

Research Publications

Book Chapters

- (1) **Praveen P. N. Rao**, Amy Pham, Arash Shakeri. Discovery of small molecules for the treatment of Alzheimer's disease. In: Trabocchi and Lenci (eds) Small Molecule Drug Discovery. Elsevier Publishers 289-322, 2019 (Invited).
- (2) **Praveen P. N. Rao.**, Deguo Du. In silico strategies to design, small molecules to study beta-amyloid aggregation. In: Roy K. (eds) Computational Modeling of Drugs Against Alzheimer's Disease. Neuromethods, Vol 132. Humana Press, New York, 2018 (invited).

Review articles

- (3) Murali Munisamy, Nayonika Mukherjee, Levin Thomas, Amy Pham, Arash Shakeri, Yusheng Zhao, Jill Kolesar, **Praveen P. N. Rao**, Rangnekkar, Mahadev Rao. Therapeutic opportunities in cancer therapy: Targeting the p53-MDM2/MDMX interactions. *Am. J. Cancer Res.* 2021 (In Press).
- (4) **Praveen P. N. Rao.** Arash Shakeri, Yusheng Zhao, Frederic Calon. Strategies in the design and development of (TAR) DNA-binding protein 43 (TDP-43) binding ligands. *Eur. J. Med. Chem.* **225**, 113753 (2021).
- (5) Tarek Mohamed, Arash Shakeri, **Praveen P. N. Rao**. Amyloid cascade in Alzheimer's disease: recent advances in medicinal chemistry. *Eur. J. Med. Chem.* **113**, 258-272 (2016) (Most downloaded article) - Invited.
- (6) Xian-Le Bu, **Praveen P. N. Rao**, Yan-Jiang Wang. Anti-amyloid aggregation activity of natural compounds: Implications for Alzheimer's drug discovery. *Mol. Neurobiol.* **53**, 3565-3575 (2015).
- (7) Tarek Mohamed, **Praveen P. N. Rao**. Alzheimer's disease: Emerging trends in small molecule therapies. *Curr. Med. Chem.* **18**, 4299-4320 (2011).
- (8) **Praveen P. N. Rao**, Tarek Mohamed. Current and emerging at-site pain medications: A review. *J. Pain Res.* **4**, 279-286 (2011) - Invited.
- (9) **Praveen P. N. Rao**, Saad, N. Kabir, Tarek Mohamed. Nonsteroidal anti-inflammatory drugs (NSAIDs): Progress in small molecule drug development. *Pharmaceuticals* **3**, 1530-1549 (2010) - Invited.
- (10) **Praveen P. N. Rao**, Rajesh K. Grover. Apricoxib, a COX-2 inhibitor for the potential treatment of pain and cancer. *IDrugs* **12**, 711-722 (2009) - Invited.
- (11) **Praveen P. N. Rao**, Edward, E. Knaus. Evolution of nonsteroidal anti-inflammatory drugs (NSAIDs): COX inhibition and beyond. *J. Pharm. Pharm. Sci.* **11**, 81s-110s (2008).

Research articles

- (12) Chandra Mouli R. Madhuranthakam*, Arash Shakeri, **Praveen P. N. Rao***, Modeling the inhibition kinetics of curcumin, orange G and resveratrol with amyloid- β peptide. *ACS Omega* **6**, 8680-8686 (2021).
- (13) **Praveen P. N. Rao***, Amy T. Pham, Arash Shakeri, Amna El Shatshat, Yusheng Zhao, Rahul C. Karuturi, Ahmed A. Hefny. Drug repurposing: Dipeptidyl peptidase IV (DPP4) inhibitors as potential agents to treat SARS-CoV-2 (2019-nCoV) infection. *Molecules*. **14**, 44 (2021).

