# Bio-Data

## 1. Personal Details


- **Name** : Prof. (Dr.) Kailas Dashrath Sonawane
- **Present position** : Professor and Coordinator
- **Address** : Department of Biochemistry
  Coordinators;
  P.G. Diploma in Bioinformatics
  M.Sc. Medical Information Management (International course with Hannover University, Germany)
  Shivaji University, Vidyanagar, Kolhapur-416004
- **Contact Numbers** : + 91–231-2609300, Mobile: 9881320719
- **Fax** : + 91-231-2692333, 2691523
- **E-mail** : kds_biochem@unishivaji.ac.in; kdsonawane19@gmail.com


## 2. Academic Details

| Examination | Discipline/ Specialization | Board/ University | Year of Passing | Class |
|---|---|---|---|---|
| Ph.D. | Biochemistry | University of Pune, Pune | 2003 | - |
| M.Sc. | Biochemistry | ShivajiUniversity, Kolhapur | 1996 | First |
| B.Sc. | Chemistry | ShivajiUniversity, Kolhapur | 1994 | First |

- **Ph.D. Thesis Title:** "Structural Significance of the 3´- adjacent N6-($\Delta^2$-isopentenyl adenosine) and related modifications in tRNA".

Work place: **National Chemical Laboratory (NCL), Pune, India**.

## 3. Research Specialization:

- **Bioinformatics/Computational Biology:**

- Structural biology of hypermodified nucleosides, molecular modeling.

- RNA-Protein interactions, Prediction of three-dimensional structures of enzymes involved in Alzheimer's disease; Enzymology; homology modeling, molecular docking, and drug designing.
- **Microbiology:** Antimicrobial peptides and antibiotic resistance

**4. Research Experience/Fellowship / Post-Doctoral Study**

**DOCTORAL FELLOWSHIP**

| | | | |
|---|---|---|---|
| 1999-2003 | National Chemical Laboratory, Pune, India | Senior Research Fellow (CSIR, New Delhi). | Molecular modeling; Quantum chemical, molecular mechanics, molecular dynamics simulations study of hypermodified nucleosides present in anticodon loop of tRNA. |
| 1996-1999 | National Chemical Laboratory (NCL), Pune, India | Project Assistant-II, (Indo-French Project), IFCPAR, New Delhi | Conformational preferences of hypermodified bases, $i^6A$, $ms^2i^6A$. Protonation induced conformational preferences of hypermodified nucleosides ($g^6A$, $t^6A$, $ms^2t^6A$) present in anticodon loop of tRNA using various modeling techniques. |

**POST-DOCTORAL FELLOWSHIP**

| DURATION | INSTITUTION | DESIGNATION | NATURE OF WORK DONE |
|---|---|---|---|
| March 2003- Oct. 2005 | National Institute of Health (NIH), Bethesda, MD, USA. | Post Doctoral Fellow | Homology modeling, sequence analysis, molecular docking and molecular dynamics simulation studies on $K^+$ ion channels. |

**5. Teaching/Research Experience:** 23 Years

## 6. Research Guidance

- **U.G.:-** Guidance to graduate student for his project work during the **Post-doctoral Fellowship** period fromMarch 2003 to Aug. 2005 at **National Institutes of Health, Bethesda (NIH), MD, USA**.
- **P.G.:-** Guidance to M. Sc (Bioinformatics) student for his project work at **NCL, Pune**, **India** (2000).
- **P.G.**:- Guidance to M. Sc Biochemistry, Microbiology, Biotechnology and PG Diploma in Bioinformatics students for their project work since 2006 at SUK.
- **Ph. D**:- Guidance to Ph. D. students in the subject of Biochemistry, Biotechnology and Microbiology, at SUK since 2006.

## 7. Awards/Honors/Recognition:

| Year | Name of Awards |
|---|---|
| 2019 | Shiv Sanman Puruskar by Aji Maji Vidyarthi Kruti Samiti, Shivaji University, Kolhapur |
| 2017 | Member, American Chemical Society, USA |
| 2016 | Elected as member of National Academy of Science India, Allahabad. |
| 2016 | Member, Royal Society of Chemistry, UK |
| 2015 | Affiliate member, Royal Society of Chemistry, UK |
| 2015 | Fellow Maharashtra Academy of Sciences, India. |
| 2007 | Young Scientist award, Department of Science and Technology (DST) |
| 2003 | Post Doctoral Fellowship, National Institutes of Health, MD, USA |
| 2002 | Extended Senior Research Fellow, Council of Scientific and Industrial Research |
| 1999 | Senior Research Fellowship, Council of Scientific and Industrial Research, New Delhi |
| 1996 | Indo-French Project Fellowship, (IFCPAR, New Delhi ) at CSIR-NCL, Pune. |

- **<u>Ph.D. student produced:</u> Awarded: Total: 11 (+01: Submitted; Working: 07)**

| Sr. No. | Name of Student | Ph.D. Subject | Year of passing | Present Working Place |
|---|---|---|---|---|
| **1.** | Dr.Navanath M. Kumbhar, | Biotechnology | 29/05/ 2012 | Savitribai Phule Pune, University, Pune |
| **2.** | Dr.Rohit S. Bavi | Biochemistry | 24/03/ 2014 | KIST, Gangneung, South Korea |
| **3.** | Dr. Bajarang V. Kumbhar | Biochemistry | 2014 | Indian Institute of Technology, Mumbai |
| **4.** | Dr.Sagar H. Barage | Biotechnology | 29/12/ 2014 | Savitribai Phule Pune, University, Pune |
| **5.** | Dr.Chidamber B. Jalkute | Microbiology | 27/05/ 2015 | DST Post Doc Fellow, SSMB, Barshi |
| **6.** | Dr.Susmit B. Sambhare | Biochemistry | 29/12/ 2015 | Regional Center of Advanced Technologies and Materials (RCPTM), Olomouc, Czech Republic |
| **7.** | Dr. Maruti J. Dhanavade | Microbiology | 09/03/ 2016 | Shivaji University, Kolhapur |
| **8.** | Dr. Asmita S. Kamble | Biochemistry | 20/05/ 2017 | Indian Institute of Technology, Mumbai |
| **9.** | Dr. Sambhaji B. Thakar | Biotechnology | 15-09-2017 | Post Doc Fellow, Hefei University of Technology, China |
| **10.** | Dr. V. G. Shanmuga Priya | Biotechnology (Co-Guide) | 24/12/ 2018 | KLE University, Belgavi, Karnataka |
| **11.** | Dr. Rishikesh S. Parulekar | Microbiology | 15/11/2 019 | - |

**Editorial Board Member/ Membership:**

**A) Journal Editorial Board:**

1. J. of Bioinformatics, Computational and Systems Biology **(International Journal)**
2. Precision Medicine **(International Journal)**
3. J. of Enzymology and Metabolism **(National Journal;** Open Sci. Publication)
4. J. of Microbial World **(National Journal)**

**B) Member professional Societies:**

1. American Chemical Society (ACS), USA
2. Royal Society of Chemistry, UK
3. Biophysical Society, India
4. Association of Microbiologist, India
5. Microbiologist Society, India

**8) Books: (Book Chapter: 02)**

1. **Kailas D. Sonawane** and Maruti J. Dhanavade, "Molecular Docking Technique to Understand Enzyme-Ligand Interactions" Chapter 10; Page Nos. 245-264, 2016, (DOI: 10.4018/978-1-5225-0115-2.ch010)
   **Book Title: "**Methods and Algorithms for Molecular Docking-Based Drug Design and Discovery" Edited by Siavoush Dastmalchi, Maryam Hamzeh-Mivehroud, and Babak Sokouti. A volume in the Advances in Medical Technologies and Clinical Practice (AMTCP) Book Series, IGI Global Publication, Hershey, PA: Medical Information Science Reference, [2016], USA (Identifiers: LCCN 2016003940| ISBN 9781522501152 (hardcover) | ISBN 9781522501169 (ebook).

2. **Kailas D. Sonawane** and Maruti J. Dhanavade, "Computational Approaches to Understand Cleavage Mechanism of Amyloid Beta (Aβ) Peptide" vol. 132, Chapter 11, Page Nos. 263-284, 2017 (DOI 10.1007/978-1-4939-7404-7_11).
   **Book Title:** Computational Modeling of Drugs Against Alzheimer's Disease, Neuromethods, Edited by Kunal Roy; Series Editor Wolfgang Walz, Springer Protocol, Humana Press Springer Nature, New York, NY 10013, U.S.A.

