

# TELANGANA STATE SCIENCE CONGRESS (TSSC-2018)

**22<sup>nd</sup> -24<sup>th</sup>, December, 2018**

## PROGRAMME

(Legend to the acronyms is given at the last page)

DAY 1 : 22-12-2018					
08.30 – 10.00		REGISTRATION		AUDITORIUM	
10.00 – 11.30		INAUGURAL FUNCTION			
11.30 – 11.45		HIGH TEA			
11.45 – 13.15	PLENARY SESSION	Chairperson: Prof. N.V. Ramana Rao, Director, NIT Warangal Co-Chairperson: Prof. K. V. Jayakumar, Dean, IRAA, NIT Warangal			DBRALC
		11.45 – 12.15	Distinguished Lecture 1 <i>Joyful Story of Doing Useful Science</i> Dr. T. Ramasami, Former Secretary, DST		
		12.15 – 12.45	Distinguished Lecture 2 <i>On the Ramanujan-Selberg Conjecture</i> Prof. T.N. Venkata Ramana, TIFR, Mumbai		
		12.45 – 13.15	Distinguished Lecture 3 <i>Science &amp; Technology for an All Round and Sustainable Development of the Telangana State</i> Dr. Prahlada Ramarao, Former Director, DRDL		
13.15 – 14.15		LUNCH		PANDAL	
14.15 – 15.50		THEMATIC PARALLEL SESSIONS		SHC	
14.15 to 15.50	PHYSICAL AND MATHEMATICAL SCIENCES	Chairperson: Prof. P. Venugopal Reddy, Vice-President, TAS Co-Chairperson: Prof. R. L. N. Sai Prasad, NIT Warangal			RAMANUJAN HALL
		14.30 – 15.00	Invited Lecture: <i>Innovations in Some of the Indigenous Sensor Technologies</i> Dr. N. R. Munirathnam, Director General, C-MET		
		15.00 – 15.50	Oral Presentations: PMS-O-1 to PMS-O-4 (4 x 10 min)		
	ENGINEERING & TECHNOLOGY	Chairperson: Sri R. N. Jayaraj, Former Chairman, NFC, Hyderabad Co-Chairperson: Prof. T.D. Gunneswara Rao, NIT Warangal			BOSE HALL
		14.30 – 15.00	Invited Lecture: <i>Nuclear Fuel Complex - Vision 2028: (Challenges, Expertise &amp; Innovative Technologies</i> Dr. Dinesh Srivastava, Chief Executive, NFC, Hyderabad		
		15.00 – 15.50	Oral Presentations: ET-O-1 to ET-O-4 (4 x 10 min)		
	CHEMICAL SCIENCES	Chairperson: Dr. R.B. N. Prasad, IICT, Hyderabad Co-Chairperson: Prof. Ms. P. V. Srilakshmi, NIT Warangal			RAMAN HALL
		14.30 – 15.00	Invited Lecture: <i>Innovative Process Technologies for Commercial Drugs</i> Dr. A. Veera Reddy, Suvenlife Sciences, Hyderabad		
		15.00 – 15.50	Oral Presentations: CS-O-1 to CS–O-4 (4 x 10 min)		

