

BIOGRAPHICAL SKETCH

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|--|--|---------|-------------------------|
| NAME Sridhar Nimmagadda | POSITION TITLE Assistant Professor of Radiology, Oncology and Medicine | | |
| eRA COMMONS USER NAME snimmag1 | | | |
| EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.) | | | |
| INSTITUTION AND LOCATION | DEGREE (if applicable) | MM/YY | FIELD OF STUDY |
| Andhra Loyola College | B.S. | 1991-94 | Chemistry |
| Andhra Univeristy | M.S. | 1994-96 | Chemistry (Physical) |
| Indian Institute of Technology, Madras | M.S. | 1997-99 | Chemistry (Bio-organic) |
| Wayne State University | Ph.D. | 1999-05 | Cancer Biology |

A. Personal Statement

For the past 12 years I have been dedicated to the development and evaluation of new imaging agents, with a focus on cancer proliferation during my graduate studies and most recently, as an independent faculty, on metastasis. Over the last three and half years I have actively pursued the development of CXCR4 targeted low molecular weight agents, multi-modality imaging agents, nanoparticles and their evaluation in various tumor models. I have considerable experience in small molecule syntheses, radioiodination methods, ^{18}F - and ^{64}Cu -chemistry. I have extensive experience in *in vitro* screening methods, *ex vivo* biodistribution assays, PET, SPECT, Optical image acquisition and analysis as well as molecular biology methods. I will provide my expertise for users of the PET-MR scanner and serve on the Oversight Committee.

B. Positions and Honors

Positions and Employment

| | |
|--------------|---|
| 1998-98 | Internship in Organic Chemistry Division, Central Leather Research Institute, CSIR, Madras |
| 1999-05 | Graduate Research Assistant in Cancer biology, Wayne State University, Detroit, MI |
| 2005-08 | Postdoctoral Research Fellow, Department of Radiology & Radiological Science, Division of Clinical Pharmacology, Department of Medicine, Johns Hopkins University, Baltimore, MD |
| 2008-09 | Instructor, Department of Radiology & Radiological Science, Division of Clinical Pharmacology, Department of Medicine, Johns Hopkins University, Baltimore, MD |
| 2009-present | Assistant Professor, Departments of Radiology & Radiological Science, Oncology and Division of Clinical Pharmacology, Department of Medicine, Johns Hopkins University, Baltimore, MD |

Other Experiences and Professional Memberships

2011-present Associate Editor, Frontiers in Cancer Imaging and Diagnosis

Honors and Awards

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|---------|--|
| 1993-94 | Tipirneni Lakshmi Perumal Educational Trust Merit Scholarship, Andhra Loyola College |
| 1994 | Conferred Distinction for Baccalaureate studies, Andhra Loyola College |
| 1994-95 | Tipirneni Lakshmi Perumal Educational Trust Merit Scholarship, Andhra University |
| 1996 | Conferred Distinction for Masters studies, Andhra University |
| 2003-04 | University Fellowship: Heberlein Graduate Research Assistantship, Wayne State University |
| 2005 | Graduate Professional Travel Award, Wayne State University |
| 2005 | Young Investigator Travel Award, Society of Molecular Imaging |
| 2008 | Society of Nuclear Medicine and Molecular Imaging Travel Award |
| 2008 | Alavi-Mandell Award, Society of Nuclear Medicine and Molecular Imaging |
| 2008 | Young Investigator Travel Award, World Molecular Imaging Congress 2008 |
| 2010 | Berson-Yalow Award, Society of Nuclear Medicine and Molecular Imaging (co-author) |
| 2011 | Berson-Yalow Award, Society of Nuclear Medicine and Molecular Imaging (co-author) |

