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Professor Bhushan Patwardhan has made innovative, outstanding and original contributions both in education and research. As a member of the Senate, Academic Council, Management Council and various Boards of Studies at the University of Pune, he has provided noteworthy visionary thought leadership. His research career has been equally outstanding, including globally acclaimed contributions to Ayurveda, ethnopharmacology, herbal drug technology and drug discovery. His pioneering work has led to many important national projects. He is ranked in top authors of Elsevier's SciTopic most popular pages, *Journal of Ethnopharmacology* and Oxford Journal *ECAM*. A summary of his papers has resulted 779 citations with Scopus *h* index 17. He is founding Editor-in-Chief of *Journal of Ayurveda and Integrative Medicine*. He has been a major contributor to several government initiatives and is a member of many high-level academic, government and civil committees. He promotes industry academia cooperation and has practices participatory corporate governance. He has developed many novel student centric programs by involving various stakeholders to ensure that the academic, teaching and research activities are relevant to societal needs.

- **Education & Teaching:** BSc Chemistry from Ferguson College, MSc Biochemistry with Late Professor John Barnabas and PhD from Botany Department, University of Pune and Haffkine Institute, Mumbai under supervision of Professor Samuel David. Has over 20 years of teaching and

research experience at graduate and doctoral levels. Under his research guidance 12 PhD, 20 Master of Pharmacy and several MSc students have been awarded degrees.

- **Research & Development:** Over 100 research publications (58 listed in [Scopus](#)), over 200 popular science articles, 3 Indian, 2 international Patents, 10 books and chapters. Has attracted substantial research funding (Over 15 crores) from national (CSIR, DST, UGC, ICMR, PSA) and international agencies (Ford Foundation, WHO). One of the three Champions, steering a national project on Herbal Drug Development under [NMITLI](#) program of CSIR, Principal Investigator of [Vaccine adjuvant of DST](#), [AyuSoft](#) of DIT and Ayurveda Prakriti project of [PSA](#). Has worked in pharmaceutical industry in R&D managerial and scientific advisory capacities. Responsible for developing cooperation with a number of leading industries.
- **Academic Leadership & Innovation:** Inspired by the Late Professor P.V. Sukhatme, he returned fulltime to academics and led the formation of the [Interdisciplinary School of Health Sciences of the University](#) with a unique curriculum strongly connecting academia with societal relevance. As a Convener, he was responsible for the major initiative to prepare the [Master Plan & Vision 2020 Document for University of Pune](#). He led the initiative resulting in recognition of Pune under 'University with Potential of Excellence' scheme of the UGC. He remains a driving force behind several national and international academic initiatives the most recent one being the '[EDGE Forum](#)' where he successfully brought India's top 10 Universities together as a quality league to address common interest issues including pedagogy, technology adoption, quality, assessment, accreditation.
- **University Governance:** Extensive experience in academic and University governance at the highest level of the Management Council, Senate, Academic Council, Board of Studies and other authorities and bodies of the University of Pune. Worked closely with several eminent Vice Chancellors of Pune. As the UGC nominated member on Governing Boards (2003-08), he has observed the functioning of several other universities and has been a member of Scientific, Advisory Boards of many national institutions.
- **Scholarship and Excellence:** One of the globally top cited authors of Elsevier's [SciTopics](#), Scirus and Scopus, Editorial Board Member of Oxford Press Journal [Evidence Based Complementary & Alternative Medicine](#), [International Journal of Ayurveda Research](#), [Phcog Res.](#), [AYU Research Journal](#), Indian Drugs, Indian Journal of Medical Sciences and Founding Editor-in-Chief of [Journal of Ayurveda & Integrative Medicine](#). The [WHO Geneva](#) awarded him a special study on Traditional Medicine. He has received best research awards and recognitions throughout the career beginning as a graduate student such as Prof Arnikar Lecture competition best research student award and prestigious Parkhe Award for Industrial Excellence from Pune's Chamber of Commerce.
- **Academic Innovations:** Active participant for conceptualizing and implementing the Credit system in the University that offered much desired flexibility to graduate students. Led the development and defended a proposal for University with Potential for Excellence resulting in a 30 crore grant from

the UGC. Developed many innovative teaching and research programs including UGC innovative grant award for Masters in Public Health, Gerontology and [Longevity](#) programs. Responsible for initiating M. Pharm. Pharmaceutical Biotechnology.

- **Government Committees:** Member of the Task Force that prepared [Maharashtra Biotechnology Policy](#) and also Government of Maharashtra nominee on Developmental Plan Committee for Pune city. Member of [Steering Committee on AYUSH for Planning Commission](#) and working group of [National Knowledge Commission](#). Presently, national Research Convener for International Cooperation of Department of AYUSH, and Chairman of Scientific monitoring committee for Pharmacogenomics [TIFAC CORE](#), Government of India.
- **Academic Conferences:** Orchestrated many important national and international seminars, workshops, symposia, roundtables and such academic events. His performance as the chief organizing secretary of [Indian Science Congress 2000](#) held in Pune has been the hallmark. Currently, he is closely involved in a major initiative '[Global Indian Scientists & Technocrats](#)' (GIST) convention as Chair of Academic Program Committee.
- **International Collaborations:** Invited by UGC to be a Convener of the national committee on '[Promotion of Indian Higher Education Abroad](#)' (PIHEAD) to develop a policy. Worked as Consultant to [WHO Geneva and SEARO](#), participated in academic programs of the [UN - ESCAP](#), [GRA](#) and [NIH NCCAM](#). Traveled extensively throughout Europe, the Americas and the Orient for research and academic interchange programs including [Johns Hopkins University](#), [University of Mississippi](#), University of Pennsylvania, and University of Bremen. Actively involved with international educators associations including Penn-in-India, [WES](#), [Alliance for Global Education](#), [College Board](#), IIE, [NAFSA](#) and [AIEA](#).
- **Industry and Consultancy:** Closely worked as scientific advisor / consultant to national and international agencies and industry including Pune and Pimpri Chinchwad Corporations, CDG, Germany, WHO Geneva, Lavasa City, Akurdi City, LiTaka Pharmaceuticals, Centaur Pharmaceuticals, Serum Institute of India, Sir Ratan Tata Trust to mention but a few.
- **Social Involvement:** Has generally promoted Science for Society approach, visits rural and tribal areas for outreach programs, regularly interacts with important components of the society including the Local Governments, Chambers of Commerce and Industries, Voluntary Organizations, Media and the opinion leaders. Brought a unique blend of Industry-Academia executive culture. Member of Hi Tech Pune committee of [Pune Vyaspeeth](#), Chairman Biotechnology Committee of MCCIA. Actively participate in several organizations such as Indian Drug Research Association, [Grant a Smile Foundation](#), [CDSA](#), [Federation of Jain Education Institutes](#), FICCI and [Science and Technology Park](#).

1. Education & Teaching:

- Working as Professor of Health Sciences since 1995 at the Interdisciplinary School of Health Sciences, University of Pune
- Founder Chairman of Interdisciplinary School of Ayurvedic Medicine University of Pune established in 1990
- Hon. Director, International Longevity Center – India, Pune.
- Worked as Hon Joint Director of Indian Drug Research Laboratory and managed M. Pharm in Pharmacognosy course
- Recognized postgraduate teacher and research guide for University of Pune and Bharati Vidyapeeth DU for Health Sciences and Pharmaceutical Sciences
- Regular examiner for Ph.D. and Masters work evaluations at University of Mumbai, National Institute of Pharmaceutical Education and Research (NIPER)
- Visiting faculty for number of other Universities, Institutions, Colleges, Government and Non Government Organizations across the country
- Worked on education reforms, innovations, internationalization at the local and national levels.
- Visiting Faculty, Penn-in-India program of University of Pennsylvania, USA
- Intensive Certificate Program on intellectual property and technology management conducted by Science and Technology Park in collaboration with University of Michigan.