**9. Biological Databases Developed: (Total: 04)**

**1) Mangrove Infoline Database (http://www.manmedinfoline.in)**

**2) FERN Ethanomedicinal Database (https:// www.ferndatabase.in)**

**3) Legume Database (https://www.legumedatabase.co.in)**

**4) Protein Portal (http://www.proteinportal.info)**

**10. International MoU Coordinators: (02)**

1. MoU with Jahangirnagar University, Dhaka, Bangladesh
2. MoU with Hochschule Hannover – University of Applied Sciences and Arts, Germany

**11. <u>Research Publications</u>: (Total Impact: 114.814); Average IF: 1.91)**

- **International: (Total: 71)**

**1.** Fandilolu Prayagraj; Kamble Asmita; Dound Ambika; **Sonawane Kailas**, "Role of $Mg^{+2}$ ions in modulating the structure and function of $tRNA^{Phe}$ : A molecular dynamics study" ***ACS Omega***, 4, 21327-21339, 2019 **(IF: 2.584)**

**2.** Aravind H. Patil, Shushilkumar A. Jadhav, Vikramsinh B. More, **Kailas D. Sonawane**, and Pramod S. Patil, "Novel One Step Sonosynthesis and Deposition Technique to Prepare Silver Nanoparticles Coated Cotton Textile with Antibacterial Properties, **Colloid Journal,** 81(6), 720-727, 2019 **(IF: 0.966)**

**3.** Prakash Bansode, R. Anantacharya, Maruti Dhanavade, Subodh Kamble, Sagar Barale, **Kailas Sonawane,** Nayak D. Satyanarayan, Gajanan Rashinkar, "Evaluation of drug candidature: *In silico* ADMET, binding interactions with CDK7 and normal cell line studies of potentially anti-breast cancer enamidines" **Computational Biology and Chemistry**, Sept, 2019 (https://doi.org/10.1016/j.compbiolchem.2019.107124) (IF: 1.581**)**

**4.** Rishikesh S. Parulekar, Sagar S. Barale and **Kailas D. Sonawane, "**Antibiotic resistance and inhibition mechanism of novel aminoglycoside phosphotransferase APH(5) from *B.subtilis subsp subtilis* strain RK" **Brazillian J of Microbiology,** 50, 887-898, 2019 (https://doi.org/10.1007/s42770-019-00132-z) **(IF: 2.857).**

**5.** Sagar S. Barale, Rishikesh S. Parulekar, Prayagraj M. Fandilolu, Maruti J Dhanavade and **Kailas D. Sonawane**, " Molecular insights into destabilization of Alzheimers A protofibril by arginine containing short peptide: A molecular modelling approach **ACS OMEGA**, 4, 892-903, 2019 **(IF: 2.584).**

**6.** Sambhaji B. Thakar, Maruti J. Dhanavade and **Kailas D. Sonawane**, "LegumeDB: Development of Legume Medicinal Plant Database and comparative molecular evolutionary analysis of matK proteins of legumes and mangroves **Current Nutrition and Food Science**, 15, 353-362, 2019, DOI: 10.2174/1573401314666180223143523 (www.

**7.** Sium Ahmed, Shawon Ahmed, Swapan Kumar Roy, Sun Hee Woo, **Kailas D. Sonawane**, Abdullah Mohammad Shohael, "Effect of salinity on the morphological, physiological and biochemical properties of lettuce (*Lactuca sativa* L.) in Bangladesh" **Open Agriculture**, 4, 361–373, 2019

**8.** Babasaheb D. Sonawane, Vikas D. Sonawnae, **Kailas D. Sonawane**, Maruti J. Dhanavade, Chetan B. Aware, Sharad K. Awate, Suresh V. Patil, "Cp2ZrCl2: An Efficient Catalyst For Multicomponent Synthesis Of Carotenoid Dehydrosqualene Synthase Inhibiting Pyrano[2,3-d]Pyrimidiones" **Asian J. of Pharmaceutical and Clinical Research, 12, 280-288, 2019.**

9. Vikas Sonawane, Dipak Hiwarale, Babasaheb Sonawane, Subhodh Kamble, **Kailas Sonawane** and Raghunath Bhosale, "Synthesis, characterization and Biological evaluation of novel imidazo thiazole chalcones as antioxidant agents"
   **Inter. J. of Pharma. Sci. and Res.,** 10, 1000-1009, 2019
10. Waghmare, S. R., Randive, S. A., Jadhav, D. B., Nadaf, N. H., Parulekar, R. S. and **Sonawane, K. D.** "Production of novel antimicrobial protein from *Bacillus licheniformis* strain JS and its application against antibiotic-resistant pathogens" **J Proteins and Proteomics, 2018 (Accepted) DOI**: 10.1007/s42485-018-00002-6).
11. Pranhita R. Nimbalkar, Manisha A. Khedkar, Rishikesh S. Parulekar, Vijaya K. Chandgude, **Kailas D. Sonawane**, Prakash V. Chavan, Sandip B. Bankar, "Role of trace elements as cofactor: an efficient strategy towards enhanced biobutanol production"
    **ACS Sustainable Chemistry and Engineering, *6*, 9304–9313, 2018. (IF: 6.97)**
12. Rishikesh S. Parulekar and **Kailas D. Sonawane,** "Insights into the antibiotic resistance and inhibition mechanism of aminoglycoside phosphotransferase from *B. cereus*: *In-silico* and *in-vitro* perspective.
    **J. Cellular Biochemist**ry, 119, 9444-9461, 2018 **(IF: 3.448)**
13. Megha B Jagadale, Rajashri S Salunkhe, Mohan M Rajmane, Maruti J Dhanavade, **Kailas D Sonawane**, Gajanan S Rashinkar, "Water-Mediated Synthesis of Anthelmintic Piperidinols and Their Molecular Docking Studies"
    **Chemistry Select, 3, 20, 5581-5587, 2018 (IF: 1.7)**
14. Babasaheb Sonawane, Gajanan Rashinkar, **Kailas Sonawane**, Maruti Dhanavade, Chetan Aware, Vikas Sonawane, Suresh Patil, "Aerosil supported ionic liquid phase (ASILP) mediated synthesis of 2-subtituted benzimidazole derivatives as AChE inhibitors"
    **Chemistry Select, 3, 20, 5544-5551, 2018 (IF: 1.7)**
15. V. G. Shanmuga Priya, Priya Swaminathan, Uday M. Muddapur, Prayagraj M. Fandilolu, Rishikesh S. Parulekar, and **Kailas D. Sonawane**, "Peptide similarity search based and virtual screening based strategies to identify small molecules to inhibit CarD-RNAP interaction in *M. tuberculosis*"
    **Int. J. Peptide Research and Therapeutics, 2018, (Accepted)**
    https://doi.org/10.1007/s10989-018-9716-7 **(IF: 0.905) SCI**
16. Naiem H. Nadaf , Rishikesh S. Parulekar, Rahul S. Patil, Trupti K. Gade, Anjum A. Momin, Shailesh R. Waghmare, Maruti J. Dhanavade, Akalpita U. Arvindekar, Kailas D. Sonawane, "Biofilm inhibition mechanism from extract of *Hymenocallis littoralis* leave",
    **J Ethnopharmacol.,** 2018, Apr 23. (doi: 10.1016/j.jep.2018.04.031) **(IF: 3.115).**
17. Prayagraj M. Fandilolu, Asmita S. Kamble, Susmit B. Sambhare, and **Kailas D. Sonawane**, "Conformational preferences and structural analysis of hypermodified nucleoside peroxywybutosine (o2yW) found at 3'-adjacent ($37^{th}$ position) in anticodon loop of $tRNA^{Phe}$,,
    **GENE**, 641, 310-325, 2018, **(IF: 2.319)**
18. Rishikesh Parulekar and **Kailas D. Sonawane**, "Molecular modeling studies to explore the binding affinity of virtually screened inhibitor towards different aminoglycoside kinases from diverse MDR strains"
    **J Cellular Biochemistry**, 119, 2679-2695, 2017 **(IF: 3.085)**
19. **Kailas D. Sonawane**, Asmita S. Kamble and Prayagraj M. Fandilolu, "**Preferences of AAA/AAG codon recognition by modified nucleosides, $\tau m^5s^2U_{34}$ and $t^6A_{37}$ present in $tRNA^{Lys}$**

