



D. BALA SUBRAHAMANYAM SCIENTIST “SF”, SPL, VSSC

NUMERICAL ATMOSPHERE MODELLING BRANCH
SPACE PHYSICS LABORATORY
VIKRAM SARABHAI SPACE CENTRE
DEPARTMENT OF SPACE, GOVERNMENT OF INDIA
INDIAN SPACE RESEARCH ORGANISATION
THIRUVANANTHAPURAM - 695 022, INDIA
☎: <http://SPL.gov.in/>

☎: +91-471-2563734 (O)
☎: +91-471-2597215 (R)
☎: +91-9895656150 (M)
☎: +91-471-2706535 (O)
✉: [subrahmanyam \[at\] gmail \[dot\] com](mailto:subrahmanyam@gmail.com)
✉: [db.subrahmanyam \[at\] vssc \[dot\] gov \[dot\] in](mailto:db.subrahmanyam@vssc.gov.in)
☎: <http://SUBRAHAMANYAM.weebly.com>

Area of Specific Research Interests

Boundary-Layer Meteorology; Regional Atmospheric Modelling; Tropical Cyclones; Parametrization; Large Eddy Simulations; Nowcasting and Short-range Weather Predictions; Air-Sea Interaction Processes

Educational Background

- Doctorate in Philosophy [Ph.D.]** [2004] : Physics under the Faculty of Sciences
Mahatma Gandhi University, Kottayam, INDIA
- Masters of Science [M.Sc.]** [1994 - 1996] : Physics (Specialization in Electronics)
Pt. Ravishankar Shukla University, Raipur, INDIA
- Bachelor of Science [B.Sc.]** [1991 - 1994] : Physics, Mathematics and Chemistry
Pt. Ravishankar Shukla University, Raipur, INDIA

Professional Background

- Scientist “SF”** [Jan 2016 - Present] : Space Physics Laboratory, Vikram Sarabha Space Centre
Scientist “SE” [Jul 2011 - Dec 2015] : Department of Space, Government of India
Scientist “SD” [Mar 2006 - Jun 2011] : Indian Space Research Organisation
ISRO P.O., Thiruvananthapuram - 695022, INDIA
- Invited Scientist** [Feb 2005 - Feb 2006] : Ocean Climate and Environment Research Division
Korea Ocean Research and Development Institute
ANSAN P.O. Box No. 29
Seoul - 425 600, KOREA
- Project Scientist-C** [May 2003 - Jan 2005] : Indian National Centre for Ocean Information Services
An Autonomous Body under the Ministry of Earth Sciences
Government of India, “Ocean Valley”, Pragathi Nagar (BO)
Nizampet (SO), Hyderabad - 500 090, INDIA
- Research Associate** [Apr 2003 - May 2003] : Space Physics Laboratory, Vikram Sarabha Space Centre
Department of Space, Government of India
Indian Space Research Organisation
ISRO P.O., Thiruvananthapuram - 695022, INDIA
- ISRO Research Fellow** [Apr 1998 - Apr 2003] : Space Physics Laboratory, Vikram Sarabha Space Centre
Department of Space, Government of India
Indian Space Research Organisation
ISRO P.O., Thiruvananthapuram - 695022, INDIA
- Asst. Professor (On adhoc basis)** [Dec 1996 - Mar 1998] : Govt. Arts and Science College, Durg
Affiliated to Pt. Ravishankar Shukla University
Raipur, INDIA

Important Projects and Programme:

Weather Predictions in support of PSLV and GSLV Missions

- **MEMBER, Inter-Center Weather Forecast Expert Team (Since 2008 - Present)**
 - *Responsible for:* Short-range weather predictions with the aid of regional NWP model COSMO
 - *Important Accomplishments:* (i) Extended support to all the launch campaigns from Sriharikota; (ii) Location-specific predictions of sky conditions in support of the SOUREX Mission; (iii) Utilisation of the COSMO model simulations in predicting the trajectory of Tropical Cyclones

Numerical Simulations through COSMO in support of ICARB-2018 Experiment

- **CO-INVESTIGATOR, Integrated Campaign for Aerosols, gases and Radiation Budget - 2018**
 - *Responsible for:* Carrying out the COSMO simulations during the ICARB-2018 Field Experiment
 - *Important Accomplishments:* Validation of COSMO model over the Arabian Sea is completed.