- (14) Juan C Sanchez Arias, Leigh E Wicki-Stordeur, Rebecca C Candlish, Emma van der Slagt, Irina Paci, **Praveen P. N. Rao**, Brian A MacVicar, Leigh Anne Swayne. PANX1 in inflammation heats up: new mechanistic insights with implications for injury and infection. *Cell Calcium* **90**, 102253 (2020).
- (15) Anmi Jose, Gautham G Shenoy, Gabriel Sunil Rodrigues, Naveena AN Kumar, Murali Munisamy, Levin Thomas, Jill Kolesar, Ganesha Rai, **Praveen P. N. Rao**, Mahadev Rao, Histone demethylase KDM5B as a therapeutic target for cancer therapy. *Cancers* **12**, 2121 (2020).
- (16) Amna El Shatshat, **Praveen P. N. Rao***, Interactions of polyunsaturated fatty acids with amyloid peptides A β 40 and A β 42. *Arch. Biochem. Biophys.* **663**, 34-43 (2019).
- (17) Fernanda Borges, Tiago Silva, Tarek Mohamed, Arash Shakeri, **Praveen P. N. Rao***, Patricia Soares da Silva, Fernando Remiao. Repurposing nitrocatechols: 5-Nitro- α -cyanocarboxamide derivatives of caffeic acid and caffeic acid phenethyl ester effectively inhibit aggregation of tau-derived hexapeptide AcPHF6. *Eur. J. Med. Chem.* **167**, 146-152 (2019).
- (18) Gary Tin., Tarek Mohamed., Arash Shakeri., Amy T. Pham., **Praveen P. N. Rao** Interactions of selective serotonin reuptake inhibitors (SSRIs) with β -amyloid (A β). *ACS Chem. Neurosci.* **10**, 226-234 (2019).
- (19) Polepalli, S., George, S. M., Sri Vidya, R. V., Rodrigues, G. S., Ramachandra, L., Chandrashekar, R., Nayak, D. M., **Praveen P. N. Rao**, Pestell, R. G., Rao, M. Role of UHRF1 in malignancy and its function as a therapeutic target for molecular docking towards the SRA domain. *Int J. Biochem. Cell Biol* **114**, 105558 (2019).
- (20) Dulcie Lai, Amy Trinh Pham, **Praveen P. N. Rao**, Michael A. Beazely. The effects of heat and freeze-thaw cycling on naloxone stability. *Harm Reduct. J.* **16**, 17 (2019).
- (21) Tarek Mohamed., Sarbjeet Singh Gujral., **Praveen P. N. Rao**. Tau derived hexapeptide AcPHF6 promotes beta-amyloid (A β) fibrillogenesis. *ACS Chem. Neurosci.* **9**, 773-782 (2018).
- (22) Tarek Mohamed, Mandeep Mann, **Praveen P. N. Rao**, Application of quinazoline and pyrido[3,2-d]pyrimidine templates to design multi-targeting agents in Alzheimer's disease. *RSC Adv.* **7**, 22360-22368 (2017).
- (23) Alanna McEneny-King, Andrea N. Edginton, **Praveen P. N. Rao**. Cytochrome P450 binding studies of novel tacrine derivatives: predicting the risk of hepatotoxicity. *Bioorg. Med.Chem. Lett.* **27**, 2443-2449 (2017).
- (24) Tarek Mohamed, **Praveen P. N. Rao**, 2,4-Disubstituted quinazolines as amyloid-beta aggregation inhibitors with dual cholinesterase inhibition and antioxidant properties: Development and structure-activity relationship (SAR) studies. *Eur. J. Med. Chem.* **126**, 823-843 (2017).
- (25) Courtney Matthew, Chen Xiaoming, Chan Sarah, Tarek Mohamed, **Praveen P. N. Rao**, Carolyn Ren. A droplet microfluidic system with on-demand trapping and releasing of droplet for drug screening applications. *Anal. Chem.* **89**, 910-915 (2017).
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- (28) Tiago Silva, Tarek Mohamed, Arash Shakeri, **Praveen P. N. Rao**, Loreto Martinez-Gonzalez, Daniel Perez, Ana Martinez, Maria Joao Valente, Jorge Garrido, Eugenico Uriarte, Paula Serrao, Patricia Soares
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- (29) Wesseem Osman, Tarek Mohamed, Victor, M. S., Vasefi M. S., Beazely, M. A., **Praveen P. N. Rao**, Structure-activity relationship studies of benzyl, phenethyl and pyridyl substituted tetrahydroacridin-9-amines as multi-targeting agents to treat Alzheimer's disease. *Chem. Biol. Drug Des.* **88**, 710-723, (2016).
- (30) Tarek Mohamed, Arash Shakeri, **Praveen P. N. Rao**. Structure-activity relationship studies of isomeric 2,4-diaminoquinazolines on β -amyloid aggregation kinetics. *ACS Med. Chem. Lett.* **7**, 502-507 (2016). Cover Page Article
- (31) Kar S. S, Bhat G. V, **Praveen P. N. Rao**, Shenoy V. P, Bairy I, Shenoy G. G. Rational design and synthesis of novel diphenyl ether derivatives as antitubercular agents. *Drug Des. Devel. Ther.* **2016**, 2299-2310 (2016).
- (32) Hallaji, N. A. E., **Praveen P. N. Rao**, Trope, G. E. Preservative content in generic and brand name glaucoma eye drops. *Can J. Ophthalmol.* **51**, 492 (2016).
- (33) Tarek Mohamed, **Praveen P. N. Rao**. Facile approaches toward the synthesis of N4-monosubstituted quinazolin-2,4-diamines. *Tetrahedron Lett.* **56**, 6882-6885 (2015).
- (34) Tin G, Mohamed T, Gondora N, Beazely M. A. **Praveen P. N. Rao**. Tricyclic phenothiazine and phenoselenazine derivatives as potential multi-targeting agents to treat Alzheimer's disease. *MedChemComm.* **6**, 4505-4508 (2015). Cover Page Article & Listed as a hot article for the year 2015
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- (36) **Praveen P. N. Rao**, Tarek Mohamed, Karan Teckwani, Gary Tin. Curcumin binding to beta-amyloid: A computational study. *Chem. Biol. Drug Des.* **86**, 813-820 (2015).
- (37) Alanna McEneny-King, Andrea N. Edginton, **Praveen P. N. Rao**. Investigating the binding interactions of the anti-Alzheimer's drug donepezil with CYP3A4 and P-glycoprotein. *Bioorganic and Medicinal Chemistry Letters* **25**, 297-301 (2015).
- (38) Angeles Ramirez-Cisneros M, Berenice Aguilar-Guadarrama A, **Praveen P. N. Rao**, Rodriguez-Lopez V, Yolanda Rios M. In vitro COX-1 and COX-2 enzyme inhibitory activities of iridoids from *Penstemon barbatus*, *Castilleja tenuiflora*, *Crescentia alata* and *Vitex mollis*. *Bioorg. Med. Chem. Lett.* **25**, 4505-4508 (2015).
- (39) Vannini F, Chattopadhyay M, Kodela R, **Praveen P. N. Rao**, Khosrow, K. Positional isomerism markedly affects the growth inhibition of colon cancer cells by NOSH-aspirin: COX inhibition and modeling. *Redox Biol.* **6**, 318-325 (2015).
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- (47) Tarek Mohamed, Jacky C K Yeung, Maryam S Vasefi, Michael A Beazely, **Praveen P. N. Rao**. Development and evaluation of multifunctional agents for potential treatment of Alzheimer's Disease: Application to a pyrimidine-2,4-diamine template. *Bioorg. Med. Chem. Lett.* **22**, 4707-4712 (2012).
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- (90) Amgad, G. Habeeb.; **P. N. Praveen, Rao.**; Edward, E. Knaus. Design and synthesis of celecoxib and rofecoxib analogues as cyclooxygenase-2 (COX-2) inhibitors: replacement of sulfonamide and methylsulfonyl pharmacophores by an azido bioisostere. *J. Med. Chem.* **44**, 3039-3042 (2001).
- (91) Amgad, G. Habeeb.; **P. N. Praveen, Rao.**; Edward E. Knaus. Design and syntheses of diarylisoxazoles: novel inhibitors of cyclooxygenase-2 (COX-2) with analgesic-antiinflammatory activity. *Drug Develop. Res.* **51**; 273-286 (2000).
- (92) Sammy, Agudoawu.; Huiying, Li.; Amgad, G. Habeeb.; **P. N. Praveen, Rao.**; Mavanur, R. Suresh.; Edward, E. Knaus. Design and syntheses of methyl 2-methyl-2-[2-(4-benzoyl-5-phenyl-7-halo-2-azabicyclo[4.1.0]hept-3-ene)acetates: novel inhibitors of cyclooxygenase-2 (COX-2) with analgesic-antiinflammatory activity. *Drug Develop. Res.* **49**, 75-84 (2000).
- (93) Mahadev, Rao.; **P. N. Praveen, Rao.**; Ravindra, Kamath.; M. N. A. Rao. Reduction of cisplatin induced nephrotoxicity by cystone, polyherbal ayurvedic preparation in C57BL/6J mice bearing B16F1 melanoma without reducing its antitumor activity. *J. Ethnopharmacol.* **68**, 77-81 (1999).
- (94) **P. N. Praveen, Rao.**; Mahadev, Rao.; M. N. A. Rao. Gastroprotective effect of 1-phenyl-3 (4-hydroxy-3,5-di-tert.butylphenyl)-prop-en-1-one in rats. *J. Pharm. Pharmacol.* **50**, 1371-1375 (1998).