C. Selected Peer-reviewed Publications

Most Relevant to the Current Application

1. Nimmagadda S, Mangner TJ, Sun H, Klecker RW, Muzik O, Lawhorn-Crews J, Douglas KA, Collins JM, Shields AF, Biodistribution and radiation dosimetry estimates of (1-(2'-deoxy-2'-[18F] fluoro-1-b-D-arabinofuranosyl)-5-bromouracil): PET imaging studies in dogs. *J Nucl Med*, 2005; 46, 1916-22.
2. Nimmagadda S, Pullambhatla M, Pomper MG., Immunoimaging of CXCR4 expression in brain tumor xenografts using SPECT/CT. *J Nucl Med*, 2009; 50,1124-30. PMID:PMC3075860. (Featured on the cover of this issue).
3. Nimmagadda S, Pullambhatla M, Stone K, Green GM, Bhujwalla Z, Pomper MG. Molecular Imaging of CXCR4 Receptor Expression in Human Cancer Xenografts with [⁶⁴Cu]AMD3100-Positron Emission Tomography. *Cancer Res*, 2010; 70, 3935-3944. PMID:PMC2874192.
4. Qiao Y[#], Huang X[#], Nimmagadda S[#], Bai R[#], Staedtke V, Foss CA, Cheong I, Holdhoff M, Kato Y, Pomper MG, Riggins GJ, Kinzler KW, Diaz LA Jr, Vogelstein B, Zhou S. A Robust Approach to Enhance Tumor-selective Accumulation of Nanoparticles. *Oncotarget*. 2011 Jan-Feb;2(1-2):59-68. PMID:PMC3069713. ([#] Equal contribution, Featured on the cover of this issue).
5. De Silva RA, Peyre KP, Pullambhatla M, Fox JJ, Pomper MG, Nimmagadda S. Imaging CXCR4 expression in human cancer xenografts: Evaluation of monocyclam [⁶⁴Cu]AMD3465. *J Nucl Med*, 2011; 52, 986-993. PMID:PMC3155288.

Additional recent publications of importance to the field (in chronological order)

1. Babu G, Sridhar N, Perumal PT., A convenient method of synthesis of bis-indolylmethanes: Indium trichloride catalyzed reactions of indole with aldehydes and Schiff's bases. *Synth. Commun*, 30, 1609-1614, 2000.
2. Diaz LA Jr., Foss CA, Thornton K, Nimmagadda S, Endres CJ, Uzuner O, Seyler TM, Ulrich SD, Conway J, Bettgowda C, Agrawal N, Cheong I, Zhang X, Ladenson4 PW, Vogelstein BN, Mont MA, Zhou S, Kinzler KW, Vogelstein B, and Pomper MG., Imaging of musculoskeletal bacterial infections by [¹²⁴I]FIAU-PET/CT. *PLoS one*, 2007 Oct 10;2(10):e1007. (Equal contribution).
3. Nimmagadda S, Mangner TJ, Douglas KA, Muzik O, Shields AF, Biodistribution, PET imaging and radiation dosimetry estimates of HSV-tk gene expression imaging agent (1-(2'-deoxy-2'-[18F] fluoro-1-b-D-arabinofuranosyl)-5-iodouracil) in normal dogs. *J Nucl Med*, 2007; 48, 655-60
4. Nimmagadda S, Ford EC, Wong JW, Pomper MG., Targeted molecular imaging in oncology: Focus on radiotherapy. *Semin Radiat Oncol*, 2008; 18, 136-148 PMID:PMC2288529.
5. Nimmagadda S, Shields AF., Role of DNA synthesis imaging in cancer in the era of targeted therapeutics. *Cancer and Metastasis Reviews*, 2008; 27, 575-87. PMID3086165.
6. Fu DX, Foss CA, Nimmagadda S, Ambinder AF, Pomper MG., Enzymes for molecular-genetic imaging. *Curr Pharm Des*, 2008; 14, 3048-3065. PMID:PMC2631656.
7. Chen Y, Foss CA, Byun Y, Nimmagadda S, Pullambhatla M, Fox JJ, Castanares M, Lupold SE, Babich JW, Mease RC, Pomper MG., Radiohalogenated PSMA-based Ureas as Imaging Agents for Prostate Cancer. *J Med Chem*, 2008; 51(24):7933-43. PMID:PMC2631656.
8. Nimmagadda S, Mangner TJ, Lawhorn-Crews J, Haberkorn U, Shields AF., Herpes Simplex Virus Thymidine Kinase Imaging in Mice with ¹⁸F-FIAU and ¹⁸F-FAU. *Eur J Nucl Med Mol Imaging*, 2009; 36,1987–1993. PMID:PMC3107601.
9. Nimmagadda S, Glunde K, Pomper MG, Bhujwalla Z., Choline kinase as therapeutic target: Pharmacodynamic marker assessment for choline kinase downregulation in breast cancer cells. *Neoplasia*, 2009; 11(5):477-484. PMID:PMC2671858.
10. Joyal J, Barrett J, Marquis J, Chen J, Hillier S, Maresca K, Boyd M, Gage K, Nimmagadda S, Kronauge J, Friebe M, Dinkelborg L, Mairs R, Pomper M, Babich J. Preclinical Evaluation of an ¹³¹I-Labeled Benzamide for Targeted Radiotherapy of Metastatic Melanoma. *Cancer Res*, 2010; 70, 4045-4053. PMID:PMC2871064.

