

CURRICULUM VITAE

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EDUCATION

PhD (Medicinal Chemistry), Duquesne University, Pittsburgh, PA **December 2009**

Dissertation Title: Synthesis of Pyrrolo[2,3-*d*]pyrimidines and Pyrimido[4,5-*b*]indoles as Inhibitors of Multiple Receptor Tyrosine Kinase, Folate Metabolizing Enzymes and Tubulin.

Summary: Pyrrolo[2,3-*d*] and pyrimido[4,5-*b*] indoles were heterocyclic scaffolds employed towards the creation of new anticancer and antiparasitic molecules. A library of 79 novel target molecules was synthesized and validated against receptor tyrosine kinases (RTKs), folate-metabolizing enzymes (FME), and tubulin. The key accomplishments include development of

- A dual inhibitor of RTK: PDGFR- β (IC_{50} = 2.8 nM) and FME: Thymidylate Synthase (TS) (IC_{50} = 0.54 μ M) with *in vivo* inhibition of tumor growth, and metastasis [Gangjee, Zaware et al. *J. Med. Chem* 2010],
- Several multi-RTK inhibitors with *in vitro* two digit nanomolar potency and *in vivo* inhibition of tumor growth, and metastasis [Gangjee, Zaware et al. *Bioorg. Med. Chem.* 2012 & 2013],
- Inhibitors of tubulin (best IC_{50} = 14.7 nM) [Gangjee, Zaware et al. *Bioorg. Med. Chem.* 2013],
- An inhibitor of parasite *Toxoplasma gondii* TS (IC_{50} = 35 nM) with 122-fold selectivity over human TS [Zaware et al. *ACS Med. Chem. Lett.* 2013].

Bachelor of Pharmaceutical Sciences, Bharati Vidyapeeth College of Pharmacy, Mumbai University, Navi Mumbai, Maharashtra, India, **May 2002**.

APPOINTMENTS & EXPERIENCE

Instructor at Icahn School of Medicine at Mount Sinai **Jul. 2017-present**
Department of Pharmacological Sciences, Icahn School of Medicine at Mount Sinai, New York, NY, USA

Advisor: Prof. Ming-Ming Zhou

- Design and synthesis of potential anticancer small molecules that interact with targets such as the CBX7 protein. These proteins have been implicated in diseases such as cancer due to a dysfunction in their epigenetic transcriptional regulation
- Co-Investigator on grant applications (grants in evaluation phase - 1 U01, 1 R01, 1 R21/R33)
- Working with CRO's for custom synthesis, and performing relevant studies to aid go/no-go decisions in developing therapeutics
- As President of Student-Postdoc association for the department – organized student/post-

doc work in progress seminars, and annual holiday party.

- Maintenance, billing of departmental instruments – LC-MS, NMR, Lyophilizer

Postdoctoral Fellow at Icahn School of Medicine at Mount Sinai **Dec. 2016-Jun. 2017**

Department of Pharmacological Sciences, Icahn School of Medicine at Mount Sinai, New York, NY, USA

Advisor: Prof. Ming-Ming Zhou

- Structure-based drug design of novel Chromodomain Inhibitors in progress

Postdoctoral Fellow at Icahn School of Medicine at Mount Sinai **Oct. 2011-Nov. 2016**

Department of Structural and Chemical Biology, Icahn Medical Institute, Mount Sinai School of Medicine, New York, NY, USA

Advisor: Prof. Michael Ohlmeyer

- Synthesized milligram to multigram quantities of 173 substituted heterocyclic target molecules via multi-step synthesis; this was a part of lead identification and optimization efforts toward Protein Phosphatase 2 (PP2A) or BRD4, for developing novel anti-cancer agents. Novel asymmetric methodology developed.
- FDA-approved Tricyclic neuroleptics were reengineered to eliminate CNS effect and facilitate anticancer action by inhibition of two pathways (PI3K-AKT and RAS-RAF-MEK-ERK pathway); *in vivo* inhibition of tumor growth and oral bioavailability demonstrated [Kastrinsky, Sangodkar, Zaware et al. *Bioorg. Med. Chem.* 2015; Sangodkar, ... Zaware et al. *J. Clin. Invest.* 2017].
- Inventor on five US patents, that comprise 4 patents for composition of matter for development of anticancer agents, and 1 process patent for mass scale chiral synthesis.

Postdoctoral fellow at Duquesne University **Sept. 2010-Sept. 2011**

Department of Pharmaceutical Sciences, Duquesne University, Pittsburgh, PA, USA

Advisor: Prof. Aleem Gangjee

- Synthesized milligram to multigram quantities of substituted heterocyclic molecules – pyrimido[4,5-*b*]indoles, quinazolines – via multi-step synthesis; this was a part of lead identification and optimization efforts against Receptor Tyrosine Kinases, and Thymidylate Synthase, and for developing novel anti-cancer agents.

Postdoctoral fellow at University of Pittsburgh **Aug. 2009-Aug. 2010**

Department of Chemistry, University of Pittsburgh, Pittsburgh, PA, USA

Advisor: Prof. Peter Wipf

- Synthesized milligram to multigram quantities of substituted heterocyclic molecules – indoles and tetrahydropyrans – via multi-step synthesis; this was a part of developing libraries of structurally diverse chemical scaffolds as potential medicinal agents.

A library of Tetrahydropyrone assembled by a DDQ-mediated oxidative carbon-hydrogen bond activation reaction and azide-alkyne click-chemistry reaction was reported [Zaware et al. *Molecules* 2011].