Abstracts/Papers/Posters/Lectures presented:

- 1) Ahmed Hefny, **Praveen P. N. Rao.** Novel selenium-based molecules as drug candidates for Alzheimer's disease. *7th International Electronic Conference on Medicinal Chemistry (ECMC-7)*, Switzerland, Nov 1-30th, 2021, Virtual platform.
- 2) Rahul Chowdary Karuturi, **Praveen P. N. Rao.** Investigating the interactions of bisphosphonates with amyloid beta (A β) proteins. *7th International Electronic Conference on Medicinal Chemistry (ECMC-7)*, Switzerland, Nov 1-30th, 2021, Virtual platform.
- 3) Yusheng Zhao, **Praveen P. N. Rao.** Drug repurposing in Alzheimer's disease: Nicorandil - a case study. *22nd International Conference on Alzheimer's Drug Discovery, ADDF*, New York, USA Oct 4-5th, 2021, Virtual platform.
- 4) Amy Pham, **Praveen P. N. Rao.** Design, synthesis and evaluation of novel thiazoles as anti-amyloid therapies. *22nd International Conference on Alzheimer's Drug Discovery, ADDF*, New York, USA Oct 4-5th, 2021, Virtual platform.
- 5) **Praveen P. N. Rao***, Arash Shakeri, Yusheng Zhao. Developing chemical tools to study TDP-43. *13th Annual Frontiers in Chemistry and Biology Interface Symposium (FCBIS)*. Maryland, USA May 7th, 2021 (Virtual Conference).

