

CURRICULUM VITAE

OF

DR.J.S.YADAV, FNA,FTWAS
CSIR Bhatnagar Fellow
(former Director, CSIR-IICT),
INDIAN INSTITUTE OF CHEMICAL TECHNOLOGY
HYDERABAD – 500 007

CURRICULUM VITAE

Name	Jhillu Singh Yadav
Date of Birth	04 th August, 1950
Present Position	CSIR Bhatnagar Fellow, CSIR-IICT, Hyderabad
Positions Held	<ul style="list-style-type: none"> ➤ Scientist C, National Chemical Laboratory, Pune (1980-86) ➤ Scientist EI, Regional Research Laboratory, Hyderabad (1986-90) ➤ Scientist EII, Indian Institute of Chemical Technology (1990-94) ➤ Scientist F, Indian Institute of Chemical Technology (1994-99) ➤ Scientist G, Indian Institute of Chemical Technology (1999-2003) ➤ Director, CSIR-Indian Institute of Chemical Technology (Sep 2003 – Aug 2012)
Academic Qualifications	Master of Science M.Sc, Chemistry (1972) from BHU, Doctor of Philosophy, PhD (1976) from M.S University, Baroda

Noteworthy achievements: (Updated as on 30th May, 2012)	
Nos.	
1030	Highest Number of Papers Published by a scientist in India (Organic Chemistry)
51	Highest H Factor (excluding review) in India (1993-2012) (Organic Chemistry)
15000	Highest No of Citations during last 20 years (1993-2012) (Organic Chemistry)
775	Highest number of papers published in India during 2001-11 (both years inclusive). Highest No of papers published in every calendar year during this period
583	Number one position in Organic synthesis in the World as per web of science survey
186	The second highest number of natural products synthesized in the World as per web of science survey
165	Students have already obtained their PhD degrees under his guideship. Recognised as Man of Human Resources.

Research Interests:
<ul style="list-style-type: none"> ➤ To develop methodologies for preparation of insect pheromones and Popularize ecofriendly pheromone application technology (PAT) for pest control strategies ➤ To sharpen and advocate the acquired expertise in synthesizing enantiomerically pure compounds from Natural Products via asymmetric Synthesis. ➤ To contribute and develop modern Synthetic methods and reagents for the ease of synthesis of complex organic molecules ➤ To develop unique and viable affordable routes for the synthesis of common drugs/agrochemicals
Fellowships of Academies:
<ul style="list-style-type: none"> ➤ Fellow, Third World Academy of Sciences (FTWAS) (2005) ➤ Fellow, Indian Academy of Sciences (FASc) (2010) ➤ Fellow, Andhra Pradesh Akademi of Sciences (FAPASc) (2002) ➤ Fellow, Indian National Science Academy (FNASc) (1998) ➤ Fellow, National Academy of Sciences (FNA) (1993) ➤ Fellow, Young Associate, Indian Academy of Sciences, Bangalore (1984)
Awards:
<ul style="list-style-type: none"> ➤ Shanti Swarup Bhatnagar Award in Chemical Sciences (1991) ➤ 22nd Khwarizmi International Award, IROST-UNESCO, Iran ➤ Ranbaxy Research Award in Pharmaceutical Sciences (2000) ➤ Jagadish Chandra Bose Fellowship Award (2008-Continuing) ➤ Pandit Jawaharlal Nehru National Award from Madhya Pradesh Department of Science & Technology, Madhya Pradesh (2009) ➤ Prof.S.Swaminathan Commemorative Lecture Award (2002) ➤ Vasvik Award for Chemical Sciences & Technology (1999) ➤ Goyal Award for Chemical Sciences (2003) ➤ Vigyan Ratna Award, Uttar Pradesh (2003) ➤ Vigyan Gaurav Samman Award, Uttar Pradesh (2004) ➤ Dr. S Hussain Zaheer Young Scientist Award (1990) ➤ CRSI Silver Medal (2003) ➤ Andhra Pradesh Scientist Award (2003) ➤ FAPCCI Award by Federation of Andhra Pradesh Chamber of Commerce and Industry (1987) ➤ Banaras Hindu University Alumnus Award (2010)
Honors and Professorships:
<ul style="list-style-type: none"> ➤ Visiting Professor and Elite Advisor, King Saud University, Saudi Arabia ➤ Visiting Professor, Royal Melbourne Institute of Technology (RMIT), Australia ➤ Distinguished Professor, Banaras Hindu University, ➤ Rajadhyaksha Memorial Lecture ➤ Prof A B Kulkarni Endowment Lectureship for Basic Research Contributions by Bombay University ➤ Prof K Venkatraman Lectureship (UDCT, Mumbai)

