

## CURRICULUM VITAE



**1. NAME:** D Chandrasekharam  
<http://dchandra.geosyndicate.com/index.php>

**2. DATE/Place OF BIRTH:** 14 March 1948

**3. EDUCATIONAL QUALIFICATIONS:**

Ph.D 1979 IIT Bombay; M.Sc 1972 IIT Bombay Applied Geology

**4. TEACHING EXPERIENCE (appendix 6):** 35 + Years

**5. RESEARCH EXPERIENCE:** 35 + Years

5 yr. (Senior Scientist) : Centre for Water Resources Development and Management, Calicut, Kerala 1980-85  
Management, Calicut, Kerala: 1980-1985

2 yr. (Senior Scientist) Centre for Earth Science Studies, Trivandrum, Kerala 1985-87

21+ yr. (Professor) Department of Earth Sci., IIT Bombay: 1987-2015

4 + Visiting Professor Department of Civil Engg. IIT Hyderabad 2016-

**6. ADMINISTRATIVE EXPERIENCE:)** 9 + years

**7. THESIS SUPERVISED:**

Ph.D: 24; M. Tech: 22; M. Sc: 33

**8. PUBLICATIONS:** (Appendis 3, 4)

Refereed Journals: 200 + ; Research Reports (Classified): 25; Chapter in Books: 4; Books: 8

**9. PRESENT POSITION AND ADDRESS**

TUBITAK Professor: Izmir Institute of Technology, Izmir, Turkey (2021-)

Visiting Professor, Indian Institute of Technology Hyderabad, India (2016-2021)

Adjunct Professor, Univ. Southern Queensland, Australia (2016-2019)

Professor, Department of Earth Sciences IITB (1987-2015)

Adjunct Professor, King Saud University, Saudi Arabia (2013- 2019)

Adjunct Professor, China University of Geosciences, Wuhan, PRC (2010-2012)

Head, Dept Earth Sciences IITB ( 2000-2003)

Head, Centre of Studies in Resources Engineering, IITB (2002- 2008)

Indian Institute of Technology Bombay, Mumbai 400076, India

Mobile: 9819807661

Web: [www.geosyndicate.com/dchandra](http://www.geosyndicate.com/dchandra); <https://iwr.iyte.edu.tr/akademik-kadro/misafir-ogretim-eclemanlari/>

email: [dchandra50@gmail.com](mailto:dchandra50@gmail.com)/ [dornadulachandra@iyte.edu.tr](mailto:dornadulachandra@iyte.edu.tr)/ [dchandra@iitb.ac.in](mailto:dchandra@iitb.ac.in)

## 10. RESEARCH AREAS:

GEOTHERMAL ENERGY, GROUNDWATER RESOURCES, ENERGY FROM GRANITES,

11. SPONSORED FUNDED PROJECTS (Appendix 5): Completed: 9

## 12. MEMBERSHIP IN PROFESSIONAL BODIES:

1.. International Geothermal Association 2. Geothermal Resources Council, U S A, 3. Current Science Association, India, 4. International Association for Hydrogeologists 5.. Life Member- Electron Microscope Society of India.

## 13: AWARDS AND DISTINCTIONS:

- Senior Associate “Abdus Salam International Centre for Theoretical Physics, Trieste, Italy” 2002 - 2007.
- B. ICTP ( International Centre for Theoretical Physics, Trieste) Fellowship under ICTP-CNR Programme 1997.
- TWAS *Visiting Professor* to Sana'a University, Yemen Republic: 1996-2001.
- Board of Directors, **International Geothermal Association**
- Board of Directors, Indian Rare Earths Ltd ( Dept. Atomic Energy)
- Board of Directors, Western Coalfields Ltd., Coal India, Ministry of Coal
- Board of Directors, O N G C; Ministry of Petroleum and Natural Gas
- Board of Directors, Mangalore Refineries and Petrochemicals
- Adjunct Professor, China University of Geosciences, Wuhan, China.
- Chairman, Geothermal Energy Resources & Management Committee, Govt. India
- Adjunct Professor, King Saud University, Riyadh, Saudi Arabia.
- Editorial Board: Journal of Climate Science; Geomechanics and Geophysics for Geoenergy and Georesources; Jr. Mineralogical and Petrological Sci., Japan; Journal Water Energy Nexus, Geothermal Energy.
- Distinguished Honorary Member, Association of Independent Directors of India.

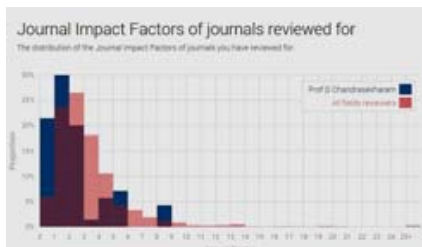
## 14. SYNERGISTIC ACTIVITIES:

1. Member, Board of Examiners (Ph.D. thesis), Madras University; 2. Member, Board of Examiners, Kerala University; 3. Member, Board of Examiners, Andhra University; 4. Member, Board of Examiners, Mumbai University 5. Member, Board of Examiners, Cochin University; 6. Member, Board of Examiners, Anna University; 7. Member, Project Review Committee (young scientists), DST ; 8. Member, Expert Committee, NRDMS, DST, Govt. India (Natural Resources Data Management System); 9. Member, Natural Resources evaluation Committee, Govt. Madhya Pradesh; 10. Member, Expert Panel, Dept. Sci. Tech., India (2004-2008); 11. Member, Editorial Board: Journal of Advanced Researches on Geology, USA; 12. Expert Member, Ministry of New and Renewable Energy Resources (2015-); 13. Chairperson, Expert Committee, Geothermal Energy Resources, DST, Govt. India.
14. Advisor, Maithri Aquatech Pvt. Ltd.,

## 15 SCHOLARLY SERVICES

**Editorial Board:** Water-Energy Nexus; Geomechanics and Geophysics for Geo-energy and Georesources; Open Environmental Sciences; Journal of Climate Change; Geothermal Energy Science Society and Technology; Turkish J Earth Sciences, Discover Energy, Bulletin Mineral Resources and Exploration (MTA) Turkey.