Commissioning of Open Path CO₂ Measurements at Kodaikanal and Ponmudi

- **CO-INVESTIGATOR, Terrestrial Emission of CO₂ through Ground-based Measurements**
 - *Responsible for:* Experimental Setup of Open Path CO₂/H₂O Gas Analyzers & Sonic Anemometer
 - *Important Accomplishments:* (i) Realisation of an MoU between SPL and Indian Institute of Astrophysics for setting up of a CO₂ measurement station at Kodaikanal Solar Observatory Campus; (ii) Procurement and Installation of Open Path CO₂ Gas Analyzers at Kodaikanal and Ponmudi

SPL Website: Design, Development and System Administration

- **CHAIR, SPL Website Development and Maintenance Team (Since 2018 - Present)**
 - *Responsible for:* Content Management System, Regular Maintenance, and Upkeepment
 - *Important Accomplishments:* (i) Release of a new version of website in 2018; (ii) Streamlining of regular updation; (iii) Formulation of Content Clearance Mechanism; (iv) Hosting of scientific Metadata on the website; (v) Domain Renewal and Domain Validation for SSL Certification

Project 'MAUSAM' for Weather Prediction at SHAR using Artificial Intelligence (AI)

- **CO-MENTOR, Project 'MAUSAM' by DTDI, Bengaluru (2019 - Present)**
 - *Responsible for:* Development of an AI-based Tool for Weather Prediction at SHAR
 - *Important Accomplishments:* Evaluation of different Machine Learning Algorithm is underway.

Research Supervision of Ph.D Scholars and Post-Graduate Academic Projects

- **RECOGNIZED Ph.D. GUIDE at: (i) Cochin University of Science and Technology, Cochin; (ii) University of Kerala, Thiruvananthapuram**
 - *Responsible for:* Guidance to Ph.D. Scholars and Supervision of Post-Graduation Projects
 - *Important Accomplishments:* (i) Ph.Ds (1 Completed, 2 Pursuing); (ii) M.Sc. (11 Completed).

Official Language Coordinator at SPL for Promotion of Rajbhasha

- **CO-COORDINATOR, OFFICIAL LANGUAGE IMPLEMENTATION (Since 2018 - Present)**
 - *Responsible for:* Promote the use of Hindi for the official purposes
 - *Important Accomplishments:* (i) Preparation of Bi-Lingual Website for SPL

Other Important Responsibilities and Assignments

Member in Various Committees:

- Review Committee for science data processing pipelines for Chandrayaan-2 payloads:
 - *Responsible for:* Evaluation of Quick-Look Display software of Chandrayaan-2 payloads
- Functional Committees for World Space Week (WSW) Celebrations (2012 - Present):
 - *Responsible for:* Resource material preparation for providing insights about the WSW Theme
- Functional Committees for Digital India Week Celebrations (2018 - Present):
 - *Responsible for:* Arrangement of logistics for conducting the Inaugural and Valedictory functions
- SPL's Academic Committee (2011 - Present):
 - *Responsible for:* Periodical evaluation of the performance of JRF/SRFs
- Editorial Board, SPL Annual Report (2011 - Present):
 - *Responsible for:* Compilation of inputs from difference branches for SPL's Annual Report
- ICON Model Data Archival and Management of Surya FTP Server:
 - *Responsible for:* Coordination between DWD and VSSC for smooth flow of ICON Model data
- Hindi Fortnight Celebrations at VSSC:
 - *Responsible for:* Supporting the Hindi Division of VSSC for Quiz Competition

Awards, Honours and Recognition

- Core Member, “Inter-Centre Weather Forecasting Expert Team” since Chandrayaan-1:



Serving as one of the core members in the “[Inter-Centre Weather Forecasting Expert Team](#)” constituted by Satish Dhawan Space Centre, Sriharikota for providing short-range weather predictions in support of ISRO's all the PSLV and GSLV missions.

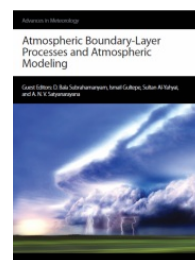
The team was constituted for the very first time during PSLV-C11 (Chandrayaan-1) mission in October 2008, and since then I am continuing as one of the core members, and have supported a total of about 40 missions.

- Lead Guest Editor: *Advances in Meteorology - An Open Access Journal*:
Special Issue of *ADVANCES IN METEOROLOGY* Journal on
“[ATMOSPHERIC BOUNDARY-LAYER PROCESSES AND ATMOSPHERIC MODELING](#)”

Lead Guest Editor: D. Bala Subrahmanyam

Co-Editors: Ismail Gultepe, Sultan Al-Yahyai and A. N. V. Satyanarayana

2015 (Published Special Issue) - <http://www.hindawi.com/journals/amete/si/158576/>



- Reviewer of various Peer-reviewed Journals:



Awards, Honours and Recognition ...