D. Research Support

Ongoing Research Support

2P50CA103175-06A2 (Bhujwalla)
NCI JHU ICMIC Program

09/22/11 - 07/31/16

This center grant funds an *in vivo* Cellular and Molecular Imaging Center at Johns Hopkins. The program consists of four research components, four developmental projects, one career development award and four resources.

R01EB009367-01A1 (Pomper) 05/15/10-04/30/14
NIH/NCI
TK-based Infection Imaging
The goal is to study further musculoskeletal infection, comparing a newly developed method in infection imaging to the current clinical standard of tagged white blood cell (WBC) and attempting to determine the sensitivity and specificity of our technique.

R01CA138636-01 (Pomper) 04/01/10-02/28/14
NIH, NCI
BETR Therapy of Herpes virus-associated Tumors
The purpose is to treat gamma herpes virus-associated tumors with [¹³¹]FIAU in human subjects.

2009-MSCFE-0015-00 (Nimmagadda) 07/01/09-06/30/12
Maryland Stem Cell Research Fund (NCE)
Brain Tumor Stem Cell Imaging With Radiolabeled Antibodies
The goal of this project is to develop non-invasive imaging methods for brain tumor stem cells using radiolabeled antibodies.

1R01CA136756-01A1 (Bhujwalla) 07/01/09-06/30/14
NIH
Imaging Hypoxia and Cancer Stem Cells
The goal of this project is to understand the role of the tumor microenvironment and choline metabolism in harboring or creating stem-like cancer cells.

1-U01-AI 968633 (Dezzutti/Hendrix) 06/01/06-02/28/13
Subaward 26-3301-4221
NIH
Microbicide Trials Network - Pharmacology Network Laboratory
The goal of this project is to develop pharmacologic assays, evaluation and validation of new assays for Microbicide Trials Network.

Completed Projects Within Last Three Years

U24 CA092871 (Pomper) 03/09/07-02/29/12
NIH/NCI
Small Animal Imaging Resource (SAIR)
The goal is to move small animal imaging science forward to a point where the incorporation of imaging techniques become second nature in the daily practice of cancer researchers.

Elsa U. Pardee Foundation (Nimmagadda) 04/01/10-03/31/12
CXCR4-based imaging of breast cancer (NCE)
The goal of this project is to develop radioiodinated CXCR4 based PET/SPECT imaging agents to evaluate CXCR4 expression in primary and metastatic breast cancer.

3P01CA015396-34S1 (Ambinder/Jones) 09/30/09-09/29/11
NIH
Bone-marrow transplantation in human diseases
The goal of this project is to image virus associated thymidine kinase activation with FIAU

American Brain Tumor Association (Nimmagadda) 07/01/08-09/30/09
Translational research grant

Radiolabeled Analogs of CXCR4 for Brain Tumor Imaging

The goal is to develop blood-brain barrier penetrating CXCR4 inhibitors for brain tumor imaging.

NCI P50CA103175-05S1 (Bhujwalla)

08/01/03-07/31/11 NCE

JHU ICMIC Program

This center grant funds an *in vivo* Cellular and Molecular Imaging Center at Johns Hopkins. The program consists of four research components, developmental projects, career development awards and five resources. The competitive renewal of this application received a priority score of 23, and we are currently completing formalities prior to receiving the notice of grant award.

Society of Nuclear Medicine: Pilot grant (Nimmagadda) 07/01/07-12/31/08

Choline Kinase as a Therapeutic Target

The goal is to evaluate pharmacodynamic markers of choline kinase inhibition.

American Brain Tumor Association (Nimmagadda) 07/01/09-09/30/10

Translational research grant

Non-invasive imaging of brain tumor stem cells

The goal is to develop non-invasive imaging methods for brain tumor stem cells.