**J. Biomol. Struct.Dyn.** 2017 Dec.15:1-35. **(IF:4.986)**
DOI: 10.1080/07391102.2017.1417911.

**20.** Asmita S. Kamble, Prayagraj M. Fandilolu, Susmit B. Sambhare, **Kailas D. Sonawane, "**Idiosyncratic recognition of UUG/UUA codons by modified nucleoside 5-taurinomethyluridine, τm5U present at `wobble' position in anticodon loop of $tRNA^{Leu}$: A molecular modeling approach"
**PLoS ONE, 2017,** Apr 28;12(4):e0176756. doi: 10.1371/journal.pone.0176756, **(IF: 2.776)**

**21.** Khade, G. V., Gavade, N.L., Suwarnkar, M.B., Dhanavade, M. J., **Sonawane, K. D.** and Garadkar, K. M. **"**Enhanced Photocatalytic Activity of Europium doped TiO2 under Sunlight for the Degradation of Methyl Orange,
**J Mat. Sci.:Mat Elect. 2016,** DOI: 10.1007/s10854-017-6883-9 **(IF: 1.798)**

**22.** **Kailas D. Sonawane**, Narayan R. Dandagal, Akibjaved G. Naikwadi, Piyush T. Gurav, Samar V. Anapat, Naiem H. Nadaf, Deepak B. Jadhav and Shailesh R. Waghmare "Intergeneric fusant development using chitinase preparation of *Rhizopus stolonifer* NCIM 880"
**AMB Express (2016), 6:114 (IF: 2.167)**

**23.** Chidamber B. Jalkute, Maruti J. Dhanavade, Shailesh R.Waghmare, Naiem H. Nadaf, Deepak B. Jadhav, Sadik I.Pendhari, Rahul S.Patil and **Kailas D.Sonawane** "Purification and characterization of SDS stable protease from Bacillus safensis strain CK" **Biocatalysis and Agricultural Biotechnology, 10, 91-95, 2017 (SCOPUS Reported)**.

**24.** Raut, D. G., **Sonawane, K. D.**, Jadhav, S. Y., Sonawane, V. D., Jadhav, D. B. and Dhanavade M.J. and Bhosale R. B., "Synthesis and Potential Antibacterial Activities of 2-Chloro-N-(4-Phenylthiazol-2-yl) Acetamide Derivatives"
**Der Pharma Chemica, 2016, 8, 292-297 (SCOPUS Reported)**

**25.** Sambhaji B. Thakar, Maruti J. Dhanavade and **Kailas D Sonawane**, *"Phylogenetic, Sequence Analysis and Structural Studies of Maturase K Proteins from Mangroves*
**Current Chemical Biology**, (2016), **10**, 135-141. **(IF: 0.67)**

**26.** Kailas D. Sonawane, Rohit S. Bavi, Susmit B. Sambhare, Prayagraj M. Fandilolu "Comparative Structural Dynamics of tRNAPhe with Respect to Hinge Region Methylated Guanosine: A Computational Approach"
**Cell Biochem Biophys**, 2016, 74:157–173 **(IF: 2.380) SCI**

**27.** Maruti J. Dhanavade, Rishikesh S. Parulekar, Subodh A. Kamble and **Kailas D. Sonawane**,"Molecular modeling approach to explore role of Cathepsin B from *Hordeum vulgare* in degradation of Aβ peptide"
**Molecular BioSystems,** 2016, 12, 162-168, **(IF: 3.210).**

**28.** Sambhaji B. Thakar, Pradnya N. Ghorpade, Manisha V. Kale, and **Kailas D. Sonawane,** "FERN Ethnomedicinal Plant Database: Exploring fern ethnomedicinal plants knowledge for Computational Drug Discovery"
**Current Computer Aided Drug Designing, 2015, 11, 266-271** (Accepted) **(IF: 1.268)**

**29.** **Kailas Dasharath Sonawane** and Susmit Balkrishna Sambhare, "**I**nfluence of hypermodified nucleosides lysidine and t6A to recognize AUA codon instead of AUG: A molecular dynamics simulation study
**Integrative Biology**, 2015, **7**, 1387-1395 **(IF: 3.294)**
DOI: 10.1039/C5IB00058K

**30.** Nadaf, N.H., Gawade, S.S., Muniv, A.S., Waghmare, S.R., Jadhav, D.B., and **Sonawane, K.D.** "Exploring anti-yeast activity of Nigella sativa seed extracts,

**Industrial Crops and Products,** 77, 624–630, 2015 **(IF: 2.8) SCI**

**31.** Asmita S. Kamble, Susmit B. Sambhare, Prayagraj M. Fandilolu, and **Kailas D. Sonawane**,"Structural significance of modified nucleoside 5-taurinomethyl-2-thiouridine, $\tau m^5 s^2 U$ found at 'wobble' position in anticodon loop of human mitochondrial $tRNA^{Lys}$,,

**Structural Chemistry, *(Accepted)*on 13th July, 2015 (IF: 1.837) SCI**

**32.** Barage, S. H., and **Sonawane, K.D.** "Amyloid cascade hypothesis: Pathogenesis and therapeutic strategies in Alzheimer's disease",

**Neuropeptides,** 52, 1-18, 2015, **(IF:2.915) SCI**

**(SCIENCEDIRECT TOP 25 LIST OF MOST DOWNLOADED ARTICLES RANKED 1st ON THE TOP 25 FOR NEUROPEPTIDES JULY to SEPTEMBER YEAR-2015)**

**33.** Saurabh M. Joshi, Waghmare, J. S. **Kailas D. Sonawane,** Shailesh R. Waghmare, "Orange peel waste as potential substrate for bio-ethanol and bio-butanol production**.**
***Biofuel, 2015,*** http://dx.doi.org/10.1080/17597269.2015.1045276

**34.** Chidambar B. Jalkute and **Kailas D. Sonawane,** "Evaluation of Possible Role of *Stigmatellaaurantiaca* ACE in Aβ Peptide Degradation: A Molecular Modeling Approach"

**J. Mol Microbiol Biotechnol,** 25:26-36, 2015(DOI:10.1159/000370114)
**(IF: 2.104) SCI**

**35.** Chidambar B. Jalkute,aSagar H. Baragec and **Kailas D. Sonawane**, "Insight into molecular interactions of Aβ peptide and gelatinase from *Enterococcus faecalis*: A molecular modeling approach.

**RSC Advances**, 5, 10488-10496, 2015,**(IF:3.708)SCI**

**36.** **Kailas D Sonawane,** and Sagar H Barage, "Structural analysis of membrane bound hECE-1 dimer using molecular modeling techniques: Insights into conformational changes and $A\beta_{1-42}$ peptide binding"

**Amino Acids, 7, 543–559, 2014, (IF: 3.293)SCI**

**37.** Praveen K. Sahu, Pavithra S. Iyer, Sagar H. Barage, **Kailas D. Sonawane,** and Balu A. Chopade,"Correlation with Biofilm Development on Abiotic Surface Characterization of the *algC* Gene Expression Pattern inthe Multidrug Resistant *Acinetobacter baumannii* AIIMS 7 and Correlation with Biofilm Development on Abiotic Surface"

**The Scientific World Journal**, 2014, Article ID 593546,http://dx.doi.org/10.1155/2014/593546

**38.** Shailesh R. Waghmare, Aparna A. Gurav, Sonal A. Mali, Naeem H. Nadaf, Deepak B. Jadhav, and **Kailas D. Sonawane**, "Purification and characterization of novel organic solvent tolerant 98kDa alkaline protease from isolated *Stenotrophomonas maltophilia*strain SK",

**Protein Expression and Purification,**107:1-7, 2015**(IF: 1.695) SCI**
DOI: 10.1016/j.pep.2014.11.002

**(SCIENCEDIRECT TOP 25 LIST OF MOST DOWNLOADED ARTICLES RANKED 12th ON THE TOP 25 FOR PROTEIN PURIFICATION AND EXPRESSION FROM NOVEMBER-2014 to JULY-2015)**

**39.** Asmita D. Kamble, Susmit B. Sambhare, Bajarang V. Kumbhar, Rohit S. Bavi, and **Kailas D. Sonawane**,"Conformational Preferences of Modified Nucleoside 5-