2. Research & Development:

- Over 20 years of research and development experience both in industry and University systems.
- 16 PhDs and 22 M. Pharm students have completed studies under his guidance.
- Over 100 research publications, 12 reviews, 4 books, 2 US and 6 Indian Patents, 5 educational films and over 200 popular science articles. A complete list of PhD, M. Pharm. students and publications in peer review Journals may be provided on request.

Summary of Scientific Contributions:

- Outstanding and original contributions to the area of Ayurveda, ethnopharmacology, herbal drug technology and discovery
- Invited to contribute in the 100th Special Issue of *Journal of Ethnopharmacology* (Elsevier) as top 10 globally most cited authors
- Invited as a special advisor by the World Health Organization, Geneva to study traditional medicine
- Innovatively used concepts of systems biology and reverse pharmacology for integrative and evidence-based Ayurvedic medicine
- Used an array of advanced technologies for identification, separation, standardization and herbal pharmaceuticals
- Developed novel pharmacological models to study botanical immunoadjuvants and created holistic clinical protocols that gave unique identity to contemporary research in Ayurveda

• Summary of important research projects:

- Traditional Medicine: The World Health Organization Geneva awarded an important study for consideration of newly established Commission on Intellectual Property, Innovation and Public Health (CIPIH). This study reviews the existing evidence base on the use of TM in meeting the health needs of populations in developing countries to address and analyze the benefits in terms of accessibility, availability and affordability, including the health benefit and cost-benefit and considers the scope for using TM systems to deliver modern medicines, and the possibility for conjunctive use. The study also reviews existing evidence on current innovative efforts in TM to combat diseases that disproportionately affect developing countries, and the challenges and difficulties related to: regulatory issues, effectiveness of the patent system, and reliance on renewable natural resources, documenting traditional knowledge about medicine.
- Herbal drug development: Developed a standardized polyherbal formulation for treatment of arthritis that addresses important clinical targets like pain, cartilage regeneration, chondroprotection and established preclinical safety, pharmacology and clinical efficacy in randomized controlled clinical trials. One US and two

- Indian Patents have been granted that are commercialized. Currently, one of the three Champions involved in CSIR NMITLI Herbal Drug Development project.
- Botanical Immunomodulators and Rasayana Drugs: Mainly worked on Ashwagandha (*Withania somnifera*), Guduchi (*Tinospora cordifolia*) and Shatavari (*Asparagus racemosus*). Reported immunomodulatory activity in various standardized extracts and formulations prepared from these important Ayurvedic Rasayana drugs and evaluated their potential as antistress, adaptogenic, immuno and myeloprotectants. An interesting study reported Ashwagandha as better and safer drug to Ginseng. Such investigations remain noteworthy to properly position Ayurveda in competitive international market. Recent review on Botanical Immunodrugs in appeared in prestigious Journal in drug research - *Drug Discovery Today (Impact Factor 7)*.
 - Vaccine adjuvants: Newer vaccines like subunit and DNA vaccines are weakly immunogenic and require adjuvants. Used modified Kendrick test that involved challenge of live Pertussis cells intracerebrally where significant increase in antibody titer, reduced mortality and improvement in overall health was observed. This observation has immense importance in vaccine industry to obtain more efficient and sustained immunostimulation resulting increased yield of immune sera and immunobiologicals. This study indicates applications of test material as potential immunoadjuvant that also offer direct therapeutic benefits resulting lesser morbidity and mortality. 4 Indian Patents filed in the area of vaccine adjuvant. Recently, DST awarded a project in collaboration with industry partner Serum Institute of India.
 - Adjuvants in cancer therapy: Most of the cancer chemotherapeutic agents are immunosuppressants and cytotoxic. Used Cyclophosphamide-induced-immunosuppression to screen plant-derived drugs for anticancer and cytoprotective potential and to demonstrate myelo and immuno-protective activity in ascitic sarcoma bearing animals. Did activity-related extractions to identify best performing candidate drugs. This product will have significant importance in cancer therapeutics. One US patent has been filed in the area of cancer adjuvants.

Project on Ayurveda and cancer adjuvants has been recently shortlisted by the DBT.

- Immunostasis activity: Studied pharmacodynamics of Ashwagandha in experimentally induced tumors and infection mouse models where one of the well recognized cellular target for immunomodulation is Th1-Th2 balance. Studied *in vivo* (Th) cytokine modulation using flowcytometry and showed significant Th1 response (IL-2, IFN-g) in comparison to Levamisole and Cyclosporin. Ashwagandha exhibited significant dose dependent potentiation of cellular and humoral immune response comparable to Levamisole and faster recovery of CD4+ T cells as compared to control and cyclosporin. The study indicates immunostasis activity and suggests its use where Th1-Th2 modulation is required.
- AyuSoft and AyuGenomics: With C-DAC, conceptualized an innovative project named AyuSoft, which has been supported by the Ministry of Information Technology. Also involved in studying genetic correlations with Ayurvedic concepts where a preliminary data on HLA DRB1 indicates specific distributions between different Prakriti. These findings are radically extraordinary and likely to have tremendous implications on future research in pharmacogenetics and customized medicine. This work was presented at the Cold Spring Harbor Symposium 2004 on Pharmacogenomics and has been published in JACM recently.
- **Major Research Grants:**
 - Successful in attracting substantial funding from national and international agencies such as University Grants Commission, Ford Foundation, Impact India Foundation, Department of Science and Technology (DST), Council for Scientific and Industrial Research (CSIR). Some of the major research grants obtained include:
 - DST: 'Development of novel herbal adjuvants for vaccines' in collaboration with Serum Institute of India. Financial outlay: Rs 153 lakh.
 - CSIR: 'Development of Ayurveda based formulations for treatment of arthritis' in collaboration with leading national research laboratories and

industry partners. Total financial outlay of NMITLI herbal drug is Rs1400 Lakh and that of arthritis component is Rs 350 lakh.

- Department of Information Technology: ‘Development of AyuSoft – An intelligent decision support system based on Ayurvedic knowledge’ in collaboration with Center for Development of Advance Computing. Financial outlay: Rs 300 lakh.
- In addition, there are many smaller grants in the range of one lakh to 50 lakh from other funding agencies such as UGC, Ford Foundation, WHO.

3. Academic Management & Education Governance:

Involved in research and academic management at various levels in India and abroad.

Some representative associations:

- Government / UGC Nominee on Boards of National Institutions:
 - Member Task Force on AYUSH, Planning Commission, GoI
 - Member Task Force on Traditional Knowledge, Indian Knowledge Commission
 - National Institute of Pharmaceutical Education and Research (NIPER)
 - TIFAC CORE in Pharmacogenomics, MAHE, Manipal
 - Krishna Institute of Medical Sciences (Deemed University), Karad
 - Datta Meghe Institute of Medical Sciences (Deemed University) Nagpur
 - Saveetha Inst. of Med. & Tech. Sciences (Deemed University), Chennai
 - Deccan College (Deemed University), Pune
- Research / Academic Advisory Committees:
 - Foundation for Revitalization of Local Health Traditions (FRLHT)
 - TN Medical College Ayurved Research Center, Mumbai
 - Vidya Pratishthan IT and BT Schools at Baramati
 - CARE KERALAM, Government of Kerala, Thrichure
 - National AIDS Research Institute (ICMR), Pune
 - Jyana Prabodini, Pune
 - Sushrut Medical Foundation, Pune
 - Lokamanya Medical Foundation, Pune
 - Ayurveda College and Research Center, Wagholi
 - Federation of Jain Education Institutes (FJEI), Pune
 - Center for Development Studies and Activities (CDSA) Pune
 - Poona College of Pharmacy, Bharati Vidyapeeth Deemed University,
 - College of Ayurveda, Bharati Vidyapeeth Deemed University, Pune
 - Maharashtra University of Health Sciences, Nasik
- Trustee / Governing Boards:
 - International Longevity Center, India
 - Indian Drug Research Association, Pune
 - Science and Technology Park, University of Pune