- **Ph.D. Thesis Adjudicator/Examiner and Recognized Guide:**
 - Acharya Nagarjuna University, Guntur - 522 006, INDIA [[Thesis Adjudicator](#)]
 - Osmania University, Hyderabad - 500 007, INDIA [[Examiner](#)]
 - University of Kerala, Thiruvananthapuram - 695 034, INDIA [[Recognized Ph.D. Guide](#)]

- **Guest Faculty at Indian Institute of Space Science and Technology (IIST) [2008 - 2009]:**

As part of the [IIST, Thiruvananthapuram](#) Academic Programme, I was invited to deliver lectures on “Elements of the Atmospheric Sciences” for the Graduate/Post-Graduate engineering students.

- **Session Chairman in International/National Conferences:**

Chaired a scientific session on “Data Assimilation in Numerical Atmospheric Models” at the [Third International HRM Workshop organized by Hanoi University of Sciences, Hanoi, Vietnam](#) (November 24 - 28, 2008)

- **BEST LIBRARY USER Award of VSSC / IISU (2019)**
 - National Library Week Celebrations at VSSC, Thiruvananthapuram [2019]

- **Internal Expert, Departmental Promotion Committee (DPC) for promotion to Scientist “SD”:**
 - National Atmospheric Research Laboratory, Gadanki [2018]
 - Satish Dhawan Space Centre, Sriharikota [2018]

- **Best Research Paper Award in TROPMET-2011 under Numerical Weather Prediction Session:**

Best Research Paper Award for “[Short-Range Weather Predictions in support of PSLV and GSLV Launch activities: Role of High-resolution Regional Model](#)” by: [D. Bala Subrahmanyam](#) and [T. J. Anurose](#) under “Numerical Weather Prediction & Data Assimilation” session of TROPMET 2011, organized by the Indian Meteorological Society at Hyderabad (14 - 16 December 2011)

- **Second Prize in National Library Week Celebrations 2014 (Team Event):**

Central level Debate Competition on “[Open Access Publishing - Is it the future of science communication?](#)”, at VSSC, Thiruvananthapuram (November 14, 2014).

- **Award of Fellowships for Higher Studies/Education:**
 - **Postdoctoral Research Fellowship:** Korea Ocean Research and Development Institute (2005 - 2006)
 - **ISRO Research Associateship Program:** Space Physics Laboratory (2005)
 - **ISRO Research Fellowship Program:** Space Physics Laboratory (1998 - 2003)

- **Awards for promotion of the national language “Hindi” in various platforms:**
 - First Prize in Gagan for Best Hindi Article: (VSSC Hindi Journal):
 - * Vol. 48 (Oct 2018 - Mar 2019): Kya Zindagi men Unnayan zaroori hai?
 - * Vol. 46 (Oct 2017 - Mar 2018) - Aaj ke sandarbh me Gurukul kii paanch preranadayak baaten
 - * Vol. 43 (Apr 2016 - Sep 2016) - DPC Kaa Bhoot
 - * Vol. 41 (Apr 2015 - Sep 2015) - Samay Ke Saath Badalate Rishte
 - * Vol. 39 (Oct 2013 - Mar 2014) - Saadhe Chaar Sau Ka Rishta
 - * Vol. 38 (Apr 2014 - Sep 2014) - Ek Asantulit Samaaz
 - * Vol. 36 (Jun 2012 - Dec 2012) - Ek Avismaraniiy Mulakaat

- **Awards for promotion of the national language “Hindi” in various platforms**
 - First Prize, Hindi Technical Seminar, IIST, Thiruvananthapuram, October 30 - 31, 2018.
 - Second Prize, Central Level Hindi Technical Seminar, VSSC, Thiruvananthapuram, May 16, 2014.
 - First Prize, National Hindi Workshop on “Ocean Modelling”, DOD, MoES, New Delhi, October 23, 2004
 - First Prize, National Hindi Workshop on “Oceanic Services”, INCOIS, Hyderabad, September 01, 2003
 - First Prize, Hindi Seminar, Vikram Sarabhai Space Centre, Thiruvananthapuram, November 26, 2001
 - First Prize, Inter Centre Technical Hindi Seminar, ISAC, Bangalore, September 13, 2001

Scientific Recognition in terms of Publications

h-index*	=	14*
Total number of Publications in Peer-reviewed Journals	≈	50 (>20 with Lead Authorship)
Total number of Citations	>	550
My Scopus Author ID	:	6507025594

Computer Skills

- **OPERATING SYSTEMS:**

LINUX : OpenSuSe, RedHat, Fedora, Ubuntu, and other open source LINUX platforms
 UNIX : AIX IBM Mainframe, HP-UX, IRIX, Solaris
 WINDOWS : (Windows XP, Windows NT, Windows ME, Windows 2000, Windows8 ...)