Graduate Research Assistant at Duquesne University, Pittsburgh, PA

Aug. 2008-Aug. 2009

Teaching Assistant at Duquesne University, Pittsburgh, PA

Aug. 2003-Aug. 2008

Advisor: Prof. Aleem Gangjee

- Synthesized milligram to multigram quantities of substituted heterocyclic molecules – pyrrolo[2,3-*d*]pyrimidines, and pyrimido [4,5-*b*]indoles – via multi-step synthesis; this was a part of lead identification and optimization efforts against Receptor Tyrosine Kinases, Thymidylate Synthase, Dihydrofolate reductase and Tubulin for developing novel anti-cancer, and anti-opportunistic infection agents (e.g. against *T. gondii*).

Summary of teaching responsibilities: Conducted the Biochemistry laboratory program taken by third year Pharm. D. students for five years (Aug. 2003-Aug. 2008). This involved designing experiments, teaching fundamental concepts via pre-labs, supervision as students did the designed experiments and exams, grading exams. From Aug. 2007 to Aug. 2008, served as a head teaching assistant and managed 8 junior TAs and 165 Pharm D students. Laboratory mentoring (Doctoral and Post-doctoral): Taught synthetic organic chemistry in laboratory to create small molecules to five graduate students (Aug. 2007 – Aug. 2008, Sept. 2010 – Sept. 2011) and one undergraduate student (Aug. 2006 – Oct. 2006).

TECHNICAL SKILLS

- Over thirteen years of experience in medicinal chemistry and modern synthetic organic chemistry
- Integral part of a hit to lead optimization team for Dual Therapeutics LLC. responsible for developing a pre-clinical candidate for prostate cancer
- Over three hundred novel target molecules synthesized to generate libraries, explore SAR and strengthen IP
- Extensive experience in synthesis of heterocyclic molecules, multi-step synthesis, chiral chemistry, and from milligram up to 60 g synthesis of target molecules
- Developed a novel safe and scalable palladium catalyzed asymmetric allylic alkylation; 1 provisional process patent filed for the same
- Critical, and creative thinker with ability to work independently, and to interact with a multidisciplinary drug discovery team, CMO's, and CRO's
- Key words/training: Multi-step synthesis, Asymmetric synthesis, lead optimization, medicinal chemistry, cyclopenta[*b*]quinolinones, cyclopenta[*b*]pyrroles, dibenzo[*b,f*][1,4]oxazepines, hexahydrospiro[dibenzo[*a,d*][7]annulene-5,2'-pyran], indoles, tetrahydropyrans, C-H activation, click chemistry, pyrrolo[2,3-*d*]pyrimidines, pyrimido[4,5-*b*]indoles, combiflash (MPLC) – ISCO/Biotage, HPLC (regular – analytical and preparative, chiral – analytical and preparative), LC-MS, genevac, ¹H/¹³C NMR, 2D and VT NMR, GC, Polarimeter, IR, Kugelrohr, Cryocool, Microwave, Parr hydrogenator, E-notebook, PCR, MOE, Pymol, Glide, Adobe Illustrator, End note, MS Office, Pharmacokinetic studies with HPLC.

MANAGEMENT SKILLS

- President of the DPS-SPA (Department of Pharmacological Sciences-Students & Post-doc Association) at Icahn School of Medicine at Mount Sinai from October 2017-present.
- Mediated a panel discussion between four distinguished guides (Dr. John Baldwin, Dr.

Alexander Doemling, Dr. Gilbert Rishton and Mr. Craig Cochenour) and the symposium attendees for 44th MAGSS held at Duquesne University, Pittsburgh, 2011. Served as an evaluator for judging best talk

- From Aug. 2007 to Aug. 2008, served as a head teaching assistant and managed 8 junior TAs and 165 Pharm D students
- Planning committee member for the 38th Mid-Atlantic Graduate Student Symposium (MAGSS) held at Duquesne University, Pittsburgh, 2005

GRANT APPLICATIONS

1. Co-Investigator on a R01 application titled: “Class II HDACs in Transcriptional Regulation of in T-helper Cell Development”; Mount Sinai GCO # 17-2541-00001-01-PD; Funding Agency: National Institute Of Allergy And Infectious Diseases/NIH/DHHS; Submitted: 28 November 2017
2. Co-Investigator on a U01 application titled: “Epigenetic Approach to Overcome Immune-resistance in Breast Cancer Therapy”; Mount Sinai GCO # 18-0095-00001-01-PD; Funding Agency: National Cancer Institute/NIH/DHHS; Submitted: 16 January 2018
3. Co-Investigator on a R21/R33 application titled: “Promoting Myelin Repair for Multiple Sclerosis”; Mount Sinai GCO # 18-0696-00001-01-PD; Mount Sinai GCO # 18-0696-00001-01-PD; Funding Agency: National Institute Of Neurological Disorders And Stroke/NIH/DHHS; Submitted: 19 March 2018
4. Co-Investigator on a R01 application titled: “New Epigenetic Gene Silencing Technology”; Mount Sinai GCO # 15-1374-00001-03-PD; Funding Agency: National Cancer Institute/NIH/DHHS; Submitted: 5 April 2018
5. Co-Investigator on a Foundation Grant titled: “Modulating Transcription repressor Sin3 for targeted epigenetic cancer therapy”; Mount Sinai GCO # 11-0389-00001-07-PD; Funding Agency: Samuel Waxman Cancer Research Foundation; Submitted: 10 April 2018
6. Co-Investigator on a R43/R44 Grant titled: “Developing New Epigenetic Therapy for Multiple Sclerosis”; Mount Sinai GCO # 18-0930-00001-01-PD; Funding Agency: Industry - Federal Sub-Award (Parkside Scientific Inc.); Submitted: 17 April 2018

