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| **Dr. Hemant Surendra Mondkar**  [**hemantmondkar@gmail.com**](mailto:hemantmondkar@gmail.com)  Contact No: +91-8007522117/+91-9075088323  Birth Date: 22-04-1980  Languages Known;  Fluent in – English, Hindi, Marathi  Others – German, A1 Certification  Korean, A1 Certification  Address:  #802, A1, Kumar Purab, Off-Pune Solapur Highway, Hadapsar, Pune, INDIA |  |

**SUMMARY**

* Innovation Leader - with more than 10 years of global innovation experience at The Ciba Specialty Chemicals, BASF and Nalco an ECOLAB company combined.
* Broad spectrum of R&D /Innovation experience: From customer understanding to technology, formulation and product design from concept to launch.
* Global, hands on experience across developed market, developing markets, and a range of discerning consumer segments.
* Experience across various business units such as Home and personal Care, technology, applications, product and process development for a range of business units.
* Specialty Chemicals: developed products for electronic paper and wide variety of products in the field of antipolymerants and antioxidants for styrene and ethylene plants.
* Water Technology – Developed environmentally friendly corrosion and scale inhibitors for waste water, boiler water and cooling water systems.
* Oil and Gas – Oil filed chemicals (entire value chain) for downstream chemicals and part of upstream chemicals in the field of high temperature corrosion inhibitors and developing fluid loss agents.
* Organizational building: Dexterity in driving organizational building initiatives in terms of bringing and developing ‘Best in Class’ R&D practices and capabilities.
* Vast Global R&D Experience, track record of successfully managing and leading global programs & initiatives, with team members from diverse national backgrounds in a dynamic and demanding global markets. Spearheaded Molecular Design and Synthesis team and Patent Mapping teams. Hands on experience of leveraging the diversity to drive organizational effectiveness.
* Hands on experience and Leadership roles in setting up R&D infrastructure for the company.

**EDUCATION**

**Ph.D**. Synthetic Organic Chemistry (2002-2007)

Institute of Science, University of Mumbai, INDIA

Title of thesis: Synthetic Applications of Carbonoxysulphide

*Advisor: Prof. Madhukar. S. Chande*

**M. Sc.** Organic Chemistry (2002), 1st class with distinction, University of Mumbai

**B. Sc.** Chemistry (2000), 1st class with distinction, University of Mumbai

**PROFESSIONAL POSITIONS**

**2002- 2002 – Ph.D. Scholar**

***Institute of Science, Mumbai University, INDIA***

* Synthesis of various 1,2,4-triazoles, 1,2,4 and 1,3,4-oxadiazoles and their microbial studies
* Regieoselective synthesis of novel lariat triazolophanes using Carbonoxysulphide gas as a reagent
* Synthesis of novel Cryptands and their application for selective metal extractions..
* Synthesis of new cinchoninic acid derivatives using Pfitzinger reaction
* Synthesis and structural analysis of novel spirocyclohexanone derivatives containing the pyrazolone moiety
* Dieckmann Condensation reaction employed for the first time for synthesis of 1,2,4-triazolophanes and Oxadiazolophanes
* Application of heterophanes as selective complexation reagent for different metals and their spectral studies
* Design and synthesis of novel chiral heterophanes

**2005- 2009 – Scientist**

***CIBA and BASF, Mumbai, INDIA***

* Design and synthesis of various oligomers, copolymers, ter polymers and tetra polymers via free Radical and ATRP for conducting polymers applications.
* Handled moisture sensitive reagents form mg scale to Kg scale.
* Developed novel metal phthalocyanines for colorless photobleach applications
* Grignard Reaction for the synthesis of long chain aliphatic thiol, amine derivatives
* Synthesis of various aromatic sulfonic acid esters
* Developed new synthetic routes (low cost) successfully for synthesis of products from milligram scale to kilo scale.
* Design and synthesis of new catalyst for the synthesis of ethyl acetate in plant scale which delivers desired product with 99.98% purity in one shot.

**2010-2011 – Senior Scientist (Post Doc)**

***Institute of Nano Science and Technology, Hanyang University, Seoul, SOUTH KOREA***

* Mentored Ph.D.(4), MS(4) and Undergraduate (2) students.
* Published 2 Korean Patents and 2 publications in reputed international journals on polymers.
* Projects completed with team,
  + Synthesis of various novel Photoacid generators (PAGs) polymers as per the requirement of lithographic techniques, ArF, KrF or E-Beam and Co-polymers, Terpolymers and Tetra polymers incorporating above PAGs using free radical polymerization
  + Synthesis of PAG bound novel negative tone photoresist for electron beam lithography and achieved sub 20nm fabrication
  + Developed Novel positive tone and negative tone photoresist for immersion ArF and electron beam lithography, extensively studied the acid generation efficiency of various PAG developed.