**DAY 1 Contd...**

LIFESCIENCES & AGRICULTURAL SCIENCES	Chairperson: Prof. P. Appa Rao, Vice Chancellor, Univ. Hyderabad Co-Chairperson: Dr. Onkara Perumal, NIT Warangal		HOMI BHABHA HALL	
	14.30 – 15.00	Invited Lecture: Fungal Diversity in Sustainable Development of Telangana State: Opportunities and Challenges Prof. A. K. Pandey, Chairman, MPPURC		
	15.00 – 15.50	Oral Presentations: LSAS-O-1 to LSAS-O-4 (4 x 10 min)		
14.15 to 15.50	MEDICAL, HEALTH & PHARMA-CEUTICAL SCIENCES	Chairperson: Prof. G. Achaiah, Kakatiya Univ, Warangal Co-Chairperson: Prof. A. Sarath Babu, NIT Warangal		CHANDRASEKHAR HALL
		14.30 – 15.00	Invited Lecture: Indian Pharmaceutical Industry Achievements and Expectations Prof. C.K. Kokate, Former Vice Chancellor, KU, Warangal	
		15.00 – 15.50	Oral Presentations: MHPS-O-1 to MHPS-O-4 (4 x 10 min)	
	EARTH, OCEAN, ATMOSPHERIC AND ENVIRONMENTAL SCIENCES	Chairperson: Prof. K.V. Jayakumar, Dean, IRAA, NIT Warangal Co-Chairperson: Dr. P. Hari Prasad Reddy, NIT Warangal		KHURANA HALL
		14.30 – 15.00	Invited Lecture: Ozone, Ozone Everywhere Prof. S. B. Jonnalagadda, Univ.KwaZulu-Natal, South Africa	
		15.00 – 15.50	Oral Presentations: EOAES-O-1 to EOAES-O-4 (4 x 10 min)	
	SPECIAL THEME SESSION			DBRALC
	INTERACTION OF STUDENTS WITH SCIENTISTS	Coordinator: Prof. A. Ramachandraiah, NIT Warangal		
		Speakers	Dr. Ch. Mohan Rao, Former Director, CCMB, Hyderabad Prof. K. Byrappa, Former Vice Chancellor, Mangalore University Prof. B. V. Appa Rao, Emeritus Research Fellow, TLC, NIT Warangal Prof. D. Prasad Rao, Chairman, Indo-US Suer Speciality Hospital, Hyd’bad	
	15.50 – 16.05	TEA BREAK		
16.05 – 17.35	THEMATIC PARALLEL SESSIONS – II			SHC
16.05 – 17.35	PHYSICAL AND MATHEMATICAL SCIENCES	Chairperson: Prof. T. Amarnath, Univ. Hyderabad Co-Chairperson: Prof. P. Malla Reddy, KU, Warangal		RAMANUJAN HALL
		16.15 – 16.45	Invited Lecture: Divergence free vector fields in viscous incompressible flows with special reference to Oseen equations Prof. B. Sri Padmavathi, Univ. Hyderabad	
		16.45 – 17.35	Oral Presentations: PMS-O-5 to PMS-O-8 (4 x 10 min)	
	ENGINEERING AND TECHNOLOGY	Chairperson: Prof. M. Sydulu, NIT Warangal Co-Chairperson: Prof. K. Anand Kishore, NIT Warangal		BOSE HALL
		16.15 – 16.45	Invited Lecture: Mathematical Modelling and Simulation in Chemical & Bio-Chemical Engineering Prof. M. Chidambaram, Emeritus Professor, NIT Warangal	
		16.45 – 17.35	Oral Presentations: ET-O-5 to ET-O-8 (4 x 10 min)	
	CHEMICAL SCIENCES	Chairperson: Prof. Ch. Sanjeeva Reddy, Vice-President, TAS Co-Chairperson: Dr. Vishnu Shanker, NIT Warangal		RAMAN HALL
		16.15 – 16.45	Invited Lecture: Use of Light for Treatment of Cancer: Challenges & Opportunities Dr. D. Ramaiah, Former Director, RRL, Jorhat	
		16.45 – 17.35	Oral Presentations: : CS-O-5 to CS-O-8 (4 x 10 min)	
	LIFESCIENTES AND AGRICULTURAL SCIENCES	Chairperson: Prof. S. M. Reddy, Editor, Publications, TAS Co-Chairperson: Dr. Ms. G. Shamitha, KU, Warangal		HOMI BHABHA HALL
		16.15 – 16.45	Invited Lecture: Biotechnological production of chitooligosaccharides for plant immunization Prof. P. Appa Rao, Vice Chancellor, Univ Hyderabad	
		16.45 – 17.35	Oral Presentations: LSAS-O-5 to LSAS-O-8 (4 x 10 min)	