AWARDS AND HONORS

- “Best Student Award” for over all performance in the 2001-2002 Bachelor of Pharmaceutical Sciences academic year (2001-2002)
- Ranked 5th in Mumbai University among 297 students in the final year of Bachelor of Pharmaceutical Sciences studies (2001-2002)
- ACS medicinal chemistry travel grant (\$1000) for the 235th National American Chemical Society Meeting – by Eli Lilly and Company (2008)
- 2015 Travel Award (\$500) for the 250th National American Chemical Society Meeting - by The Office of Postdoctoral Affairs, Mount Sinai School of Medicine (2015)

PUBLICATIONS: 19

1. McClinch, Kimberly; Avelar, Rita A.; Callejas, David; Izadmehr, Sudeh; Wiredja, Danica; Perl, Abbey; Sangodkar, Jaya; Kastrinsky, David; Schlatzer, Daniela; Cooper, Maxwell; Kiselar, Janna; Stachnik, Agnes; Yao, Shen; Hoon, Divya; McQuaid, Dan; **Zaware, Nilesh**; Gong, Yixuan; Brautigan, David; Plymate, Stephen; Sprenger, Cynthia; Oh, William K.; Levine, Alice C.; Kirschenbaum, Alexander; Sfakianos, John; Sears, Rosalie; DiFeo, Analisa; Ioannou, Yiannis; Ohlmeyer, Michael; Narla, Goutham; Galsky, Matthew. Small Molecule Protein Phosphatase 2A Activators for the Treatment of Castration-Resistant Prostate Cancer. *Cancer Research* **2018** doi: 10.1158/0008-5472.CAN-17-0123.
2. **Zaware, Nilesh**; Zhou, Ming-Ming. Chemical modulators for epigenome reader domains as emerging epigenetic therapies for cancer and inflammation. *Current Opinion in Chemical Biology* **2017**, *39*, 116-125.
3. Agarwal, Stuti; Agarwal, Hitesh; **Zaware, Nilesh*** PYRIMIDO[4,5-B]INDOLE DERIVATIVES AND USE THEREOF IN THE EXPANSION OF HEMATOPOIETIC STEM CELLS US2015011543 (A1): a patent evaluation" for Expert Opinion On Therapeutic Patents. *Invited Manuscript*. **2017**, *27(11)*, 1177-1181.
4. Sangodkar, Jaya; Perl, Abbey; Tohme, Rita; Kiselar, Janna; Kastrinsky, David B.; **Zaware, Nilesh**; Izadmehr, Sudeh; Mazhar, Sahar; Wiredja, Danica; O'Connor, Caitlin M.; Hoon, Divya; Dhawan, Neil S.; Schlatzer, Daniela; Yao, Shen; Leonard, Daniel; Borczuk, Alain; Gokulrangan, Giridharan; Wang, Lifu; Svenson, Elena; Farrington, Caroline C.; Yuan, Eric; Avelar, Rita A.; Stachnik, Agnes; Smith, Blake; Gidwani, Vickram; Giannini, Heather M.; McQuaid, Daniel; McClinch, Kimberly; Wang, Zhizhi; Levine, Alice C.; Sears, Rosalie C.; Chen, Edward; Duan, Qiaonan; Datt, Manish; Haider, Shozeb; Ma'ayan, Avi; DiFeo, Analisa; Sharma, Neelesh; Galsky, Matthew; Brautigan, David L.; Ioannou, Yiannis; Xu, Wenqing; Chance, Mark; Ohlmeyer, Michael; Narla, Goutham. Activation of tumor suppressor protein PP2A inhibits KRAS-driven tumor growth. *The Journal of Clinical Investigation* **2017**, *127(6)*, 2081-2090. (2015 Impact factor = 12.575) – **7 citations**
5. Devambatla, Ravi Kumar Vyas; Li, Wei; **Zaware, Nilesh**; Choudhary, Shruti; Hamel, Ernest; Mooberry, Susan; Gangjee, Aleem. Design, Synthesis, and Structure–Activity Relationships of Pyrimido[4,5-*b*]indole-4-amines as Microtubule Depolymerizing Agents that are Effective against Multidrug Resistant Cells. *Bioorg. Med. Chem. Lett.* **2017**, *27(15)*, 3423-3430.
6. Bastian, Anja; Matsuzaki, Satoshi; Humphries, Kenneth M.; Pharaoh, Gavin, A.; Doshi, Arpit; **Zaware, Nilesh**; Gangjee, Aleem; Ihnat, Michael. AG311, a small molecule inhibitor of complex I and hypoxia-induced Q4 HIF-1 α stabilization. *Cancer Letters* **2017**, *388*, 149-157. – **3 citations**
7. **Zaware, Nilesh**; Kisluik, Roy; Bastian, Anja; Ihnat, Michael A; Gangjee, Aleem. Synthesis and Evaluation of 5-(Arylthio)-9*H*-pyrimido[4,5-*b*]indole-2,4-diamines as Receptor Tyrosine Kinase and Thymidylate Synthase Inhibitors and as Antitumor Agents. *Bioorg. Med. Chem.* **2017**, *27(7)*, 1602-1607. – **2 citations**
8. Kastrinsky, David B; Sangodkar, Jaya; **Zaware, Nilesh**; Izadmehr, Sudeh; Dhawan, Neil S.; Narla, Goutham; Ohlmeyer, Michael. Reengineered tricyclic anti-cancer agents. *Bioorg. Med. Chem.* **2015**, *23(19)*, 6528-6534. – **8 citations**
9. **Zaware, Nilesh***; Ohlmeyer, Michael. Rhodium-Catalyzed Synthesis of 3-Methyl-9,9a-dihydro-1*H*-cyclopenta[*b*]quinolin-2(4*H*)-one. *Het. Lett.* **2015**, *5(4)*, 525-527.
10. **Zaware, Nilesh***; Ohlmeyer, Michael. Recent advances in dibenzo [*b*, *f*][1, 4] oxazepine