Taurinomethyluridine, $\tau m^5U$ Occur at 'wobble' 34th Position in the Anticodon Loop of tRNA,
**Cell Biochemistry and Biophysics,**71:1589–1603,2014 **(IF: 2.380) SCI**
(DOI: 10.1007/s12013-014-0382-x)

**40. Kailas D. Sonawane,** Radhika S. Malkar, Pranhita R. Nimbalkar, Rishikesh S. Parulekar, Sagar H. Barageand Deepak B. Jadhav,"Homology Modeling and molecular docking studies of ArnA protein from ErwiniaAmylovora: Role in polymyxin antibiotic resistance"
**J. Plant Biochemistry and Biotechnology, 2014(IF: 1.094) SCI**
DOI: 10.1007/s13562-014-0293-3

**41.** ChidambarB.Jalkute, Sagar H. Barage, Maruti J. Dhanavade, and **Kailas D. Sonawane** "Identification of Angiotensin Converting Enzyme inhibitor - An in silico perspective", **Int. J. Peptide Research and Therapeutics,** 21:107–115,2014 **(IF: 0.905) SCI**
DOI: 10.1007/s10989-014-9434-8

**42.** Maruti J. Dhanavade, and **Kailas D. Sonawane**, "Insights into the molecular interactions between aminopeptidase and amyloid beta peptide using molecular modeling techniques **Amino Acids, 46, 1853-1866, 2014**(DOI 10.1007/s00726-014-1740-0)(**IF: 3.293) SCI**

**43.** Sagar H. Barage, Chidambar B. Jalkute, Maruti J. Dhanavade and **Kailas D Sonawane.** Simulated interactions between Endothelin converting enzyme and Aβ peptides: insights into subsite recognition and cleavage mechanism.
**Int. J of Peptide Research and Therapeutics, 20, 409-420, 2014** (**IF: 1.132**) **SCI**

**44.** Susmit B. Sambhare, Bajarang V. Kumbhar, Asmita D. Kamble, Rohit S. Bavi, Navanath M. Kumbhar and **Kailas D. Sonawane**"Structural significance of modified nucleosides k2C and t6A present in the anticodon loop of tRNAIle
**RSC Advances**, 4, 14176- 14188, 2014,**(IF: 3.708) SCI**

**45.** ShanmugaPriya V. G., Muddapur U. M., **SonawaneK. D.,** MehtaM.CarD-a reliable target in *M. tuberculosis*.
**Int. J. Pharmaceutical Science Invention, 2014, 3: 38-46**

**46.** Maruti J. Dhanavade, ChidambarB.Jalkute,Sagar H. Barageand**Kailas D. Sonawane**"Homologymodeling, molecular docking and MD simulation studies to investigate role of cysteine protease from *Xanthomonascampestris*in degradation of Aβ peptide"(DOI: 10.1016/j.compbiomed.2013.09.021
**Computers in Biology and Medicine,** 43:2063-2070, 2013**(IF: 2.115)**.**SCI**

**(SCIENCEDIRECT TOP 25 LIST OF MOST DOWNLOADED ARTICLES RANKED 21st ON THE TOP 25FOR COMPUTERS IN BIOLOGY AND MEDICINE – JANUARY TO DECEMBER FULL YEAR-2014)**

**47.** Sagar H. Barage and **Kailas D. Sonawane,** "Exploring mode of phosphoramidon and Aβ peptide binding to hECE-1 by molecular dynamics and docking studies".
**Protein and peptide Letter, 21: 140-152, 2013 (IF 1.039). SCI**

**48.** Nazeruddin, G.M., Prasad, N.R., Prasad, S.R., **Sonawane**, **K.D.** and Kumbhar. D. "In-Vitro Bio-Fabrication of Silver Nanoparticle Using *Trigonellafoenum*Seed Extract."
**Res. J. of Pharma. Biol. and Chem. Sci. 2014,** 5: 167-175 **(IF: 0.35)**

**49.** Shailesh R. Waghmare, Mustopa N. Mulla, Suryakant R. Marathe, and **Kailas D. Sonawane**. Ecofriendly production of silver nanoparticles and its mechanistic action. **3Biotech, 2015,**5:33–38.**SCI (IF: 1.497)**

**50.** Prasad B. Hosmat, **Kailas D. Sonawane** and Shailesh R. Waghmare**.** Antibacterial activity of Vulgarol A extracted from the leaves of *Syzygiumcumini*.**Asian Journal of Pharmaceutical and Clinical Research,** 2013, 6:100-102. **(IF: 0.74)**.

**51.** Rishikesh S. Parulekar, Sagar H. Barage,Chidambar B. Jalkute, Maruti J. Dhanavade and **Kailas D. Sonawane,** "Homology modeling, molecular docking and DNA binding studies of nucleotide excision repair UvrC protein from *M. tuberculosis"*
**The Protein Journal, 2013, 32, 467-476(IF:1.133).**

**52.** Sambhaji B. Thakar and **Kailas D. Sonawane.** "Mangrove Infoline Database: A database of mangrove plants with protein sequence information".
**Current Bioinformatics, 8, 524-529, (2013) (IF:0.770) SCI**

**53.** ChidambarJalkute, SagarBarage, MarutiDhanavade and **Kailas Sonawane**, "Molecular dynamics simulation and molecular docking studies of Angiotensin Converting Enzyme with inhibitor lisinopril and amyloid beta peptide.
**The Protein Journal, 2013, 32, 356-364,(IF: 1.133).**

**54.** Bajarang V. Kumbhar, Asmita D. Kamble, **Kailas D. Sonawane**. "Conformational Preferences of Modified Nucleoside N(4)-Acetylcytidine, $ac^4C$ Occur at ''Wobble'' 34th Position in the Anticodon Loop of tRNA".
**Cell Biochemistry and Biophysics, 66, 797-816, (2013) (IF:2.380). SCI**

**55.** Jadhav, S.Y., Bhosale, R. B., Shirame, S. P., Sonawane, V. D., Hublikar, M. G., **Sonawane, K. D.** and Shaikh, R.U. "Synthesis and Biological evaluation of Fluoro-hydroxy submitted PyrazoleChalcones as Anti-inflammatory Antioxidant and Antibacterial Agents".
**Int J Pharm Bio Sci., 4, 390 – 397, 2013 (IF: 0.4) (SCOPUS Reported).**

**56.** Sagar H. Barage, Chidambar B. Jalkute, Maruti J. Dhanavade and **Kailas D Sonawane.** Virtual screening and molecular dynamics simulation study of hECE-1 protease inhibitors.
**Res. J. of Pharma.Biol.and Chem. Sci. 4, 1279-1291, (2013)(IF: 0.35).**

**57.** Rohit S. Bavi, Sushmit B. Sambhare and Kailas D. Sonawane, "MD simulation studies to investigate iso-energetic conformational behaviour of modified nucleosides $m^2G$ and $m^2{}_2G$ present in tRNA.
**Computational and Structural Biotechnology Journal, 5, 1-8, Feb. 2013, (IF: 4.148).**

**58.** Jadhav, N., Bhawale, B., Bhende, S., Patil, S., **Sonawane K.,** "In silico Antigenicity Screening of Moringa Coagulant"
**Indian J. Pharma. Edu Res.,** 2013, 47, 129-134, **(IF: 0.219)**.