- **PROGRAMMING LANGUAGES:**

FORTRAN : FORTRAN77, FORTRAN90, and FORTRAN95

- **WORD PROCESSOR AND GRAPHICAL USER INTERFACE (GUI) TOOLS:**

WORD PROCESSOR : LaTeX, Microsoft Office, Apache OpenOffice, LibreOffice
 PLOTTING TOOLS : GrADS, gnuplot, QtiPlot, Origin, Surfer, SciDAVis, Ferret, GMT

- **FAMILIARITY WITH DIFFERENT TYPES OF DATA FORMATS:**

DIFFERENT FORMATS : ASCII, Binary, GRIB, NetCDF, HDF

- **FAMILIARITY WITH THE WEB-BASED APPLICATIONS:**

LANGUAGES AND SCRIPTS : HTML, PHP, SQL, mySQL, JAVA, PYTHON
 CONTENT MANAGEMENT SYSTEM : JOOMLA!

Membership in Professional Bodies

- **Life Member**, INDIAN METEOROLOGICAL SOCIETY, THIRUVANANTHAPURAM CHAPTER
- **Life Member**, INDIAN SOCIETY FOR TRAINING & DEVELOPMENT, THIRUVANANTHAPURAM CHAPTER
- **Complimentary Member**, EUROPEAN GEOSCIENCE UNION - 2015
- **COSPAR Associate**, COSPAR - COMMITTEE ON SPACE RESEARCH
- **Member**, ISRO SPACE SCIENTISTS ASSOCIATION, THIRUVANANTHAPURAM

Detailed List of Publications in Books and Peer-Reviewed Journals

Books:

1. **D. Bala Subrahmanyam** and Radhika Ramachandran, “Marine Atmospheric Boundary Layer Studies during INDOEX: Observational and Modelling Studies of the Marine Atmospheric Boundary Layer over the Tropical Indian Ocean during INDOEX”, Archive No.: V177160; ISBN (eBook): 978-3-640-98865-5; ISBN (Book): 978-3-640-98891-4, 2011.
2. S. Indira Rani, Radhika Ramachandran and **D. Bala Subrahmanyam**, “Atmospheric Modelling Studies over India through HRM and ARPS Models: Studies on Lower Atmospheric Processes over South India using Numerical Atmospheric Models and Experiments”, Archive No.: V178406; ISBN (eBook): 978-3-656-00569-8; ISBN (Book): 978-3-656-00584-1, 2011.

Invited Chapters in Books:

3. **D. Bala Subrahmanyam** and Radhika Ramachandran, “Applications of Mesoscale Atmospheric Models in Short-Range Weather Predictions during Satellite Launch Campaigns in India”, Chapter in Book titled “Atmospheric Model Applications” Edited by Ismail Yucel; Published by InTech, Janeza Trdine 9, 51000 Rijeka, Croatia. ISBN 978-953-51-0488-9, pp 25 - 42. 2012.
[DOI : [10.5772/32518](https://doi.org/10.5772/32518)]

Editorial Papers in Peer-reviewed Journals:

4. **D. Bala Subrahmanyam**, Ismail Gultepe, Sultan Al-Yahyai, and A. N. V. Satyanarayana, “Atmospheric Boundary-Layer Processes and Atmospheric Modeling”, Advances in Meteorology, Vol. 2015, Article ID 985353, 2 pages, 2015. [DOI : [10.1155/2015/985353](https://doi.org/10.1155/2015/985353)]

Peer-reviewed Journals:

5. **D. Bala Subrahmanyam** and Radhika Ramachandran, “All About Cyclones”, Countdown (VSSC Home Journal) 466: 02 - 05, February 2019.
6. **D. Bala Subrahmanyam**, Radhika Ramachandran, K. Nalini, Freddy P. Paul and S. Roshny, “Performance Evaluation of COSMO Numerical Weather Prediction Model in Prediction of OCKHI - One of the Rarest Very Severe Cyclonic Storms over the Arabian Sea: A Case Study”, Natural Hazards 96: 431 - 459, 2019.
[DOI : [10.1007/s11069-018-3550-2](https://doi.org/10.1007/s11069-018-3550-2)]
7. Roshny S., **D. Bala Subrahmanyam**, T. J. Anurose and Radhika Ramachandran, “Impact analysis of dynamical downscaling on the treatment of convection in a regional NWP model - COSMO: a case study during the passage of a very severe cyclonic storm OCKHI”, Natural Hazards and Earth System Science Discussions, nhess-2018-288, 2018.
[DOI : [10.5194/nhess-2018-288](https://doi.org/10.5194/nhess-2018-288)]
8. T. J. Anurose, **D. Bala Subrahmanyam** and S. V. Sunilkumar, “Two years observations on the diurnal evolution of coastal atmospheric boundary layer features over Thiruvananthapuram (8.5°N, 76.9°E), India”, Theoretical and Applied Climatology 131: 77 - 90, 2018.
[DOI : [10.1007/s00704-016-1955-y](https://doi.org/10.1007/s00704-016-1955-y)]
9. Jyoti Bhate, Amit P. Kesarkar, Anandakumar Karipot, **D. Bala Subrahmanyam**, M. Rajasekhar, V. Sathiyamoorthy and C.M. Kishtawal, “A sea breeze induced thunderstorm over an inland station over Indian South Peninsula - A case study”, Journal of Atmospheric and Solar-Terrestrial Physics 148: 96 - 111, 2016. [DOI : [10.1016/j.jastp.2016.09.002](https://doi.org/10.1016/j.jastp.2016.09.002)]
10. T. J. Anurose and **D. Bala Subrahmanyam**, “Evaluation of ABL parametrization schemes in the COSMO, a regional non-hydrostatic atmospheric model over an inhomogeneous environment”, Modeling Earth Systems and Environment 1(4):1 - 13, 2015.
[DOI : [10.1007/s40808-015-0045-y](https://doi.org/10.1007/s40808-015-0045-y)]

