 950 – Special topics in drug discovery against infectious diseases – 2016, 15 hours.
6. Pharm 507 – Basic Pharmacology – PA Team taught course – 2014, 1 hour
7. MIP 298 course – Introduction to Research, 2010, 30 hours.
8. Organic Structure and Synthesis (chemistry major laboratory course), 1997-2001, 80 hours/year.
9. Organic Chemistry (chemistry non-major laboratory course), 1998-2000, 40 hours/year.
10. Organic Chemistry (chemistry non-major course), 1998-2001, 40 hours/year.

d. Information on teaching of Graduate students with supervision of thesis.

1.	Ph. D student	Joel Frandsen	3rd year
2.	Postdoc	Dr. Seoung-ryoung Choi	3rd year
3.	Postdoc	Dr. Benson Edagwa	2 years
4.	Undergraduate	Yiran Wang	2013
5.	Undergraduate	Courtney Venegas	2015
6.	Undergraduate	Madeline Cloonan	2016

Revised 3/24/2017