### Day 1 Contd...

16.05 – 17.35	MEDICAL, HEALTH AND PHARMA- CEUTICAL SCIENCES	Chairperson: Prof. C. K. Kokate, Former Vice Chancellor, KU, Warangal Co-Chairperson: Dr. P. Srinivasa Rao, NIT Warangal		CHANDRASEK HAR HALL
		16.15 – 16.45	Invited Lecture: Science and Technology for Enhancing Quality of Life Dr. S. N. Hegde, Former Vice Chancellor, Mysore University	
		16.45 – 17.35	Oral Presentations: MHPS-O-5 to MHPS-O-8 (4 x 10 min)	
	EARTH, OCEAN, ATMOSPHERIC AND ENVIRONMENTAL SCIENCES	Chairperson: Prof. S. B. Jonnalagadda, Univ.KwaZulu-Natal, SA Co-Chairperson: Prof. M. Chandrasekhar, NIT Warangal		KHURANA HALL
		16.15 – 16.45	Invited Lecture: Waste Biorefinery: Renewable Chemicals and Fuels in Closed Loop Integrated Format Dr. S. Venkata Mohan, IICT, Hyderabad	
		16.45 – 17.35	Oral Presentations: EOAES-O-5 to EOAES-O-8 (4 x 10 min)	
	SPECIAL THEME SESSION			
INTERACTION OF STUDENTS WITH SCIENTISTS	Coordinator: Prof. A. Ramachandraiah, NIT Warangal			
	Speakers	Dr. Ch. Mohan Rao, Former Director, CCMB, Hyderabad Prof. K. Byrappa, Former Vice Chancellor, Mangalore University Prof. B. V. Appa Rao, Emeritus Research Fellow, TLC, NIT Warangal Prof. D. Prasad Rao, Chairman, Indo-US Suer Speciality Hospital, Hyd’bad		
17.30	GENERAL BODY MEETING, TAS			BOSE HALL
17.30-19.00	POSTER PRESENTATION (PMS, ET and CS)			SHC
19.00-20.30	CULTURAL PROGRAMME			AUDITORIUM
20.30	DINNER			PANDAL

### DAY 2: 23-12-2018

08.00-09.00		BREAKFAST			
09.00-11.00		SUB-THEME PARALLEL SESSIONS-I			
09.00-11.00	SMART CITIES	Chairperson: Prof. C. S. R. K. Prasad, NIT Warangal Co-Chairperson: Prof. R. B. V. Subramanyam, NIT Warangal			DBRALC
		9.00-9.40	Speakers: Dr. B. Janardhan Reddy, IAS, Commissioner, HMDA, Hyderabad		
		9.40-10.20 10.20-11.00	Sri. Jeyash Ranjan, IAS, Principal Secretary, IT, GoT Discussions		
	RENEWABLE ENERGY SOURCES	Chairperson: Prof. P. Anand Raj, Dean, P & D, NIT Warangal Co-Chairperson: Prof. S. Srinivasa Rao, NIT Warangal			BOSE HALL
		9.00-9.40	Invited Lecutre1: Renewable Energy Sources Prof. K. Ramanuja Chary: Rowan University, USA		
		9.40-10.20 10.20-11.00	Invited Lecture 2: Metal Fluorides for Electrochemical Energy Storage Prof. M. Anji Reddy, Germany Discussions		
11.00-11.15		TEA BREAK			SHC