11. Sandhya K. Nair, Thara V. Prabha, N. Purushothaman, S. Sijikumar, S. Muralidharan, N. V. P. Kirankumar, D. B. Subrahmanyam, T. J. Anurose, S. S. Prijith and K.V. S. Namboodiri, "Diurnal variations of the low-level jet over peninsular India during the onset of Asian summer monsoon", *Theoretical and Applied Climatology* 120(1): 287 - 298, 2015.
[DOI : [10.1007/s00704-014-1168-1](https://doi.org/10.1007/s00704-014-1168-1)]
12. T. J. Anurose and **D. Bala Subrahmanyam**, "Assessment of a surface-layer parameterization scheme in an atmospheric model for varying meteorological conditions", *Annales Geophysicae* 32: 669 - 675, 2014. [DOI : [10.5194/angeo-32-669-2014](https://doi.org/10.5194/angeo-32-669-2014)]
13. T. J. Anurose and **D. Bala Subrahmanyam**, "Improvements in Sensible Heat-Flux Parametrization in the High-Resolution Regional Model (HRM) Through the Modified Treatment of the Roughness Length for Heat", *Boundary-Layer Meteorology* 147(3): 569 - 578, 2013.
[DOI : [10.1007/s10546-013-9799-9](https://doi.org/10.1007/s10546-013-9799-9)]
14. T. J. Anurose, **D. Bala Subrahmanyam**, C. B. S. Dutt, N. V. P. Kiran Kumar, Sherine Rachel John, Sandhya K. Nair, M. Santosh, Mannil Mohan, P. K. Kunhikrishnan, S. Sijikumar and S. S. Prijith, "Vertical Structure of Sea-Breeze Circulation over Thumba (8.5°N, 76.9°E, India) in the Winter Months and A Case Study during W-ICARB Field Experiment", *Meteorology and Atmospheric Physics*, 115(3): 113 - 121, 2012. [DOI : [10.1007/s00703-011-0178-0](https://doi.org/10.1007/s00703-011-0178-0)]
15. **D. Bala Subrahmanyam**, T. J. Anurose, N. V. P. Kiran Kumar, Mannil Mohan, P. K. Kunhikrishnan, Sherine Rachel John, S. S. Prijith and C. B. S. Dutt, "Spatial and Temporal Variability in Vertical Structure of the Marine Atmospheric Boundary Layer over Bay of Bengal during Winter Phase of Integrated Campaign for Aerosols, gases and Radiation Budget", *Atmospheric Research* 107: 178 - 185, 2012. [DOI : [10.1016/j.atmosres.2011.12.014](https://doi.org/10.1016/j.atmosres.2011.12.014)]
16. **D. Bala Subrahmanyam**, Radhika Ramachandran, S. Indira Rani, S. Sijikumar, T. J. Anurose and Asish Kumar Ghosh, "Location-specific weather predictions for Sriharikota (13.72°N, 80.22°E) through numerical atmospheric models during satellite launch campaigns", *Natural Hazards* 61(3): 893 - 910, 2012. [DOI : [10.1007/s11069-011-9942-1](https://doi.org/10.1007/s11069-011-9942-1)]