- synthesis. *Het. Comm.* **2014**, *20(5)*, 251-256. – **6 citations**
11. **Zaware, Nilesh***; Ohlmeyer, Michael. A Novel Synthetic Approach to 11-substituted dibenzo[*b,f*][1,4]oxazepines. *Het. Comm.* **2014**, *20(4)*, 189-191. – **1 citation**
 12. **Zaware, Nilesh**; Ohlmeyer, Michael. Synthetic Approaches to (*R*)-cyclohex-2-enol. *Oriental. J. Chem.* **2014**, *30(1)*, 17-21. – **1 citation**
 13. **Zaware, Nilesh**; Sharma, Hitesh; Yang, Jie; Devambatla, Ravi Kumar Vyas; Queener, Sherry; Anderson, Karen; Gangjee, Aleem. Discovery of potent and selective inhibitors of *Toxoplasma gondii* thymidylate synthase-dihydrofolate reductase as a novel class of TS inhibitors for opportunistic infections. *ACS Med. Chem. Lett.* **2013**, *4(12)*, 1148–1151. – **12 citations**
 14. Gangjee, Aleem; **Zaware, Nilesh**; Raghavan, Sudhir; Disch, Bryan C.; Thorpe, Jessica E.; Bastian, Anja; Ihnat, Michael A. Synthesis and biological activity of 5-chloro-*N*⁴-substituted phenyl-9*H*-pyrimido[4,5-*b*]indole-2,4-diamines as vascular endothelial growth factor receptor-2 inhibitors and antiangiogenic agents. *Bioorg. Med. Chem.* **2013**, *21(7)*, 1857-1864. – **14 citations**
 15. Gangjee, Aleem; **Zaware, Nilesh**; Devambatla, Ravi Kumar Vyas; Raghavan, Sudhir; Westbrook, Cara D.; Dybdal-Hargreaves, Nicholas F.; Hamel, Ernest; Mooberry, Susan L. Synthesis of *N*⁴-(Substituted phenyl)-*N*⁴-alkyl/desalkyl-9*H*-pyrimido[4,5-*b*]indole-2,4-diamines and identification of new microtubule disrupting compounds that are effective against multidrug resistant cells. *Bioorg. Med. Chem.* **2013**, *21(4)*, 891-902. – **14 citations**
 16. Gangjee, Aleem; **Zaware, Nilesh**; Raghavan, Sudhir; Yang, Jie; Thorpe, Jessica E.; Ihnat, Michael. *N*⁴-(3-Bromophenyl)-7-(substituted benzyl) pyrrolo[2,3-*d*]pyrimidines as potent multiple receptor tyrosine kinase inhibitors: Design, synthesis, and in vivo evaluation. *Bioorg. Med. Chem.* **2012**, *20(7)*, 2444-2454. – **16 citations**
 17. **Zaware Nilesh**; LaPorte, Matthew G.; Farid, Ramy; Liu, Lei; Wipf, Peter; Floreancig, Paul. Diversity-Oriented Synthesis of a Library of Substituted Tetrahydropyrones Using Oxidative Carbon-Hydrogen Bond Activation and Click Chemistry. *Molecules* **2011**, *16(5)*, 3648-3662. – **4 citations**
 18. Chalker, Justin M.; Thompson, Amber L.; Davis, Benjamin G.; **Zaware, Nilesh**; Wipf, Peter. Safe and scalable preparation of Barluenga's reagent (bis(pyridine)iodonium(I) tetrafluoroborate). *Org. Synth.* **2010**, *87*, 288-298. – **13 citations**
 19. Gangjee, Aleem; **Zaware, Nilesh**; Raghavan, Sudhir; Ihnat, Michael; Kisluik, Roy. Single Agents with Designed Combination Chemotherapy Potential: Synthesis and Evaluation of Substituted Pyrimido[4,5-*b*]indoles as Receptor Tyrosine Kinase and Thymidylate Synthase Inhibitors and as Antitumor Agents. *J. Med. Chem.* **2010**, *53(4)*, 1563-1578. – **46 citations**

ISSUED PATENT: 1

1. Title of Invention: “*Cyclic Vinylogous Amides as Bromodomain Inhibitors*”
Names of Inventors: Zhou, Ming-Ming; Ohlmeyer, Michael; Vincek, Adam; **Zaware, Nilesh**. US2016/02000666 A1, International publication date: 2016-07-14 – **1 citations**

PATENT APPLICATIONS: 5

1. Title of Invention: “*Cyclic Vinylogous Amides as Bromodomain Inhibitors*”
Names of Inventors: Zhou, Ming-Ming; Ohlmeyer, Michael; Vincek, Adam; **Zaware,**