**Day 2 Contd...**

11.15-13.00		SUB-THEME PARALLEL SESSIONS-II		
11.15 – 13.00	SCIENCE IN THE SERVICE OF SOCIETY	<b>Chairperson:</b> Dr. Ch. Mohan Rao, Former Director, CCMB <b>Co-Chairperson:</b> Prof. B. V. Appa Rao, NIT Warangal <b>Speakers:</b> Prof. D. Balasubramanian, former Director, CCMB, Hyderabad Dr. T. V. Venkateswaran, Director, Vigyan Prasar, DST, Gol		DBRALC
	INCLUSIVE ROLE OF WOMEN IN SCIENCE AND TECHNOLOGY	<b>Chairperson:</b> Dr. Ms. K. Padma, NIT Warangal <b>Co-Chairperson:</b> Dr. Ms. H. P. Rani, NIT Warangal <b>Speakers:</b> <i>Women In Science – is it any different?</i> Dr. Saroja Saibaba, Scientific Officer, Kalpakkam <i>A Socio Cultural Historical Perspective of Women Power in India.</i> Dr. J. Kedarawari, Curator, Salarjung Museum, Hyderabad		BOSE HALL
13.00-14.00		LUNCH		PANDAL
14.00-15.30		THEMATIC PARALLEL SESSIONS – III		SHC
14.00 – 15.30	PHYSICAL AND MATHEMATICAL SCIENCES	<b>Chairperson:</b> Prof. M. N. Chary, OU <b>Co-Chairperson:</b> Prof. L. R. G. Reddy, NIT Warangal		RAMANUJAN HALL
		14.10-15.10	<b>Invited Lectures</b> <i>Physics and Applications of Functional Materials and Nanostructures</i> Prof. M. S. Ramachander Rao, IIT Madras Severe Thunderstorms over India and special reference to Telangana Prof. K. Krishna Reddy, YVU, Kadapa	
		15.10 -15.30	<b>Oral Presentations: PMS-O-9 and PMS-O-10 (2 x 10 )</b>	
	ENGINEERING AND TECHNOLOGY	<b>Chairperson:</b> Dr. G. Madhusudhan Reddy, TAS <b>Co-Chairperson:</b> Prof. P. Bangaru Babu, NIT Warangal		BOSE HALL
		14.10-14.40	<b>Invited Lecture:</b> <i>Heisenberg Principle and Sustainable Development in Geotechnical Engineering Practice</i> Prof. M. R. Madhav, IIT, Kanpur (Retd)	
		14.40-15.30	<b>Oral Presentations: ET-O-9 to ET-O-13 (5 x 10)</b>	
	CHEMICAL SCIENCES	<b>Chairperson:</b> Prof. S. SriHari, Kakatiya Univ, Warangal (Retd) <b>Co-Chairperson:</b> Prof. A. Venu Vinod, NIT Warangal		RAMAN HALL
		14.10-14.40	<b>Invited Lecture:</b> <b>Indigenizing Material Technologies</b> <i>(From laboratory to the market)</i> Dr. T. N. Rao, ARCI, Hyderabad	
		14.40-15.30	<b>Oral Presentations: : CS-O-9 to CS-O-12 (4 x 10)</b>	
	LIFESCIENCES AND AGRICULTURAL SCIENCES	<b>Chairperson:</b> Prof. M. Singaracharya, Kakatiya Univ, Warangal (Retd) <b>Co-Chairperson:</b> Prof. E. Venkata Ratnam, NIT Warangal		HOMI BHABHA HALL
		14.10-14.40	<b>Invited Lecture:</b> <i>Science and Technology for Doubling Farmers Income in Telangana State through Integrated Farming Approach</i> Prof. M. P. Thakur, IGKV, Raipur	
		14.40-15.30	<b>Oral Presentations: LSAS-O-9 to LSAS-O-12 (4 x 10)</b>	
	MEDICAL, HEALTH AND PHARMACEUTICAL SCIENCES	<b>Chairperson:</b> Prof. K. Jeevan Rao, EC Member, TAS <b>Co-Chairperson:</b> Dr. Prakash Saudagar, NIT Warangal		CHANDRASEKHAR HALL
		14.10-14.40	<b>Invited Lecture:</b> <i>Involvement of sorbitol-mediated signaling mechanisms in neuronal and retinal degeneration associated with metabolic syndrome</i> Dr. G. Bhanuprakash Reddy, NIN, Hyderabad	
		14.40-15.30	<b>Oral Presentations: MHPS-O-9 to MHPS-O-12 (4 x 10)</b>	

## Day 2 Contd...

14.00 – 15.30	EARTH, OCEAN, ATMOSPHERIC AND ENVIRONMENTAL SCIENCES		Chairperson: Prof. N. V. Umamahesh, NIT Warangal Co-Chairperson: Dr. K. Venkata Reddy, NIT, Warangal		KHURANA HALL	
			14.10-14.40	Invited Lecture: Geo-Technical Splendour of the Kakathiyas Prof. M. Pandu Ranga Rao, NIT WARANGAL (Retd)		
			14.40-15.30	Oral Presentations: EOAES-O-9 to EOAES-O-12 (4 x 10)		
15.30-15.45		TEA BREAK				SHC
15.45-17.15		THEMATIC PARALLEL SESSIONS – IV				
15.45-17.15	PHYSICAL AND MATHEMATICAL SCIENCES		Chairperson: Prof. Y. N. Reddy, NIT, Warangal Co-Chairperson: Prof. D. Srinivasacharya, NIT Warangal			RAMANUJAN HALL
			15.55-16.25	Invited Lecture “On Absolutely Norm Attaining Operators” Prof. G. Ramesh, IIT, Hyderabad		
			16.25-17.15	Oral Presentations: PMS-O-11 to PMS-O-14 (4 x 10)		
	ENGINEERING AND TECHNOLOGY		Chairperson: Prof. P. Ravi Kumar, Member Secretary, TSCOST, Telangana Co-Chairperson: Prof. S. Srinivasa Rao, EEE, NIT Warangal			BOSE HALL
			15.55-16.25	Invited Lecture: Incremental Sheet Forming: Predictive Capabilities Prof. N. Venkata Reddy, IIT, Hyderabad		
			16.25-17.15	Oral Presentations: ET-O-14 to ET-O-17 (4 x 10)		
	CHEMICAL SCIENCES		Chairperson: Prof. D. Ashok, OU Co-Chairperson: Dr. S. Jyothi, KU			RAMAN HALL
			15.55-16.25	Invited Lecture: Electrical Discharge Plasma: An Advanced Oxidation Process the Mitigation of Air and Water pollutants Prof. Ch. Subramanyam, IIT, Hyderabad		
			16.25-17.15	Oral Presentations: : CS-O-13 to CS–O-16 (4 x 10)		
	LIFESCIENCES AND AGRICULTURAL SCIENCES		Chairperson: Prof. K. Janardhan Reddy , EC Member, TAS Co-Chairperson: Dr. K. Narasimhulu, NIT Warangal			HOMI BHABHA HALL
			15.55-16.25	Invited Lecture: Transition in Indian Agriculture (From Green Revolution to Gene Revolution) Prof. N. Venugopal Rao, ANGRAU, Tirupati (Retd)		
			16.25-17.15	Oral Presentations: LSAS-O-13 to LSAS-O-16 (4 x 10)		
	MEDICAL, HEALTH AND PHARMA-CEUTICAL SCIENCES		Chairperson: DR. G. Bhanuprakash Reddy, EC Member, TAS Co-Chairperson: Dr. S. Srinath, NIT Warangal			CHANDRASEKHAR HALL
			15.55-16.25	Invited Lecture: The Science of Resuscitation-Best Practices to Improve Survival from Cardiac Arrest Dr. R. Srinivas, Cardiologist, Warangal		
			16.25-17.15	Oral Presentations: MHPS-O-13 to MHPS-O-16 MHPS, O 13-16 (4 x 10)		
	EARTH, OCEAN, ATMOSPHERIC AND ENVIRONMENTAL SCIENCES		Chairperson: Y. Pydisetty, Dean, Academic, NIT Warangal Co-Chairperson: Dr. B. Srinivas, NIT Warangal			KHURANA HALL
			15.55-16.25	Invited Lecture: Relevance of Environmental Flows in Indian Context Prof. K. V. Jayakumar, CED, NIT Warangal		
			16.25-17.15	Oral Presentations: EOAES-O-13 to EOAES-O-16 (4 x 10)		
17.15-17.30		TEA BREAK				SHC
17.30-19.00		POSTER PRESENTATIONS (LSAS, MHPS and Sub Themes)				
19.00-20.30		CULTURAL PROGRAM				AUDITORIUM
20.30-21.30		DINNER				

## DAY 3: 24-12-2018

08.00-09.00		BREAKFAST		PANDAL
09.30-11.10	PLENARY SESSION-II	Chairperson: Dr. S. Chandrasekhar, Director, IICT, Hyderabad Co-Chairperson: Prof. A. Venu Gopal, NIT Warangal		DBRALC
		9.40-10.25	Distinguished Popular Lecture-1 Science for Sustainability: Emerging Challenges and New Opportunities Prof. A.R. Reddy, Former Vice Chancellor, Yogi Vemana Univ., Kadapa	
		10.25-11.10	Distinguished Popular Lecture-2 The Role of Nature and Science in Engineering Sustainable Buildings Prof. N.V. Ramana Rao, Director, NIT Warangal	
11.10-11.25		TEA BREAK		PANDAL
11.25-13.00		SPECIAL THEME PARALLEL SESSIONS-III		SHC
11.25-13.00	YOUNG SCIENTISTS MEET	Chairperson: Prof. M. Vittal, OU (Retd) Co-Chairperson: Dr. A. Veereshbabu, NIT Warangal		BOSE HALL
		Speakers	Dr. S. Chandrasekhar, Director, IICT, Hyderabad Prof. M. Chidambaram, Emeritus Professor, NIT Warangal Dr. G. Ramesh, IIT Madras, Chennai	
	STRENGTHENING SCIENCE EDUCATION: ROLE OF TEACHERS	Chairperson: Prof. D.V.S.S. Siva Sarma, Dean, FA, NIT Warangal Co-Chairperson: Dr. P. V. Rao, NIT Warangal		DBRALC
		Speakers	Dr. Ch. Mohan Rao, Former Director, CCMB Prof. B. V. Appa Rao, Emeritus Research Fellow, TLC, NIT Warangal Dr. P. M. Satyasai, Visiting Faculty, NIT Warangal	
13.00-14.00		LUNCH		PANDAL
14.00-15.30	PANEL DISCUSSION	Panellists: Sri. Ajay Mishra, IAS, Spl Chief Secretary, EF S&T, GoTel nagana Prof. A. R. Reddy, Former Vice Chancellor, Yogi Vemana Univ., YVU, Kadapa Dr. Martha N. Reddy, Associate Director, DRDO, Delhi (Retd) Dr. Ch. Mohan Rao, Former Director, CCMB, Hyderabad Prof. K. Narasimha Reddy, President, TAS Dr. S. Chandrasekhar, Director, IICT, Hyderabad & Hon'Sec., TAS Dr. N. V. Ramana Rao, Director, NIT, Warangal Prof. M. Panduranga Rao, NIT WARANGAL (Retd) Moderator: Prof. L.R.G. Reddy, Dean, SA, NIT Warangal		DBRALC
15.30-16.00		VALEDICTORY FUNCTION		DBRALC
16.00		HIGH TEA		PANDAL

(Legend: **NIT**= National Institute of Technology; **TAS** = Telangana Academy of Sciences; **DST** = Department of Science and Technology; **TIFR** = Tata Institute of Fundamental Research; **IICT** =Indian Institute of Chemical Technology; **NFC** = Nuclear Fuel Complex; **DRDL** =Defence Research and Development Laboratory; **DRDO** =Defence Research and Development Organisation; **CCMB** = Centre for Cellular and Molecular Biology; **IIT** = Indian Institute of Technology; **YVU** = Yogi Vemana University; **ARCI** = International Advanced Research Centre for Powder Metallurgy and New Materials; **KU** = Kakatiya University; **C-MET** = Centre for Materials for Electronics Technology; **IGKV** = Indira Gandhi Krishi Vishwavidyalaya; **NIN** = National Institute of Nutrition; **MPPURC** = Madhya Pradesh Private University Regulatory Commission; **EF S&T** = Environment, Forests, Science & Technology; **GoT** = Government pf Telangana; **ANGRAU** = Acharya NG Ranga Agricultural University; **GoI** = Government of India; **TLC** = Teaching Learning Centre; **DBRALC** =Dr Babasahab Ambedkar Learning Centre; **SHC** = Seminar Hall Complex; **PMS** =Physical and Mathematical Sciences; **ET** = Engineering and Technology; **CS** = Chemical Sciences; **LSAS** = Life Sciences and Agricultural Sciences; **MHPS** = Medical, Health and Pharmaceutical Sciences; **EOAES** = Earth, Ocean, Atmospheric and Environmental Sciences; **-O-** = Oral; **-P-** = Poster)