- International Office Agenda 21, Pune
- Make-A-Wish Foundation, Pune
- Association with University of Pune: (just to mention few positions 1998-2006):
 - Nominated on the Management Council - an apex body of University of Pune, by the Senate from amongst Heads of Departments.
 - Academic Committees: Faculty of Science; Academic Council; Board of Studies in Chemistry, Pharmacy, Health Sciences, Environmental Sciences; Board of Extra-mural Studies, Postgraduate Teacher Recognition Committees in: Health Sciences, Chemistry, Biotechnology, Pharmaceutical Sciences and Ayurvedic Medicine, Faculty Member, Penn-in-India Program, University of Pennsylvania, USA.
 - Administrative Committees: Management Council, Senate, Executive Council, Official Spokesman of the University, Chairman, Convocation Advisory Committee, Chairman, Grievances Committee (non-teaching), Chairman, Reservation Policy Committee (Teaching), O.82 Committee for inspection of Colleges, O.83 Committee for inspection of Research institutes, UGC Unassigned Grant Distribution Committee, Teachers Selection Committees as VC Nominee, Chairman of many LIC's for Colleges and Research Institutes, Steering Committee: Golden Jubilee Celebrations.

4. Academic Policy, Innovations & Development:

- Led a team of three members Committee to conceptualize a proposal under 'University with Potential for Excellence' program of University of Pune for the UGC. Accompanied the then VC to make a formal presentation before the UGC Expert Committee. The UGC did select University of Pune under the scheme and granted a massive grant of Rs 30 Crores.
- Responsible for conceptualizing and implementing Credit System in the University of Pune. School of Health Sciences was one of the five departments to launch experimental credit system in the year 2000.
- Now all the departments of the campus have adopted this system making Pune University very unique and contemporary in global outlook.

- Participated actively in introducing many innovations in the education system. Conceptualized and led creation of many new courses some of which have been already implemented and others are under consideration. Some such courses include: M.Sc. Health Sciences, M.Sc. Drug Chemistry; M.Sc. Dietetics; M.Pharm. Pharmaceutical Biotechnology; Master of Public Health (MPH); M.S. Herbal Drug Technology; Certificate and Diploma course in Longevity, Ageing and Gerontology.
- Developed an innovative course leading to M.Pharm in Pharmaceutical Biotechnology at Poona College of Pharmacy in collaboration with National Chemical Laboratory and Serum Institute of India Ltd Pune under a formal MoU.
- Member Ad Hoc Board Committee to develop a Masters program in Bioanalytical Sciences for University of Mumbai.
- Together with Dr. S.D. Gokhale of Community Aid and Sponsorship Program (CASP) led formation of The International Longevity Center, Pune.
- Successfully presented a case of School of Health Sciences proposed MPH program and got significant grant under ‘Innovative Programs’ of the UGC. Presentations before the NAAC Committee and Xth Plan Committee resulted in getting additional 4 teaching positions and sizable development grant.

5. International Programs & Associations:

- Traveled extensively throughout the world including most of the Europe and the Americas, UK, China, Thailand, Malaysia, Korea.
- Actively participated to shape up the International Center of the University and started many collaborative programs. The Penn-in-India program with the University of Pennsylvania, USA is one of the most popular study abroad programs in both the countries.
- Strengthened academic cooperation with University of Bremen, Germany and conducted a short course on introduction to Ayurveda in Germany.
- Participated in Expo 2000 at Hanover on invitation from CDG of German Government.

- Instrumental in strengthening academic and civil society cooperation between Pune and Bremen by organizing many Seminars and conferences in the area of sustainable development.
- Instrumental in developing academic interchange program with University of Sunderland UK.
- Conceptualized a vision plan on International University Pune, during the Golden Jubilee year. Continuously following the need for such world class Universities in India.
- The University Grants Commission invited him to Chair its Expert Group to develop a strategy on International Education. Further, he was also invited to Chair an important Committee for Promotion of Indian Higher Education Abroad (PHEAD) of the University Grants Commission. This top level Committee consisted Vice Chancellors of some of the leading Universities in the country.
- Member of UGC Delegation that Participated in NAFSA –International Educators Conference in Baltimore and witnessed a formal signing of MoU with IIE
- Member of a national committee that formulated guidelines for Off Campus establishments in India and Abroad of Indian Universities including Deemed Universities.
- Active member of Indo-US, Indo-German, Indo-French, Indo-Swedish, Indo-Japan initiatives for business and education.
- Worked with UN and other international organizations such as WHO, UNDP, UNESCAP, UNIDO, USAID, Ford Foundation, as consultant or resource persons.

6. Industry Academia Cooperation:

- Leads one of the largest herbal drug network project of CSIR known as New Millennium Indian Technology Initiative where following premium research institutions and industry are working together:
 - Regional Research Laboratory, Jammu
 - National Botanical Research Institute, Lucknow
 - All India Institute of Medical Sciences, Delhi
 - Bhavan's SPARC Mumbai,
 - KEM Hospital Mumbai
 - Nizam Institute of Medical Sciences, Hyderabad
 - Indian Inst. of Chemical Technology, Hyderabad
 - Nicholas Piramal India Ltd, Mumbai
 - Natural Remedies, Bangalore.
 - Arya Vaidya Shala and Pharmacy, Kerala
 - Zandu Pharmaceuticals Ltd, Mumbai
 - Dabur India, Delhi
- Led establishment of a start-up company named BioVed Inc, USA and remained Research Advisor till 2001. A novel polyherbal US Patented product developed is now available in international markets.
- Invited by Government of Maharashtra on the Biotechnology Task Force under chairmanship of Dr R.A. Mashelkar to develop a Biotechnology Policy for Maharashtra. This effort finally led to establishment of Biotechnology Park at Hinjewadi Pune.
- Initiated academic and research collaborations with Pune based industries such as LiTaka Pharmaceuticals, Hindustan Antibiotics Ltd, Serum Institute of India.
- Instrumental in promoting industry-academia interactions at various levels and facilitated pharmaceutical industries to become recognized research centers of University of Pune. Currently following leading pharmaceutical and biotechnology industries remain part of this program:
 - Torrent Pharmaceuticals Ltd. Ahmedabad
 - Wokhardt Pharmaceuticals Ltd. Auragabad

- Lupin Research Park Pune
- Serum Institute of India, Pune
- Emcure Pharmaceuticals Ltd, Pune
- Cipla Chest Research Foundation, Pune
- Hindusthan Antibiotics Ltd, Pune
- Conceptualized two major industry-academia research projects that are funded by Department of Information Technology (with C-DAC) and Department of Science and Technology (with Serum Institute), Government of India.
- Active member of MCCIA Pune in Biotechnology and Education Committees.
- Invited as Honorary Member of Association of Technology-Led Biotechnology Entrepreneurs (ABLE) established by Dr Kiran Mazumdar-Shaw and Charter Member of The Indus Entrepreneurs (TiE) Pune Chapter established by Ms Pratima Kirloskar, member of Education Committee of FICCI.
- Successfully completed number of consultancy projects for corporate, government and voluntary organizations including:
 - World Health Organization, Geneva
 - BioVed Pharmaceuticals, San Jose USA and Pune
 - Centaur Pharmaceuticals, Mumbai
 - University Grants Commission, New Delhi
 - Local Municipal Corporations: Pune, PCMC
 - Impact Asia Foundation, Mumbai
 - Friends of German Association, Pune-Bremen
 - Lavasa - Lake City Corporation, Pune
- Generally promoted industry academia interaction through Science and Technology Park of the University. Started professional, research and development career in pharmaceutical industry after doctorate studies in 1985. Association with corporate and industry sector to evolve many innovative R&D initiatives. Some of his industry associations include Manager R&D of Eisen Pharmaceuticals Pvt Ltd Pune (1985-1990); R&D Advisor and Board of Directors of Litaka Pharmaceuticals Ltd, Pune (1990-1992); Litaka Research Scientist at University of Pune (1993).

- Recently, conceptualized International Education and Health Science Park in association with Science and Technology Park. The concept is under active consideration.

7. National and International Recognitions:

Just to mention few important..

- 2009 – Convener Research, International Cooperation, Department of AYUSH, Government of India.
- 2009 - Scientific Advisor FRLHT and II-AIM
- 2009 – Founder Editor, Journal of Ayurveda & Integrated Medicine
- 2009 – Editorial Board, International Journal of Ayurveda Research, Journal of Young Pharmacists, Studies on Ethnomedicine
- 2008 – Chair RAC, Indo-Dutch Research Program in TM
- 2007 – Member Tata Trust Committee on Traditional Medicine
- 2007 – Member TK Taskforce, National Knowledge Commission
- 2006 – Member Consultative Group, Planning Commission
- 2006 – Member, Science Initiatives in Ayurveda, PSA Office, Govt of India
- 2006 – Advisory Committee, SVTEAMS Seminar, Multiversity and IIT-D.
- 2006 – Global Research Alliance, CSIR –World Bank, New Delhi
- 2006 – Advisor, CARE Keralam, Government of Kerala Program on Ayurveda
- 2006 – Advisor, Arya Vaidya Pharmacy Research Center, Coimbtore
- 2005 – Task Force on Rasayana, Golden Triangle Project, AYUSH, MoH&FW
- 2005 - Member, Academic Planning Committee, NIPER, Mohali, Punjab
- 2005 – PCP Special Award for significant contributions in the field of Pharmacy
- 2004 – Consultant: WHO-CIPIH Geneva on Traditional Medicine
- 2005 – Member Monitoring Committee of CSIR Network Project
- 2003 – Associate Member, The Indus Entrepreneurs (TiE), Pune Chapter
- 2003 – Member Academic Planning Board, NIPER, Chandigarh
- 2003 – Convener, PIHEAD: Standing Committee on Higher Education, UGC
- 2003 – Invited Member, Association of Biotech Led Enterprises – ABLE, India
- 2003 – Member, Task Force, International Union of Pure and Applied Chemists

- 2002 – Convener, UGC National Committee on Promotion of Higher Education
- 2003 – Member, IMPLANT Project, Saurashtra University Rajkot
- 2003 – Member, Development Council, MoHI&PE, Government of India
- 2002 – Advisor, Indian Universities’ Technology Database: UN-APCTT-UGC
- 2001 - Member Core Group, University with Potential for Excellence, UoP
- 2001 - Member Biotechnology Policy Task Force, Government of Maharashtra
- 2001 - Pune-Sweden Business development committee, MCCIA
- 2000 – Chair, Steering Committee, NMITLI Herbal Drugs (OA), CSIR, Delhi
- 2000 - Expert Committee member MCCIA: Biotechnology, Education
- 2000 - Fellow of Maharashtra Academy of Sciences
- 1998 - Best Lecture Award, Shah Endowment, IWWA, India.
- 1996 - U.S. Patent granted for a novel antiarthritis formulation
- 1996 - Invited expert: Maharashtra Pollution Control Board
- 1993 - Co-chairman of scientific session, W.H.O. 5th INWIN Congress, Geneva
- 1993 - Fellowship - International Council of Ayurveda
- 1992 - Parkhe Industrial Merit Award, Chamber of Commerce and Industries
- 1992 - Li Taka Research Scientist Award, University of Poona
- 1990 - Honorary Degree Doctor of Medicine, IOUCM, Sri Lanka
- 1989 - Chairman of Scientific Session, 3rd World Congress on Ayurveda, Italy
- 1983 - Special Prize in Biological Sciences, Annual Seminar of Research Students
- 1981 - Best presentation Award, Professor Arnikar Lecture competition

8. Keynotes and Invited Lectures:

Many national and international bodies have recognized academic, research and development accomplishments. Actively participates in many academic events all over the world for consultations and lectures in important international institutions such as: Kings College, London University, UK; Bremen University and Heidelberg University, Germany; University of Sunderland UK; Harvard Medical School and Massachusetts General Hospital, Boston, University of Pennsylvania, Philadelphia, Columbia University, New York, Johns Hopkins University, American College of Rheumatology,

USA, United Nations ESCAP Thailand, UNIDO, WHO CIPIH Geneva, Johns Hopkins University, USA and NCCAM National Institutes of Health, Bethesda, USA.

Just to mention few important...

- 2007 – C. Dwarkanath Memorial Oration
- 2007 – Keynote, Indian Pharmacological Society Conference, NIPER
- 2007 – Keynote, Indian Pharmaceutical Association, Varanasi
- 2006 – Keynote at Int. Symposium on Medicinal Plant, ISCB & Univ Toronto.
- 2006 – Keynote at 2nd Int. Symposium on Drug Discovery Process, Belgaum
- 2005 – Keynote speaker at Global Ayurveda Conference Trichure, Kerala
- 2005 – Keynote at Indo-US Symposium on Herbal Drugs, New Delhi
- 2005 – Co Chair and speaker at WHAT Medicine Conference, Kuala Lumpur
- 2005 – Invited Speaker at CAM Center of Johns Hopkins University, USA
- 2005 – Invited Expert and Resource person at WHO SEARO meeting, Korea
- 2005 – Invited Speaker at Whole Person Healing Summit, Bethesda
- 2005 – Invited Speaker on Traditional Medicine at Bangalore Bio 2005
- 2005 – Invited Speaker at UNDP Workshop on Herbal Drugs, New Delhi
- 2004 – Invited Speaker on Ayurveda and Science at NIH/NCCAM, Bethesda
- 2004 – Invited speaker at Annual Meeting, Indian Academy of Sciences, Varanasi
- 2004 – Invited Speaker at INSA - CSIR Symposium on Traditional Medicine
- 2004 – Keynote Ayurvedic Drug Manufacturers Association Conference
- 2004 – Govt. of India and US Embassy consultation on Public Health

Academic organization:

Just to mention few important...

- 2008 – EDGE International Conference, New Delhi
- 2007 – Reverse Pharmacology Symposium, KHS, Mumbai
- 2006 – World Peace Conference, UNESCO-MIT Pune
- 2006 – World Ayurveda Congress proposed at Pune
- 2006 – 3rd EduCon A National Vice Chancellors Meet proposed in Malaysia
- 2006 – 3rd Nutraceutical Summit, CSIR-CFTRI, proposed
- 2005 – 2nd EduCon – A National Vice Chancellors Meet at Hyderabad
- 2005 – National Conference of IASTAM in Pune