**Reviewer:** 1) Geothermics; 2) Science of the Total Environment; 3) Environmental Pollution; 4) Groundwater for Sustainable Development; 5) Applied Geochemistry; 6) Geochemical Exploration; 7) Environmental Earth Sciences; 8) Arabian Journal of Geosciences; 9) Water Quality Research; 10) Process safety and Environmental protection; 11) Environmental Geochemistry and Health; 12) Journal of Hydrology; 13) Management of Environmental quality; 14) Geofluids; 15) Water Resources Management; 16) Journal of African Earth Sciences; 17) Advances in Artificial Intelligence; 18) Applied Geophysics; 19) Paleogeography, Paleoclimatology Paleocology; 20) Geothermal Energy; 21) Current Science; 22) Marine Georesources and Geotechnology;



23) Desalination; 24) Renewable and Sustainable Energy Reviews; 25) Hydrogeological Processes; 26) The Geological Society of India; 27) Physics and Chemistry of the Earth; 28) Water Air and Soil Pollution; 29) Geomechanics and geophysics for Geo-energy and Georesources; 30) Geophysical Research Letters; 31) Colloid and Interface Sci.

## **16. AFFINITIES ABROAD:**

### **\* U S A 1972-1974**

Participated in the Deep Sea Drilling Programme (JOIDES): Investigation on the Ocean floor basalts recovered from Legs 15 and 17 from the Caribbean trench and Central Pacific Basin.

### **\* United Kingdom 1989**

Presented paper at the 6<sup>th</sup> Water-Rock Interaction Conference, Malvern, U.K.

### **\* Japan 1990**

Attended short course on XRD DMAX-1C system, Rigaku, Co., Japan.

### **\* Italy 1995**

Presented invited paper at the World Geothermal Congress 1995, Florence. Attended short course on "Drafting Geothermal Projects for Funding" at Pisa, Italy.

Invited Lecture: on "Flow stratigraphy mapping of Deccan volcanic flows using field, geochemical, petrographic and paleomagnetic data" at C.N.R. Centro Di Studio per la Minerogenesi e la Geochimica Applicata, Florence, Italy (Host Dr Angelo Minissale).

### **\* Yemen Republic 1996**

Visited Sana'a under the TWAS Visiting Professorship Programme.

### **\* Italy 1997**

Worked at the CNR laboratory, Florence, Italy as ICTP-CNR Visiting Fellow.

### **\*Oregon State University, Klamath Falls, USA 1999**

Invited lecture at the "Geothermal days" summer school, Oregon Institute of Technology, Oregon, USA.

### **\* Manila, Phillipines, 2000**

Invited by the International Business Corporation to deliver a lecture on "Geothermal Energy Resources" in India-opportunities for foreign financial investment (Feb. 28-29).

### **\*Beppu and Morioka, Japan, 2000**

Presented a paper "Geothermal Energy Resources of India, Country update" at the World Geothermal Congress 2000 and Chaired a Session on "Asian Geothermal Energy -Country Update" (May 29-11 June).

### **\*University of Kanazawa, Japan, 2000**

Invited lecture at the Dept. Earth Sciences, Kanazawa University, on "On the evolution Deccan flood basalts".

### **\*Italy, 2000**

Visiting Scientist, CNR Laboratory, Florence, DST-Ministry of Foreign Affairs Bilateral Project. Invited lecture at ERGA (Italian Energy Council, Pisa) on "Geothermal Energy Resources of India.

### **\* Karlsruhe, Germany, 2000**

Invited lecture at the Institute of Petrography and Geochemistry, University of Karlsruhe on " evolution of Deccan Volcanics".

### **\*CNR Italy, 2001**

Visiting Professor to CNR Italy under Indo-Italian Fellowship.

### **\* Bad Urach, Germany, 2001**

Invited to give a lecture on the Hot Dry Rock Geothermal Resources in India.

### **\*Mar del Plata, Argentina, 2002**

Conducted short course on “Geothermal Energy Resources for Developing Countries” (IAH 32<sup>nd</sup> Congress)  
Conducted workshop on “Arsenic Pollution in Groundwater” (IAH 32<sup>nd</sup> Congress & IAH 32<sup>nd</sup> Congress).

**\*Muscat, Oman 2002**

Invited to attend the Interchange 2002 MEA conference of the Schlumberger Oil Field Services to have an over view on the relationship between IITB and OFS.

**\*CNR Florence Italy 2003**

Visiting Scientist, CNR Laboratory, Florence, DST-Ministry of Foreign Affairs Bilateral Project.  
Participated in field work to Vulcano, Panarea and Stromboli volcanoes.

**\*Karlsruhe, Germany 2003**

Collaborative project on Arsenic in groundwater of west Bengal (IITB-DAAD programme).

**\*Florence, Italy 2004**

Conducted a workshop on “Natural Arsenic in groundwater” during the 32<sup>nd</sup> International Geological Congress, September 2004. Presented paper at the 32<sup>nd</sup> International Geological Congress, September 2004.

**\*Saratoga Springs, USA 2004.**

Presented paper at the 11<sup>th</sup> Water Rock International Symposium, August 2004.

**\* KTH , Stockholm, Sweden, March 2005.**

Invited lecture at the Dept. Land and Water Resources Engineering, Royal Institute of Technology (KTH), Stockholm.

**\* Antalya, Turkey, 2005**

Presented Invited paper at the World Geothermal Congress 2005, Antalya.

**\* Perth, Australia 2006**

Presented an invited paper at the American Association for petroleum Geologists- International Conference

**\* Kunming, China, 2007**

Presented a paper at the 11<sup>th</sup> Water-Rock International Symposium, July 31- August 9, 2007.

**\* San Jose, Costa Rica, 2007**

Conducted a short course on “low enthalpy geothermal resources” , 18<sup>th</sup> – 30 November 2007.

**\* Beijing China, 2008.**

Delivered invited talk on the “Geothermal resources in India: Possibilities for direct use in the Himalayas” at the United Nations Workshop on “Decision Makers on Direct Heating Use of Geothermal Resources in Asia Tianjin, China 11 – 18 May 2008

**\* Valencia, Spain, 2008.**

Presented a paper at the 2<sup>nd</sup> International Arsenic in the Environment Congress, May 21-14, 2008.

**\* Trieste, Italy 2008**

ICS-UNIDO workshop on “Geothermal Energy Resources” Trieste, Italy 10-12 December 2008 ( Invited speaker)

**\* Krakow, Poland, 2009**

Visiting Professor, Faculty of Geology, A G H University of Science and Technology, Krakow, Poland.  
Short Course on Low Enthalpy geothermal resources, 15 -27<sup>th</sup> May 2009.

**\* Ethiopia, 2009**

Invited lecture “Low Enthalpy Geothermal Resources for Power Generation: Geo-Powering the rural communities” ICS-UNIDO, Ethiopia, 8-12 June 2009.