- Nilesh.** PCT Int. Appl. (2015), WO 2015031824 A1, International publication date: 2015-03-05. – **3 citations**
2. Title of Invention: “***Stereospecific Process for 3-Heterocyclyl Cyclo Aliphatic 1,2-Diols***”
Name of Inventors: Michael Ohlmeyer, **Nilesh Zaware**. PCT Int. Appl. (2017), WO 2017024229 A1, International publication date: 2017-02-09.
 3. Title of Invention: “***Heterocyclic Constrained Tricyclic Sulfonamides as Anti-Cancer Agents***” Name of Inventors: Michael Ohlmeyer, **Nilesh Zaware**. PCT Int. Appl. (2017), WO 2017044567 A1, International publication date: 2017-03-16.
 4. Title of Invention: “***Heterocyclic Constrained Tricyclic Sulfonamides as Anti-Cancer Agents***” Name of Inventors: Michael Ohlmeyer, **Nilesh Zaware**. PCT Int. Appl. (2017), WO 2017044569 A1, International publication date: 2017-03-16.
 5. Title of Invention: “***Tricyclic Sultam Sulfonamides as Anticancer and Neuroprotective Agents***” Name of Inventors: Michael Ohlmeyer, David Kastrinsky, **Nilesh Zaware**. PCT Int. Appl. (2017), WO 2017044571 A1, International publication date: 2017-03-16.

PROVISIONAL PATENT APPLICATIONS: 1

1. Tech No. 160318-P, Application No. 62/618,658, File Date: 01/18/2018
N-SUBSTITUTED-3-TRICYCLYL PIPERIDINE DERIVATIVES AS ANTICANCER AND NEUROPROTECTIVE AGENTS

LICENSING INFORMATION: 2

1. Technologies enlisted in Patent applications #2-5 above were licensed to Dual Therapeutics LLC. and subsequently sub-licensed to Bristol Myers Squibb from December 2015-September 2016.
2. Technology: US2016/02000666 A1 has been licensed to Parkside Scientific Inc.

INVENTION DISCLOSURES: 7

Converted to above patent applications

PRESS RELEASES: 1

1. 24th May 2017 press release by Icahn School of Medicine at Mount Sinai press:
<http://www.mountsinai.org/about-us/newsroom/press-releases/engineering-new-anti-cancer-drugs-from-old-medicines>

PODIUM PRESENTATIONS: 7

1. **Zaware, Nilesh**; Ming-Ming Zhou. Small Molecule Activators of Protein Phosphatase 2A for the Treatment of Cancer. *2017 Research Retreat Department of Pharmacological Sciences*, The Metropolitan Museum of Art, 1000 Fifth Avenue, New York, NY 10028

- www.metmuseum.org, New York, NY, 24th October 2017.
- Zaware, Nilesh**; Michael Ohlmeyer. Small Molecule Activators of Protein Phosphatase 2A for the Treatment of Cancer. *WIP Seminar Series*, Annenberg 19-79, Icahn School of Medicine at Mount Sinai, New York, NY, 8th June 2017.
 - Zaware, Nilesh**; Michael Ohlmeyer. Focus on Chemistry: Development of PP2A Activators as novel anticancer agents. *Eighth Annual Structural and Chemical Biology Departmental Retreat*, Edith Macy Conference Center, New York, NY, 16th October 2015.
 - Zaware, Nilesh**. Palladium-catalyzed asymmetric allylic alkylation of nitrogen nucleophiles with cycloalkene carbonates. *250th ACS National Meeting*, Boston, MA, August 16-20, 2015.
 - Zaware, Nilesh**; Michael Ohlmeyer. Focus on Chemistry: Development of PP2A Activators as novel anticancer agents. *Seventh Annual Structural and Chemical Biology Departmental Retreat*, Edith Macy Conference Center, New York, NY, 13th October 2014.
 - Zaware, Nilesh**; Gangjee, Aleem; Smith, Charles D. Design, synthesis and evaluation of antitumor antimetabolites that also inhibit antimetabolite resistant tumors. *41st Mid Atlantic Graduate Student Symposium*, Wayne State University, Detroit, MI, July 2008.
 - Zaware, Nilesh**; Gangjee, Aleem; Ihnat, Michael. Design, synthesis and biological evaluation of 7-arylmethyl pyrrolo[2,3-*d*]pyrimidines as receptor tyrosine kinase inhibitors. *39th Mid Atlantic Graduate Student Symposium*, The Ohio State University, Columbus, OH, June 2006.

POSTER PRESENTATIONS: 22

- Zaware, Nilesh**; Islam, Syed; Ren, Chunyan; Rusinova, Elena; Zhou, Ming-Ming Synthesis and Characterization of Novel Benzo[*d*]imidazole-based CBX7 Inhibitors and Potential Anti-Cancer Agents. *2018 Research Retreat Department of Pharmacological Sciences*, Japan Society 333 East 47th Street New York, NY, May 18, 2018.
- Islam, Syed; **Zaware, Nilesh**; Zhou, Ming-Ming. Synthesis of 1-(3,4-dichlorophenyl)-2-(2-imino-3-((1-substituted-1H-1,2,3-triazol-4-yl)methyl)-2,3-dihydro-1H-benzo[*d*]imidazol-1-yl)ethan-1-ol's as Novel CBX7 Inhibitors and Potential Anti-Cancer Agents. *2017 Research Retreat Department of Pharmacological Sciences*, The Metropolitan Museum of Art, 1000 Fifth Avenue, New York, NY 10028 www.metmuseum.org, New York, NY, 24th October 2017.
- Islam, Syed; **Zaware, Nilesh**; Zhou, Ming-Ming. Progress in the Synthesis of Novel CBX7 Inhibitors as Potential Anti-Cancer Agents. *YSF NY Summer Research Program Poster Presentation*, Stuyvesant High School, New York, NY, August 28, 2017.
- Zaware, Nilesh**; Kastrinsky David; Sangodkar, Jaya; Izadmehr, Sudeh; Goutham, Narla; Ohlmeyer, Michael. Anticancer agents reengineered from tricyclic neuroleptics. *2016 Research Retreat Department of Pharmacological Sciences*, Edith Macy Conference Center, New York, NY, October 13-14, 2016.
- Zaware, Nilesh**; Kastrinsky David; Sangodkar, Jaya; Izadmehr, Sudeh; Goutham, Narla; Ohlmeyer, Michael. Optimization of reengineered tricyclic anticancer agents. *Gordon Research Seminar*, Colby-Sawyer College, New London, NH, August 6-7, 2016.
- Zaware, Nilesh**; Kastrinsky David; Goutham, Narla; Carbajal, Valerie; Ohlmeyer, Michael. Dibenzazepine and Dibenzocycloheptane based FOXO Modulators. *248th ACS National Meeting*, San Francisco, CA, August 10-14, 2014.
- Gangjee, Aleem; **Zaware, Nilesh**; Doshi, Arpit B.; Raghavan, Sudhir; Ihnat, Michael A. 5-

- Substituted Pyrimido[4, 5-*b*]indoles with single agent combination chemotherapeutic potential. *248th ACS National Meeting*, San Francisco, CA, August 10-14, 2014.
8. **Zaware, Nilesh**; Kastrinsky David; Goutham, Narla; Carbajal, Valerie; Dhawan, Neil; Ohlmeyer, Michael. Tricyclic FOXO Modulators. *246th ACS National Meeting*, Indianapolis IN, Sept. 8-12, 2013.
 9. **Zaware, Nilesh**; Rusinova, Elena; Ohlmeyer, Michael; Zhou, Ming-Ming. Synthesis and Biological Evaluation of Substituted Cyclopentenones as Inhibitors of BRD4-1 and CBP. *Seventh Annual Structural and Chemical Biology Departmental Retreat*, Edith Macy Conference Center, New York, NY, October 2012.
 10. Gangjee, Aleem; **Zaware, Nilesh**; Mooberry, Susan L.; Hamel, Ernest. Synthesis and Biological Evaluation of *N*⁴-(substitutedphenyl)-*N*⁴-methyl/desmethyl-9*H*-pyrimido[4,5-*b*]indole-2,4-diamines as Antimitotic Agents. *242nd ACS National Meeting*, Denver CO, August 28-Sept. 1, 2011.
 11. Gangjee, Aleem; **Zaware, Nilesh**; Devambatla, Ravikumar Vyas; Mooberry, Susan L.; Hamel, Ernest. Synthesis and Biological Evaluation of *N*⁴-substituted-*N*⁴-methyl-9*H*-pyrimido[4,5-*b*]indole-2,4-diamines as Antimitotic Agents. *242nd ACS National Meeting*, Denver CO, August 28-Sept. 1, 2011.
 12. Gangjee, Aleem; **Zaware, Nilesh**; Kisluik, Roy; Ihnat, Michael. Substituted Pyrimido[4,5-*b*]indoles with Single Agent Combination Chemotherapeutic Potential. *44th Mid Atlantic Graduate Student Symposium*, Duquesne University, Morgantown, WV, June 2007.
 13. Gangjee, Aleem; **Zaware, Nilesh**; Kisluik, Roy; Ihnat, Michael. Substituted Pyrimido[4,5-*b*]indoles with Single Agent Combination Chemotherapeutic Potential. *102nd AACR annual meeting*, Orlando, FL, April 2-6, 2011.
 14. Gangjee, Aleem; **Zaware, Nilesh**; Yang, Jie; Devambatla, Ravi Kumar; Kisluik, Roy L; Ihnat, Michael. Design, synthesis and biological evaluation of 2-amino-5-substituted-3,9-dihydro-4*H*-pyrimido[4,5-*b*]indol-4-ones as potential inhibitors of toxoplasma gondii thymidylate synthase. *238th ACS National Meeting*, Washington DC, August 16-20, 2009.
 15. Gangjee, Aleem; **Zaware, Nilesh**; Kisluik, Roy; Ihnat, Michael. The Design of Combination Chemotherapeutic Potential in Single Agents. *100th AACR annual meeting*, Denver, CO, April 18-22, 2009.
 16. Gangjee, Aleem; **Zaware, Nilesh**; Ihnat, Michael. Design, synthesis and evaluation of 5-chloro-*N*⁴-substituted phenyl-9*H*-pyrimido[4,5-*b*]indole-2,4-diamines as potential inhibitors of multiple receptor tyrosine kinases. *237th ACS National Meeting*, Salt Lake City, UT, March 22-26, 2009.
 17. Gangjee, Aleem; **Zaware, Nilesh**; Yang, Jie; Ihnat, Michael. *N*⁴-(3-bromophenyl)-7-(substituted benzyl)-7*H*-pyrrolo[2,3-*d*]pyrimidine-2,4-diamines as novel potent multiple receptor kinase inhibitors. *236th ACS National Meeting*, Philadelphia, PA, August 17-21, 2008.
 18. Gangjee, Aleem; **Zaware, Nilesh**; Smith, Charles D. Synthesis and evaluation of potential antitumor antimitotics that also reverse tumor resistance. *235th ACS National Meeting*, New Orleans, LA, April 6-10, 2008.
 19. Gangjee, Aleem; **Zaware, Nilesh**; Smith, Charles D. Antitubulin 7-benzyl-4-methyl-5-(2-substituted phenyl ethyl)-7*H*-pyrrolo[2,3-*d*]pyrimidin-2-amines as potential antitumor agents and p-glycoprotein modulators. *40th Mid Atlantic Graduate Student Symposium*, West Virginia University, Morgantown, WV, June 2007.
 20. Gangjee, Aleem; **Zaware, Nilesh**; Yang, Jie; Ihnat, Michael. 7-Arylmethyl pyrrolo[2,3-