**2011- 2012 – Assistant Manager**

***Herbert Brown Pharmaceutical Pvt. Ltd., Mumbai, INDIA***

* Working as a group leader (reporting scientists-8, including PhD’s)
* Process development for DMT-Protection and benzoyl protection of various nucleosides (Labs scale to Plant scale)
* Process development of nucleoside analogue reverse transcriptase inhibitor (NARTI)
* Method development of various polymer products (Custom Synthesis)
* Lab scale to pilot plant to plant scale production of products including API/API intermediates
* Multistep synthesis on plant scale, Chiral synthesis.
* Preparation of process development reports (PDR)

**2012- 2015 – Lead Chemist, Group Co-coordinator, Synthesis**

***NALCO an ECOLAB Company, Pune Technology Center, Pune, INDIA***

* Delivered projects - REACH approved Copper Corrosion inhibitor (Global Rollout, Y5S 10 MM$), Synthetic Iron Corrosion Inhibitor (Global Rollout, Y5S 20 MM$), pour point depressant for heavy crudes (global rollout, Y5S 20 MM$) and H2S scavengers for fuel additives (global rollout, Y5S 10 MM$)
* leaded projects with Y5S >50 MM$
* Spearheaded Chemical Research & Practice Committee (CRPC), Molecular Design and Synthesis (MDAS) and Patent Mapping (PM) teams to deliver global and regional projects for North America, MENA and APAC markets.
* Champion to identify new platforms globally for disruptive innovation in corrosion inhibitor, green emulsion breaker, heavy crude pour point depressants, high temperature corrosion inhibitors and deliver them for global and regional markets.
* Experience in polymer product development, costing of newly developed product and low cost country sourcing for cost savings.
* Team includes Ph.D. and M.Tech researchers
* Concept to Commercialization: Corrosion inhibitors for fuel additives (Fe, Cu, Ag), heavy crude and distillate pour point depressants based on polymers, green emulsion breakers, hydrogen sulfide and mercaptan scavengers, high temperature corrosion inhibitors, non-acid based calcium removal technology, novel antipolymarents for CPI.
* Proficient with Patent and Technology Mapping
  + Well-developed skills and experience in patent searching, analysis, mapping and report writing. Expert in performing basic and advanced Patent Searches for prior art, IP Landscape, Competitive Technology Tracking etc.
  + Proficient in use of commercial databases such as Thomson Innovation as well as the non-commercial databases provided by the USPTO , EPO, WIPO, JPO, IPO, IPIRS, CIPIS, Science Direct, Springer, Google scholar etc in finding relevant scientific literature, analyzing and reviewing contents.
  + Focused and efficient data collection from patents, publications and continuous competitive monitoring, with powerful data aggregation and presentation online, interaction with clients, generation of innovative ideas and commercial ideas.
  + Expert in project management and data visualization, searching & data integration.

**Dec 2015- Till date – Senior Manager (Oil Field)**

***Aquapharm Chemicals Pvt. Ltd, Pune, INDIA***

* Champion for project charters and technology plans for YOY project portfolio for oil field products
* Leading the oilfield segment for development new products in the area of, corrosion inhibitor, pour point depressants, scale inhibitors and hydrogen sulfide scavengers
* Coordinate the launches of new products for India and Global markets by close partnership with regional and global marketers
* Developing polymers for oilfield applications and waste water treatment
* Developing novel scale inhibitors based on polymers as green scale inhibitors for waste water and cooling tower applications
* Setting up laboratory for Oilfield Division at Aquapharm.

**HANDS ON INSTRUMENTS**

Jacketed Reactor : 2 kg to 20 kg scale, Portable Electric Desalter (PED), Pour Point Depressant (PPD), Multi-place cold finger, Fouling Potential Analyzer (FPA), Autoclave Testing for High Temperature Corrosion inhibition studies, NACE testing for evaluating iron corrosion inhibition (ASTMD7548 and TM0120-2001), Hot Liquid Process Stimulator for fouling studies of crude, Oxidation bomb for oxygen uptake studies, H2S scavenger testing (ASTM D90), NMR (Multinuclear), MASS, SEM, etc.