- 6) Yusheng Zhao, **Praveen P. N. Rao*** Developing small molecule probes to study amyloid beta (A β) aggregation. *13th Annual Frontiers in Chemistry and Biology Interface Symposium (FCBIS)*. Maryland, USA May 7th, 2021 (Virtual Conference).
- 7) Maya Petgrave*, Aravindhan Ganesan, **Praveen P. N. Rao** Understanding the structure and dynamics of the human cannabinoid receptor 1. *51st IUPAC General Assembly*, Montreal, Canada Aug 13th-20th 2021 (Virtual Conference).
- 8) Maya Petgrave*, **Praveen P. N. Rao**, Subha Kalyaanamoorthy, Aravindhan Ganesan. Molecular dynamics and ligand interactions in human cannabinoid receptor 2. *ACS National Meeting 2021*, Atlanta, USA Aug 22-26th, 2021 (Virtual Conference).
- 9) **Praveen P. N. Rao***, Amy Pham, Arash Shakeri, Amna El Shatshat, Yusheng Zhao, Rahul Karuturi, Ahmed Hefny. Drug repurposing: Dipeptidyl peptidase IV (DPP4) inhibitors as potential agents to treat SARS-CoV-2 (2019-nCoV) infection. *6th International Electronic Conference on Medicinal Chemistry (ECMC-6)*, Switzerland, Nov 1-30th, 2020, Virtual platform.
- 10) Amy Pham, **Praveen P. N. Rao**, Disease-modifying therapies for Alzheimer's. *6th International Electronic Conference on Medicinal Chemistry (ECMC-6)*, Switzerland, Nov 1-30th, 2020, Virtual platform.
- 11) **Praveen P. N. Rao***, Drugs for Neglected Diseases, Invited oral presentation, Vaishwik Bharatiya Vaigyanik(VAIBHAV) Summit, Government of India, New Delhi, Oct 20th, 2020, Virtual platform.
- 12) Yusheng Zhao*, Derek Chen*, **Praveen Nekkar Rao***, Emmanuel Ho, Development of novel nanomedicines for the treatment of Alzheimer's disease. School of Pharmacy Seminar series, UWaterloo, Oct 23rd, 2020, Virtual platform.
- 13) **Praveen P N Rao**, Gary Tin, Tarek Mohamed, Arash Shakeri and Amy T. Pham. Drug repurposing for Alzheimer's disease: Selective serotonin reuptake inhibitors. *Alzheimer's Association International Conference (AAIC 2020)*, Amsterdam, Netherlands 2020 (Virtual Conference).
- 14) Derek Chen, Yusheng Zhao, **Praveen P N Rao**, Emmanuel Ho. Modified-exosomes for extended intravitreal drug delivery. *Controlled Release Society Annual Meeting (CRS 2020)*, Las Vegas, USA 2020 (Virtual Conference).
- 15) Amna El-Shatshat, **Praveen P N Rao**, Ethynyl-biphenyl derivatives as amyloid-beta aggregation inhibitors for the treatment of Alzheimer's disease. *10th Canadian Conference on Dementia*, Quebec City, Canada 2019.
- 16) **Praveen P N Rao**, Developing neurotherapeutics for Alzheimer's disease. *4th Mogan Mountain International Summit on Green Pharmaceuticals*, Zhejiang University of Technology and Yangtze River Delta Region Green Pharmaceuticals, Hangzhou-Deqing, China, 2018 (invited oral presentation).
- 17) **Praveen P N Rao**, Alzheimer's disease: Novel treatment strategies. Network of Aging Research, University of Waterloo, 2018 (oral presentation).
- 18) **Praveen P N Rao**, Novel fused tricyclics as anti-Alzheimer's agents. *18th International Biotechnology Symposium and Exhibition (IBS-2018)*, Montreal, Canada 2018 (oral presentation).
- 19) **Praveen P N Rao**, Tarek Mohamed, Arash Shakeri. Interactions of quinazoline derivatives with beta-amyloid. *Biophysical Society 62nd Annual Meeting*, San Francisco, USA 2018.

- 20) Amy T Pham, **Praveen P N Rao**, Effects of somatostatin and its derivatives on amyloid- β . *101st Canadian Chemistry Conference and Exhibition (CSC-2018)*, Edmonton, Canada 2018.
- 21) Stephanie De Jong, **Praveen P N Rao**, Effect of female sex hormones and their derivatives on amyloid beta aggregation. Canadian Society for Pharmaceutical Sciences (CSPS), Toronto, Canada, 2018.
- 22) **Praveen P N Rao**, Quinazoline scaffolds are pharmacological tools to study amyloid aggregation. *100th Canadian Chemistry Conference and Exhibition (CSC-2017)*, Toronto 2017 (oral presentation).
- 23) Jonathan K. L. Sutley, **Praveen P N Rao**. Investigating the effects of levothyroxine and liothyronine on beta-amyloid aggregation. *Alzheimer's Association International Conference (AAIC 2017)*, London, United Kingdom 2017.
- 24) **Praveen P N Rao**, Small molecule design and development: application to Alzheimer's disease. Leslie Dan Faculty of Pharmacy, University of Toronto, Toronto 2017 (invited oral presentation).
- 25) Selina Manji, **Praveen P N Rao**. Evaluation of oxicam derivatives as amyloid aggregation inhibitors. *Association of Faculties of Pharmacy of Canada and Canadian Pharmacists Conference (AFPC-CPERC/CPC 2017)*, Quebec City, Canada 2017.
- 26) **Praveen P N Rao**, Kinetics of tau-hexapeptide promoted β -amyloid fibrillogenesis. *American Chemical Society (ACS) Regional meeting (NERM-2016)*, Binghamton, New York, USA 2016 (oral presentation).
- 27) **Praveen P N Rao**, Tarek Mohamed, Arash Shakeri. Designing small molecules as pharmacological tools to study Alzheimer's disease. *Alzheimer's Association International Conference (AAIC 2016)*, Toronto, Canada 2016.
- 28) Arash Shakeri, **Praveen P N Rao**. Evaluation of novel adamantane derivatives as potential dual inhibitors of amyloid beta and tau aggregation. *Alzheimer's Association International Conference (AAIC 2016)*, Toronto, Canada 2016.
- 29) Tarek Mohamed, **Praveen P N Rao**. Rational-based design and development of quinazoline-based small-molecules: multi-targeting potential for Alzheimeric pathologies. *Alzheimer's Association International Conference (AAIC 2016)*, Toronto, Canada 2016.
- 30) **Praveen P N Rao**, Jonathan K. L. Sutley, Design, synthesis, and evaluation of novel phenoselenazine (PSZ) based tricyclic compounds as potential agents to treat Alzheimer's disease. *Alzheimer's Association International Conference (AAIC 2016)*, Toronto, Canada 2016.
- 31) Sarbjeet Singh Gujral, **Praveen P N Rao**. Tricyclic indole-based compounds in the prevention of Alzheimer's disease. *Alzheimer's Association International Conference (AAIC 2016)*, Toronto, Canada 2016.
- 32) Rota, S. G., Spagnuolo, P. A., Angka, L., Doxey, A., **Praveen P N Rao**, Minden, M. D. Estrogen receptor beta is a novel target in acute myeloid leukemia. American Society of Hematology, 57th Annual Meeting & Exposition, Orlando, FL, USA 2015.
- 33) **Praveen P N Rao**. Alzheimer's disease and amyloid cascade hypothesis. Manipal College of Pharmaceutical Sciences, Manipal University, Manipal, India, Aug 27, 2015 (invited speaker).

- 34) **Praveen P N Rao**. Targeting beta amyloid using small and large molecules. *Laurier Protein Science Symposium*, Wilfrid Laurier University, May 29, 2015 (invited speaker).
- 35) Alanna McEneny, Andrea N Edginton, **Praveen P N Rao**. CYP1A2 binding studies of novel tacrine derivatives. *Association of Faculties of Pharmacy of Canada (CSPS-AFPC 2015)*, Toronto, Canada 2015.
- 36) Alanna McEneny, Andrea N Edginton, **Praveen P N Rao**. CYP1A2 binding studies of novel tacrine derivatives. *Laurier Protein Science Symposium*, Wilfrid Laurier University, Waterloo, Canada 2015.
- 37) Gary T, Mohamed T, **Praveen P N Rao**. Design, synthesis and biological evaluation of novel phenothiazines: dual cholinesterase, amyloid aggregation inhibitors with antioxidant properties. *97th Canadian Chemistry Conference and Exhibition (CSC 2014)*, Quebec, Canada 2014.
- 38) Alanna McEneny, Andrea N Edginton, **Praveen P N. Rao**. Chemical structure modification of tacrine and its effect on CYP1A2 binding: in vitro and in silico investigations. *Canadian Alzheimer's Disease Research Symposium*, Quebec City, Quebec. 2014.
- 39) **Praveen P N Rao**, Novel molecules for treatment of atherosclerosis. *Biotransfer 2014*, 6th edition, Toronto, Canada (invited speaker).
- 40) **Praveen P N Rao**. Discovering novel pharmacophores with anti-tau aggregation properties. *Target Meeting 3rd World Neuroscience Online conference*, Houston, 2014 (invited speaker).
- 41) Mohamed T, **Praveen P N Rao**, Rational design and development of small bioactive molecules for the multi-targeted approach to Alzheimer's pathology. 13th International Geneva symposium on advances in Alzheimer's therapy, Geneva, Switzerland 2014.
- 42) **Praveen P N Rao**, Mohamed T, Osman W. Fused bicyclic and tricyclic rings as bioactive ring scaffolds: Potential application to treat Alzheimer's disease. *The 96th Canadian Chemistry Conference and Exhibition (CSC 2013)*, Quebec, Canada 2013.
- 43) **Praveen P N Rao**. The role of Medicinal Chemistry in Canadian Pharmacy Curriculum. *Association of Faculties of Pharmacy of Canada (AFPC-CPERC 2013)*, Niagara-on-the-Lake, Canada 2013 (invited speaker).
- 44) Osman W, Zhou W, Sit V. M, Mohamed T, **Praveen P N Rao**. Design, synthesis and biological evaluation of novel fused-ring systems to treat Alzheimer's disease. *Association of Faculties of Pharmacy of Canada (AFPC-CPERC 2013)*, Niagara-on-the-Lake, Canada 2013 (Best poster award).
- 45) Mohamed T, **Praveen P N Rao**, Rational-based design of multi-targeted small molecules for the treatment of Alzheimer's disease. *Alzheimer's Drug Discovery Foundation (ADDF 2013)*, San Francisco, USA 2013.
- 46) Osman W, Sit V. M, Mohamed T, **Praveen P N Rao**. Acridine derivatives as multi-target therapies for treatment of neurodegenerative disease. *Alzheimer's Drug Discovery Foundation (ADDF 2013)*, San Francisco, USA 2013.

- 47) **Praveen P N Rao**, Multifunctional tacrine derivatives as potential agents to treat Alzheimer's disease. *Target Meeting 2nd World Neuroscience Online conference*, 2013 (invited speaker).
- 48) **Praveen P N Rao**, Drug Discovery: Alzheimer's Disease, Manipal College of Pharmaceutical Sciences, Manipal Academy of Higher Education, Manipal, India 2012 (invited speaker).
- 49) **Praveen P N Rao**, Mohamed T, Deguo Du, Hijazi, A. Alzheimer's Disease: Small molecules as disease-modifying agents. *Alzheimer's Association International Conference (AAIC 2012)*, Vancouver, Canada 2012.
- 50) Mohamed T, **Praveen P N Rao**, Targeting Alzheimeric pathologies with small molecules: A multi-targeted approach. *Alzheimer's Association International Conference (AAIC 2012)*, Vancouver, Canada 2012.
- 51) Osman W, Zhou W, Sit V. M, Mohamed T, **Praveen P N Rao**. Design, synthesis and biological evaluation of novel fused-ring systems to treat Alzheimer's disease. *Alzheimer's Association International Conference (AAIC 2012)*, Vancouver, Canada 2012.
- 52) **Praveen P N Rao**, Developing novel molecules as disease-modifying agents to treat Alzheimer's disease. *Target Meeting 1st World Neuroscience Online conference* (invited speaker), 2012.
- 53) **Praveen P N Rao**, Mohamed T, Yeung C. K, Yang J. Rational design and evaluation of substituted-pyrimidines as dual cholinesterase and amyloid aggregation inhibitors. *The 243rd American Chemical Society National Meeting (ACS 2012)*, San Diego, USA 2012.
- 54) **Praveen P N Rao**, Mohamed T, Yeung C. K, Zhao X, Habib L, Yang J. Development of 2,4-disubstituted pyrimidine ring templates: dual cholinesterase and amyloid- β inhibitors. *The 94th Canadian Chemistry Conference and Exhibition (CSC 2011)*, Montreal, Canada 2011.
- 55) Tarek Mohamed, Yeung, C. K, Zhao X, Habib L, Yang Y, **Praveen P N Rao**. Design, synthesis and structure-activity relationship (SAR) studies of 2,4-disubstituted pyrimidine derivatives: Multi-functional small molecules for the potential treatment of Alzheimer's disease. *Association of Faculties of Pharmacy of Canada (AFPC 2011)*, Winnipeg, Canada 2011.
- 56) Tarek Mohamed, **P N P Rao**. The design, synthesis and structure-activity relationship (SAR) studies of 2,4-disubstituted-pyrimidine derivatives as cholinesterase (ChE) inhibitors. *The 93rd Canadian Chemistry Conference and Exhibition (CSC 2010)*, Toronto, Canada 2010.
- 57) Özdali, K.; Özkanli, F.; Jain, S.; **Rao, P. N. P.**; Velázquez, C. Synthesis and cyclooxygenase inhibitory activities of some 1,3,4-thiadiazole and 1,2,4-triazole-5-thione derivatives of isoxazolo[4,5-d]pyridazin-4(5H)-ones (poster) *4th International Meeting on Medicinal and Pharmaceutical Chemistry*, Ankara, Turkey 2010.
- 58) Kwon, H.J., Zhao, B., **Rao, P.N.P.** Application of digital volume correlation algorithm to cell mechanics," *Proceedings of the ASME International Mechanical Engineering Conference & Exposition (IMECE 2009)*, Lake Buena Vista, U. S. A.
- 59) Carlos A. Velazquez, Edward E. Knaus, **P.N. Praveen Rao**, Quiao-Hong Chen, Thomas Wilde, Larry Keefer. Novel NONO-NSAIDs possessing a nitric oxide donor diazeniumdiolate moiety. *4th International*

Conference: Biology, Chemistry and Therapeutic Applications of Nitric Oxide, presented by the Nitric Oxide Society (2006), Monterey, U. S. A.

- 60) Edward E. Knaus, Anne Moreau, **P. N. Praveen Rao**. Acyclic triaryl (Z)-olefins: Dual inhibitors of cyclooxygenases and lipoxygenases. *89th Conference of the Canadian Society for Chemistry 2006 (CSC), Halifax, Canada.*
- 61) **P. N. Praveen Rao**, Qiao-Hong Chen, Edward E. Knaus. Synthesis and biological evaluation of 1,3-diphenylprop-2-yn-1-ones as dual inhibitors of cyclooxygenases (COXs) and lipoxygenases (LOXS). *Pharmacy Research Day, Faculty of Pharmacy & Pharmaceutical Sciences, 2005, University of Alberta, Edmonton, Canada.*
- 62) **P. N. Praveen Rao**, `Design, synthesis and evaluation of novel anti-inflammatory agents' invited guest lecture, *Department of Chemistry, The Scripps Research Institute, 2004, CA, U. S. A.*
- 63) Anne Moreau, **P. N. Praveen Rao**, Edward E. Knaus. Design, synthesis and biological evaluation of a new class of acyclic triaryl (Z)-olefins as selective cyclooxygenase-2 (COX-2) and/or 5-lipoxygenase (5-LOX) inhibitors: Incorporating the 2,6-di-*tert*-butylphenol pharmacophore. *Pharmacy Research Day, Faculty of Pharmacy & Pharmaceutical Sciences, 2005, University of Alberta, Edmonton, Canada.*
- 64) Qiao-Hong Chen, **P. N. Praveen Rao**, Edward E. Knaus. Design, synthesis and biological evaluation of linear 1-(4-, 3- or 2-methylsulfonylphenyl)-2-phenylacetylenes: A novel class of cyclooxygenase-2 (COX-2) inhibitors. *Pharmacy Research Day, Faculty of Pharmacy & Pharmaceutical Sciences, 2005, University of Alberta, Edmonton, Canada.*
- 65) Abdullah Mahmud, **P. N. Praveen Rao**, Afsaneh Lavasanifar. Synthesis of the poly (ethylene oxide)-block-poly-(ϵ -caprolactone) (PEO-b-PCL) block copolymer having functional groups on the PCL block. *Pharmacy Research Day, Faculty of Pharmacy & Pharmaceutical Sciences, 2005, University of Alberta, Edmonton, Canada.*
- 66) Edward E. Knaus, Qiao-Hong Chen, **P. N. Praveen Rao**, Design, synthesis, and biological evaluation of *N*-acetyl-2-carboxybenzenesulfonamides: a novel class of cyclooxygenase-2 (COX-2) inhibitors. *88th Conference of the Canadian Society for Chemistry 2005 (CSC), Saskatoon, Canada.*
- 67) **P. N. Praveen Rao**, Md. Jashim Uddin, Edward E. Knaus. A new class of acyclic 2-alkyl-1,1,2-triaryl (Z)-olefins as selective cyclooxygenase-2 (COX-2) inhibitors. *Pharmacy Research Day, Faculty of Pharmacy & Pharmaceutical Sciences, 2004, University of Alberta, Edmonton, Canada*
- 68) **P. N. Praveen Rao**, `Parkinson's disease' invited guest lecture, 2004, *St. Joseph's Auxiliary Hospital Edmonton, Alberta, Canada.*
- 69) E. E. Knaus, M. J. Uddin, **P. N. Praveen Rao**. Design of acyclic triaryl olefins: a new class of highly potent and selective COX-2 inhibitors. *Canadian Society for Pharmaceutical Sciences (CSPS), 7th annual symposium 2004, Vancouver, British Columbia, Canada.*
- 70) **P. N. Praveen Rao**, `Parkinson's disease and cyclooxygenase-2 (COX-2)' invited guest lecture, 2003, *The Parkinson's Society of Alberta, Edmonton General, Edmonton, Alberta, Canada.*