**\* Trieste, Italy, 2009**

Conducted “School in Geothermics” at the Abdus Salam International Centre for Theoretical Centre, Trieste, Italy” 26<sup>th</sup> October – 7 November 2009.

**\* China, 2009**

Short Course on “Arsenic pollution in groundwater-West Bengal” at the China University of Geosciences, Beijing: 30 November-5<sup>th</sup> December, 2009

Delivered lectures on “Arsenic and Fluoride pollution in groundwater, India” at the China University of Geosciences, Wuhan: 7<sup>th</sup> December – 11 December 2009

**\*Bali, Indonesia 2010**

Chaired Session at the World Geothermal Congress 2010 and presented 3 papers

**\* Bochum, Germany 2011**

IGA Board Meeting

**\* Monash University 2011**

IITB-Monash Academy sponsored project

**\* Bali, Indonesia 2011**

Presented invited paper at the World Renewable Energy Congress 2011.

**\*Nairobi, Kenya 2012.**

IGA Board meeting. Presented invited paper at " AeGeo-C4: African Geothermal Congress.

**\* Abu Dhabi, 2013**

Presented invited talk at the World Future Energy Summit 2013. Attended "*Roundtable*" on geothermal.

**\* Dubai, 2013**

Presented a paper at the International Conference on Clean and Green Energy 2013.

**\* King Saudi University, Riyadh, Saudi Arabia 2013-**

Adjunct Professor: Research and teaching geothermics

**\* Arusha, Tanzania 2014**

African Geothermal Congress C5, Arusha 29 Oct-31 Oct 2014

**\* Australia 2015**

World Geothermal Congress 2015, Melbourne

**\* New Zealand 2015**

International Geothermal Association Board of Directors' Meeting, Taupo.

**\* Wuhan, 2015**

**Silk Route Workshop: Invited talk**

**\* Izmir, Turkey 2016**

Conducted Short course in geothermal energy at Izmir Institute of Technology

**\*2016 Addis Ababa Board of Directors' meeting, International Geothermal Association**

**\* 2018 Jeddah;** Presented a keynote address at the 12<sup>th</sup> IGC, Saudi Geological Survey on “Evolution of Geothermal systems around the Red Sea: An over view” **Feb 2018.**

## **17. KNOWLEDGE IN INSTRUMENTATION TECHNIQUES/ SOFTWARE**

*XRD, AAS, SEM, Reflection and transmission microscopes.*

## **18. ACADEMIC DISTINCTIONS:**

IIT Silver Medal (M.Sc); National Scholarship Award (B.Sc. and M.Sc).

DRDO (Defense Research & Development Organization) 2007 Academic Excellence award.

## **19. RESEARCH AND DEVELOPMENT/ CONSULTATIONS: (Appendix 5)**

## **20. SHORT COURSES/WORKSHOPS**

\*Organized UNESCO sponsored short course on “Geological Parameters for environmental Protection” Feb 25-2 March 2002 at IIT Bombay, India.

\*Conducted a Short Course on “Geothermal Energy Resources in Developing Countries” between 18-20 October 2002 at Mar del Plata, Argentina (32<sup>nd</sup> IAH Congress) .

\* Conducted a workshop on “Natural arsenic in groundwater” between 21-25, October, 2002 at Mar del Plata, Argentina (32<sup>nd</sup> IAH Congress).

\*Conducted workshop on “Natural arsenic in groundwater” between 13-19 August, 2004, at the 32<sup>nd</sup> International Geological Congress, Florence, Italy.

\* Conducted QIP short course for University teacher on “Geothermal energy resources” 27 September 3 October 2004, IITB.

\* Conducted short Course on “Low Enthalpy geothermal resources”, 15 -27<sup>th</sup> May 2009, A G H University of Science and Technology, Krakow, Poland.

\* Invited lecture “Low Enthalpy Geothermal Resources for Power Generation: Geo-Powering the rural communities” ICS-UNIDO, Ethiopia, 8-12 June 2009.

\* Conducted “School in Geothermics” at the Abdus Salam International Centre for Theoretical Centre, Trieste, Italy” 26<sup>th</sup> October – 7 November 2009.

\* Conducted short Course on “Arsenic pollution in groundwater-West Bengal” at the China University of Geosciences, Beijing & Wuhan: 30 November-5<sup>th</sup> December, 2009

\*Conducted short course in Geothermal Energy Resources at Izmir Institute of Technology, Izmir, Turkey, 2016

## Appendix 1

### Administrative experience:

**Chair, Department of Earth Sciences, 2000 - 2003. Chair, Centre of Studies in Resources Engineering, 2002 -2008.**

**Duties of the Chair, Department of Earth Sciences include the following:**

1. Recruitment of faculty to the department
2. Recruitment of administrative staff to the department
3. Department's development activities- includes
  - Planning Department's annual budget
  - Preparation of annual scientific / teaching/ technical reports
  - Projected growth plan of the department in terms of manpower, laboratory facilities, academic and research programmes
  - Formulation of new course programmes to meet countries demand
  - Organizing industrial collaborative research activities
  - Promoting faculty-industry relationship through consultancy projects

**Duties of Chair, Centre of Studies in Resources Engineering (CSRE) include the following:**

CSRE has a faculty/scientist strength of 15 with 23 supporting staff. CSRE's main activities are to conduct research related to natural resources evaluation and management using remote sensing techniques CSRE gets sponsored projects from various National / International (UNDP/NSF) Organizations with funds ranging from 70-100 million rupees / year. Some of the projects executed by the CSRE are :

Water / Mineral Resources Exploration and Management, Soil and agricultural studies, Terrain evaluation and Landuse planning, Natural Hazards and Environmental Monitoring System, Image processing, and GIS

1. Administrative duties related to sponsored projects
2. Planning continuing education / training programmes and short term course in Natural Resources management Scientists/ teachers/ planners/ administrators and panchayat members for district level planning.
3. Formulation of long rang research plans for landslide mitigation and groundwater pollution
4. Identifying thrust areas related to Natural Resources (Mineral, Water)
5. Human resources development of CSRE
6. Development of academic progrmmes related to Natural Resources
7. Preparation of annual research reports and budget planning

**Convener, Indian Space Research Organization (ISRO) –IIT Bombay Space Technology Cell (2002 -2008).**

With the launching of several Indian Remote Sensing satellites, there is a growing demand for upgrading the satellite systems and data acquisition system and utilization of data products.

The main function of the convener is to promote strong research programmes between IITB faculty and ISRO through projects funded by ISRO. A major part of the research areas are covered by CSRE.

## Appendix 2

### TITLE OF THESIS SUPERVISED/SUPERVISING

#### Ph.D:

1. Geochemistry of thermal springs along the west coast of India, Maharashtra, India (1993; A. Ramanathan)
2. Flow stratigraphy, geochemistry and paleomagnetism of Central Deccan Volcanics and evolution model for Deccan Volcanism (1994; P. Navaneethkrishnan).
3. Evaluation of groundwater resources along northern coastal region of Bombay (1995; Lekha Siraz).
4. Saltwater intrusion studies along the coastal hard rock aquifer, Maharashtra, India (1995; Siraz).
5. Geochemistry, petrogenesis, stratigraphy and structure of Deccan Flood Basalts of the Western Satpura -Tapi region, India (1998; Hetu C Sheth).
6. Geology and Geochemistry of metavolcanics and associated sulphide ores of Kalyadi and Ingaldhal, Karnataka State, South India (1999; Biju Mathew).
7. Saltwater intrusion in coastal areas: The use of SHARP, a Quasi 3D finite difference model to simulate fresh water and saltwater flow in Wadi Surdud, Yemen Republic (2000; Al-Khateeb).
8. Mineralogy and geochemistry of soils associated with different climatic regions of Maharashtra (2000; M. Swaminathan).
9. Fluoride contamination in groundwater, Hungund, Karnataka. (2002; Jalihal, A.A)
10. Fluoride contamination in groundwater, Morel river basin, Rajasthan (2004; Hema C. T).
11. Fluoride contamination in groundwater, Karbi-Anglom, Assam (2007; Saji, S)
12. Geochemistry of Barren Island volcanics and fumaroles, Andaman Sea (2008; A. Alam)
13. Arsenic uptake by crops in relation to soil types, West Bengal (2010 Syed Hilal Farooq).
14. Hydro geochemistry and microbiological evaluation of groundwater in the unconfined urban aquifer system of Douala-Cameroon. (Ms. Gloria Eyong E. Takem, Univ. Buea, Cameroon, TWAS Fellow: 2010).
15. Arsenic content in groundwater of Mizoram, NE India ( Thanmbidurai 2015)
16. Geo-Sequestration of carbon dioxide in coal seams ( Bala Murali in progress: jointly with Monash Univ. Australia)
17. Assessment of geothermal resources of Bihar, Jharkhand and West Bengal using field and laboratory investigation (Hemant K Singh: 2015)
18. Arsenic contamination in groundwater, Manipur ( Chandrasekhar Azad Kashayp, 2015)
19. A numerical study of creation of optimal fracture networks for heat extraction from engineered geothermal reservoirs ( Banambar Singh, IITB-Monash Academy, 2015)
20. Hydrochemistry of groundwater in Tigray region, Northern Ethiopia (PDF: Dr. Dessie Nedaw, C V Raman Fellow. 2011-12)
21. Groundwater development in Ellala Catchment, Northern Ethiopia (PDF: Dr Nata Tadesse, CV Raman Fellow: 2012-13)
22. Geochemical evolution of thermal springs along the west coast in relation to the tectonic, lithological and geothermal regime ( Trupti G. 2015)
23. Water foot print of Musi river basin, Hyderabad, India (Koteswara Rao 2015 –ongoing)



## M.Tech:

1. Ore geochemistry and Cu partitioning between host rock and liquid phase at various salinity levels of a sulphide deposit, Ingaldhal, Karnataka (1992; Haragopal).
2. Geochemistry of sulphide deposit and solubility of silver and associated sulphides in NaCl solutions, Ingaldhal (1993; M.C.Antu).
3. Geothermal energy and its application to small scale industry: a case study: Agnigundala thermal springs, Andhra Pradesh (1995; S.A.Jayaprakash).
4. Groundwater potential zonation in the coastal aquifer of Srivardhan, Raigarh district, Maharashtra- A GIS approach (1998; Lalitendu Dash).
5. Study of recent foraminifera and ambient water chemistry of Kavaratti and Minicoy islands, Lakshadweep, India (1998; Diman Majumdar).
6. Arsenic contamination in groundwater, west Bengal (2000: IITB-DAAD sandwich programme; Juli Karmakar).
7. Study of heavy metals in groundwater, Nashik District, Maharashtra (2000; S.Suchismita).
8. Geoexploration for diamonds in kimberlites from Mainpur area, Raipur, Chhattisgarh State. (2001: K.C.Vinod).
9. Arsenic contamination in groundwater, northern part of West Bengal (2002: DAAD-IITB collaborative programme, Manabesh C).
10. Arsenic uptake by food crops: Noida district, West Bengal (2003: DAAD-IITB Programme, Paramita A).
11. Fluoride contamination in groundwater-Bilwara, Rajasthan (2003; Sengupta, S.)
12. Fluoride contamination of groundwater in and around Kinwat, Nanded district, Maharashtra (2004: M. Sukla)
13. Arsenic contamination in groundwater, Balia district, Uttar Pradesh (2005: Anita Joshi)
14. Arsenic contamination in groundwater and uptake of arsenic by food crops, Malda district, West Bengal. (W. Dhanachandra: 2006 DAAD fellow)
15. Fluoride contamination in and around Anugual district, Orissa. (Jogeshwar Kumbhar, 2007).
16. Petrological study and reconstruction of subsurface lithological sequence of upper Godavari Basin using drill cores (Banambar Singh, 2010)
17. Reconstruction of subsurface lithology of Godavari Basin between Aswaraopet, Draksharamam and Mandipet using drill cores (Deepika Singh, 2010)
18. High heat generating granites of Gugi, Ukkinal (Karnataka) and Rajapur (Maharashtra) and their bearing on the evolution of Rajapur thermal springs (Yadvendra Kumar, 2011)
19. Geochemistry and evolution of thermal springs in Pranhita-Godavari Basin (Bidyut Mohato, 2012)
20. Assessment of U, Th content in granites of Parts of Rajasthan and its bearing on the heat generation and geothermal systems (Gautam Garg, 2012)
21. Arsenic contamination in groundwater of Indravati river basin, Chhattisgarh (Arindam Gosh, 2012)
22. REE concentration in the surface and sub-surface soils, Ambadongar, Gujarat (Kanagaraj, 2015)

## M.Sc Dissertations:

1. Geochemistry of surface, subsurface and hot springs, west coast of India, Maharashtra (1988; S.Balasubramaniam).
2. Petrology of Ezhimala igneous complex, Kerala (1988; S.Kannan).
3. Chemical characteristics of thermal springs around Anthoni-Samoni and Anthoni, Madhya Pradesh (1989; Srinivasan).
4. Geochemistry of Tandur volcanics, Andhra Pradesh (1990; Shivakumar).
5. Chemical characteristics of thermal springs of Puttur, Karnataka (1991; R.L.Selvakumar).
6. Geochemistry of Tattapani thermal springs, Madhya Pradesh, India: Field and experimental investigations (1992; M.C.Antu).
7. Hydrogeochemistry of Tuwa and Tulsi Shyam thermal springs, Gujarat (1993).
8. Hydrogeochemistry of Shahada and Chopda thermal springs. (1994; Deepak Das).
9. Geochemistry of Tattapani thermal springs, Orissa (1995).
10. Hydrogeochemistry of coastal aquifers, Bombay island (1996).
11. Hydrogeochemistry of Thana-Belapur coast, Maharashtra (1996).
12. Petrology of basic dikes of Dhule, Deccan Volcanic Province. (1997; Shantanu Kesav).
13. Hydrochemistry of thermal springs, Tapi rift, Jalgaon, Maharashtra (1997; Sheel Ranjan Prasad).
14. Hydrogeochemistry of geothermal springs, northern part of Bombay, Maharashtra, (1998; Julie Karmakar).
15. Comparative petrographic study of xenoliths occurring in alkali olivine basalts from central Bhuj (Kutch), west coast (Murud-Janjhira) and in basalts from Powai (1999; K.C.Vinod).
16. Hydrogeochemistry of thermal springs in Unkeswar, Nanded District, Maharashtra, (1999; Saikat Das).
17. Hydrogeochemical studies of natural waters in and around Powai and Saki Naka, Mumbai, Maharashtra (1999; Smita Chakraborty).
18. Hydrogeochemistry of Rajgir thermal springs, Bihar, India (2000; Manabesh Chawdhury).
19. Hydrogeochemistry of thermal springs in and around Sohana area, Gurgaon District, Haryana. (2001; Basudeb Datta).
20. Hydrochemistry of thermal springs, Manikaran, Himachal Pradesh (2002; Ayaz Alam).
21. Hydrogeochemistry of thermal waters, Surajkund, Bihar (2003; Saumitri Sarkar).
22. Petrology of Godhra granite and hydrochemistry of associated thermal springs, Tuwa, Gujarat (Kaustav Gosh, 2007)
23. Petrography and melt inclusion study on GPB of Igatpuri, Nasik, Maharashtra (S. Mahapatra, 2007)
24. Melt inclusions in picrites from Warangishi, Deccan basalt province (2007).
25. Hydrochemistry of thermal springs, Vajreswari (2008, Sonu Roy)
26. Fluoride contamination in groundwater, Nanded (2008, Atulkumar Anurag).
27. Arsenic and fluoride content in thermal springs of west coast and its bearing on their geochemical evolution (Shasank Nath, 2011)
28. Quality of groundwater in basalt aquifer, North Mumbai (Parthasarathy Choudhury, 2012)
29. Quality of groundwater in basalt aquifer, South Mumbai (Abhijit Ganguly 2012)
30. Quality of groundwater in parts of Dadra Nagar Haveli (Priyanka Paul: 2014)
31. Quality of groundwater in parts of Dadra, Nagar Haveli (Harish 2014).
32. Fluoride contamination in groundwater of Kakalghar, Maharashtra (Chitaranjan Behra, 2015)
33. Geochemistry of Tulsi Shyam thermal springs, Gujarat (Aswathy, T. 2015).

## Books Published

### 2002

1. **D. Chandrasekharam** and J. Bundschuh 2002. "Geothermal Energy Resources for Developing Countries" AA Balkema Pub., The Netherlands, 412p.

### 2005

2. J. Bundschuh, P. Bhattacharya and **D. Chandrasekharam** 2005. "Natural Arsenic in Groundwater: Occurrences, Remediation and Management" Taylor & Francis Group Pub., London, ISBN 04 1536 700 X, 339 p

### 2008

3. **D. Chandrasekharam** and J. Bundschuh 2008. "Low Enthalpy Geothermal Resources for Power generation" Taylor and Francis Pub., U.K. 169 pp.

4. P. Bhattacharya, AL Ramanathan, A.B. Mukherjee, **D. Chandrasekharam**, and A.K. Keshari, 2008. "Groundwater for sustainable development: Problems, Perspectives and Challenges". Taylor and Francis Pub., U.K. 460p

### 2009

5. AL. Ramanathan, P. Bhattacharya, A.K. Keshri, J. Bundschuh, **D. Chandrasekharam**, and S.K. Singh. 2009. "Assessment of Groundwater Resources and Management" International Publishing House Pvt. Ltd., New Delhi, 518p

### 2014

6. B. Alpher, J. Bundschuh and **D. Chandrasekharam** 2014. Geothermal Systems and Energy Resources: Turkey and Greece. Taylor and Francis 350p.

### 2016

7. **D. Chandrasekharam**, A. Lashin, Al Arifi and Al Bassam A. 2016. Red Sea Geothermal Provinces. CRC Press 221p.

### 2017

8. J. Bundschuh, J. Piechocki, **D. Chandrasekharam** and G. Chen. 2017. Geothermal, Wind and Solar Energy Applications in Agriculture and Aquaculture. CRC Press 470p.

### 2023.

**D. Chandrasekharam** and A. Baba. "EGS: the future energy road ahead" CRC Press, UK. (under publication. Expected date of release: June 2023).

### **Journal Special Issue editor:**

1. Geomechanics and Geophysics for Geo-Energy and Geo-Resources: Special Issue- "Sustainable development and utilization of geothermal systems" Vol. 6, 13, 2020. **P. G. Ranjith, D. Chandrasekharam, Ilmutdin Abdulagatov, Bisheng Wu & Gnamani Pabasara Kumari Wanniarachchige**

2. Turkish Journal of Earth Sciences: Special Issue- "Geothermal Energy for sustainable development" Vol. 30, issue- 8, 2021. Guest Editors: Alper Baba and Dornadula Chandrasekharam

IMPORTANT PUBLICATIONS

INTERNATIONAL JOURNALS

1973:

- Bence, A.E., Papike, J. J., **Chandrasekharam, D.** and Cameron, M. 1973. Petrology of basalts from Leg 15, DSDP. EOS Am. Geophy. Union. Trans., 54, 995-998.
- Bence, A.E., Papike, J. J., **Chandrasekharam, D.**, Cameron, M. and Camenisch, S. 1973. Petrology of basalts from Leg 17, DSDP. EOS Am. Geophy. Union. Trans., 54, 998-1001.
- Chandrasekharam, D.** 1973. Petrological variations in the Atlantic, Pacific and Indian Ocean ridge basalts. N. Jb. Min. Mh., 120, pp 69-82.

1974:

- Chandrasekharam, D.** 1974. A re-examination of the Tertiary lavas from Greenland, Iceland and Scottish provinces. N. Jb. Abh., 10, pp 462-467.
- Viswanathan, S. and **Chandrasekharam, D.** 1974. Grain size studies on the plagioclases of the Manor volcanic complex, Maharashtra. N. Jb. Min. Mh., 11, pp 510-516.

1976:

- Subbarao, K. V. and **Chandrasekharam, D.** 1976. Some comments on the origin of the Troodos Ophiolite complex, Cyprus. N. Jb. Min. Mh., 8, pp 379-387.
- Subbarao, K.V. **Chandrasekharam, D.** and Valsangkar, A.B. 1976. Major element, K, Rb, Sr, U analyses, Sr <sup>87</sup>/Sr <sup>86</sup> ratio, magnetic granulometric analysis and K-Ar ages of the acid volcanic rocks of St.Mary group of islands off west coast, India. IGC, Sydney (Ex-Abstract).

1977:

- Subbarao, K. V., Viswanatha Reddy, V., Hekinian, R. and **Chandrasekharam, D.** 1977. Large ion lithophile elements and Sr and Pb isotopic variation in volcanic rocks from the Indian ocean. in "Indian Ocean Geology and Biostratigraphy". (Ed.) J.R. Heirtzler, pp 259-278.

1978:

- Chandrasekharam, D.** and Parthasarathy, A. 1978. Geochemical and tectonic studies on the coastal and inland Deccan Trap volcanics and a model for the evolution of Deccan Trap volcanism. N. Jb. Min. Abh. 132, pp 214-229.

1982:

- Chandrasekharam, D.** and Subbarao, K.V. 1982. Chemical catalogue of Deccan and other continental and ocean volcanic rocks, IIT Bombay Data Base on Continental Volcanic rocks: Published under IGCP 162 Programme, 400 p.
- Chandrasekharam, D.** and Ushakumari, S. 1982. Geochemistry of groundwater in the unconfined aquifer along the coastal belt of Kozhikode, Kerala, India. Proceed. Regional workshop on Limnology and Water resources Management and Development, Kulalumpur, pp. 132-145.

1983:

- Chandrasekharam, D.** 1983. Effect of pCO<sub>2</sub> in the atmosphere on the chemistry of groundwater. Extended Abs. Proceed. Interna. Conf. Biometeorology, New Delhi. pp 15-17.

1985:

- Chandrasekharam, D.** 1985. Effect of CO<sub>2</sub> in the atmosphere on the chemistry of groundwater. Tropical Ecology., 26, pp 108-113.
- Chandrasekharam, D.** 1985. Structure and evolution of the western continental margin of India deduced from gravity, seismic, geomagnetic and geochronological studies. Phy. Earth. Planet. Interiors., 41, pp 186-198.
- Chandrasekharam, D.** 1985. Quality of groundwater along the coastal belt of the south-west Indian subcontinent. Proceed. V World Congress on Water Resources, Belgium.

1986:

- Raghavan, V. and **Chandrasekharam, D.** 1986. Significance of space image, air photo and drainage linears in relation to west coast tectonics of India. European Space Agency (ESP) SP 254, IGARSS-86, "REMOTE SENSING" (Eds) T.D.Guyenner and J.J.Hunt. pp 425-430.
- Chandrasekharam, D.** 1986. Heavy metal adsorption by laterites and clays - an experimental investigation on laterite-clay-water systems. 5th Water-rock Interaction, National Energy Authority, Iceland (Ex-abstract). pp 112-116.
- Chandrasekharam, D.** 1986. Evolution of Laccadive - Kerala graben along the western continental margin of India. ( Abstract) IUGG Sym., Canada.

**1989:**

- Chandrasekharam, D.** 1989. Geochemistry, oxygen and hydrogen isotope ratios of thermal springs of western continental margin of India. 28th IGC, Washington, D.C. (Abs).
- Chandrasekharam, D.** and Viladkar, S.G. 1989. Composition of the Precambrian crust below the Deccan volcanics. Evidence from granite xenoliths in basic dykes of Mandaleswar. 28th IGC, Washington, D.C. (Abs).
- Chandrasekharam, D.** Ramesh, R. and Balasubramanian, J. 1989. Geochemistry, oxygen and hydrogen isotope ratios of thermal springs of western continental margin of India - field and experimental results. 6th Water-Rock Interaction (Ed) D.L.Miles, A.A.Balkema. Pub. Co., The Netherlands, pp 149-154.
- Chandrasekharam, D.** and Viladkar, S.G. 1989. Constitution of the Precambrian crust below the Deccan volcanics - evidence from a composite dyke of Mandaleswar, Deccan volcanic province. in "Precambrian granitoids - petrogenesis, geochemistry and metallogeny, (Eds) I.Happala and Y Kahkonen, Geol. Sur. Finland Sp. Paper 8.

**1992:**

- Chandrasekharam, D.**, Ramanathan, A. and Selvakumar, R.L. 1992. Thermal springs in the Precambrian crystallines of western continental margin of India - field and experimental results. 6th Water - Rock Interaction (Eds) Y.Kharaka and A.Maest, A.A. Balkema, Pub.Co., The Netherlands, pp 1271-1274.
- Sahaya Shajan, X., Sivaraman, K., Mahadevan, C. and **Chandrasekharam, D.** 1992. Lattice variation and stability of NaCl-KCl mixed crystals grown from aqueous solutions. Crys. Res. Tech., 27, pp 79-82.
- Sahaya Shajan, X., Sivaraman, K., Mahadevan, C. and **Chandrasekharam, D.** 1992. X-ray investigation of KCl doped KDP single crystals. J. Pure and Appl. Phys., 4, pp 137-140.
- Okram, G. S., Om Prakash., Padalia, B., **Chandrasekharam, D.**, Tamhane, A. S. and Gupta, L.C. 1992. Effect of oxygen stoichiometry variation on  $T_c$  in  $Nd_{1.85} Ce_{0.15} CuO_{4-\delta}$  Supercond. Sci. Tech., 5, pp 561-563.

**1994:**

- Subbarao, K.V., **Chandrasekharam, D.** and Navaneethakrishnan, P. 1994. Stratigraphy and structure of parts of the central Deccan basalt province: eruptive models. in "Volcanism" (Ed) K.V.Subbarao, Wiley Eastern, pp 331-332.
- Suba, K., Okram, G. S., Padalia, B., **Chandrasekharam, D.** and Udupa, M. R., 1994. On the substitution of Li in CuO. Material Res. Bull. 29, pp 443-450.

**1995:**

- Chandrasekharam, D.** and Antu, M.C. 1995. Geochemistry of Tattapani thermal springs, Madhya Pradesh, India: Field and experimental investigations. Geothermics, 24, pp 553-559.
- Chandrasekharam, D.** 1995. Industrial applications of geothermal energy. Industrial Products Finder, 23, pp 223-225.
- Chandrasekharam, D.** 1995. A prehistoric view of the thermal springs of India.. Proceed. World Geothermal Congress (Eds) E.Barbier, G.Frey, E.Iglesias and G.Palmason. Inter. Geothermal Assoc., 1, pp 385-388.

**1996:**

- Chandrasekharam, D.** and Jayaprakash, S.J. 1996. Geothermal Energy assessment : Bugga and Manuguru thermal springs, Godavari valley, Andhra Pradesh. Geoth. Res. Bulletin, 25, pp 19-21.
- Anitha, V. P., Major, S., **Chandrasekharam, D.** and Bhatnagar, M. 1996. Deposition of molybdenum nitride thinfilms by r.f. reactive magnetron sputtering. Surface Coating Tech., 79, pp 50-54.
- Yadav, S. K., Ron, N., **Chandrasekharam, D.**, Khilar, K. C., Suresh, A. K. and Nadkarni, V. M. 1996. Polyurias by interfacial polycondensation -preparation and properties. Jour. Macro Mol. Sci. (Phy) B 35, pp 807-827.

**1997:**

- Sheth, H.C. and **Chandrasekharam, D.** 1997. Plume-rift interaction in the Deccan volcanic province. Phy. Earth. Planet. Inter., 99, pp 179-187.
- Sheth, H.C. and **Chandrasekharam, D.** 1997. Early alkaline magmatism in the Deccan Traps: Implications for plume incubation and lithospheric rifting. Phy. Earth. Planet. Inter., 104, pp 371-376.
- Chandrasekharam, D.** and Sheth, H. C. 1997. Significance of flow stratigraphy in deciphering erosional history of flood basalt province. IV International Conf. Geomorphology, Bologna, Italy (Abstract), 110.

**1998:**

- Chandrasekharam, D.** and Prasad, S.R. 1998. Geothermal system in Tapi rift basin, Northern Deccan Province, India. 9th Water - Rock Interaction (Eds) G.B.Arehart and J.R. Hulston, A.A. Balkema, Pub.Co., The Netherlands, pp 667-670.
- Chandrasekharam, D.** 1998. Potential geothermal-HDR sites and prospects of geothermal energy in India. Inter. Geother. Ass. Newsletter, 30, 8-9.
- Sikder, A.K., Sarda, T., Misra, D. S., **Chandrasekharam, D.** and Selvam, P. 1998. Chemical vapour deposition of diamond on stainless steel: the effect of Ni-diamond composite coated buffer layer. Diamond and Related Materials, 7, pp.1010-1013.

**1999:**

- Fara, M., **Chandrasekharam, D.** and Minissale, A. 1999. Hydrogeochemistry of Damt thermal springs, Yemen Republic. *Geothermics*, 28, 241-252.
- Chandrasekharam, D.**, Mahoney, J. J., Sheth, H. C. and Duncan, R. A. 1999. Elemental and Nd-Sr-Pb isotope geochemistry of flows and dikes from the Tapi rift, Deccan flood basalt province, India. *J. Volcanol. Geother. Res.* 93, 111-123 .
- Chandrasekharam, D.** 1999. A Prehistoric view of the Thermal Springs of India in "Stories from a Heated Earth" (Eds). R.Cataldi, S.F.Hodgson and J.Lund. Geothermal Resources Council Pub., California, 357-366.
- Sikder, A. K., Sharda, T., Misra, D. S., **Chandrasekharam, D.**, Velachamy, P., Minoura, H. and Selvam, P. 1999. Diamond deposition on Ni/Ni--diamond coated stainless steel substrate. *J.Mater.Res.*, 14, pp.1-5.

**2000:**

- Mahoney, J. J., Sheth, H. C., **Chandrasekharam, D.** and Peng, Z.E. 2000. Geochemistry of flood basalts of the Toranmal section, Northern Deccan Traps, India: Implications for regional Deccan Stratigraphy. *Jour. Petrol.* 41, 1099-1120.
- Chandrasekharam, D.**, Vaselli, O., Sheth, H.C. and Kesav, S. 2000. Petrogenetic significance of ferro-enstatite orthopyroxene in basaltic dikes from the Tapi rift, Deccan flood basalt province, India. *Earth. Planet. Sci. Lett.* 179, 469- 476.
- Minissale, A., Vaselli, O., **Chandrasekharam, D.**, Magro, G., Tassi, F. and Casiglia, A. 2000. Origin and evolution of " intracratonic" thermal fluids from central-western Peninsular India. *Earth. Planet. Sci. Lett.*, 181, 377-394.
- Chandrasekharam, D.** 2000. Geothermal energy resources of India- Country update. Proceedings, World Geothermal Congress 2000, (Eds) E. Iglesias, D. Blackwell, T.Hunt, J.Lund, S.Tamanyu and K. Kimbara. pp- 133-145.
- Al-Khateeb, Y.A. and **Chandrasekharam, D.** 2000. Saltwater contamination in the coastal aquifer, Tihama plain, Wadi Surdud, Yemen Republic. In "Groundwater 2000" Proceed. (Eds). P.L.Bjerg, P.Engesgaard and T.D. Krom, A.A.Balkema Pub.Com. The Netherlands, pp 223-224.
- Chandrasekharam, D.**, Lekha, S. and Shah, S.D. 2000. Groundwater contamination due to salt-panning activity at Vasai-Palghar coastal zone, northern Mumbai, India. In "Groundwater 2000" Proceed. (Eds). P.L.Bjerg, P.Engesgaard and T.D. Krom, A.A.Balkema Pub.Com. The Netherlands, pp 233-234.
- Chandrasekharam, D.** 2000. Geothermal energy resources of India- Opportunities for IPPs. Proceed. Geothermal Power Asia 2000 Conference, Manila, Philippines. February, 2000. 10p

**2001:**

- Chandrasekharam, D.** Julie Karmakar., Berner, Z. and Stueben, D. Arsenic contamination in groundwater, Murshidabad district, West Bengal. Proceed. Water-Rock Interaction 10, (Ed. Cidu) A.A.Balkema, The Netherlands. 1051-1058.
- Chandrasekharam, D.** 2001. Use of Geothermal energy for food processing- Indian Status. *Geo-Heat Centre Quart. Bull.*, 22 (4), 8-11.
- Chandrasekharam, D.** 2001. Helium extraction from thermal gases-Indian geothermal provinces. *Inter. Geother. Asso. News Letter*, June 2001.
- Chandrasekharam, D.** 2001. HDR prospects of Himalaya Geothermal Province. International Geothermal days, Germany, Proceedins (Ed). Kril Popovski and Burkhard Sanner, 315-320.

**2002:**

- Book:** "Geothermal Energy Resources for Developing Countries" Eds: **D. Chandrasekharam** and Jochen Bundschuh. AA Balkema Pub., The Netherlands, 412p.

**2003:**

- Minissale, A., **Chandrasekharam, D.**, Vaselli, O., Magro, G., Tassi, F., Passini, G.L. and Bhrambat, A. 2003. Geochemistry, geothermics and relationship to active tectonics of Gujarat and Rajasthan thermal dischsrge, India. *J. Vol.Geoher.Res.*, 127, 19-32.
- Doris Stueben, Zsolt Berner, **Chandrasekharam, D.** and Julie Karmakar. 2003. Arsenic pollution in groundwater of West Bengal, India: Geochemical evidences for mobilization of As under reducing conditions. *App. Geochem.* 18, 1417-1437.
- Hema T C., **Chandrasekharam, D.** and Jalihal, A. A. 2003. Fluoride contamination of groundwater in India- country update. *Proceedings-Symposium on Intensive use of Groundwater: Challenges and Opportunities (sinex) Valencia – Spain; 10 to 14 December 2002 (p102-110).*
- Doris Stüben., Zsolt Berner, Wagner,F., Norra, S., Agarwala, P., **Chandrasekharam, D.** and Chatterjee, D. 2003. Arsenic contamination in groundwater: A worldwide calamity. (Abst-Extended). 7<sup>th</sup> Inter. Conf. Biogeochemistry of Trace Elements (ICOBTE), Uppsala, Sweden, June 15-19, 2003.
- Chandrasekharam, D.** and M. A. Alam. 2003. Direct Utilization of Geothermal Energy Resources - NW Himalayas, India. *Geother. Res. Council Trans.*, 27, pp. 81-83.
- Chandrasekharam, D.** Alam, M.A. and Minissale, A.2003. Geothermal resources potential of Himachal Pradesh. In Multiple integrated use of geothermal resources (Eds). I.B. Fridleifsson and E.T. Eliasson, International Geothermal Conference, Reykjavik, Iceland, Sept. 2003, pp. 15-19.
- Al-Kebsi A.Y., Al-Aawah, M.A.H and **Chandrasekharam.** 2003. Saltwater contamination in the coastal aquifer, Tihama plains, Wadi Surdud, Republic of Yemen. *University of Sana'a Faculty of Science Bull.*, 16, 111-123.

#### 2004:

- Sheth, H.C., Mahoney, J. J. and **Chandrasekharam, D.**. Geochemical stratigraphy of Deccan flood basalts of the Bijasan Ghat section, Satpura range-India. *J. Asian Earth Sci.*, 23, 127-139.
- Hema Tiwari Chaturvedi and **Chandrasekharam, D.** 2004. Geochemistry and genesis of high fluoride groundwater in parts of morel river basin, Rajasthan, India. 6<sup>th</sup> Int. Conf. on Hydrosience and Engineering (ICHE-2004), May 30-June 3, Brisbane, Australia.
- Hema Tiwari Chaturvedi and **Chandrasekharam, D.** 2004. Mobilization of F<sup>-</sup> from rocks and soils in to groundwater, Morel river basin, Rajasthan, India. *Proceed. 11<sup>th</sup> Water Rock Interaction* (Ed) R.B.Wanty and R.R. Seal II, A.A. Balkema Pub. 389-392.
- Alam, M.A., **Chandrasekharam, D.** and Minissale, A. 2004. Geothermal potential of thermal waters of Manikaran, Himachal Pradesh, India. *Proceed. 11<sup>th</sup> Water Rock Interaction* (Ed) R.B.Wanty and R.R. Seal II, A.A. Balkema Pub. 327-331.
- Chandrasekharam, D.**, Jalihal A.A., and Hema T Chaturvedi. 2004. High fluoride concentration in groundwater around Hungund-Ilkal area, Bagalkot district, Karnataka. Fluoride (in press).

#### 2005:

- Chandrasekharam, D.**, Alam, M A. and Minissale, A. 2005. Thermal Discharges at Manikaran, Himachal Pradesh, India. *Proceedings World Geothermal Congress Antalya, Turkey, 24-29 April 2005*, 7 pp.
- Chandrasekharam, D.** 2005. Geothermal Energy Resources of India: Past and the Present. *Proceedings World Geothermal Congress Antalya, Turkey, 24-29 April 2005*, 5 pp.
- Norra, S., Berner, Z.A., Agarwala, P., Wagner, F., **Chandrasekharam, D.** and Stüben, D. 2005. Impact of irrigation with As rich groundwater on soil and crops: a geochemical case study in Maldah District, West Bengal. *App. Geochem.* 20, 1890-1906.
- Hema T Chaturvedi, **Chandrasekharam, D.** and Jalihal, A.A. 2005. Fluoride contamination of groundwater in India- country update *In "Groundwater Intensive Use"* 2005. (Eds). A. Sahuquillo, J. Capilla, L. Martínez-Cortina & X. Sánchez-Vila, Taylor and Francis Pub., p 237-245
- Book:** Natural Arsenic in Groundwater: Occurrences, Remediation and Management. 2005. (Eds). J. Bundschuh, P. Bhattacharya and **D. Chandrasekharam**, Taylor & Francis Group Pub., London, ISBN 04 1536 700 X, 339 p

#### 2006

##### Chapter in a Book:

- Mukherjee, A.B., Bhattacharya, P., Jacks Gunnar, Banerjee, D.M., Ramanathan, A.L., Mahanta, C., **Chandrasekharam, D.** and Ravi Naidu. 2006.. Groundwater Arsenic Contamination in India: Extent and Severity (**Chapter 33**) *in "Managing Arsenic In The Environment: From Soils to Human Health"* (eds). R. Naidu, E. Smith, G. Owens, P. Bhattacharya and P. