# AURORA BULLETIN du l'or a UTORA

#### Aurora's Technological and Research Institute

February 2017



#### **Dear Readers**

Volume 3, Issue 2

Nature provides an exquisite and serene realm for the survival on man and spring is the best facet of nature in all its splendour. Vasanth Panchami , the festival of colours and the birthday of Goddess Saraswathi was celebrated with utmost devotion. ARITRI- Green warriors, Nature cub was inaugurated to corroborate greenery on campus. Our NSS unit and volunteers took active part in the JNTUH and Stale Level NSS youth festivals. They lent a helping hand in organizing events and won prizes in the competitions. They deserve a pat on the back. Many sports teams of our college showcased their talent by participating in different competitions.

On the Academic front many departments organized guest lectures, workshops and industrial visits. On the administrative front there was a major transition as we bade farewell to the Assistant Registrar Mr. M. Rajasekhar Reddy, who moved to a new work place and welcomed the new AR Mr. N. Balakrishna Reddy. I also congratulate all the faculty and students on their achievements. Contemplating on a fun filled March......

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### Silence & Smile



are two <u>powerful tools</u>. Smile is the way to solve many problems and <u>Silence</u> is the way to avoid many problems.

#### **Editorial Board**

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## **COLLEGE ACTIVITIES**

## Vasanth Panchami Celebrations on 1st Feb 2017

YaKundendu Tushaara Haara Dhavalaa YaShubhra Vastraavrita...

When birds sing up in the trees; When leaves change from green to bare yellow;

It's that time of the year, When spring is in the air and blossoms everywhere;

When hearts fill with dreams and eyes turn to hear sweet music, Welcome the Spring Goddess Saraswathi, enthroned in her celestial Palace, On the immaculate white Lotus, to whom the TRINITY prays THOU, Be Glorified!



With salutations to bestow all knowledge and intellect, the Staff and students of ATRI observed Saraswathi Puja on 1st February organized by Ms. Suvarna Devi, Librarian and the other staff members of the Library. Ms Anusha, Asst. Prof EEE, rendered a few vedic hymns in veneration to the divine being of universal wisdom. Later all the faculty members recited the sacred hymn, Sri Lalitha Sahasranaam, as a simple act of devotion. Wishing every person at ATRI, knowledge, wisdom, merit, talent, progress, expertise and loads of happiness!

వసంత పంచమి శుభాకాంక్షలు

వసంత పంచమి మహాత్సవం సరస్పతీదేవి జన్మ దినోత్సవం పసందైన పండగ కనువిందైన కన్ను ల పండుగలా జరిపాము అజ్ఞాన0మనే అంధకారాన్ని తొలంగించి విజ్ఞానమనే వెలుగునిచ్చే సరస్పతి దేవి జ్ఞాన సరస్పతి దేవి! అభ్యాసానికి అడరాభ్యాసానికి నిలయమైన ఆలయమే వాసర అయిన బాసర! శ్లోకాలను- సరస్పతి శ్లోకాలను నామాలను సహస్రనామాలను హారతులను మంగళ హారతులను భజనలను , సరస్పతి శ్లోకనస సరస్పతులకు వందనము అభి వందనము నా కలమునుండి జాలు వారిన ఈ అకరాలకు మూలం జ్ఞాన సరస్పతి దేవి కరుణ కటాక వీకణాలు సరస్పతి దేవి, జ్ఞాన సరస్పతి దేవి విజ్ఞాన సరస్పతి దేవి

Ch. Krishna, Library Assistant

## **Inaguration of 'ARITRI" – Nature Club**

Ms. GitaParthiban, Assoc. professor, Mathematics & Coordinator, ARITRI, Nature Club is all set to turn the rough terrain of ATRI into a nature scape where students take a break from their busy academics and spend some time happily amidst woody plants. MsGitaS Parthiban introduced Mr. Uma Shankar the Guest speaker to the audience and emphasized on his achievements.

Inaugurating, ARITRI on 2nd February, Mr UmaShankar, an IG Awardee & NSS volunteer, who is currently pursuing M.Tech from ATRI, Bhongir, spoke of his passion to spread the message of environmental sustainability. He shared many of his personal experiences in his journey to stop the harm caused to our

surrounding environment. He said that his dream is to perform optimally, amidst the inundated Engineering classes, was only a small step to make it a reality.

Initiated by Bhaarat Today Channel and sustainable international responses, the IG Awardee networked regularly with several voluntary organizations to support their efforts to reduce, recycle and reuse sustainable energy sources. Apart from converting the college campus into an Energy Audit Unit, he articulated that the mental, physical and moral well-being of students will be strengthened. It helps make use of one's time creatively and live meaningfully. In short, it is a smooth integration of 'Engineering with Environment'.

Mr. C .UmaShankar invited students to come up with innovative ideas for which GHMC will provide funds. He also appealed to students to interact with women groups to empower their activities. Some inspiring and eco friendly ideas offered were as follows:

- Generate money by recycling waste paper collected from campus
- Give Nature and Get back from Nature
- Start planting ornamental, vegetable, fruit, and medicinal plants in the campus.
- Develop a Terrace garden, organic farming that will help learn many skills and experiences.
- Give yourself a break with Nature
- It is the best way to talk to plants, to connect with Nature, which is productive, meditative, and adds to our everyday energy levels.
- Protect Nature and get a healthy lifestyle from Nature

Ms Gita S Parthiban felicitated the Guest Speaker. She congratulated Ms Nikhila and Mr Sumanth of B Tech Final year ECE for extending all support to make the programme a success. The hostess of the programme, Ms Nikhila, B.Tech Final year student proposed vote of thanks.



#### To make the sprawling ATRI campus into Greenscape...

## **DEPARTMENT ACTIVITIES**

## **Department of English**

#### **Guest Lecture on Technical Report Writing**

Pankaj Narke's Guest Lecture on Technical Report Writing for B.Tech III yr students on 11th February got much information on the format and manner of presenting Technical Reports. Explaining the basic purpose of Technical Report writing, Mr. Narke, the Research Scholar from EFLU, Hyderabad, demonstrated the formal elements of a technical report in PowerPoint. The style of writing is in the third person and has different purpose and characteristics compared to creative writing, academic or business writing.

The components of a report in any business, he said, included an Introduction to the audience, Letter of transmittal, Title Page, Abstract, Table of Contents, Methods, Assumptions and Procedure, Results and Discussion, Conclusion and Recommendations, References and Appendices.



Introduction: It is a brief summary of the information gathered and designed to

give the audience/reader the purpose of the report, the issue, its background, scope, and extent of study methods, equipment and the assumptions.

Letter of transmittal: The letter of transmittal is a term report to the individual/s concerning the reason including a concise summary.

Title Page: The author's name and the name of the person/s addressed. It must capture the essence of title and the author along with details of publisher. Table of Contents: Table of Contents provides a quick guide to the various topics stated in the report and helps the reader locate accurate information quickly such as Introduction, purpose, background, scope and methodology followed by First level heading, Second level heading in decimal notation as 1, 1.1, and 1.2. 1.2.1, including figures and tables. Methods, Assumptions and Procedure: The technical report relates the key research methods employed, sources used and the mode of practice.

Results and Discussion: The technical report describes the subject and the approach used with the performance conducted. It also analyses the results.

Conclusions: The conclusions presented should meet certain criteria. Logically drawn, the conclusions are based on the findings stated in previous sections of the report. The statement of each section of the discussion should present the points clearly and accurately.

Recommendations: The Recommendations introduce the plan of action, the advantages, costs, limitations and ramifications.

Appendices: Appendices contain large, complex drawings, source documents, data, test results, and cost comparisons, the glossary of terms for non-technical reads, design, calculation, proof and algorithm.

References: Must provide the list of references provided, if any, of the author's work, or references to other reports, discussions, presentation, texts and documents.

The format explained by Pankaj Narke was persuasive and can be applied to a variety of disciplines and purposes. It best proves the point that technical report writing skills improve one's career.

## **Department of Electrical and Electronics Engineering**

#### **Report on Technical Quiz**

A Technical Quiz was conducted for III rd EEE students on 16th February 2017. The competition had an overwhelming response from the students with four different teams and four fervent participants in every team gave tough battle to each other.

The participants had to go through intuited and mind blogging rounds in which there were of questions related to technical subjects, current affairs, science, sports and many more. Mrs



V. Prasanna Laxmi, Asst. Prof. and Mrs S. Laxmi Prasanna, Assoc. Prof. bombarded the students with questions.

The quiz was very informative and knowledge enriching competition for the participants along with the audience. The department of EEE conducted the technical quiz as a part of extra-curricular activity to encourage the students in all aspects. Finally team-A won the quiz . The names of winners are M. Sai Swarani, Ch. Harika, T.Ranjeeth Kumar, R. Tharasingh. The winners were given prizes to encourage them. Report on CAD Test Canter CADD India Pvt. Limited conducted a written test on CADD for IIIrd-EEE students on 14th February 2017. The main aim of the organization was to develop awareness on career of the students.

#### **Report on Vishwa Training Program**

The career based development training programme was conducted by Vishwa(founded by Alumni of IITs and NITs) for IIIrd -EEE students on 10th February 2017.

Mr. Kumar Swamy(D.G.M) of Vishwa, explained the importance of GATE exam, its benefits. The purpose of the GATE exam is to test the students knowledge and understanding of their under Graduate level subjects in Engineering and Science.

## **Department of Electronics and Communication Engineering**

#### **Industrial Visit**

An Industrial Visit for ECE Second year students to Kwality Photonics Pvt.Ltd. Kushaiguda was organized on 08 Feb 2017. Kwality Photonics is basically a LED (Light Emitting Diode)manufacturing unit. Mr. Vijay Kumar Gupta, Asst. Engineer / Visit Co-ordinator has welcomed 81 students who were divided into 04 batches, each batch with 20 students and provided one member from their team to visit various departments like Pin Pressing, Dibonding Section, Wire Bonding Machine, PCB Testing, Tin Coating, Packing.



Encapsulation. With the help of this visit Students got familiarized with the process of manufacturing LEDs and the different steps involved in designing a PCB which is used in most of the electronic circuits. It also inculcated motivation in students for being an entrepreneur by establishing such small scale industries.

## **Department of Mechanical Engineering**

The preliminary test for "Team Techradiance'17", a National Level championship organized by Harbour Technologies in association with Radiance IIT Bombay, was organized at ATRI on 22nd and 23rd February 2017.Team Techradiance '17'is a National Level Workshop cum Championship Techradiance. It is a 2 days workshop programme specifically designed for college students & aimed to improve their theoretical knowledge and practical skills.The topic selected for the event organized by the Mechanical department was 'Solar Panels'.The following students grouped into teams participated in the event. Winners were invited to compete at the national finals to be held at IIT Bombay on March 4th and 5th.

P. Prakash Rai & group	ME-III	l prize
Mr. PraneethSai & group	ME-II	ll prize
Mr. Lokeshwar Reddy & group	ME-III	III prize

## **Department of Civil Engineering**

#### **Industrial Visit**

#### CANTER CADD

CANTER CADD was established in 2004. This Pre-qualifier test helps students to get a scholarship to pursue 2D Drafting, 3D Modeling and analysis. Courses offered are AutoCAD, ArchiCAD, Revit Architecture, Revit MeP, 3dS Max, STAAD PRO and management courses like Primevera, Microsoft projects. CANTERCADD enhances the student employability. These courses are helpful for Civil/Diploma Engineers, Architects and Interior Designers.



## **Farewell to Assistant Registrar**



What we leave behind are memories...

ATRI bids adieu to, AR, Mr. M. Rajashekara Reddy on 17 February 2017.

All at once, you look across a crowded room; you see Mr. Rajashekara Reddy is seated on the dais to be bid a farewell. To the world he is one person but to ATRI he has been the world. 'ATRI will move on, it is simple,' says Mr. Rajashekara Reddy, "but we're not ready to say goodbye". Many faculty members remembered their association with him and the support extended by him on various occasions. He rendered 18 years of dedicated service to ATRI. Teaching, Non-teaching and support staff attended the farewell function.

Nevertheless, "Every ending has a new beginning." We welcome our new AR, Mr Balakrishna Reddy.