17. **D. Bala Subrahmanyam**, T. J. Anurose, Mannil Mohan, M. Santosh, N. V. P. Kiran Kumar and S. Sijikumar, "Impact of Annular Solar Eclipse of 15 January 2010 on Atmospheric Boundary Layer Characterization over Thumba: A Case Study", *Pure and Applied Geophysics* 169(4): 741 - 753, 2012. [DOI : [10.1007/s00024-011-0336-9](https://doi.org/10.1007/s00024-011-0336-9)]
18. S. Naseema Beegum, K. Krishna Moorthy, **D. Bala Subrahmanyam**, N. V. P. Kiran Kumar, S. Suresh Babu and M. Mohan, "Short period variations of the aerosol mass concentrations over Bay of Bengal: Association with quasi-periodic variations in the Marine Atmospheric Boundary Layer parameters and fluxes", *Journal of Atmospheric and Solar-Terrestrial Physics*, 77: 78 - 84, 2012.
[DOI : [10.1016/j.jastp.2011.11.012](https://doi.org/10.1016/j.jastp.2011.11.012)]
19. S. Srivastava, S. Lal, S. Venkataramani, I. Guha and **D. Bala Subrahmanyam**, "Airborne measurements of O₃, CO, CH₄ and NMHCs over the Bay of Bengal during winter", *Atmospheric Environment* 59: 597 - 609, 2012. [DOI : [10.1016/j.atmosenv.2012.04.054](https://doi.org/10.1016/j.atmosenv.2012.04.054)]
20. **D. Bala Subrahmanyam**, T. J. Anurose, Mannil Mohan, M. Santosh, N. V. P. Kiran Kumar, S. Sijikumar, S. S. Prijith and Marina Aloysius, "Atmospheric Surface-Layer Response to the Annular Solar Eclipse of 15 January 2010 over Thiruvananthapuram, India", *Boundary-Layer Meteorology* 141(2): 325 - 332, 2011. [DOI : [10.1007/s10546-011-9627-z](https://doi.org/10.1007/s10546-011-9627-z)]
21. **D. Bala Subrahmanyam** and T. J. Anurose, "Solar Eclipse induced Impacts on Sea/Land Breeze Circulation over Thumba: A Case Study", *Journal of Atmospheric and Solar-Terrestrial Physics* 73(5-6): 703 - 708, 2011. [DOI : [10.1016/j.jastp.2011.01.002](https://doi.org/10.1016/j.jastp.2011.01.002)]
22. **D. Bala Subrahmanyam**, N. V. P. Kiran Kumar, C. B. S. Dutt, T. J. Anurose, P. K. Kunhikrishnan and Mannil Mohan, "Characterization of Air-Sea Interaction Processes over the Bay of Bengal during the Winter Phase of Integrated Campaign for Aerosols, gases and Radiation Budget (W-ICARB) Field Experiment", *Atmospheric Research* 99(1): 97 - 111, 2011.
[DOI : [10.1016/j.atmosres.2010.09.005](https://doi.org/10.1016/j.atmosres.2010.09.005)]

23. Sandhya K. Nair, T. J. Anurose, **D. Bala Subrahmanyam**, N. V. P. Kiran Kumar, M. Santosh, S. Sijikumar, Mannil Mohan and K. V. S. Namboodiri, "Characterization of the Vertical Structure of the Coastal Atmospheric Boundary Layer (CABL) over Thumba (8.5°N, 76.9°E) during different seasons", *Advances in Meteorology* Volume 2011, Article ID 390826, 9 pages, 2011. [DOI : [10.1155/2011/390826](https://doi.org/10.1155/2011/390826)]
24. S. Suresh Babu, V. Sreekanth, K. Krishna Moorthy, Mannil Mohan, N. V. P. Kiran Kumar, **D. Bala Subrahmanyam**, Mukunda M. Gogoi, Sobhan Kumar Kompalli, Naseema Beegum, Jai Prakash Chaubey, V. H. Arun Kumar and Ravi K. Manchanda, "Vertical profiles of aerosol black carbon in the atmospheric boundary layer over a tropical coastal station: Perturbations during an annular solar eclipse", *Atmospheric Research* 99(3-4): 471 - 478, 2011. [DOI : [10.1016/j.atmosres.2010.11.019](https://doi.org/10.1016/j.atmosres.2010.11.019)]
25. S. Indira Rani, Radhika Ramachandran, **D. Bala Subrahmanyam**, P. K. Kunhikrishnan and Denny P. Alappattu, "Characterization of Sea/Land Breeze circulation along the west coast of Indian sub-continent during pre-monsoon", *Atmospheric Research* 95: 367 - 378, 2010. [DOI : [10.1016/j.atmosres.2009.10.009](https://doi.org/10.1016/j.atmosres.2009.10.009)]
26. Shuchita Srivastava, S. Lal, **D. Bala Subrahmanyam**, S. Gupta, S. Venkataramani and T. A. Rajesh, "Seasonal Variability in mixed layer heights and its impact on trace gas distribution over a tropical urban site: Ahmedabad", *Atmospheric Research* 96:79 - 87, 2010. [DOI : [10.1016/j.atmosres.2009.11.015](https://doi.org/10.1016/j.atmosres.2009.11.015)]
27. **D. Bala Subrahmanyam**, S. Indira Rani, Radhika Ramachandran, P. K. Kunhikrishnan and B. Prasad Kumar, "Impact of wind speed and atmospheric stability on air-sea interface fluxes over the East Asian Marginal Seas", *Atmospheric Research* 94(1): 81 - 90, 2009. [DOI : [10.1016/j.atmosres.2008.09.011](https://doi.org/10.1016/j.atmosres.2008.09.011)]
28. R. Rajesh Kumar, B. Prasad Kumar and **D. Bala Subrahmanyam**, "Parameterization of Rain Induced Surface Roughness and Its Validation Study Using a Third Generation Wave Model", *Ocean Science Journal* 44(3), 125 - 143, 2009. [DOI : [10.1007/s12601-009-0012-5](https://doi.org/10.1007/s12601-009-0012-5)]
29. R. Rajesh Kumar, B. Prasad Kumar, A. N. V. Satyanarayana, D. Bala Subrahmanyam, A. D. Rao and S. K. Dube, "Effect of varied atmospheric stability on sea surface drag in shallow seas and its impact on wind-wave growth", *Natural Hazards* 49(2): 213 - 224, 2009. [DOI : [10.1007/s11069-008-9279-6](https://doi.org/10.1007/s11069-008-9279-6)]
30. R. Rajesh Kumar, B. Prasad Kumar, A. N. V. Satyanarayana, D. Bala Subrahmanyam, A. D. Rao and S. K. Dube, "Parameterization of sea surface drag under varying sea state and its dependence of wave age", *Natural Hazards* 49(2): 187 - 197, 2009. [DOI : [10.1007/s11069-008-9309-4](https://doi.org/10.1007/s11069-008-9309-4)]
31. **D. Bala Subrahmanyam**, S. Indira Rani, Radhika Ramachandran and P. K. Kunhikrishnan, "Nudging of Vertical Profiles of Meteorological Parameters in One-Dimensional Atmospheric Model: A Step Towards Improvements in Numerical Simulations", *Ocean Science Journal* 43(4): 165 - 173, 2008. [DOI : [10.1007/BF03029921](https://doi.org/10.1007/BF03029921)]
32. **D. Bala Subrahmanyam**, Radhika Ramachandran, S. Indira Rani, P. K. Kunhikrishnan and B. Prasad Kumar, "Intercomparison of Air-Sea Interface Fluxes over the Yellow Sea and Korea Strait: Impact of Tsushima Warm Ocean Current", *Boundary-Layer Meteorology* 127: 333 - 344, 2008. [DOI : [10.1007/s10546-007-9248-8](https://doi.org/10.1007/s10546-007-9248-8)]
33. Denny P. Alappattu, **D. Bala Subrahmanyam**, P. K. Kunhikrishnan, K. M. Somayaji, G. S. Bhat, R. Venkatesan, C. B. S. Dutt, A. Bhagavath Singh, V. K. Soni and A. S. Tripathi, "On the marine atmospheric boundary layer characteristics over Bay of Bengal and Arabian Sea during the Integrated Campaign for Aerosols, gases and Radiation Budget (ICARB)", *Journal of Earth System Science* 117(S1): 281 - 291, 2008. [DOI : [10.1007/s12040-008-0031-0](https://doi.org/10.1007/s12040-008-0031-0)]
34. Denny P. Alappattu, **D. Bala Subrahmanyam**, P. K. Kunhikrishnan, Radhika Ramachandran, K. M. Somayaji, R. Venkatesh, G. S. Bhat, A. Bhagvath Singh, "Spatio-temporal Variability of Surface-layer Turbulent Fluxes Over the Bay of Bengal and Arabian Sea During the ICARB Field Experiment", *Boundary-Layer Meteorology* 126: 297 - 309, 2008. [DOI : [10.1007/s10546-007-9233-2](https://doi.org/10.1007/s10546-007-9233-2)]