**59.** Navanath M. Kumbhar, Bajarang V. Kumbharand **Kailas D. Sonawane** Structural significance of hypermodified nucleic acid base hydroxywybutine (OHyW) which occur at 37th position in the anticodon loop of yeast $tRNA^{Phe}$.
**J. of Molecular Graphics and Modelling, 38, 174-185, 2012 (IF:1.885).**

**60.** Bajarang V Kumbhar,Navanath M. Kumbhar and **Kailas D. Sonawane, "**Conformational Preferences and MD Simulation Studies of the Hypermodified Nucleic Acid Base, $mS^2hn^6Ade$ Present at 3'-Adjacent ($37^{th}$) Position in Anticodon Loop of HyperthermophilictRNAs.
**Int. Elc. J. Mol. Design, 11, 33-48, 2012.**

**61.** Rohit S. Bavi, Asmita D. Kamble, Navanath M. Kumbhar, Bajarang V. Kumbhar and **Kailas D**.**Sonawane**, "Conformational preferences of modified nucleoside $N^2$-methylguanosine ($m^2G$) and its derivative $N^2$, $N^2$-dimethylguanosine ($m^2{}_2G$) occur at $26^{th}$ position (hinge region) in tRNA".
**Cell Biochemistry and Biophysics, 507-521, 61, 2011 (IF:2.380). SCI**

**62.** Navanath M. Kumbhar and **Kailas D. Sonawane** "Iso-energetic multiple conformations of hypermodified nucleic acid base Wybutine (yW) which occur at $37^{th}$ position in anticodon loop of $tRNA^{Phe}$".
**J. of Molecular Graphics and Modelling, 29, 935-946, 2011 (IF:1.885).**

**63.** Maruti J. Dhanawade, Chidamber B. Jalkute, Jai S. Ghosh and **Kailas D. Sonawane** "Study Antimicrobial Activity of Lemon (*Citrus lemon* L.) Peel Extract".
**British J. of Pharmacology and Toxicology, 2, 119-122, 2011.**

**64.** **Kailas D. Sonawane,**Bajarang V. Kumbhar, Navanath M. Kumbhar, Susmit B. Sambhare and Asmita D. Kamble. "Consequences of 5' -3' diphosphate backbone on the conformation of hypermodified nucleotide lysidine ($k^2C$) occur at wobble ($34^{th}$) position in the anticodon loop of $tRNA^{Ile"}$.
**International J Bioinformatics Research,3, 148-160,2011.**

**65.** **Sonawane, K. D.**, Tewari, R. "Conformational preferences of hypermodified nucleoside lysidine ($k^2C$) occurring at 'wobble' position in anticodon loop of $tRNA^{Ile"}$.
**Nucleosides, Nucleotides and Nucleic Acids. 27, 1158-1174, 2008 (IF: 0.768).**

**66.** Gea-Ny, Tseng., **Sonawane, K. D**.,Korolkova, Y. V., Zhang, M., Liu, J., Grishin, E. V., and Guy, H. R. "Probing outer mouth structure of hERG channel with peptide toxin foot printing and molecular modeling.
**Biophysical J. 92, 3524-3540, 2007 (IF:3.632).**

**67.** Zhang, M., Liu, J., Jiang, M, Wu, D. M., **Sonawane K**., Guy, H. R. and Tseng, G. N. "Interactions between charged residues in the transmembrane segments of voltage-sensing domain in the hERG channel.
**J. Memb. Biol. 207, 169-181, 2005 (IF: 2.457).**

**68.** Sonavane, U.B., **Sonawane, K. D**. and Tewari, R. "Conformational preferences of the base substituent in hypermodified nucleoside queuisine 5'monophosphate 'pQ' and protonated variant '$pQH^+$'".
**J. Biomol. Struct.Dyn.20, 437-485, 2002 (IF:3.123).**

**69.** **Sonawane, K. D**., Sonavane, U.B., and Tewari, R. "Conformational preferences of anticodon 3'-adjacent hypermodified nucleic acid base cis- or trans-Zeatin and its 2-methylthio derivative, cis- or trans-$ms^2$Zeatin".
**J. Biomol. Struct.Dyn.19, 637-648, 2002 (IF:3.123).**

**70.** **Sonawane, K. D.**, Sonavane, U.B. and Tewari, R. "Conformational flipping of the N(6) substitutent in diprotonated N6-(N-glycylcarbonyl) adenines: The role of N(6) H in purine ring protonated ureido adenines.
**Intl. J. Quantum Chem. 78, 398-405, 2000(IF: 2.92).**

**71.** Sonavane, U.B., **Sonawane, K.D.**, Morin, A., Grosjean, H. and Tewari, R. "N(7)-protonation induced conformational flipping in hypermodified nucleic acid bases N6-(N-threonylcarbonyl) adenine and its 2-methylthio- or N(6)-methyl-derivatives. **Intl. J. Quantum Chem. 75, 223-229, 1999 (IF: 2.92).**

- **Gene sequences submitted to GenBank, USA: (11)**

1. Submitted 16S rDNA sequence to NCBI (Accession No.:MK165402)
2. Submitted 16S rDNA sequence to NCBI (Accession No.: MK165403)
3. Submitted 16S rDNA sequence to NCBI (Accession No.: MK165404)
4. Submitted 16S rDNA sequence to NCBI (Accession No.: MK007327), *Bacillus velenzesis* SK.
5. Submitted 16S rDNA sequence to NCBI (Accession No: KY962802), *Staphyloccus haemolytics* strain SK.
6. Submitted 16S rDNA sequence to NCBI (Accession No: KT878723), *Stenotrophomonas maltophilia* strain SUK_MDR.
7. Submitted 16S rDNA sequence to NCBI (Accession No: JF701279.1) Acinetobacter baumannii strain AIIMS 7 phosphomannomutase (algC) gene, complete cds.
8. Submitted 16S rDNA sequence to NCBI (Accession No: KJ849237.1) Bacillus subtilis subsp. subtilis strain RK.
9. Submitted 16S rDNA sequence to NCBI (Accession No. KJ427751) of isolated *Bacillus safensis* strain CK
10. Submitted 16S rDNA sequence to NCBI (Accession No. KC812737) of isolated *Stenotrophomonasmaltophilia* strain SK.
11. Submitted 16S rDNA sequence to NCBI (Accession No. JX962052) of isolated *Streptomyces regensis* strain MK

- **Microbial cultures deposited in MCC/NCCS, Pune: 06**
- **3-D Structures deposited at PMDB:** 01 (Aminoglycoside phosphotransferase; PMDB No.: PM0082259).

**12. National / Int. Conference/Workshops/Seminars attended (Total: 67)**

**A) International conferences/workshops Invited Talks (Total: 06):**

1. Invited talk in workshop on **"Molecular dynamics simulation and molecular docking in plant biotechnology research"** organised by Department of Biotechnology and Genetic Engineering, University of Jahangirnagar, Dhaka, Bangladesh on 7$^{th}$ Sept. 2018.
2. Invited talk on, **"Structural Bioinformatics Studies for Translational Research"** in an **International Conference on Translational Research in Biochemistry and related Fields"** organised by Department of Biochemistry and Molecular Biology, University of Rajshahi, Rajshahi, Bangladesh, on 6$^{th}$ Sept., 2018.

3. Invited talk on **"Role of tRNA hypermodified nucleosides in human diseases: A molecular modeling approach"** in an **"International Conference on Nanotechnology Addressing the Convergence of Materials Science, Biotechnology and Medical Science (IC-NACMBM-2017)**, organized by Centre for Interdisciplinary Research, D. Y. Patil University, Kolhapur, India, on November 9-11, 2017.
4. Invited talk on **"Structural and functional significance of biomolecules using bioinformatics techniques"** in an "**International conference on Emerging Horizons in Biochemical Sciences and Nanomaterials"** organized by Department of Chemistry and Microbiology, Shri Shivaji Mahavidyalaya, Barshi, Dist. Solapur, India (M.S.).,on $28^{th}$-$30^{th}$ November, 2013.
5. Invited talk on **"Role of modified nucleosides in recognition of proper codons and tRNA folding" on "International Interdisciplinary Science Conference on: Protein Folding and Diseases"** Organized by Centre for Interdisciplinary Research in Basic Sciences, Jamia Milia Islamia Unversity, New Delhi, $8^{th}$ to $10^{th}$ December, 2012.
6. Invited talk on **International Interdisciplinary Science Conference on: Bioinformatics**; an Interface between Computer Science and Biology, organized by Centre for Interdisciplinary Research in Basic Sciences, Jamia Milia Islamia Unversity, New Delhi, 15-17, November, 2011.