Membership of Various Committees:

- Steering Committee Member for the 12th Five Year Plan on Environment, Forest & Wildlife, Planning Commission, Govt. of India
- Task Force Member, Ministry of Chemicals and Fertilizers, Department of Chemicals and Petrochemicals, Govt. of India
- Member, Oversight Committee, Ministry of Environment and Forests, Govt. of India
- Task Force Member, Green Chemistry, Department of Science and Technology, Govt. of India
- Member, Working Groups of Planning Commission, Ministry of Environment and Forests.
- Member, Supreme Court Monitoring Committee, Hazardous Waste Management, Ministry of Environment and Forests, GOI
- Member, Expert Committee Pharmaceutical Research & Development Support Fund (PRDSF) Ministry of Science & Technology, GOI
- Member Central Council for Research in Ayurveda and Siddha
- Member Centre for High Technology, Ministry of Petroleum, GOI
- Member Central Insecticide Board Ministry of Agriculture GOI (2003 – 2006)
- Member Research Council National Chemical Laboratory, Pune , CSIR (2004 –2007)
- National Representative for India to IUPAC Commission on Agro-chem. and Environment
- Former Member of Project Advisory Commission of University Grant Committee of Hong Kong
- Member of the Project Advisory Committee (PAC) for Scientific Engineering Research Council (S E R C) of DST for identifying thrust areas of Research and their funding
- Member, International Collaboration Committees, PAC, DST
- Member of the Committee of Drugs & Pharmaceuticals for the IX Five Year Plan constituted by the Ministry of Chemicals & Fertilizers
- Member of the Technical Advisory Board (TAB) of C S I R
- Member of the Committee constituted by DST to prepare “Vision - 2005” documents in Chemical Sci.
- Member of Research Council of REC Warangal, A.P.
- Member of the Andhra Pradesh Department of Higher Education
- Key Member of the Modernization and Upgradation of Chemical Laboratories under Central Board of Excise & Customs.
- Member of the Editorial Board, Journal of Medicinal and Aromatic Plant Sciences.
- Member of the Editorial Board, Proceedings of Indian Academy of Science (Chemical)
- Sectional President, Chemical Sciences Section, Indian Science Congress 2010

Board of Directors (BOD)/ Scientific Advisory Council (SAC) to:

- M/s. Alkali Metals Limited, Hyderabad – Chairman BOD
- M/s. Ogene Systems Limited, Hyderabad – BOD
- M/s. Cadila Pharmaceuticals Limited, Ahmedabad – SAC

Original Contributions to Industrial Research:

- Dr.Yadav is one of the most distinguished organic chemists of the country. He always believes that any outstanding achievement in science needs to be in direct relationship for the betterment of a common man and thus society.
- He was the first person to develop an unique method to resolve an acid by using half mole of chiral base and other half being inorganic base. His process not only saves expensive resolving agent but also provides high yields of first crop with high purity. Many patents were taken by multinational for different biomolecules using his novel findings (Patent No.PCT-122, No.6130352).

Pharmaceuticals & Intermediates:

Drugs	Therapeutic Use	Companies
Heparin	Anticoagulant	Bharat Biotech
Orlistat	Antiobesity	Biocon Limited
Eptifibatide	Cytotoxic	Biocon Limited
Erlotimib	Anticancer	Ranbaxy
Misoprostol	Anti-inflammatory	AVRA Laboratories
Elatiptan	Anti-inflammatory	Ranbaxy
Camptothecin & Podophyllotoxin	Anti cancer	Ranbaxy
Ethambutol (continuous process)	Anti-Tubercular	Cadila Pharmaceuticals
Pyrazinamide	Anti-Tubercular	Armour Chemicals and SPIC, Chennai
Aspartame	Artificial Sweetner	Voltas Limited
Ondansetron	Anti-emetic in Cancer Chemotherapy	CIPLA
Diltiazem	Cardiac Drug, Calcium channel blocker	Cadila Laboratories, Ahmedabad & Lupin Laboratories, Bhopal
Mefloquin	Cerebral Malaria	Rallis India and Cadila Limited
Carbidopa	Additive to L-Dopa for treating Parkinsonism	Sunpharma
Ketotifen	Anti histamine	FDC
Cetirizine	Anti histamine	Sun Pharma
Tamoxifen	Antiestrogenic	Lupin
Mitoxantrone	Anti-neoplastic	Sun Pharma
Natural Drugs	Plant based ayurvedic formulations	-