- d]pyrimidines as receptor tyrosine kinase inhibitors: Design, synthesis and biological evaluation. *97th AACR annual meeting*, Washington, D.C., April 1-5, 2006.
21. Gangjee, Aleem; **Zaware, Nilesh**; Ihnat, Michael; Miller, Todd W. 7-Arylmethyl pyrrolo[2,3-*d*]pyrimidines as potential receptor tyrosine kinase inhibitors: Design, synthesis and biological evaluation. *38th Mid Atlantic Graduate Student Symposium*, Duquesne University, Pittsburgh, PA, June 2005.
 22. Gangjee, Aleem; **Zaware, Nilesh**; Ihnat, Michael; Green, Dixy; Miller, Todd W. Novel 2-amino-4-anilino substituted-7-arylmethyl pyrrolo[2,3-*d*]pyrimidines as receptor tyrosine kinase inhibitors and antiangiogenic agents. *229th ACS National Meeting*, San Diego, CA, March 13-17, 2005.

MANUSCRIPTS ACCEPTED, SUBMITTED OR UNDER PREPARATION: 10

1. REN, CHUNYAN; Zhang, Guangtao; Han, Fangbin; Fu, Shibo; Cao, Yingdi; Zhang, Fan; Zhang, Qiang; Meslamani, Jamel; Xu, Yaoyao; Cao, Lingling; Ji, Donglei; Zhou, Qian; Cheung, Ka-Lung; Sharma, Ragal; **Zaware, Nilesh**; Babault, Nicolas; Zhang, Zhengyi; Zhang, Weijia; Walsh, Martin; Zeng, Lei; Zhou, Ming-Ming. *Manuscript submitted to Nature Communications*.
2. McClinch, Kimberly; Avelar, Rita; Callejas, David; Kastrinsky, David; Wiredja, Danica; Schlatzer, Daniela; Cooper, Maxwell; Kiselar, Janna; Perl, Abbey; Stachnik, Agnes; Yao, Shen; Hoon, Divya; McQuaid, Dan; **Zaware, Nilesh**; Izadmehr, Sudeh; Sangodkar, Jaya; Gong, Yixuan; Brautigan, David; Plymate, Stephen; Oh, William K.; Levine, Alice; Kirschenbaum, Alexander; Ioannou, Yiannis; Ohlmeyer, Michael; Narla, Goutham; and Galsky, Matthew D. Small Molecule Protein Phosphatase 2A Activators for the Treatment of Castration-Resistant Prostate Cancer. *Manuscript submitted to Cancer Research*.
3. **Zaware, Nilesh**; Kastrinsky David; Goutham, Narla; Ohlmeyer, Michael. Pd-Catalyzed Asymmetric Allylic Alkylation of Nitrogen-bearing Tricyclics with Cycloalkene Carbonates. *Manuscript in preparation for Nature Catalysis (Synthesis completed)*.
4. **Zaware, Nilesh**; Kastrinsky, David B; Sangodkar, Jaya; Izadmehr, Sudeh; Dhawan, Ohlmeyer, Michael. Protein Phosphatase 2A Activators for the Treatment of Cancer. *Manuscript in preparation for J. Med. Chem. (Synthesis completed)*.
5. **Zaware, Nilesh**; Kastrinsky, David B; Sangodkar, Jaya; Dhawan, Neil S.; Narla, Goutham; Ohlmeyer, Michael. Optimization of Protein Phosphatase 2A Activators as Anticancer agents. *Manuscript in preparation for Bioorg. Med. Chem. (Synthesis completed)*.
6. Gangjee, Aleem; **Zaware, Nilesh**. Efficient Synthesis of 7-benzyl-4-methyl-5-phenethyl-pyrrolo[2,3-*d*]pyrimidin-2-amine derivatives: Novel protocols to furnish pyrrolidino[2,3-*d*]pyrimidines. *Manuscript in preparation for Tet. Lett. (Synthesis completed)*.
7. Gangjee, Aleem; **Zaware, Nilesh**; Yang, Jie; Devambatla, Ravi Kumar Vyas; Kisluik, Roy. Discovery of 2-Amino-5-substituted-3,4-dihydro-4*H*-pyrimido[4,5-*b*]indole-4-ones as potent and selective *Toxoplasma gondii* Thymidylate Synthase Inhibitors. *Manuscript in preparation for Bioorg. Med. Chem. Lett. (Synthesis completed)*.
8. **Zaware, Nilesh**; Kastrinsky David; Carbajal, Valerie; Goutham, Narla; Ohlmeyer, Michael. Design, Synthesis, and Biological Evaluation of Tricyclic PP2A Modulators. *Manuscript in preparation (Synthesis completed)*.
9. **Zaware, Nilesh**; Ohlmeyer, Michael. Synthesis and Biological Evaluation of Substituted Cyclopentenones as Inhibitors of Bromodomains. *Manuscript in preparation (Synthesis*

completed).

10. Agarwal, Stuti; Agarwal, Hitesh; **Zaware, Nilesh*** " COMPOUNDS AND USE THEREOF IN THE EXPANSION OF HEMATOPOIETIC STEM CELLS AND/OR HEMATOPOIETIC PROGENITOR CELLS US2017037047 (A1): a patent evaluation" for Expert Opinion On Therapeutic Patents. *Invited Manuscript in preparation.*

SERVICES

Editorial Board Member:

1. Oriental Journal of Chemistry (since April 2014)
2. ARKIVOC (since June 2014)
3. Heterocyclic Communications (since October 2014)
4. Journal of Clinical Biochemistry (since September 2017; Invited membership)
5. Pharmaceutical Sciences and Analytical Research Journal (since April 2017; Invited membership)

Reviewer for Journals: 50 papers reviewed

1. Organic and Biomolecular Chemistry (Since Oct 2014) – 11 articles reviewed
2. RSC Advances (Since Oct 2014) – 8 articles reviewed
3. Chemical Communications (Chem. Commun.) (Since July 2014) – 6 articles reviewed
4. Bioorganic & Medicinal Chemistry (since November 2012) - 4 articles reviewed
5. Current Organic Synthesis (since December 2013) – 3 articles reviewed
6. Organic Communications (since July 2014) – 3 articles reviewed
7. The Journal of Organic Chemistry (since July 2014) – 2 articles reviewed
8. Tetrahedron Letters (since April 2013) - 2 articles reviewed
9. ARKIVOC (Since July 2014) – 2 articles reviewed
10. Heterocyclic letters (since March 2014) – 2 articles reviewed
11. Analytical and Bioanalytical Chemistry (since March 2014) – 2 articles reviewed
12. Medicinal Research Reviews (since June 2014) – 2 articles reviewed
13. Archiv der Pharmazie (since June 2014) – 1 article reviewed
14. Molecules (since April 2013) – 1 article reviewed
15. Mini-reviews in medicinal chemistry (since June 2017) – 1 article reviewed
16. Chirality (since June 2014)
17. Indian Journal of Chemistry (Section B) (since July 2014)
18. Archives of Pharmacal Research (Since July 2014)
19. The Journal of Medicinal Chemistry (since November 2012)
20. Tetrahedron (since April 2013)
21. Synthesis (since May 2013)
22. Synlett (since May 2013)
23. Chemistry of Heterocyclic compounds (since May 2013)
24. Chemistry Central Journal (since May 2013)
25. The Open Organic Chemistry Journal (since November 2013)
26. Journal of Chemistry and Chemical Engineering (Since January 2014)
27. Chemistry and Biology (since June 2014)
28. Green Chemistry (since October 2015)

MEMBERSHIP WITH PROFESSIONAL ORGANIZATIONS

Currently NZ has no membership with a professional organization.

NZ was a 11 year member with American Chemical Society (ACS).

PENDING GRANTS

1. Co-Investigator on a R01 application titled: “Class II HDACs in Transcriptional Regulation of in T-helper Cell Development”; Mount Sinai GCO # 17-2541-00001-01-PD; Funding Agency: National Institute Of Allergy And Infectious Diseases/NIH/DHHS; Submitted: 28 November 2017
2. Co-Investigator on a U01 application titled: “Epigenetic Approach to Overcome Immune-resistance in Breast Cancer Therapy”; Mount Sinai GCO # 18-0095-00001-01-PD; Funding Agency: National Cancer Institute/NIH/DHHS; Submitted: 16 January 2018
3. Co-Investigator on a R21/R33 application titled: “Promoting Myelin Repair for Multiple Sclerosis”; Mount Sinai GCO # 18-0696-00001-01-PD; Mount Sinai GCO # 18-0696-00001-01-PD; Funding Agency: National Institute Of Neurological Disorders And Stroke/NIH/DHHS; Submitted: 19 March 2018
4. Co-Investigator on a R01 application titled: “New Epigenetic Gene Silencing Technology”; Mount Sinai GCO # 15-1374-00001-03-PD; Funding Agency: National Cancer Institute/NIH/DHHS; Submitted: 5 April 2018
5. Co-Investigator on a Foundation Grant titled: “Modulating Transcription repressor Sin3 for targeted epigenetic cancer therapy”; Mount Sinai GCO # 11-0389-00001-07-PD; Funding Agency: Samuel Waxman Cancer Research Foundation; Submitted: 10 April 2018
6. Co-Investigator on a R43/R44 Grant titled: “Developing New Epigenetic Therapy for Multiple Sclerosis”; Mount Sinai GCO # 18-0930-00001-01-PD; Funding Agency: Industry - Federal Sub-Award (Parkside Scientific Inc.); Submitted: 17 April 2018
7. Co-Investigator on a DOD Grant titled: “New Epigenetic Chemotherapy for Metastatic Breast Cancer”; Mount Sinai GCO # 18-1190-00001-01-PD; Funding Agency: Dept. of Defence; Submitted: 5 May 2018
8. Co-Investigator on a R61/R33 Grant titled: “Promoting Myelin Repair for Multiple Sclerosis”; Mount Sinai GCO # 18-1363-00001-01-PD; Funding Agency: National Institute Of Neurological Disorders And Stroke/NIH/DHHS; Submitted: 6 June 2018
9. Principal-Investigator on a R03 application titled “Small Molecules Modulating CBX7 Protein as Potential Anticancer Agents”; Mount Sinai GCO# 18-1440-00001-01-PD; Funding Agency: National Cancer Institute/NIH/DHHS; Submitted: 29 June 2018