- **International conferences Attended/Poster presentation(Total: 08):**

1. **Ambika S. Dound**, Prayagraj M. Fandilolu and Kailas D.Sonawane "Conformational preferences of hypermodified nucleoside $ms^2ct^6A$ present at $37^{th}$ position in anticodon loop of $tRNA^{Lys}$," in International Conference on "Accelerating Biology-towards thinking machines" organized by **C-DAC, Pune, Maharashtra, India** from $5^{th}$ to $7^{th}$ Feb 2019.
   **(This poster was selected for Young Speaker Programme 2019 and received a consolation prize).**
2. **Sonawane, K.,** Shrivastava, I., and Guy, H.R. Models of the structure and gating mechanism of the hERG channel. **Biophysical Society $49^{th}$ Annual Meeting, Long Beach, California, USA**, February 12-16, 2005.
3. **Sonawane, K.D.,** Gea-Ny, Tseng. and H. Robert Guy. Models of the structure and gating mechanism of hERG $K^+$ channels developed from models of KvAP. **Biophysical Society $48^{th}$ Annual Meeting, Baltimore, MD, USA**. (B363), February 14-18, 2004.
4. Mei Zhang, Jie Liu, **Kailas Sonawane**, Min Jiang, H. Robert Guy, Gea-Ny Tseng. Interactions Between Charged Residues In The Transmembrane Helices OfHerg's Voltage-sensing Domain. **Biophysical Society $48^{th}$ Annual Meeting, Baltimore, MD, USA.** (B424), February 14-18, 2004.
5. Min Jiang, Mei Zhang, Jie Liu, InnokentyMaslennikov, Yuliya V Korolkova, Alexander S Arseniev, Eugene V Grishin, **Kailas Sonawane**, H. Robert Guy, Gea-Ny Tseng. Probing Dynamic Interactions Between Extracellular S5-p Linker And Other Domains Of The Herg Channel Using DisulfideFormation,**Biophysical Society $48^{th}$ Annual Meeting, Baltimore, MD, USA.** (B426), February 14-18, 2004.
6. **Tewari, R.,**Sonavane, U. V., Sonawane, K. D. and Karpoormath, R. Deficient Wobble Nucleoside Modifications In tRNA: Implications for Decoding and Human Diseases.

**Fourth Indo-Australian Conference on Biotechnology, Queensland Institute of Medical Research, Brisbane, Australia**. May 7-9 2007.

7. Kailas D. Sonawane, Uddhavesh B. Sonavane and **RavindraTewari.** "Protonation Induced Conformational Flipping of Hypermodified Nucleosides and Maintenance of the Reading Frame for Codon - Anticodon Interactions" **Physical Aspects of Photobiological Processes: Photobiology and Energy Conversion, Nagoya University, Nagoya Japan,** P23, July 27 – 28, 2001.
8. Kailas D. Sonawane,Uddhavesh B. Sonavane and **RavindraTewari,** ICBP 2001, **4th International Conference on Biological Physics, Kyoto International Conference Hall, Kyoto, Japan**, July 30 – August 3, 2001.

**B) Invited Talks at National Conferences/Seminars/Workshops: (Total 56)**

1. Invited talk on, **"Applications of Bioinformatics Tools for Life Sciences"** in one day workshop on "Bioinformatics and Genomics" organized by Department of Biotechnology, S.G.M. College, Karad on 16th Dec., 2019.
2. Inaugural speech as a chief guest for Science Association Function on, **"Challenges and Opportunities in Research and Higher Education"** organized by Balavant College, Vita, Dist.: Sangli on 24th Aug. 2019.
3. Attended workshop as a resource person on **"Revised syllabus of B.Sc. I Biotechnology"** organized by Department of Biotechnology, S.G.M. College, Karad on 1st Aug. 2019.
4. Invited talk on, Research Methodology, Scientific paper and Poster Presentation" under lead college activity, organized by Y.C.C.S. Karad, Dist.: Satara, on 28th Feb.2019.
5. Invited talk as a chief guest on, "**Organic Farming: Current Research Status and opportunities for future development" under Rajyastariya Parisanvad on "Jagar Sendriya Sheticha- Saath Jaiva-tantradnyanachi" organized by Department of Microbiology, Dr. Ghali College, Gadhinglaj, Dist.: Kolhapur on 26th Feb., 2019.**
6. Invited talk on, **"Challenges and Opportunities in Research on Alzheimer's disease"** in an "National Conference on **"Anveshanam 2.0" "Recent Developments in Healthcare Management**", organized by Chetan Dattaji Gaikwad Institute of Mnanagement Studies, Pune on 30th and 31st Jan.2019.
7. Invited talk on "**Applications of Bioinformatics in Microbiology and Biotechnology**" organized by School of Allied Sciences, Krishna Medical Institute (Deemed to be University), Karad, Dist.: Satara on 29th December, 2018.
8. Invited talk in Faculty Development Programme, **"Research Methodology and Funding Agencies",** sponsored by MHRD, Govt. Of India, organized by Rajaram College, Kolhapur on 17 Dec. 2018.
9. Invited talk in Faculty Development Programme, **"Bioinformatics Tools For Life Sciences",** sponsored by UGC-HUMAN RESOURCE DEVELOPMENT CENTRE, **SAVITRIBAI PHULE PUNE UNIVERSITY, PUNE 411007,** on 17 Aug. 2018.
10. Invited talk on, **"Use of Bioinformatics for Life Sciences"** in workshop organized by Department of Microbiology, Rajaram College, Kolhapur, MS, India on 18th January, 2018.

11. Inaugural Chief Guest address on, "Higher Education Opportunities in Microbiology" organized by Department of Microbiology, Shivraj Mahavidyalaya, Gadhinglaj, Dist.: Kolhapur on 13th Jan., 2018.
12. Invited talk on, **"Opportunities in Higher Education & Research",** under DBT Star College Scheme at Shri Shivaji Mahavidyalaya Barshi, Dist.: Solapur, on 11th December, 2017.
13. Invited talk on, **"**Antibiotic resistance of novel aminoglycoside phosphotransferase and related enzymes" in a National Level Conference on "**Protein Structure and Dynamics in Health and Agriculture"** organized by Dept of Bioscience and Centre for Interdisciplinary Research in Basic Science, Jamia Milia Islamia, Delhi on 3rd to 4th Nov., 2017.
14. Invited talk on, **"Applications of Bioinformatics Tools for Biotechnologists**" in a National Level Workshop on "**Hands on Training on Advance Techniques in Biotechnology"** organized for Teachers and Researchers from Academia from 7th to 11th June, 2017 at **Dept of Biotechnology, Gulbarga University, Kalaburagi, Karnataka on 9th June, 2017.**
15. Attended one day National Symposium on **"Computational and Experimental studies on Microtubules and Microtubule based Motor Proteins"** organized by IIT Mumbai on Dec. 14, 2016.
16. Invited talk on, "**Bioinformatics Tools for Life Sciences**" in a **One Day Workshop** on "**Interdisciplinary Research Opportunities in Life Sciences w.r.t. Bioinformatics"** under Lead College activity, Shri Shahaji Chhatrapati Mahavidyalaya Cluster, Shivaji University, organized by **Dept of Biotechnology, Vivekanand College, Kolhapur, on Saturday, 1st Oct. 2016.**
17. Invited talk on, "Biomolecular modeling" in a National Conference on **"Bioactive Molecules and their Therapeutic Values: Current Status-BMTVCS**)" organized by School of Life Sciences, **S.R.T.M. University, Nanded, Maharashtra, on 13-14th March, 2016**
18. Invited talk on **"Use of Bioinformatics for Life Sciences"** in a **National Conference on Taxonony"**organized by Department of Microbiology and Zoology at Yashwantrao Chavan Institute of Science (YCIS), Satara, Maharashtra, India, on Oct 6-7, 2015.
19. Invited talk on "**Molecular Modeling techniques to understand structural significance of biomolecules"** in an national conference on " National Symposium on Biophysics and **Golden Jubilee Meeting of Indian Biophysicsl Society, at Jamia Islamia University, Delhi, India, on Feb. 14-17, 2015.**
20. Plenary talk on "**Applications of Bioinformatics techniques for Life Sciences**" in UGC Sponsored Two Day National conference on **"Innovative Ideas and Research in Life Sciences for Sustainable Development**", organized by **Department of Zoology, Wadia College, Pune, Maharashtra, India on 16-17, Jan. 2015.**
21. Invited lecture as a resource person on "**Introduction to Bioinformatics**" in Refresher course organized by **Department of Zoology, SavitribaiPhule University of Pune, Maharashtra, India on 16, Jan. 2015**.
22. Invited as a resource person for "Use of Bioinformatics techniques for Microbiologist" one day **National Level Seminar on, "Microbiology for Better Tomorrow"** at **Shri Ravi S. Naik, College of Arts & Science, Farmagudi, Goa**on 27th February, 2015.
23. Invited lecture as a resource person on, **"Use of Bioinformatics techniques in Microbiology"** in **National Conference On Recent trends and future prospects in**

**Multidisciplinary approaches in Microbiology, RTFPM -2014'**held during 4-5th October, 2014 at RajaramCollege, Kolhapur.