The other major industries that are associated are: GSK-Smithkline Beecham- UK, Arqule-USA, Evolva-Switzerland, Dupont-USA, Bayer, Givaudaun, Loreal-France, Colgate Palmolive-USA, Alkali Metals-Hyderabad, Ogene Systems-Hyderabad, AVRA Laboratories-Hyderabad, Bio-con Laboratories-Bangalore, Bharat Biotech-Hyderabad , Ranbaxy-New Delhi etc.,

Agrochemicals:

In order to develop alternative eco-friendly and environmentally safe pest control strategies and to address the indiscriminate use of harmful pesticides Dr.Yadav has pioneered pheromone application technology (PAT) through the utility of insect pheromones (the chemicals released by insect kingdom for certain communication and behavioral response purpose). The field demonstrations and the work covered under this area are depicted in the following table:

TECHNOLOGY RELEASED	
Pheromones:	
Yellow Stem borer for rice	Pest Control India
American Boll worm for cotton	Pest Control India & Pheromones India Limited
Muscalure (Z ₉ – Tricosene) for mosquito	Astec Chemicals Mumbai
Ground Nut Leaf Miner (GLM) for ground nut	Asian Herbex (Alkali Metals)
Sugarcane Internode Borer	Rajshree Sugars & Asian Herbex (Alkali Metals)
Brinjal shoot and fruit borer	Asian Herbex (Alkali Metals)
Pyrethroids:	
S-Fenvalerate	Virchow Laboratories, Bharat Rasayan and Isagro Asia
Cypermethrin	FMC
Lambda Cyhalothrin	FMC & Isagro Asia
<p>The efforts of Dr.Yadav on PAT for GLM are recognized by Commissioner of Agriculture, Andhra Pradesh and included in the subsidized IPM program of AP State which may benefit nearly one lakh small farm holders in the near future.</p>	

Original Contributions to Scientific Research

- Prior to Dr. Yadav's contributions to Indian Science, asymmetric synthesis used to be a gigantic task to achieve for Indian scientists. This psychological barrier has been breached by Dr. Yadav with his scientific skills and innovative approaches and paved way to Indian science to excel in the area of asymmetric synthesis. In fact with these outstanding achievements, he nurtured many bubbling and enthusiastic young scientists for its sustainability in India.
- From the beginning of his research career, he has been at the forefront of research in new areas and has tackled the most difficult problems with the deepest insight. His pioneering work on the development of **first ever highly enantioselective synthesis of propargyl alcohol** derivative from epoxy alcohol as well as carbohydrates and subsequent investigations over nearly one decade mark a milestone in his prolific career that has resulted in fundamental contribution in asymmetric chemistry in India. During the said period it was elusive to achieve the total synthesis of a number of long chain fatty acid such as lipoxin A, Coriolic acid, Octadecanoic acid, Sphingeneine,

Strongylodiol, Panaxytriol etc., which are achieved easily applying his methodologies.

- He and his group developed a **very new novel reaction** for the asymmetric synthesis of allylic alcohol in one step in presence of titanocene reagent (cyclopentyl titanocene chloride) without compromising the stereocenter which has brought the attention of synthetic organic chemists worldwide. He has also developed a methodology to form *trans*-3-hydroxyvinyl chloride, which are very useful reagents for coupling reactions, by treatment of epoxychlorides with lithium amide. He has employed all the above strategies very elegantly for the total synthesis of complex natural products and has received maximum citations.
- Dr. Yadav's series of papers dealing with the intermolecular [4 + 3] cycloaddition reaction followed by desymmetrization giving rise to five contiguous chiral centers in a highly diastereoselective manner which was reported **for the first time** show the way to a major development in the utilization of this protocol for short and convergent total synthesis of a variety of complex biologically active natural products with multiple chiral centers as exemplified below: Rifamycin, Discodermolide, Scytophycin, Siphonarin, Methynolide, Azaspirc Acid, Callystatin, Saliniketal A&B, Venturicidin X, Crocacin etc.,.
- Dr. Yadav was the **first** to develop directed-Prins cyclization protocol for the synthesis of 2,4,6-syntrisubstituted tetrahydropyran derivatives under environmentally benign conditions and further transformations for the formation of *anti*-1,3-diol, that lead to the total synthesis of a number of highly complex natural products (Leucascandrolide A, Crocacin A, Pironetin, Apicularen A, Salicylihalamide A, Tetrahydrolipstatin etc.), which amply demonstrated the value of this approach.
- The research investigations dealing with the iodine catalyzed **carbon-carbon bond formation** reaction starting from δ -hydroxy, α,β -unsaturated aldehyde leading to 2,6-*trans*-disubstituted dihydropyran as a single diastereomer have added new dimensions to synthetic organic chemistry and have made it possible to prepare many tetrahydropyran/ dihydropyran containing complex macrolides in a highly concise and convergent manner.
- His research with **metal salts catalyzed transformations** to generate a variety of novel heterocycles through multi-component reactions, diversity oriented synthesis, and combinatorial chemistry which have great potential for medicinal chemistry and new drug discovery program.
- The research group of Dr. Yadav deals with the synthesis and biological functions of **carbohydrates** and **glycol-conjugates**. His group has significantly contributed include the development of new and better methods for synthesizing exceptionally complex molecules starting from carbohydrate, the use of new methods in the synthesis and study of properties of complex carbohydrates of increasing size and complexity, the design and synthesis of glycosidase inhibitors and the use of synthetic compounds for the study of innate immunity.