35. R. Rajesh Kumar, A. Raturi, B. Prasad Kumar, Ashoke Bhar, **D. Bala Subrahmanyam** and Felix Jose, "Parameterization of wave attenuation in muddy beds and implication on coastal structures". *Coastal Engineering Journal* 50(3): 309 - 324, 2008. [DOI : [10.1142/S0578563408001843](https://doi.org/10.1142/S0578563408001843)]
36. **D. Bala Subrahmanyam**, Radhika Ramachandran, S. Indira Rani and B. Prasad Kumar, "Air-sea interaction processes over the east-asian marginal seas surrounding the Korean peninsula", *Annales Geophysicae* 25: 1477 - 1486, 2007. [www.ann-geophys.net/25/1477/2007/]
37. **D. Bala Subrahmanyam**, Radhika Ramachandran and P. K. Kunhikrishnan, "Improvements in Simulation of Atmospheric Boundary Layer Parameters through Data Assimilation in ARPS Mesoscale Atmospheric Model", In T. N. Krishnamurti, B. N. Goswami and Toshiki Iwasaki (ed): *Remote Sensing and Modelling of Atmospheres, Oceans and Interactions*, Proc. of SPIE Vol. 6404, 64040K, 2006. [DOI : [10.1117/12.694106](https://doi.org/10.1117/12.694106)]
38. P. K. Kunhikrishnan, Radhika Ramachandran, Denny P. Alappattu, N. V. P. Kiran Kumar, **D. Bala Subrahmanyam**, "A Case study of sea breeze circulation at Thumba coast through observations and modelling" In T. N. Krishnamurti, B. N. Goswami and Toshiki Iwasaki (ed): *Remote Sensing and Modelling of Atmospheres, Oceans and Interactions*, Proc. of SPIE Vol. 6404, 640417, 2006. [DOI: [10.1117/12.694125](https://doi.org/10.1117/12.694125)]
39. **D. Bala Subrahmanyam**, Radhika Ramachandran, S. Indira Rani, P. K. Kunhikrishnan and B. Prasad Kumar, "A Comparative Study of Air-Sea Exchange Coefficients and Turbulent fluxes over Indian Sub-continent and Korean Peninsula". In T. N. Krishnamurti, B. N. Goswami and Toshiki Iwasaki (ed): *Remote Sensing and Modelling of Atmospheres, Oceans and Interactions*, Proc. of SPIE Vol. 6404, 640416, 2006. [DOI : [10.1117/12.694109](https://doi.org/10.1117/12.694109)]
40. Praveena Krishnan, P. K. Kunhikrishnan, S. M. Nair, Sudha Ravindran, Radhika Ramachandran, **D. Bala Subrahmanyam** and M. V. Ramana, "Observation of the Atmospheric surface layer parameters over a semi arid region during the solar eclipse of August 11th, 1999", *Proceedings of the Indian Academy of Sciences - Earth and Planetary Sciences* 113(3): 353 - 363, 2004. [www.ias.ac.in/article/fulltext/jess/113/03/0353-0363]
41. **D. Bala Subrahmanyam** and Radhika Ramachandran, "Wind Speed dependence of the air-sea exchange parameters over the Indian Ocean during INDOEX, IFP-99", *Annales Geophysicae* 21(7): 1667 - 1679, 2003. [www.ann-geophys.net/21/1667/2003/]
42. **D. Bala Subrahmanyam**, Radhika Ramachandran, K. Sen Gupta and T. K. Mandal, "Variability of Mixed Layer Heights over the Indian Ocean and Central Arabian Sea during INDOEX, IFP-99", *Boundary Layer Meteorology* 107(3): 683 - 695, 2003. [DOI : [10.1023/A:1022811512160](https://doi.org/10.1023/A:1022811512160)]
43. **D. Bala Subrahmanyam** and Radhika Ramachandran, "Structural Characteristics of Marine Atmospheric Boundary Layer (MABL) and its associated dynamics over the Central Arabian Sea during INDOEX, IFP-99 Campaign", *Current Science* 85: 1334 - 1340, 2003. [www.iisc.ernet.in/currsci/nov102003/1334.pdf]
44. **D. Bala Subrahmanyam** and Radhika Ramachandran, "Air-Sea Interface Fluxes over the Indian Ocean during INDOEX, IFP-99", *Journal of Atmospheric and Solar-Terrestrial Physics* 64(3): 291 - 305, 2002. [DOI : [10.1016/S1364-6826\(01\)00091-8](https://doi.org/10.1016/S1364-6826(01)00091-8)]
45. **D. Bala Subrahmanyam**, K. Sen Gupta, Sudha Ravindran and Praveena Krishnan, "Sea Breeze And Land Breeze Along The West Coast Of Indian Subcontinent over the latitude range 15 °N to 8 °N during INDOEX, IFP-99 (SK-141) Cruise", *Current Science (Supplement)* 80: 85 - 88, 2001. [www.iisc.ernet.in/currsci/apr_supp102001/85.pdf]
46. Parameswaran, K., Prabha R. Nair, Rekha Rajan and **D. Bala Subrahmanyam**, "Spatial distribution of aerosol concentrations over the Arabian Sea and the Indian Ocean during Intense Field Phase of INDOEX", *Current Science (Supplement)* 80, 161 - 165, 2001. [www.iisc.ernet.in/currsci/apr_supp102001/161.pdf]