**PUBLICATIONS**

1. Novel and Efficient Synthesis of Some Lariat Aminotriazolophanes Using Carbonoxysulphide: *M. S. Chande,* ***Hemant S. Mondkar****\**(*J Chem Res,* ***2008****, 402-404*)
2. Synthesis of Novel Cryptates based on Triazole motif: A regioselective approach; *M. S. Chande, Sajithkumar C and* ***Hemant S. Mondkar\**** (*SynComm, 41,* ***2011****, 1858–186*)
3. Synthesis of 1,2,4-Triazolophanes and Oxadiazolophanes: A Dieckmann Condensation approach, *M. S. Chande, C. Sajithkumar,* ***Hemant S. Mondkar\*****,P. A. Barve, and S. S. Diwan*( *J. Heterocyclic Chem, 49,* ***2012,****329*)
4. Synthesis of Novel Photoacid Generator Resist Containing Polymer for KrF and E-Beam Lithography. *(Journal of Nanoscience and Nanotechnology, vol.12,* ***2012****, 725-729*)
5. Triphenylsulfonium salt methacrylate bound polymer resist for electron beam lithography, *Jae BeomYoo, Sang-Wook Park, Ha Na Kang,* ***Hemant S. Mondkar****, KyunghwaSohn, Hyun-Mi Kim, Ki-Bum Kim, Haiwon Lee* (*Polymer, 55, 2014, 3599-3604*)
6. Efficient Synthesis of Some Novel 1,2,4-Triazoles and 1,2,4-Oxadiazoles using Carbonoxysulphide, *M. S. Chande,* ***Hemant S. Mondkar****\* (Submitted - Journal of Heteroatom Chemistry)*

**SYMPOSIUMS**

1. Lee, K. E.; Yo, J. B.; Kim, M. J.; Sohn, K.; Mondkar H.; Lee, H., Synthesis of Photoacid Generator Bound Polymer Resists for KrFExcimer Laser Lithography and Electron Beam Lithography, IEEE NANO2010 Joint Symposium with NANO KOREA 2010, 2010
2. Mondkar, H.; Kim, M. J.; Yoo, J. B.; Sohn, K.; Lee, H., Synthesis of Novel Photoacid Generator Resist Containing Polymer for Electron Beam Lithography, AsiaNANO 2010, 2010
3. Lee, H.; Kim, M.; Sohn, K.; Hemant Surendra Mondkar, Photoacid Generator Bound PMMA-Based Resist for Nanostructure Fabrication, ProceedingsPolymer Society, 2011
4. Kim, M.;Sohn, K; Kwon, O.; Kang,H.; Hemant Surendra Mondkar; Lee, H., Synthesis of Novel Chemically Amplified Photoacid Generator Containing Resist Polymer for Fabrication of Positivetone Nanostructure, ProceedingsPolymer Society, 2011

**PATENTS**

1. WO 2015/123329 A1 - Process for scavenging Hydrogen Sulfide Present in Fluid Stream
2. PT10516USP1, Novel Corrosion Inhibitor for Yellow Metal, US patent filed on 28th May 2015
3. 7 Records of Inventions for US patent application has been filled within NALCO in the year of 2013-2015. Inventions are in the areas of Corrosion Inhibitors, Hydrogen sulfide scavengers, Emulsion Breakers, Pour Point depressants and Antipolymarents.

Internal reference numbers: PT10125, PT10127, PT10128, PT10139, PT10150, PT10167, PT10188.

1. Lee, H.; Son, K.H.; Kim, M. J.; ***Hemant S. Mondkar***, Photoacid generator bound tetra-polymer resist and the synthesis of the same, Korea Patent, 10-2010-0120323 (Jan 28,2011)
2. Lee, H.; Son, K.H.; Kim, M. J.; ***Hemant S. Mondkar***, “Photoacid generator bound positive polymer resist and the method of preparing the same”, Korea Patent, 10-2011-0060340 (June 21,2011)

**REFERENCES**

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| **Prof. M. S. Chande**  (Ph.D. Advisor)  Professor of Chemistry,  E-4, 504, Rutupark Society,  Thane (West),  Mumbai, INDIA  Mob. +91-9869111922  Email: mschande@gmail.com | **Dr. Hari Reddy**  VP Technology and Innovation at Bemis Company, Inc.  Oshkosh, Wisconsin Area,  North-central United States  Mob. +1(920)289-0483  Email: hprreddy@yahoo.com |