Natural Products:

- Dr. Yadav has created state-of-art and world class facilities in **natural products** and new bioactive molecule research through the network and sponsored projects, which placed IICT in world map as a source of new bioactive molecules especially from the Indian Medicinal Plants. Herbal Drug industry using these facilities for the standardization of their products for regulatory purposes.

Through his vast expertise in Chemistry of Natural Products, many programmes and projects were explored on the utility of Natural products for human health care at different CSIR laboratories under project head “**Bioactives from Natural Products**”.

Herbal drug standardization programme and Golden Triangle Partnership Programmes on Ayurvedic Products & Bhasmas immensely benefited many Ayurvedic industries such as M/S Arya Vaidya Sala (AVS), Kottakkal; Indian Medicines and Pharmaceuticals Corporations Limited (IMPCL), Mohan; Hamdard Research Foundation, New Delhi

Licensed one anticancer compound (**AP-9cd**) to M/S Indigene Pharmaceuticals Ltd (IICT/RRL-Jammu). A New herbal composition for anti gastric ulcer (AVS, IICT, CDRI) and three candidates (**AP-20am14**, **AP-20am15** and **AP-20am16**) for Alzheimers disease are now under PK studies at CDRI, Lucknow to file IND Application.

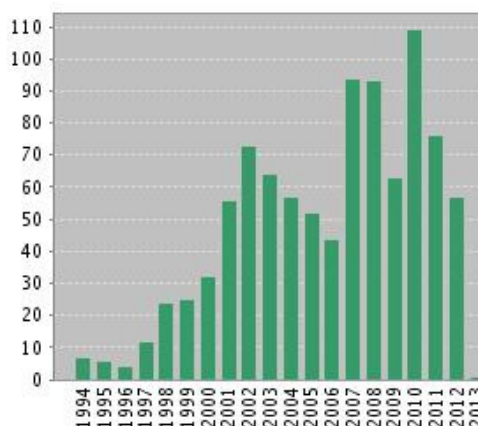
- Dr. Yadav is instrumental in establishing state of art facilities for conducting pheromone R&D at IICT and is recognized as a **National Center** for pheromone research in India. The field demonstrations on Ground Nut Leaf Miner (GLM), Brinjal Shoot and Fruit Borer (BSFB), Rice Yellow Stem Borer (YSB) Sugarcane Internode borer (SINB) etc., carried out by Dr.Yadav with the farmers participatory approach has gained many laurels and the farming community started appreciating the potentiality and versatility of pheromone application technology (PAT). In fact, it is the beginning of its success as an agro practice in the Indian farming and it has a great future ahead as an environmental and ecofriendly alternative to pesticides in management of pests.

Academic Achievements:

- Dr.Yadav while working at CSIR-IICT has excelled in the academics and his outstanding findings have been published in very reputed international journals. To the best of information, **he is the only scientist in the entire CSIR** and in all disciplines so far, who could publish over **1000** reputed research papers during his career and still going strong. In fact, this academic zeal of him could attract so many young and enthusiastic and budding researchers to get themselves associated with Dr.Yadav for their PhD degrees and which has brought him an identification and recognition as the **human resources person** in the field of organic chemistry. And he is also been identified as the **best productive chemist of India** by an independent Scopus survey.
- **No of Publications:1030**
- **No of Patents: 70**
- **No of PhDs awarded: 16 (more to come)**

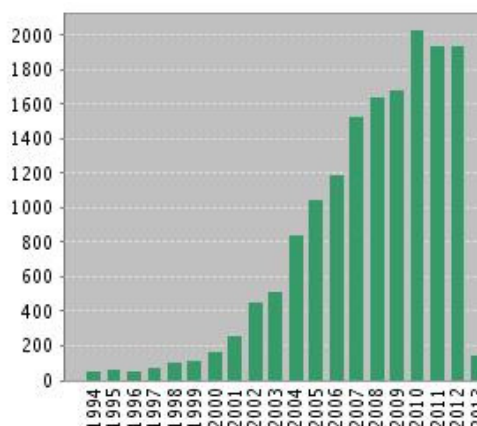
UPDATED AS ON 1ST MARCH
2013

Published Items in Each Year



The latest 20 years are displayed.
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Citations in Each Year



The latest 20 years are displayed.
[View a graph with all years.](#)

Results found: 1019

Sum of the Times Cited [?]: 1618
[?]: 3

Sum of Times Cited without self-citations [?]: 1322
[?]: 4

Citing Articles [?]: 9571

Citing Articles without self-citations [?]: 8839

Average Citations per Item [?]: 15.8
: 8

h-index [?]: 53

Scientific Contributions as Director, IICT:

- Dr.Yadav strongly believes that any sustainability in development will be possible only when the second line of leadership is available and established. Dr.Yadav in toto executed and implemented the same meticulously because of which many potential young scientific leaders are emerged in IICT and bringing many laurels to IICT. In fact, the present Directors Dr.T.K.Chakraborty, Central Drug Research Institute (CDRI), Lucknow and Dr.Ahmed Kamal, National Institute for Pharmaceutical and Educational Research (NIPER), Hyderabad are the products from IICT. The Prestigious CSIR-Shanti Swarup Bhatnagar Award 2011 is bestowed upon Dr.G.N.Sastry, Sr.Scientist, IICT.
- In turn the support and encouragement given by Dr.Yadav has culminated into many prestigious awards. They include Ranbaxy Award (2009-10, 2010-11 and 2011-12), NASI-Young Scientist Awards (2010-11 and 2011-12), OPPI Young Scientist Awards (2009-10 and 2010-11). Various other awards are received by 24 scientists of IICT. In addition IICT lifted CSIR Technology Award for the year **2005** and the DST National Technology Award for the year 2009.
- Dr.J.S.Yadav is a recipient of the most prestigious Jagadish Chandra Bose award. The world class infrastructure facilities created under his dynamic leadership are made available at IICT lure enthusiastic scientists from abroad to establish their own schools of expertise in India.
- Dr.Yadav always aimed for the over all development of IICT. If today, IICT is considered as a Centre of Excellence for many disciplines and also for interdisciplinary activities, the entire credit should go to Dr.Yadav who has whole heartedly supported and encouraged his scientists to establish themselves.
- Dr.Yadav has taken all pains in sowing the seeds of inculcation amongst the scientists to take up challenging tasks which are delivering the fruits today.
- The institute hosts nearly 800 research students in various disciplines of science which itself is the hall mark of respect given to science in IICT under the able and dynamic leadership of Dr.J.S.Yadav.
- For most of the Ramanujam and Ramalingaswamy Fellowship holders in Chemical Sciences, IICT is the first preference which itself indicates the high image of IICT in the contemporary scientific research centres of our country.

The dedicated services and visionary out look of Dr.J.S.Yadav have made him as one of the best few contemporary scientific leaders of our country. With his dynamism, he has created the following new centers and areas of research at IICT.

- A center for “**Genetic Chemistry Lab**”
- A “**National facility for combinatorial natural products**”, again first of its kind in India is established.
- The “**National Mol Bank (NMB)**”.
- A “**Centre for Excellence for Lipid Research**” at IICT (IICT is the recipient of CSIR Best Technology Award).
- Centre for Semio Chemicals Research (Pheromone Application Technology-PAT)

- IICT is recognized for **Prohibition of Chemical Weapons (OPCW)** designated status by Chemical Weapons Convention (CWC).
- A “**Biotechnology Incubator Centre**” with the support from DBT, and Government of AP.
- Pilot plant facility for **Synthetic Aviation Lubricants (SVS)** supported by Centre for High Technology (CHT) and in collaboration with IOC (R&D), NAL, HAL, GTRE, CEMILAC.
- **Indo French Joint Laboratory (Indo-French Joint Laboratory for Sustainable Chemistry).**
- A **Centre for Process Safety and Training.**
- General R & D training Centre with University of Wisconsin, USA.
- **Centre of coal realization**, specially for producing methanol.
- **Institute/Man of human resources** (an institute by himself)

IICT has acclaimed the name of human resources. Many young talented researchers have taken up their PhD programs at the Institute.