- 2005 – 2nd Nutraceutical Summit, CSIR-CFTRI, New Delhi
- 2004 – 1st EduCon – National Vice Chancellors Meet, Goa
- 2003 – 1st Nutraceutical Summit, CSIR-CFTRI Mumbai
- 2003 - International Training Program on IPR and Tech Transfer
- 2003 - Debate on National Health Policy
- 2002 - Indian Pharmaceutical Congress 2002
- 2001 - Workshop on Ayurveda at Bremen Germany June 22-24.
- 2001 - Ayurveda and Modern Technologies: Global perspectives
- 2000 - Pune-Bremen Workshop: Health, Environment and Biotechnology.
- 2000 - Emerging Technologies, International Seminar on IT-BT
- 2000 - Organizing Secretary, Indian Science Congress 2000, Pune
- 1999 - India Health Symposium, University of Pennsylvania Health Systems US
- 1998 - Challenges in Ageing - A ten days training program of United Nations
- 1997 - International Ayurveda Conference, SGPGI and CDRI and Bio-Ved
- 1996 - World Health Day Seminar: Healthy Cities for Better Life
- 1995 - Organizing the Secretary, National Ayurveda Conference, Pune
- 1994 - Organizing secretary, Seminar on Priorities of Research (IASTAM)
- 1992 - Arthritis and Rheumatism Campaign, Medinova and UoP.
- 1991 - Convener, National Seminar on Biomedical Research in Yoga, UGC, UoP
- 1990 - Chairman Organizing Committee, National Seminar on Liver Disorders
- 1990 - Organized and coordinated Symposium, Research on Ayurveda, IASTAM
- 1989 - Chairman, National Workshop on Research Methods.
- 1989- Chairman Organizing Committee, Seminar Let's Talk Health

9. Social

- Involved in many initiatives in the interest of city, region, country and the society.
- Founder member of International Office Agenda 21 incorporated jointly by Pune and Pimpri-Chichwad Corporations and the Government of Bremen Germany.
- Founder Trustee of Make-a-Wish Foundation dedicated to fulfilling wishes of terminally ill children and the Elderly.

- Actively associated with many other voluntary associations such as Pune Vyaspeeth, Vanarai, Green Pune Movement, FJEI, Vigyan Bharati, Prashanti Cancer Care Mission etc.
- Maharashtra State Government Nominee on the Development Committee for the Pune city. Significant efforts in protecting hills and natural resources of Pune from exploitation and deterioration.
- Written over 200 popular articles and educational films on subjects of social importance especially related to science, health, environment, education in popular media including Daily Sakal, Loksatta, Lokamat, Maharashtra Times, Times of India, Economic Times, Indian Express etc. Also delivers popular science lectures at Rotary, Lions and other such organizations.

Professional Memberships:

Science and Technology Park Society, Founder Trustee

Indian Drug Research Association, Trustee

Indian Science Congress Association, Life

Indian Medical Association, Life

Indian Public Health Association, Life

Indian Association for Cancer Research, Life

Indian Association for Clinical Pharmacology and Therapeutics, Life

Indian Association for Study of Traditional Asian Medicine, Life

Maharashtra Association of Anthropological Studies, Life

Personal:

Married to Bhagyada.

Daughters: Gayatri, M.S. in Environmental Architecture from University of Arizona and Ketaki, PhD student in Pharmaceutics, University of Mississippi at Oxford.

Interests and Hobbies: Science writing, Entrepreneurship development, Academia-Industry cooperation, Environment promotion, Reading, Table Tennis, Chess and Travel.

Publications:

This list is exclusively of research articles that are published in peer review Journals only. The ISI Impact factor of Journals is also provided where applicable. A list of research articles communicated and those from proceedings or abstracts' publications of national and international conferences is very exhaustive and is excluded here.

I. Original Articles:

Sr. No.	Names of all the Authors (underline indicates status as main / corresponding author)	Title of the paper	Name of Journal, year and page (Impact Factor given in brackets)
1.	Mashelkar RA, Patwardhan B, Sengupta S.	Emerging Innovation Practices and Policies for Health Care Needs of Resource Poor People	<i>Global Forum Update on Health for Research</i> , 2009, 6, 151-156.
2.	<u>Patwardhan B.</u> Mashelkar RA.	Traditional medicine-inspired approaches to drug discovery: can Ayurveda show the way forward?	<i>Drug Discovery Today</i> , 2009, 14 (15-16), 804-811 (IF 7.7)
3.	<u>Patwardhan B.</u> Vaidya ADB	Ayurveda: research and scientific publications	<i>Current Science</i> , 2009, 97(8), 1117-1121.
4.	Patil D. et al. <u>Patwardhan B.</u>	Quantitative Determination of Protoberberine Alkaloids in <i>Tinospora cordifolia</i> by RP-LC - DAD Method	<i>Chromatographia</i> , pp 1-5, 2009, epub ahead of print DOI: 10.1365/s10337-009-1430-3
5.	<u>Patwardhan B.</u> et al	Immunomodulatory activity of <i>Asparagus racemosus</i> on systemic Th1/Th2 immunity: Implications for immunoadjuvant potential.	<i>Journal of Ethnopharmacology</i> 2009; 121 (2), 241-247. (IF 1.625)
6.	Sharma H.D., <u>Patwardhan B.</u>	Theories and Management of Aging: Modern and Ayurveda Perspectives	<i>Evidence-based Complementary and Alternative Medicine</i> , 2009 (IF – 2.535) doi:10.1093/ecam/nep005
7.	Patil D. et al., <u>Patwardhan B.</u>	Physicochemical stability and biological activity of <i>Withania somnifera</i> extract on real time and accelerated storage conditions	<i>Planta Medica</i> , Oct 2009, Epub ahead of print
8.	Ghodke Y. Et al. Patwardhan B.	Traditional Medicine to Modern Pharmacogenomics: Ayurveda Prakriti Type and CYP2C19 Gene	<i>Evidence-based Complementary and Alternative Medicine</i> 2009, (IF – 2.535)Epub ahead of print doi:10.1093/ecam/nep206

		Polymorphism Associated with the Metabolic Variability	
9.	Sharma H.D., <u>Patwardhan B.</u>	Wound Healing Activity of Topical Application Forms Based on Ayurveda	<i>Evidence-based Complementary and Alternative Medicine</i> , 2009 (IF – 2.535)doi:10.1093/ecam/nep015
10.	Kulkarni P. et al, Patwardhan B.	High performance liquid chromatographic fingerprint for quality control of <i>Terminalia arjuna</i> containing ayurvedic churna formulation	<i>Journal of AOAC International</i> , 2009, 92(4), 1016-1020.
11.	Puranik A. <u>Patwardhan B.</u>	<i>Cassia auriculata</i> : Aspects of Safety Pharmacology and Drug Interaction	<i>Evidence-based Complementary and Alternative Medicine</i> , Oct 2009, Epub ahead of print doi:10.1093/ecam/nep237
12.	Sahu N.K. Patwardhan B.	Stability study on <i>Boswellia serrata</i> (hydro-alcoholic) extract	Asian Journal of Chemistry 2009, 21 (5), 3529-3534.
13.	<u>Patwardhan B.</u> et al.	Reverse Pharmacology and Systems Approaches for Drug Discovery and Development	<i>Current Bioactive Compounds</i> , 2008, 4, 201-212.
14.	<u>Patwardhan B.</u> et al.	Ethnopharmacology in vaccine adjuvant discovery	<i>Vaccine</i> 2008, 26 (41), 5239-5240. (IF – 3.377)
15.	<u>Patwardhan B.</u> Bodeker G	Ayurvedic Genomics – Establishing a genetic basis for mind-body typologies	<i>Journal of Alternative & Complementary Medicine</i> , 2008, 14 (5), 571-576. (IF 1.526)
16.	Sumantran V et al., Patwardhan B.	Chondroprotective potential of fruit extracts of <i>Phyllanthus emblica</i> in osteoarthritis	<i>Evidence-based Complementary and Alternative Medicine</i> , 2008, 5 (3), 329-335. (IF – 2.535)
17.	Chavan P, Joshi K, Patwardhan B.	Development of SCAR marker as a complementary tool for identification of <i>Zingiber officinale</i> Roscoe from crude drug and multi-component formulation.	<i>Biotechnology & Applied Biochemistry</i> , 2008, 50 (1), 61-69. (IF – 1.903)
18.	Ghodke Y et al, Patwardhan B.	Are TS and MTHFR genes linked with Methotrixate response in rheumatoid arthritis?	<i>Clinical Rheumatology</i> , 2008, 27 (6), 787-789. (IF – 1.644)
19.	Keramat A et al, Patwardhan B.	The assessment of osteoporosis risk factors in Iranian women compared with Indian women	<i>BMC Musculoskeletal Disorders</i> , 2008, 9(1):28. (IF - 1.46)

20.	Sumantran V et al, Patwardhan B.	Chondroprotective potential of root extracts of <i>Withania somnifera</i> in osteoarthritis	<i>Journal of Biosciences</i> , 2007, 32(2), 299-307.
21.	Ghodke Y et al, Patwardhan B.	Genetic polymorphism CYP2C19 in Maharashtrian population	<i>European Journal of Epidemiology</i> , 2007, 22 (12), 907-915. (IF - 3.148)
22.	Shinde V et al, Patwardhan B	RAPD analysis for determination of components in herbal medicine	<i>Evidence-based Complementary & Alternative Medicine</i> , 2007, 4(1), 21-23. (IF - 2.535)
23.	Joshi K, Hankey A, Patwardhan B.	Traditional phytochemistry: Identification of drug by taste	<i>Evidence-based Complementary & Alternative Medicine</i> , 2007, 4, 145-148. (IF - 2.535)
24.	Warude W, Joshi K, Patwardhan B.	Development & applications of RAPD – SCAR marker for identification of <i>Phyllanthus emblica</i> Linn.	<i>Biological & Pharmaceutical Bulletin</i> , 2006, 29, 2313-2316.
25.	Bani S et al, <u>Patwardhan B.</u>	Selective Th1 up-regulating activity of <i>Withania somnifera</i> aqueous extract in an experimental system using flow cytometry	<i>Journal of Ethnopharmacology</i> , 2006, 107(1), 107-115 (IF - 2.049)
26.	Chavan P, Joshi K, <u>Patwardhan B.</u>	DNA microarrays in herbal drug research	<i>Evidence-based Complementary & Alternative Medicine</i> , 2006, 3. 447-457. (IF - 2.535)
27.	<u>Patwardhan B.</u> et al	Genetic basis to concept of Prakriti	<i>Current Science</i> , 2006, 90(7), 896.
28.	Joshi K. , Patwardhan Bhushan	Supplementation with Flax oil and vitamin C improves the outcome of ADHD	<i>Prostaglandins, Leukotrienes & Essential Fatty Acids</i> , 2006, 74, 17-21. (IF 2)
29.	<u>Patwardhan Bhushan</u>	Ethnopharmacology and Drug Discovery	<i>Journal of Ethnopharmacology</i> , 2005, 100 (1-2), 50-52. (IF 2.049)
30.	<u>Patwardhan B.</u> and Gautam, M.	Botanical Immunomodulators: Scope and Opportunities	<i>Drug Discovery Today</i> , 2005, 10 (7), 495-502. (IF - 7.7)
31.	<u>Patwardhan Bhushan</u> , Joshi Kalpana, Chopra Arvind	Classification of human population based on HLA gene polymorphism and concept of <i>Prakriti</i> in Ayurveda	<i>Journal of Alternative and Complementary Medicine</i> , 2005, April, 11 (2), 349-353. (IF - 1.256)
32.	Warude D., <u>Patwardhan B.</u>	Botanicals: Quality and regulatory issues	<i>Journal of Scientific & Industrial Research</i> , 2005, 64 (2), 83-92. (IF - 0.192)
33.	Yogita Ghodke, Kalpana Joshi, Arvind Chopra, Bhushan Patwardhan	HLA and Disease: Trends and Associations	<i>European Journal of Epidemiology</i> , 2005, 20, 475-488. (IF - 3.148)
34.	<u>Patwardhan B.</u>	Ayurveda and traditional	<i>Evidence-based Complementary &</i>

	Warude D, Pushpangadan P, Bhatt N	Chinese medicine: a comparative overview	<i>Alternative Medicine</i> , 2005, 2, 465– 473. (IF – 2.535)
35.	<u>Patwardhan B.</u> , Warude D., Tillu G.	Heavy metals and Ayurveda	<i>Current Science</i> 2005, 88(10), 1536. (IF - 0.694)
36.	Chopra A., Levin P., Chitre D., Patwardhan B.	A 32-week randomized, placebo controlled clinical evaluation of RA 11- an Ayurvedic drug for treatment of osteoarthritis of knees.	<i>Journal of Clinical Rheumatology</i> 2004, 10(5), 236-245. (IF – 0.913)
37.	Diwanay S., Gautam M., <u>Patwardhan</u> <u>Bhushan</u>	Cytoprotection And Immunomodulation In Cancer Chemotherapy	<i>Current Medicinal Chemistry - Anticancer Agents</i> 2004. 4 (6), 479- 90. (IF - 4.409)
38.	Gautam Manish, Diwanay Sham, Gairola Sunil, Shinde Yojana, Jadhav SS and <u>Patwardhan B.</u>	Immune response modulation to DTP vaccine by aqueous extract of <i>Withania somnifera</i> in experimental system	<i>International Immunopharmacology</i> , 2004. 4 (6), 841-849. (IF - 2.203)
39.	Joshi K., Patil P., Warude D., <u>Patwardhan B.</u>	Molecular markers in herbal drug development	<i>Current Science</i> 2004, 87 (2), 159- 165. (IF – 0.8)
40.	Gautam M., Diwanay S., Gairola S., Shinde Y., Patki P. and <u>Patwardhan</u> <u>Bhushan</u>	Immuno-adjutant potential of <i>Asparagus racemosus</i> aqueous extract in experimental system	<i>Journal of Ethnopharmacology</i> , 2004, April, 91:2-3, 251-255. (IF- 1.269)
41.	<u>Patwardhan</u> <u>Bhushan</u> , Vaidya Ashok D.B., Chorghade Mukund	Ayurveda and Natural Product Drug Discovery	<i>Current Science</i> , 2004 March, 86 (6), 789-799. (IF-0.8)
42.	<u>Diwanay S</u> , <u>Chitre</u> <u>D</u> , <u>Patwardhan B.</u>	Immunoprotection by botanical drugs in cancer chemotherapy.	<i>Journal of Ethnopharmacology</i> , 2004, Jan 90:1, 49-55. (IF-1.269)
43.	Warude D., Chavan P., Joshi K., <u>Patwardhan</u> <u>Bhushan</u> .	Isolation of DNA From Fresh And Dry Samples Having Highly Acidic Tissue Extracts	<i>Plant Molecular Biology Reporter</i> , 2003 Dec., 21, 1-6. (0.941)
44.	Jadhav R.B., <u>Patwardhan</u> <u>Bhushan</u>	Anti-anxiety activity of <i>Celastrus paniculatus</i>	<i>Indian Journal of Natural Products</i> , 2003, 19(3), 16-19.
45.	Vaidya A, Vaidya R, Patwardhan Bhushan, Tillu G, Rao Y.	Ayurvedic Pharmacoepidemiology: a proposed new discipline.	<i>Journal of Association of Physicians India</i> , 2003, 51, 528.
46.	<u>Patwardhan</u>	Herbal remedies and the bias	<i>Current Science</i> 2003, 84:9; 1165-