24. Invited lecture as a resource person on in state level workshop on, **"Applied and Relevance of Applied Sciences in Bioinformatics"**at Pimpari Chinchwad College of Engineering, Pune, on 16-17, October, 2014.
25. Invited lecture as a resource person on "**Introduction to Molecular Modeling**" in Refresher course organized by **Department of Chemistry, SavitribaiPhule University of Pune, Maharashtra, India on 15, Dec. 2014**.
26. Invited plenary talk, **"Use of bioinformatics tools for life sciences"**inXII Conference of Society of Cytologists and Geneticists and National Symposium On Challenges for Biologists in 21st Century, organized by Department of Botany, Shivaji University, Kolhapur, from 22nd – 24th December, 2014
27. Invited lecture as a resource person on "**Introduction to Molecular Modeling**" in Refresher course organized by **Department of Chemistry, SavitribaiPhule University of Pune, Maharashtra, India on 15, Dec. 2014**.
28. Invited lecture as a resource person on "**Introduction to Bioinformatics"**in "Life and Life Processes Mark of Sustainable Development" Refresher course organized by UGC Academic Staff College **Goa University, Goa on 10, Oct. 2014**.
29. Invited talk as a resource person to deliver talk on, "**Bioinformatics: Introduction and Applications" in Teachers Training Workshop,** organized by Department of Microbiology, YCCS, Karad on 26th July, 2014.
30. Invited lecture as a resource person on **"Introduction to Bioinformatics; Genomics and Proteomics**" in Refresher course in Life Science organized by Academic Staff College, Dr.BabasahebAmbedkarMarathwada University, Aurangabad on 21stJuly, 2014.
31. Invited lecture as a resource person on "**Understanding Biomolecules using Bioinformatics Techniques**" in Refresher course organized by Academic Staff College, Dr.BabasahebAmbedkarMarathwada University, Aurangabad on 11th January, 2014.
32. Invited lecture as a resource person on "**Introduction to Bioinformatics**" in Refresher course organized by Academic Staff College, Dr.BabasahebAmbedkarMarathwada University, Aurangabad on 11th January, 2014.
33. Invited talk on, **"Tools in Bioinformatics**" in National Seminar on **"Life Science Technologies for Changing Life Style"** organized by Department of Biotechnology, V. G. Shivdare College of Arts, Commerce and Science, Solapur, Dist: Solapur on 6th January, 2014.
34. Invited lecture as a resource person on "Computational Chemistry" in Refresher course organized by **Department of Chemistry, University of Pune, Maharashtra, India on 14 Nov, 2013**.
35. Invited talk on, "**Applications of bioinformatics techniques to understand biomolecules at atomic level**" in National conference on "**Recent trends in Biology: Nanoscience**" (NCRTBN-2013), organized by Dahiwadi College, Dahiwadi, Tal.:Man, Dist.: Satara, Maharashtra, on 13th-14th December 2013.
36. Invited talk on, "**Protein Sequence Databases and Analysis: Structure-function relationship"** in workshop **"Applications of Bioinformatics in Biotechnology, Pharmaceutical and Environmental Science"** organized by Department of Biotechnology, Basaveshwar College of Engineering, Bagalkot, Karnataka, India on 14th September, 2013.

37. Invited talk on, **"Structure-function relationship of biomolecules using bioinformatics techniques"** in UGC Sponsored National Seminar on **"Recent Trends in Cell Biology, Biotechnology and Bioinformatics"** organized by Department of Zoology, Balawant College Vita, Dist. Sangli, Maharashtra, India on 7th September, 2013.
38. Invited as Chief Guest for Valedictory function in the **"State Level Competitions"** jointly organized by Department of Microbiology, Science Association of Rajaram College, Kolhapur and Microbiologist Society of India on 1st September, 2013.
39. Invited as Chairperson and Judge for **"State Level Competitions"** jointly organized by Department of Microbiology, Science Association of Rajaram College, Kolhapur and Microbiologist Society of India on 1st September, 2013.
40. Invited talk as a chief guest on, "**Applications of Biotechnology with reference to Bioinformatics"** organized by Department of Biotechnology, YCCS, Karad on 27th July, 2013.
41. Invited talk on, **"Bioinformatics: Scope and Applications"** under the Biotechnology Association of Engineers Teachers and Students (BEATS) activity at KLE's College of Engineering, Department of Biotechnology, Belgaum, Karnataka, 16 April, 2013.
42. Invited talk, as resource person in workshop on **"Tools and Techniques in Molecular Systemic/Phylogenetics"** organized by Department of Botany, Shivaji University, Kolhapur on 9thNovember, 2012.
43. Invited as Chairperson in National Seminar on **"Medicinal Plants: Status and Future"**organized by Department of Botany, Shivaji University, Kolhapur on 6th and 7th November, 2012.
44. Invited as Chairperson in National Conference on **"Importance of Scientific Terminology in Environmental Science in Regional Marathi Language"** organized by Department of Environmental Science, Shivaji University, Kolhapur on 28th Oct. 2012.
45. Delivered a talk on **"Bioinformatics: The Future of Life Sciences"** in the Annual Science SeminarActivityatYashawantraoChavan College of Science, Karad, Dist.: Satara, Maharashtra, India on 26th September, 2012.
46. Invited talk, National conference on **"TRANSCRITION2K12"** on **Advances in Biotechnology** organized by Department of Biotechnology, College of Engineering and Technology Bhambori, Jalgaon, India, on 16th March 2012
47. Invited talk, on "Structural significance of hypermodified nucleic acid bases wybutine and hydroxywybutine present at 37th position in anticodon loop of tRNA" in "**Symposium on Accelerating Biology 2012: Computing to decipher"**, organized by **Bioinformatics group, Center for Development of Advanced Computing C-DAC Pune, India,**15-17th February 2012.
48. Invited talk, UGC sponsored State Level Seminar on Application of Computer in Biological Sciences, Organized by Department of Zoology and Botany, KarmveerBhauraoPatilMahavidyalya, Pandharpur, India, on 21st-22nd December, 2011.
49. Invited talk, on "Introduction to Bioinformatics" in one day workshop on, **"e-learning in Microbiology"**, organized by Department of Microbiology, Dr.BabasahebAmbedkarMarathwada University, Aurangabad, Sub centreOsmanabad, on 21st August, 2011.

50. Invited talk, Challenges and Opportunities in Information Technology and Bioinformatics **(NCCOITBT-09)**, Swami VivekanandMahavidyalaya, Udgir, Maharashtra, India, 27–28th February, 2009.
51. Invited as a resource person in the subject "**Techniques in Bioinformatics"** for Workshop on Syllabus of B.Sc.III Biotechnology, organized by Department of Biotechnology, Smt. KasturbaiWalchand College, Sangli on 9th and 10th October, 2009.
52. Invitation as a guest lecture on **"Introduction to Bioinformatics, Related Website, Databases available and its Scope"** organized by Department of Microbiology, Government of Maharashtra, Rajaram College, Kolhapur on 5th December, 2009.
53. Expert lecture for subject **Bioinformatics** at TatyasahebKore Institute of Engineering and Technology, Warananagar, Ta.:Panhala, Dist.: Kolhapur on 16th January, 2008.
54. Participated,Symposium on Genes to Drugs: In-Silico Approaches, **C-DAC, University of Pune Campus, Pune**, India, April 29-30, 2008.
55. Delivered talk in four day workshop on **"A workshop on Microarray Data Analysis using 'R' software"** organized by Department of Statistics, Shivaji University, Kolhapur from 21-24, December, 2007.
56. Invited talk as a chief guest for the inaugural function of "Science Lecture Series" on **"Recent Trends in Biotechnology and Bioinformatics"** organized by Shri. ShivajiMahavidyalayaBarshi, Dist. Solapur, August, 2007.