To add to the credentials, Dr.J.S.Yadav is nominated as the member of the ‘**Board of Governors**’ of **AcSIR**.

- Number of students submitted thesis from the Institute **-600 (2004-12)**
- At present many are pursuing as JRFs and SRFs at IICT **-800 nos**

By providing new orientation in IICT’s research approaches and through implementation of certain concerted strategies, IICT has excelled in its performance both in ECF and scientific publications. In fact, it has taken a quantum leap/jump and the same trend is continuing at IICT with a meaningful and purposeful research.

ECF bar graph & publications bar graph:

IICT's PERFORMANCE 2002-12

PERFORMANCE OF IICT DURING 2004-12

Parameter	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12
<i>Budget from CSIR (Rs.in crores)</i>	48.38	53.90	60.90	55.35	79.89	88.25	103.03	120.63
Gr.IV Scientists in position (nos)	221	230	227	211	210	207	201	193
ECF Total (Rs.in crores)	18.80	25.20	32.80	25.25	22.46	25.53	27.95	25.57
ECF from Indian Industry & Overseas clients (Rs.in crores)	5.47 (29%)	8.32 (33%)	10.17 (31%)	7.82 (31%)	8.49 (38%)	6.09 (24%)	7.95 (28%)	4.26 (17%)
ECF from Govt. Departments	13.33	16.88	22.63	17.43	13.97	19.44	20.00	21.31
ECF / Scientist (Rs.in lakhs)	8.51	10.95	14.45	11.97	10.69	12.33	13.90	13.24
Budgetary Support / Scientist (Rs.in lakhs)	21.89	23.43	26.82	26.23	38.04	42.63	51.25	62.50
ECF / Budgetary Support (%)	39%	47%	54%	45%	28%	29%	27%	22%
Patent (Filed) – India	26	29	9	21	17	10	19	12
Patent (Filed) – Abroad	36	82	34	21	55	29	54	33
Patent (Granted) – India	15	31	18	20	74	11	17	7
Patent (Granted) – Abroad	43	33	28	24	35	34	27	41
Patent / Scientist (Filed)	0.28	0.48	0.19	0.20	0.34	0.19	0.36	0.43
Patent / Scientist (Granted)	0.26	0.19	0.20	0.21	0.52	0.21	0.21	0.24
No. of Papers (SCI)	414	430	551	603	513	486	489	-
Total IF	865	837	1131	1274	1124	1231	1252	-
IF / Paper	2.09	1.947	2.05	2.11	2.19	2.61	2.56	-
Paper/ Scientist	1.87	1.87	2.43	2.86	2.44	2.34	2.43	-
Ph.D thesis submitted	56	57	77	79	85	76	92	91
Deputations abroad	30	38	42	56	47	44	44	56

Contributions made as member of CSIR family:

Being one of the leading and productive contemporary organic chemists of the country and a **Shanti Swarup Bhatnagar Awardee (1991)** in Chemical Sciences, he has become an automatic choice to be the member of many prestigious scientific committees. They include:

- Department of Ocean Development (DOD)
- Technology Advisory Board (TAB)
- New Millennium Technology Leadership Initiative (NIMITLI)
- Research Council Member of many CSIR Labs (NCL, IMTECH, HRDG)
- Member of both X and XI CSIR planning committees for chemical Sciences
- Member of CSIR Human Resources Board/Department
- Member of Bhatnagar Award Search Committee
- Being a Research Council member of different laboratories in CSIR, he has provided many constructive ideas and advises so that with in their available expertise they could execute the jobs more efficiently and effectively. His simple and practically feasible solutions have made him as the more sought committee member to those respective laboratories.
- If one observes his illustrious career one will endorse that Dr.Yadav is from CSIR, by CSIR and for CSIR and its glory.

Administrative Contributions as Director, IICT:

- IICT richly possesses the world class state of art facilities worth of **Rs.210.00 crores** out of which **45 crores** have been added during the last 3 ½ years, and requisite expertise to tackle, face and solve any eventual R&D challenges of any magnitude in a shortest span of time
- IICT has a working strength of 1900 staff members which include scientists (194 nos) technical staff (137 nos), administration (174 nos), the other paraphernalia staff and temporary staff (600 nos) and research scholars (700 nos). With the unstinted support of the staff IICT has always created itself a position as ever shining jewel in the crown of CSIR.
- The internal website "**Adminsalchemy**" was launched with special emphasis on e-management. The total administrative functioning is computerized in a big way.