- 71) **P. N. Praveen Rao**, 'Drug design concepts: application to selective cyclooxygenase-2 inhibitors' podium presentation, *Leonard Wiebe Pharmacy Research Day, Faculty of Pharmacy & Pharmaceutical Sciences, 2003, University of Alberta, Edmonton, Canada (Award for best graduate student podium presentation).*
- 72) **P. N. Praveen Rao**, Edward E. Knaus. Design, synthesis and evaluation of a novel class of substituted-3,4,6-triphenylpyran-2-ones as selective cyclooxygenase-2 (COX-2) inhibitors. *Leonard Wiebe Pharmacy Research Day, Faculty of Pharmacy & Pharmaceutical Sciences, 2003, University of Alberta, Edmonton, Canada (Wyeth graduate student poster award).*
- 73) **P. N. Praveen Rao**, Edward E. Knaus. Design, synthesis and evaluation of a novel class of substituted-3,4,6-triphenylpyran-2-ones as selective cyclooxygenase-2 (COX-2) inhibitors. *39th IUPAC Congress & 86th Conference of the Canadian Society for Chemistry 2003 (CSC), Ottawa, Canada.*
- 74) M. J. Uddin, **P. N. P. Rao**, Edward E. Knaus. Design of acyclic triaryl olefins: a new class of highly potent and selective COX-2 inhibitors. *IUPAC International Symposium on Organo-Metallic Chemistry 2003 (OMCOS-12), Toronto, Canada.*
- 75) **P. N. P. Rao**, M. Amini, Edward E. Knaus. Novel 6-alkylthio-3-(4-methanesulfonylphenyl)-4-phenylpyran-2-ones as selective cyclooxygenase-2 (COX-2) inhibitors with analgesic-antiinflammatory activities. *IUPAC International Symposium on Bioorganic Chemistry 2002 (ISBOC-6), Toronto, Canada.*
- 76) M.J. Uddin, **P. N. Praveen Rao**, E.E. Knaus. Design, synthesis and biological evaluation of celecoxib and rofecoxib analogs as selective COX-2 inhibitors: Replacement of sulfonamide and sulfonylmethyl pharmacophores by a sulfonylazide bioisostere. *Canadian Society for Pharmaceutical Sciences (CSPS), 5th annual symposium 2002, Banff, Alberta, Canada.*
- 77) M.A. Rahim, **P. N. Praveen Rao**, E.E. Knaus. Design, synthesis and biological evaluation of rofecoxib analogs as acetylating selective COX-2 inhibitors. *Canadian Society for Pharmaceutical Sciences (CSPS), 5th annual symposium 2002, Banff, Alberta, Canada.*
- 78) **P. N. Praveen Rao**, 'Parkinson's disease: a perspective' invited guest lecture, 2002, *The Parkinson's Society of Alberta, Edmonton General, Edmonton, Alberta, Canada.*
- 79) Edward E. Knaus, Amgad G. Habeeb, **P.N. Praveen Rao**. Design and syntheses of diarylisoxazoles: novel inhibitors of cyclooxygenase-2 (COX-2) with analgesic-antiinflammatory activity. *84th Canadian Society for Chemistry Conference 2001 (CSC), Montreal, Quebec, Canada.*
- 80) **P. N. Praveen Rao**, Edward E. Knaus. Novel 6-alkylthio-3-(4-methanesulfonylphenyl)-4-phenylpyran-2-ones as selective cyclooxygenase-2 (COX-2) inhibitors. *Research revelations 2001, University of Alberta, Edmonton, Canada.*
- 81) E. E. Knaus, Agudoawu S, Li. H, Habeeb A.G, **P. N. P. Rao**, Design and syntheses of 2-methyl-2-methyl-2-[2-(4-benzoyl-5-phenyl-7-halo-2-azabicyclo[4.1.0]hept-3-ene)] acetates: novel inhibitors of cyclooxygenase-2 (COX-2) with analgesic-antiinflammatory activity. *83rd Canadian Society for Chemistry Conference 2000 (CSC), Calgary, Alberta, Canada.*

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- 82) **P. N. Praveen Rao**, Edward E. Knaus. Novel 1,1-dihalo-2,3-diarylcyclopropanes as a novel class of selective cyclooxygenase-2 (COX-2) inhibitors. *Faculty of Pharmacy and Pharmaceutical Sciences-Research Day 2000, University of Alberta, Edmonton, Canada.*
- 83) **P. N. Praveen Rao**, Edward E. Knaus. Design & synthesis of 1,1-dihalo-2,3-diarylcyclopropanes as selective cyclooxygenase-2 inhibitors with antiinflammatory & analgesic activity. *Research revelations 2000, University of Alberta, Edmonton, Canada.*
- 84) Mahadev Rao, **P. N. Praveen Rao**, M. N. A. Rao. Relative effectiveness of selenium, L (+) methionine & selenomethionine against cisplatin induced nephrotoxicity. *50th Indian Pharmaceutical Congress & 17th Asian Congress of Pharmaceutical Sciences, 1998, Bombay, India.*
- 85) **P. N. Praveen Rao**, Venkatesan P, Mahadev Rao, M.N.A. Rao. 2,2'-azinobis-(3-ethylbenzthiazoline)-6-sulfonic acid (ABTS) scavenging by some styrylketones. *Third National Conference on trends in Drugs & Pharmaceutical Research- Global Scenario 1998, Manipal, India.*