	<u>Bhushan</u> , Vaidya ADB, Chopra A.	against Ayurveda.	1166. (IF-0.8)
47.	Patwardhan Bhushan.	AyuGenomics: Integration for customized medicine.	<i>Indian Journal of Natural Products</i> , 2003, 19(1), 16-23.
48.	<u>Chopra A</u> , <u>Lavin P</u> , <u>Patwardhan Bhushan</u> , <u>Chitre D</u> .	Randomized double blind trial of an Ayurvedic plant derived formulation for treatment of rheumatoid arthritis.	<i>Journal of Rheumatology</i> , 2000, 27:6, 1365-72. (IF-2.674)
49.	Patwardhan Bhushan	Ayurveda: The Designer Medicine: A review of ethnopharmacology and bioprospecting.	<i>Indian Drugs</i> , 2000, 37(5), 213-227.
50.	<u>Agarwal R</u> , <u>Diwanay S</u> , <u>Patki P</u> , <u>Patwardhan Bhushan</u>	Studies on immunomodulatory activity of <i>Withania somnifera</i> extracts in experimental immune inflammation	<i>Journal of Ethnopharmacology</i> , 1999, 67:1,27-35. (IF-1.269)
51.	Patil M., Patki P, Kamath V, <u>Patwardhan Bhushan</u>	Antistress Activity of <i>Tinospora cordifolia</i> (Wild) Miers,	<i>Indian Drugs</i> , 1997, 34, 211-215
52.	Patwardhan Bhushan, Dambal, A, Gunale, V	A study of the ambient air lead levels in Pune city	<i>Journal of Environment & Pollution</i> , 1999, 6(4), 295-99
53.	Patwardhan Bhushan, Tupe V, Gunale V.	Bacteriological quality of Mula-Mutha Rivers of Pune	<i>Journal of Environment & Pollution</i> 1999
54.	Patwardhan Bhushan	A Story of Artrex	<i>Heritage Healing</i> , 1999, Vol. 1, No. 3.
55.	<u>Ziauddin M</u> , <u>Phansalkar N</u> , <u>Patki P</u> , <u>Diwanay S</u> , <u>Patwardhan Bhushan</u>	Studies on the immunomodulatory effects of Ashwagandha	<i>Journal of Ethnopharmacology</i> , 1996, 50:2 69-76. (IF-1.269)
56.	<u>Grandhi A</u> , <u>Mujumdar AM</u> , <u>Patwardhan Bhushan</u>	A comparative pharmacological investigation of Ashwagandha and Ginseng.	<i>Journal of Ethnopharmacology</i> , 1994, 44:3 131-5. (IF-1.269)
57.	<u>Patwardhan Bhushan</u> , Hooper Malcolm	Ayurveda and Future Drug Development.	<i>International Journal of Alternative and Complementary Medicine</i> , 1992, 10(12), 9-11.
58.	Kulkarni R.R, Jog V, Gandage S, Patki P, <u>Patwardhan Bhushan</u> .	Efficacy of Ayurvedic Formulation in Rheumatoid arthritis: A Randomized, Double blind, Placebo controlled Crossover study	<i>Indian Journal of Pharmacology</i> , 1992, 24,98-101.
59.	Kulkarni R.R, Jog V, Gandage S, Patki P,	Efficacy of Ayurvedic Formulation in Osteoarthritis arthritis: A Randomized,	<i>Journal of Ethnopharmacology</i> 1991, 33(1-2), 91-95. (IF-1.269)

	<u>Patwardhan Bhushan.</u>	Double blind Placebo controlled Crossover study.	
60.	<u>Patki P.S., Singh J, Gokhale SV, Bulakh PM, Shrotri DS,</u> Patwardhan Bhushan	Potassium and magnesium in essential hypertension (Letter)	<i>British Medical Journal</i> , 1990 Dec, 301:6751, 1279. (IF-7.209)
61.	<u>Patki P.S., Singh J, Gokhale SV, Bulakh PM, Shrotri DS,</u> Patwardhan Bhushan	Efficacy of potassium and magnesium in essential hypertension: a double blind, placebo controlled, crossover study	<i>British Medical Journal</i> , 1990, Sep 301:6751, 521-523 (IF-7.209)
62.	<u>Patwardhan Bhushan,</u> Bhutani K.K., Patki P.S.	Clinical efficacy of <i>Terminalia belerica</i>	<i>Ancient Science of Life</i> , 1990, 10(2), 94-97.
63.	<u>Patwardhan Bhushan,</u> Kalbag Deepa, Patki P.S, Nagsampagi B.A.	Search of Immunomodulatory Agents: A Review	<i>Indian Drugs</i> , 1990, 28 (2), 56-63.
64.	<u>Patwardhan Bhushan,</u> Malcolm Hooper	Medical Plants in Future Drug Research.	<i>Biologia Indica</i> , 1991, 2,1-4.
65.	<u>Patwardhan Bhushan,</u> Walimbe V, Palkar Vijaya and Kulkarni P.H.	Studies on Ayurvedic Tablets – Part I Disintegration time as a preliminary tool for standardisation	<i>Ancient Science of Life</i> , 1990, 10(1), 36-39.
66.	Paranjape P., Patki P.S. Kulkarni P.H. <u>Patwardhan Bhushan</u>	Ayurvedic Treatment of Obesity: A Randomized Double-blind, Placebo-Controlled Clinical Trial	<i>Journal of Ethnopharmacology</i> , 1990, 29, 1-11. (IF-1.269)
67.	Saraf M.N., Ghooi R.B <u>Patwardhan Bhushan</u>	Studies on Mechanism of Action of <i>S. anacardium</i> in Rheumatoid Arthritis.	<i>Journal of Ethnopharmacology</i> , 1989, 25,159-164. (IF-1.269)
68.	Patwardhan Bhushan	When to believe the unbelievable (Editorial)	<i>Maharashtra Medical Journal</i> , 1988, 35, 417
69.	<u>Patwardhan Bhushan,</u> Kulkarni P. H.	Ayurvedic Treatment In Rheumatoid Disease	<i>Maharashtra medical Journal</i> 1988, 35(9): 171-175.
70.	Patwardhan Bhushan	Ayurvedic Remedies For Urinary Diseases	<i>Maharashtra Medical Journal</i> , 1988, 35(3): 63-66.
71.	<u>Patwardhan Bhushan,</u> Ghooi R.B., David S.B.	A New Anaerobic Inhibitor of Herbal Origin	<i>Indian Journal of Pharmaceutical Sciences</i> , 1988, 50 (2), 130-132.
72.	<u>Patwardhan Bhushan,</u> Saraf	Toxicity of <i>Semecarpus anacardium</i> extract,	<i>Ancient Science of Life</i> , 1988, 8 (2), 106.

	M.N., David S.B.		
73.	Saraf M.N and Patwardhan Bhushan	Pharmacological Studies on S. Brevistgma Part II: Brochodialator activity	<i>Indian Drugs</i> , 1988, 26(2), 54-57.
74.	Saraf M.N and Patwardhan Bhushan	Pharmacological Studies on S. Brevistgma Part I: Antiallergic	<i>Indian Drugs</i> , 1988, 26(2), 49-54.
75.	Patwardhan Bhushan	Ashwagandha - Plant Update	<i>Deerghayu International</i> , 1988, 4(1).
76.	<u>Patwardhan Bhushan</u> , David S.B.	Advances on Bhallataka as potent Antibacterial Agent.	<i>Deerghayu International</i> , 1987, 3 (2), 6.
77.	Mujumdar A.M., <u>Patwardhan B.</u> Joshi U.	Anabolic Activity of Ashwagandha,	<i>Deerghayu International</i> , 1987, 4, 2.
78.	Patwardhan Bhushan	Role of Potassium supplements in Essential Hypertension.	<i>Maharashtra Medical Journal</i> , 1987, 34(11), 267
79.	<u>Patwardhan Bhushan</u> , Phadke U.R., Ghooi R.B	Binding of Monoene Bhilwanol on <i>Clostridium tetani</i> .	<i>Bulletin of Haffkine Institute</i> 1983, 11, 14.
80.	<u>Patwardhan Bhushan</u> , Ghooi R.B.	Chemical and Biological Properties of Semecarpus anacardium.	<i>Bulletin of Haffkine Institute</i> , 1982,10, 87.
81.	<u>Patwardhan Bhushan</u> , Francis R.P, Kapre S.V., Sharma K.D.	Antibacterial Properties of <i>S. anacardium</i> .	<i>Bulletin of Haffkine Institute</i> 1982, 10, 27.

II. Patents

1	<u>Patwardhan Bhushan</u>	Method of treating musculoskeletal disorders and a novel composition therefore.	<i>United States Patent</i> No. 5494668, issued on February 27, 1996. Licensed to <i>BioVed Inc</i> , San Jose, CA, USA.
2	<u>Patwardhan B.</u> Gautam M	Process For Making Biologically Active Aqueous Extracts Of Plant Product	<i>Indian Patent</i> : 1246/Mum/2003, Filing Date: 2003-12-05, Publication Date: 2006-01-20, Applicant: Serum Institute Of India Ltd., Pune.
3	<u>Patwardhan B.</u> Gautam M	Aqueous Extracts Of Plant Products.	<i>Indian Patent</i> : 1247/Mum/2003, Filing Date: 2003-12-05, Publication Date: 2006-01-20. Applicant: Serum Institute Of India Ltd., Pune.
4	<u>Patwardhan B.</u> Gautam M	Process For Making Immunological Adjuvants.	<i>Indian Patent</i> : 1253/Mum/2003, Filing Date: 2003-12-08, Publication Date: 2006-01-20. Applicant: Serum Institute Of India Ltd., Pune.
5	<u>Patwardhan B.</u> et al.	Herbal Preparation for Degenerative Disorders: Osteoarthritis and Rheumatoid Arthritis.	<i>Indian Patent Application</i> , CSIR IPMD Ref No. 0028NF2007/IN dated 06/07/2007.

III. Reviews/Chapters/Books (*These reviews also appear in the list of all publications).

1	<u>Patwardhan B. et al.</u>	From clinical evidence to mechanism of action: The development of standardized phytomedicines	In 'Evaluation Herbal Medicinal Products' Ed: Mukarjee Pulok and Houghton Peter, Elsevier Science, 2008
2	<u>Patwardhan B. et al</u>	Ayurveda, Drug Discovery & Immunomodulation	Chapter 12, In <i>Handbook of Ethnopharmacology</i> , 2008, 393-420. Ed: M. Eddouks, Research Signpost, India
3	<u>Patwardhan Bhushan</u>	Ethnopharmacological approaches to botanical immunodrugs and cancer chemoprotectants in cancer therapy	Chapter 11, In <i>Annals of Traditional Chinese Medicine</i> , Volume 3, 2007 Ed: Leung and Fong, World Scientific, Singapore
4	<u>Patwardhan Bhushan</u>	Ethnopharmacology and Drug Discovery	New India Publishing Agency, 2007, New Delhi.
5	<u>Patwardhan Bhushan</u>	Traditional Medicine for Global Health: Public Health and Intellectual Property Aspects	Asia pacific Technical Monitor, Nov 2006, UN APCTT, New Delhi, India.
6	<u>Patwardhan Bhushan</u>	Traditional Medicine: Modern Approach For Affordable Global Health	World Health Organization: Commission on Intellectual Property Innovation and Public Health, Commissioned Report, 2005. Published by Journal <i>Ancient Science of Life</i> , Centenary Edition, 2006.
7	<u>Bhushan Patwardhan, Mukund Chorghade, Ashok D.B. Vaidya, Mukund K. Gurjar, Swati P. Joshi, Sajid Husain, Sheikh Imam, G. Sriram, Sohail Hussian, S. J. Hussain, Wenhan Lin, & Lihe Zhang</u>	Chemical, pharmacological aspects of natural products with medicinal and nutritive value*	International Union of Pure and Applied Chemists (IUPAC) IUPAC TASK FORCE: Monograph 2005
8	<u>Diwanay S., Gautam M., Patwardhan Bhushan</u>	Cytoprotection And Immunomodulation In Cancer Chemotherapy*	<i>Current Medicinal Chemistry - Anticancer Agents</i> , Accepted on March 17, 2004. (IF-4.966)
9	<u>Bhushan Patwardhan, Ashok D.B. Vaidya, Mukund Chorghade</u>	Ayurveda and Natural Product Drug Discovery*	<i>Current Science</i> , 2004, 86(6), 789-799. March 24.
10	<u>Patwardhan Bhushan.</u>	AyuGenomics: Integration for customized medicine*.	<i>Indian Journal of Natural Products</i> , 2003, 19(1) 16-23.
11	<u>Patwardhan Bhushan</u>	Ageing India: A review	United Nations ESAP, Bangkok, 2003
12	<u>Patwardhan Bhushan</u>	A chapter titled 'Complementary and Alternative Medicine'	Our Health in Our Hands, Ed. Deodhar N.S., University of Pune Press, 2002.
13	<u>Patwardhan Bhushan</u>	Ayurvedic drugs safety and validation: A critical and comparative review of global and national needs.	Proceedings of National Symposium on Ayurvedic Drug Industry: Challenges of Today and Tomorrow, Organized by ADMA at New Delhi 27-29 August 1998.

14	<u>Bhushan Patwardhan</u> , Malcolm Hooper	Ayurveda and Future Drug Development*.	<i>International Journal of Alternative and Complementary Medicine</i> , 1992, 10(12), 9-11.
15	<u>Bhushan Patwardhan</u> , Deepa Kalbag, Patki P.S, Nagsampagi B.A.	Search of Immunomodulatory Agents: A Review*	<i>Indian Drugs</i> , 1990, 28 (2), 56-63.
16	Mardikar B.R., Ranade Subhash, Patwardhan Bhushan	<i>Occimum santum</i> : Krishna Tulasi – A Monograph	University of Pune Press, 1989
17	Ranade Subhash, Patwardhan Bhushan	Handbook of Research Methods	Anamol Prakashan, Pune 1990.
18	<u>Patwardhan Bhushan</u> , Kulkarni P.H.	<i>Withania somnifera</i> (Ashwagandha): A Review	<i>Journal of National Integrated Medical Association</i> , 1988, 30(6), 7-12.

V. Ph.D. students:

No.	Name	Faculty	Registration Year
1.	Mahtani Renu	Health Sciences	2005
2.	Puranik Amrutesh	Pharmacy	(Awarded)
3.	Ghodke Yogita	Health Sciences	(Awarded)
4.	Chavan Preeti	Health Sciences	(Awarded)
5.	Warude Dnyaneshwar	Pharmacy	(Awarded)
6.	Sharma Hema	Health Sciences	(Awarded)
7.	Gautam Manish	Pharmacy	(Awarded)
8.	Tillu Girish	Health Sciences	2003
9.	Afsaneh Kermavat	Health Sciences	(Awarded)
10.	Joshi Nandini	Health Sciences	(Awarded)
11.	Patil Manohar	Pharmacy	(Awarded)
12.	Diwanay S.S	Pharmacy	(Awarded)
13.	Mujumdar S.M.	Pharmacy	(Awarded)
14.	Chavan R.K.	Health Sciences	(Awarded)
15.	Oseperampil.Sebastain	Health Sciences	(Awarded)
16.	Sarmukaddam S.	Health sciences	(Awarded)

VI. M. Pham. Students:

Sr No	Name	Title	Passing out Year
1	Thube Nitin	Safety studies on selected Bhasmas	2007
2	Joshi Varsha	Safety studies on selected Bhasmas	2007
3	Jadhav U	Studies on Herbal Formulations Stability	2006
4	Patil D.	Studies on Herbal Formulations Stability	2005
5	Mishra S.	Herbal Vaccine Adjuvants	2005
6	Takawale S	Pharmacokinetic studies	2004
7	Shinde M	Molecular pharmacognosy	2003
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