Under the leadership of Dr. Yadav **some of the major construction** activities envisaged as follows:

- The **National Mol Bank (NMB)**, a unique facility, jointly funded by DST and CSIR, has been setup at IICT.

➤ In January 2010, the **P C Ray Building** for exploring collaborations and networks at IICT was inaugurated by our Hon'ble Director General Prof.Samir K Brahmachari.

➤ The three new Centres of excellence equipped with latest facilities are ready for inauguration.

Centre for Chemical Biology
Centre for Lipid Science & Technology
Centre for Pheromone Research

➤ Construction of additional three floors on the existing IICT Hostel.

➤ Construction of world class main entrance gate.

➤ Facelift of main building and renovation of interior of the first floor of the main building and guest houses.

➤ Construction of seminar hall –cum-dining hall is under way.

As a step towards estate management a portion of land leased to NMDC has been retrieved recently. A piece of prime land situated in the heart of the city is being constantly monitored.

➤ Under the leadership of Dr. Yadav, the general Administration, Finance & Accounts and Stores & Purchase has been working as one unit in tandem. The Director has accorded free hand in discharging their functions in accordance with rules & regulations and guidelines of CSIR.

➤ Under the dynamic leadership of Dr. Yadav, health aspect of employee and their families has been taken care of by providing periodical health checkups. IICT Dispensary is equipped with all facilities viz. pathological, X-ray, ECG, etc. and recently a new physiotherapy unit has been set up and functioning well. Good health is the essence for quality output for the institute and as well as for individual.

➤ IICT is the first institute among CSIR to implement online of management of finance. All purchases are meticulously managed without surrender of funds.

➤ Under the guidance of Dr. Yadav, CSIR Purchase Rules 2008 have been successfully implemented in IICT. Considering the past pattern of procurements of high turnover, common user items, the base of Rate Contracts were increased to 67 firms which were processed online through the Software developed internally. The systems in S&P Division were geared up to expand the entire allocation made during the financial year 2011-12 without any surrender of funds.

➤ Dr. Yadav always encouraged sporting activities. IICT has become an automatic choice for holding CSIR-SSBMT, Nayudamma Tournament, etc.

➤ Dr. Yadav has evinced interest for healthy atmosphere of the staff colony. In the colony a Children Park has been set up with all the facilities which is well maintained.

Towards Societal Service:

Council of Scientific and Industrial Research (CSIR) has strived with zeal in building the nation by developing relevant technologies that have immense value to the society and people at large. It is this zeal that has driven Dr.J.S.Yadav, a leading scientist of CSIR, to concentrate all his research and development efforts for the benefit of the nation, society and its people.

- Realizing early that science and technology inputs alone can bring succor to the woos of “Aam Aadmi”, he focused all his scientific pursuits to **Food and Healthcare**. Recognizing the stupendous task of enhancing the agricultural production to feed the nation on one hand and the harmful effects of indiscriminate use of pesticides to increase agricultural produce on the other has led him to pursue Integrated Pest Management through Pheromone Application Technology (PAT), which he pioneered in India
- He has remarkable abilities in developing new methodologies to synthesize most complex and important Active Pharmaceutical Ingredients (APIs). His understanding of mechanisms of various organic reactions and imaginary skills in building and designing the molecules are very unique. These versatile strengths have allowed him to develop cost effective technologies for drug molecules, making them affordable to a common man and easy availability in the market. It is pertinent to say that several pharmaceutical companies in India want to have him as their Research Advisor for his high caliber chemistry inputs to develop technologies that are relevant to the nation.
- Moved by the dreaded impairment caused by Fluorosis, specially on the growing children Dr.Yadav decided to put all his efforts to find an answer to it. This determined zeal of him could make him come out with a highly economical, feasible and easily manageable Reverse Osmosis (RO) process for defluoridation of ground water in affected areas of Andhra Pradesh. In 8 villages these plants are commissioned and nearly 25 villagers are benefitted by these plants. The major advantage of this technology is the low operating cost (6 paise) per liter of water and removal of all impurities in a single step.
- Dr.Yadav always believed that the development of rural areas in particular the training community reflects the over all growth and development of that country. Considering the value added deliverables from Samadhan Centre, Dr.Yadav encouraged his staff to establish Samadhan kendras at strategic rural locations for the over all development.
- The SAMADHAN KENDRA is Rural Information Technology centre developed for the benefit of farming community in rural areas. One Samadhan Kendra can serve the purpose of 22 villages approximately 88,000 population (@ 4,000 average population/village). It is an integrated internet-based, user-friendly software.