From All of us @ ATRI

## **PLACEMENT NEWS**

## I. ICICI

*flicici* Bank

Placements Cell conducted ICICI drive on 01-03-2017 & 03-03-2017 Number of rounds conducted: 1.HR Number of students participated in drive:193(Group of colleges) Number of students Selected from Group of colleges:127 Number of students Selected from ATRI:38

#### II. RIHU Software solutions

Placements Cell conducted RIHU Software solutions drive on 17-2-2017 At BHONGIR

Number of rounds conducted: 1. JAM 2. HR Number of students participated in drive:93 (Group of colleges) Number of students shortlisted for HR interview:15 Number of students Selected from Group of colleges:05 Number of students Selected from ATRI:**01** 

#### 1.13841A0415 D Manoj Kumar ECE



National science day is celebrated on every year on 28 February. National science day is celebrated as one of the main science festivals in India every year during which students of the schools and colleges demonstrate various science projects and national and state science institutions demonstrate their latest researches. The celebration also includes public speeches, radio-TV talk shows, science movies, science exhibitions based on themes and concepts, watching the night sky, live projects, research demonstration, debates, quiz competitions, lectures, science model exhibitions and many more activities. The theme of the year 2017 is "Science and Technology for Specially Abled Persons"





Ms. B. Malathi

Assoc. Professor, English

Happiness is a state of mind and has nothing to do with the external world.

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## **NSS ACTIVITIES**

## **JNTUH Youth Festival**

The JNTUH youth festival was conducted on the 4th february by the National Service Scheme cell of JNTUH. The event was inaugurated by His Excellency Dr. Venu Gopal Reddy Garu, Vice-Chancellor, JNTUH. Dr.Sammulal Garu, JNTUH NSS, Program Coordinator presided the function. Mr. Yadaiah Garu, Registrar was the Guest of Honor. The programme was attended by various college NSS Programme Officers and NSS volunteers.

As a part of the programme, Inter-college literary and cultural competitions were conducted. The Literary events included elocution, slogan writing, poster presentation, essay writing and debate. The Cultural round of events were held in solo singing, solo dance and group dance. The theme for the events was entirely based on folk topic to promote the traditional culture of India.

The NSS Cell, of Aurora's Technological and Research Institute actively participated in the youth festival. NSS volunteers who participated in the competitions bagged prizes in the following events.

- 1. Classical dance: M. Sai Chandana, IT-1, 1st prize.
- 2. Elocution: P. Nikhila bharadwaj, ECE-4, 2nd prize.
- 3. Essay writing: Siwani Singh, ECE-1, 1st prize.

The NSS volunteers of ATRI NSS cell presented a photo exhibition on their regular and special NSS activities carried out in the respective academic year at the festival.

## **State Level NSS Youth Festival**





The state level youth festival was organized by NSS cell of JNTUH and was hosted by JNTU Hyderabad on 7th and 8th Feb. 2017. Twelve universities from Telangana participated All the participants who were selected in the competitions and won the first prize in university level youth festivals on 4th Feb. 2017 were selected to participate in the state level youth festival. Two volunteers from ATRI who won prizes at the University Level Youth Festival, were selected for the State Level Youth festival. They also won prizes again.

M.Sai Chandana Reddy of 1st year won the second prize in Classical Dance Siwani Singh of 1st year won a consolation prize in Essay Writing.

Apart from being the participants, ATRI faculty Dr.Sandhya Rani, Assoc. Prof in English was one of the judges for the debate competition and two volunteers also took active part in the organizing committee. P.Nikhila Bharadwaj of ECE

IV year helped in organizing the registration desk. Naray Kiran Bhargav of CIVIL IV year helped in organizing the food section.





## **ACHIEVEMENTS**

#### **Faculty Achievements**

- Ms.L.Eswaramma, Sr.Asst.Professor Mathematics department has attended the International conference on "Innovative applications in Engineering and Information technology "on 1st and 2nd February 2017 at Padmavathi Mahila Viswavidyalayam. She presented a paper titled "A Study on Hamilton cycles of Rectangular grid graphs".
- Ms Gita. S Partibhan was invited by JNTUH College of Engineering-Manthani, as a Resource Person to conduct Aptitude classes for three days between 21-26 February 2017.
- Mr. K. Satish Babu ,Assoc Prof and A.Peddaraju , Asst Prof of ECE Department participated in a two week ISTE STTP on CMOS, Mixed signal and Radio Frequency VLSI

Design conducted by IIT, Kharagpur from 30th January 2017 at Mallareddy College of Engineering , Dhulapally Hyderabad.

- Mr. D. Venugopal Reddy, NSS Program Officer was a judge for university level NSS Youth festival held on 4th Feb at JNTUH and member of organising commitee for state level NSS youth festivals held on 7 8 february at JNTUH campus.
- Mr. R. Jaipal, Asst. Professor, CE department published a paper titled," Effect of Pattern Loading on Seismic Behaviour of Structures by Considering Infilled Effect, Vol. 2, Issue 1, JAN 2017, ISSN-2455-6300, AIJREAS
- Mr. V. Manikanta, Assistant Professor, CE department attended a Faculty Development Programme on "Advances In Prestressed Concrete Design" at NIT Warangal from 3rd -5th March.
- Dr. Sandhya Tiwari, Professor of English was invited as a Resource Person by K R Mangalam University, Gurgaon, New Delhi, during the Two Day International Conference ELLCIATLS-2017 on 3rd and 4th of Feb.2017.
- Dr. Sandhya Tiwari was invited as a Resource Person in the International Programme for Electrical Engineers held at CIRE, Hyderabad. She conducted a half Day workshop on "Change Management and Contribution to the Organizational Development" on the 18th of Feb. 2017.
- Dr. Sandhya Tiwari has presented a paper titled "Subtle Glorification of Transgender Traits \_ A Critique" in the UGC Sponsored Two Day National Seminar Trans (gendered) lives: Praxis of Silence and Exclusion organised by Sri Guru Nanak Dev Khalsa College, University of Delhi, on the 7th and 8th of Feb.2017.

#### **Student Achievements**

- NSS volunteers P. Nikhila Bhardwaj of ECE-IV B has won second prize in elocution at university level youth festivals held at JNTU H on 4 Feb 2016
- ATRI sports teams have participated in various games in the zonal tournament conducted by JNTUH.
- NSS volunteer Siwani Singh of ECE -1A has won consolation prize in essay writing at state level NSS youth festivals held at JNTUH on 7 and 8 February.
- NSS volunteer M. Sai Chandana Reddy of IT-1 has won second prize in classical dance at state level NSS youth festivals held at JNTUH campus on 7 and 8 Feburary.







## SPORTS NEWS

#### Cricket (semi finals) Venue- VBIT college

20/2---1<sup>st</sup> match – ATRI Vs KPRIT ---- Won by 25 runs 23/2---2<sup>nd</sup> match – ATRI Vs NNRG ---- Won by 6 runs 25/2---3<sup>rd</sup> match – ATRI Vs CVSR ----Lost by 15 runs

**Football (semi finals)** Venue- HITS college 22/2---1st match – ATRI Vs NNRG ---- Won by 4 goals lead 23/2---2<sup>nd</sup> match – ATRI Vs CVSR ---- Lost by 2 goals lead

Throwball (semi finals) Venue- VBIT college 2/3---1<sup>st</sup> match – ATRI Vs SAMSKRUTHI----Won 2/3---2<sup>nd</sup> match – ATRI Vs ACE----Won 3/3---3<sup>rd</sup> match – ATRI Vs GEETHANJALI----Lost

Basketball (quarter finals) Venue- VBIT college 2/3---1<sup>st</sup> match – ATRI Vs CVSR-----Lost

Volleyball (quarter finals) Venue- VBIT college 2/3---1<sup>st</sup> match – ATRI Vs SPOORTHI-----Lost





## **Inspiring story**

#### **CURRICULUM DESIGN**

#### Dr. P. Bharathi, Professor in English

One of the most important and perceptive accounts of curriculum design is the parable of "The Saber -Tooth Curriculum" by J.A. Peddiwell published in 1939. It tells us the story of a prehistoric tribe of Chellean times, which decides to introduce systematic education for its children. They design a curriculum specially to meet particular survival needs in the local environment. So it includes subjects such as saber-tooth –tiger scaring with- fire, fish grabbing with bare hands and horse clubbing etc. But the climate of the region changes and the saber-tooth tigers perish. Attempts to change the curriculum to meet the new survival needs encounter stern opposition from the people.

The Saber –tooth curriculum is a satire based on the observation that curriculum designers are always behind the times because they do not understand how to adapt education to social change. The important aspects like the survival needs, the objectives, the tools and the content of different courses introduced in a curriculum are questioned. The elders of the tribe argue that the real objective of the subject fish grabbing is to teach general agility , horse clubbing trains the students in general physical strength and the real objective of tiger scaring is to teach noble courage. This argument projects the hidden aspects of a curriculum. The concluding remarks of the parable highlight the point that the essence of true education is the timelessness.. It endures through the changing times and conditions like a solid rock standing squarely and firmly in the middle of a raging torrent. This remark is a good beginning to start thinking about designing curricula with a new focus.

## ARTICLES

#### Measures to Improve English Standards in Engineering Colleges-

Dr. B. Sandhya Rani, Assoc. Professor, English

On 4 March 2017, Shreyas Engineering College, Bandlaguda, organized a One-Day State Level Seminar on English for Engineers and Technocrats: Material, Methodology and Evaluation and invited faculty to present their views on their chosen topics of discussion. My paper titled 'Measures to Improve English Standards in Engineering Colleges' is a reaction to AICTE's recent criticism on the weak English Language Skills in students pursuing Technical and professional courses and the resultant decline of employable Engineers to 18.26% in the year 2016.

\* While the aim of the Seminar is to improve LSRW skills of Engineering students, that they speak more English in the classroom, the paper is a plea in that direction with a little revision in the ELCS syllabi and few changes in teaching and testing techniques in PCE.

A few suggestions discussed in the Seminar were as follows:

- \* The existence of multimedia language lab in Engineering Colleges should provide interesting and practical LSRW skills to test comprehension, pronunciation and fluency apart from mere texts, videos and animations.
- \* Predetermined right and wrong answers, multiple choice questions, true/false quizzes, sentence sequencing, and crossword puzzles, if programmed into computer from prescribed texts can motivate students to work and learn at their pace.
- \* A computer being an ideal thing for multimedia drills students should use it to practice speech sounds, so that they have a significant effect on language learning.
- \* Live streaming of news or live broadcasts of American English, British English, Australian English, Canadian English and Indian English can contribute to improving the accuracy of accents.
- \* Well designed fluency exercises can help students achieve accuracy of English language [e.g. Does the sound in food and foot rhyme/what is the sound in basic, is it s or z/ Are the sounds in road and broad same?] Aids like TV, conventional projector must be used regularly so that the students have an advantage of getting guidance in various areas of English pronunciation, stress, intonation and situational dialogues.
- \* Creating a virtual BPO/ simulated call center will help improve listening and speaking skills of students through telephone etiquette.
- \* In online testing, students will receive quick and fast scores of their activities at the end of the test. Further, Online tests and computer ratings help learners receive positive and negative reviews to move to the next level or to start again. It will not only change the teacher evaluation system, but also bring about real time achievement in students.
- \* The outstanding quality of the faculty is not how we teach, but what we teach and why we teach it. Our goal is that they like us and we bring back the confidence, that students are smart. It is this retention that gives us satisfaction and success.

## Put your heart, mind, and soul into even your smallest acts. This is the secret of success.

Swami Sivananda

## **UPCOMING EVENTS**

Date	Event
3-3-2017	Telangana Jagruthi Awareness Programme
8-3-2017	Poster presentations on International Women's Day
8 <sup>th</sup> -11 <sup>th</sup> March	Street Cause Activities
21-3-2017	Poster Presentation on World Water day
30 <sup>th</sup> -31 <sup>st</sup> March	Borealis – National Techno Cultural Literary Fest



## **Inspiring Personality**

- Kalpana Chawla

Kalpana Chawla was an Indian American astronaut and the first woman of Indian origin in space. She graduated from Tagore School, Karnal, India, in 1976. Bachelor of science degree in aeronautical engineering from Punjab Engineering College, India, 1982. Master of science degree in aerospace engineering from University of Texas, 1984. Doctorate of philosophy in Aerospace Engineering from University of Colorado, 1988. In 1988, Kalpana Chawla started work at NASA Ames Research Center in the area of powered-lift computational fluid dynamics. Selected by NASA in December 1994, Kalpana Chawla reported to the Johnson Space Center in March

1995 as an astronaut candidate in the 15th Group of Astronauts and worked on space missions STS-107& STS-87.

She first flew on Space Shuttle Columbia in 1997 as a mission specialist and primary robotic arm operator. She became a naturalized US citizen in April 1991 and applied for the NASA Astronaut Corps. In 1997, she became the first Indianborn woman and the second Indian person to fly in space. Her second flight was also her last. Kalpana Chawla logged 30 days, 14 hours, and 54 minutes in space over the course of her two missions. In 2003, Chawla was one of the seven crew members killed in the Space Shuttle Columbia disaster. India salutes to her. Awards

- NASA Distinguished Service Medal
- Congressional Space Medal of Honor
- NASA Space Flight Medal



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