- **Chairperson/committee members in conferences: (03)**

1. One Day National Conference on **"Innovative Research in Physical, Chemical & Life Sciences (NCIRS-2018),** organized by Department of Zoology, M. H. Shinde Mahavidyalaya, Tisangi, Ta.: Gaganbavada, Dist: Kolhapur at Shivaji University, Kolhapur, MS, India, on 24th February, 2018 **(Chairperson).**
2. National Level Conference on "**Protein Structure and Dynamics in Health and Agriculture"** organized by Dept of Bioscience and Centre for Interdisciplinary Research in Basic Science, Jamia Milia Islamia, Delhi on 3rd to 4th Nov., 2017. (Poster evaluation committee).
3. National Workshop on **"Emerging Trends in Information Technology in University Management**" organized by Association of Indian Universities (AII), New Delhi at Department of Computer Science, Shivaji University, Kolhapur, 28th to 30th August, 2017 **(Chairperson).**

- **Conferences organized as a Convener/ Organizing Secretary (07):**

1. Convener, **International Student's Meet Exploring Educational Opportunities at Shivaji University,** organized by International Affairs Cell, Shivaji University, Kolhapur on 10th to 11th, March, 2017.
2. Convener, DST-PURSE Sponsored,one day "**National Level Competitions in BioSciences (BioComp-2015)**" organized by Department of Microbiology, Shivaji University, Kolhapur, on 30th January, 2015.

3. Convener, DST-PURSE Sponsored,one day National Seminar on, **"Future Perspective of Biological Sciences"**organized by Department of Microbiology, Shivaji University, Kolhapur, on 4th March, 2014.
4. Convener, UGC-SAP, DST Sponsored, two day **"Challenges and Opportunities in Life Science-2013 (COLS-2013)**" organized by Department of Biochemistry, Microbiology and Biotechnology, Shivaji University, Kolhapur, 8-9 February 2013.
5. Organizing Committee member in a workshop on **"A Brain-Storming Session for Application of Technology for Sustainable Development in The State of Maharashtra"** organized by Maharashtra Academy of Sciences and Shivaji University, Kolhapur on 26th and 27th November, 2012.
6. Convener, DST PURSE Sponsored,one day "**International Webinar on Advances in Life Science" (WebLS-2012)** organized by Department of Microbiology, Shivaji University, Kolhapur, on 21st January, 2012.
7. Organizing Secretary**,** UGC SAP DRS-I Sponsored, conference on **"Recent Trends in Life Sciences-2011'** organized by Department of Biochemistry, Shivaji University, Kolhapur, on 4-5 March 2011.

## 13. Research Projects:

| **Title of Project/Scheme** | **Funding agency** | **Funds received (Rs.)** | **Date of starting** | **Date of ending** | **Worked as Principal Investigator/ Co-investigator** |
|---|---|---|---|---|---|
| 1. "Molecular modeling study of hypermodified nucleoside lysidine present at wobble position in anticodon loop of E. coli $tRNA^{Ile}$ and its role in proper codon-anticodon recognition"<br>SERC - Fast Track Young Scientist Scheme. | DST, New Delhi | 18,32,000/- | January 2008 | April, 2011 | Principal Investigator |
| 2. "Structural Significance of hypermodified nucleosides 5-taurinomethyluridine ($\tau m^5U$) and its derivative 5-taurinomethyl-2-thiouridine, ($\tau m^5s^2U$) present at 'wobble' position in anticodon loop of tRNA" | UGC, New Delhi | 13,19,000/- | July, 2011 | March, 2014 | Principal Investigator |

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|---|---|---|---|---|---|
| 3. UGC SAP DRS I Infrastructure Grant Sanctioned to Department of Biochemistry, Shivaji University, Kolhapur | UGC SAP DRS- I | 32,00,000/- + 2 Project Fellows | April, 2009 | March, 2013 | Dy. Coordinator |
| 4. UGC SAP DRS II Infrastructure Grant Sanctioned to Department of Biochemistry, ShivajiUniversity, Kolhapur | UGC SAP DRS II | 1.25 Cr/- + 2 Project Fellows | April, 2015 | March, 2018 | Dy.Coordinator |
| 5. UGC SAP DRS II Infrastructure Grant Sanctioned to Department of Biochemistry, ShivajiUniversity, Kolhapur | UGC SAP DRS II | 1.25 Cr/- + 2 Project Fellows | March, 2018 | Till date | Coordinator |
| 6. DST PURSE-I Scheme, Dept of Microbiology, SUK. | DST | 33,58,000/- | Sept., 2011 | June, 2015 | Co-ordinator |
| 6. DST PURSE-II Scheme, Dept of Microbiology, SUK. | DST | 25,17,000/- | Sept., 2018 | June, 2020 | Co-ordinator |
| 7. UGC XI plan, Dept of Microbiology, SUK | UGC | 30,08,000/- | Apr., 2007 | March, 2012 | Co-ordinator |
| 8.DBT-IPLS (Interdisciplinary Programme for Life Sciences) | DBT | 25,96,000/- | June, 2012 | 2015 | Co-ordinator |
| 9. UGC XII plan, Dept of Microbiology, SUK | UGC | 10,00,000/- | Oct., 2012 | March, 2017 | Co-ordinator |
| 10. "Structural bioinformatics studies on ms2ct6A present in the anticodon loop of tRNALys and its role in codon-anticodon recognition with tRNA folding" (File No.:EMR/2017/002688) | DST-SERB, New Delhi | 25,73,588/- | Nov. 2018 | Oct. 2021 | Principal Investigator |

**14. Membership / Other Charge**

- Presently working as a Head (I/c), Department of Microbiology, Shivaji University, Kolhapur since August 2007.
- Founder coordinator, PG Diploma in Bioinformatics, Department of Biochemistry, Shivaji University, Kolhapur since 2008.
- Founder coordinator, M.Sc. Pharmaceutical Microbiology, Department of Biochemistry, Shivaji University, Kolhapur since 2016.

- Coordinator, RUSA- Shivaji University, Kolhapur (From August, 2019 till date).
- Hon'ble VC Nominee, Board of Incubation, Innovation and Linkages, SUK
- Dy. Coordinator; UGC SAP DRS-I (2009-2014) sanctioned to Department of Biochemistry, Shivaji University, Kolhapur.
- Dy. Coordinator; UGC SAP DRS-I (2015-2018) sanctioned to Department of Biochemistry, Shivaji University, Kolhapur.
- Coordinator; UGC SAP DRS- II (2015-2020) sanctioned to Department of Biochemistry, Shivaji University, Kolhapur (From 2018 to till date).
- Coordinator, UGC NET Coaching Scheme (Since 2013)
- Member, Editorial Board "SHIVSANDESH" an E-Bulletin of Shivaji University, Kolhapur.
- Chairman, B.Sc**.** Bioinformatics Syllabus Sub-Committee, under BOS Biotechnology, Shivaji University, Kolhapur.
- Member BUTR**,** Shivaji University, Kolhapur
- Member BUTR**,** Dr. D. Y. Patil University, Kolhapur
- BOS member, Biotechnology, Solapur University, Solapur.
- BOS member, Biotechnology, Dr. Babasaheb Ambedkar Marathwada University, Aurangabad.
- BOS member, Biotechnology (Ad-hoc board for Model College**,** Hingoli) S. R. T. M. University, Nanded.
- BOS member, Bioinformatics, Dr. Babasaheb Ambedkar Marathwada University, Aurangabad.
- Chairman, BOS Coordinating Committee in Microbiology, Shivaji University, Kolhapur
- Member, BOS Microbiology, Shivaji University, Kolhapur (2018 till date)
- Member, BOS Food Science and Technology, Shivaji University, Kolhapur (2018 till date)
- Hon'ble VC Nominee, Member, BOS, Biotechnology, Vivekanand College, Kolhapur (Autonomous)
- Member, BOS, Microbiology, Y.C.I.S. Satara (Autonomous)

**15. Reviewer of Journals:** Scientific Reports, PLoS One, GENE, J. Phy. Chem, ACS Chemical Neuroscience, J. Chem. Info. & Modelling, Mol. BioSyst., FEBS J., J Plant Biochemistry and Biotechnology, Microbiology, J Molecular Modeling, Int J. Biological Macromolecules, Euro. Biophys. Journal, J. of Biomolecular Structure and Dynamics, Amino Acids, Biochemica Biophysica Acta, Interdisciplinary Sciences: Computational Life Sciences, Int. J. of Bioinformatics Research Application, Biochem Biophys Reports.

Date: 23-01-2020 Prof. (Dr.) K. D. Sonawane