Countries Visited:

- U.S.A, UK, USSR, FRANCE, SOUTH KOREA, JAPAN, CHINA, THE NETHERLANDS, JORDAN, SENEGAL, GERMANY, SINGAPORE, SWITZERLAND, AUSTRALIA, SAUDI ARABIA, IRAN & BELGIUM.
- Nominated by Govt of India as one of the expert member to represent along with the Hon'ble Minister of Science & Technology to attend JCM and WG meetings scheduled to be held at Washington DC during 8-11th June, 2012 under Indo-US Forum.

Collaborations Extended:

- The scientific collaborations which Dr.Yadav has established with the world renowned schools of chemistry and expertise are highly vision based for the overall development and recognition of the Institute. They include:

ArQule, USA, Aisin Cosmos, Japan, Glaxo Smithkline, ArQule, Evolva, Dupont, Bayer, Givaudaun, Loreal, Colgate Palmolive, NIMS-Japan, RMIT-Australia, King Saud University, Saudi Arabia.

Conferences attended and Lectures Delivered:

- Many Plenary and Invited lectures (>400) have been delivered at various National and International Seminars and Symposiums both in India and Abroad
- Chaired many Sessions on several occasions in International and National Conferences.

Present Major Research Activities of Dr.J.S.Yadav under Progress at IICT:

The aura of Dr.Yadav in chemistry is such that the Institute has taken up highly inspirational projects which address the needs of our society. They include the energy sector, affordable health care, agriculture, supply of safe drinking water supply etc., In fact, almost all the projects proposed in the XII FYP have some direct or indirect significance for the benefit of society with their expected outputs. Every project has been meticulously scrutinized and is being projected with a desirable output. The following are the major ongoing project activities:

OSDD: Open Source Drug Discovery:

- CSIR has an ambitious program on discovering drugs by openly inviting and indulging the innovative and intellectual blend of ideas together on a single platform and then come out with a possible lead to develop an affordable ingredient to address a given ailment. CSIR has coined this strategic plan as Open Source Drug Discovery program. Dr.J.S.Yadav has been asked by CSIR to shoulder the responsibility and implement this unique program of OSDD. The visionary skills of Dr.Yadav has transformed the entire program into individually based approach for a given activity. Dr.J.S.Yadav feels that by sharpening each individual brain pool will have a definite advantage to achieve a desirable and

deliverable goal. With this versatile thinking Dr.Yadav and all the members of the group are confident that certainly there will be a brighter output for OSDD, the most ambitious program of CSIR.

Drug Development program :CSIR-IICT and Mayo Clinic, USA:

- In order to develop the feasible drug delivery system for the treatment of cancer and allied diseases and to discover the most potent molecules through high throughput screening, CSIR/IICT has taken up a challenging program with Mayo Clinic, USA, with respective requisite expertise at both ends. Specially the attention is drawn towards the treatment of tumor cells of liver and pancreas. The project is under high enthusiastic level and a good interactive mode to address and reach the expected milestones under the supervision of Dr.Yadav.

XII Five Year Plan Projects:

Considering the needs of our society and the expertise that are available at the Institute for addressing and taking up the challenges of the societal requirements, Dr.Yadav has proposed the projects of the Institute for the XII FYP after meticulously scrutinizing and supervising all the proposals. Almost all the XII FYP projects proposed activities have been brought in under one of the following four major areas, while emphasizing the might of the Institute:

- **Affordable health care:** (TB, Malaria and respiratory diseases)
- **In the area of Energy:** (Coal, CSIR-TAPSUN project, Strategic Materials, Biomass etc.,
- **Agriculture** (Pheromone Application Technology [PAT] and Utility of biomolecules for more rice production)
- **Safe Drinking Water supply to villages:** Defluoridation of ground water

The over all stature of Dr.J.S.Yadav in CSIR:

- Dr.J.S.Yadav always feels proud to be the member of CSIR the unique organization which works for the cause of science and for the betterment of Indian society. He feels, CSIR is the temple for many fundamental scientific inventions and innovations. Dr.Yadav being a CSIR family member, contributed to his might not only in science with his outstanding achievements and visionary outlook but also in social welfare of CSIR family with a human touch.
- Dr.J.S.Yadav is an eminent and enthusiastic organic chemist with a high level of commitment to the cause of his profession. However, unassuming one may be, the brilliance, intelligence, inspiration and dedication of an individual cannot be hidden for long and it is evident in the case of Dr.J.S.Yadav, a farmer's prodigy from Azamgarh, Uttar Pradesh, India. He attained his birth right to be one of the ever shining Jewels in the crown of CSIR, India.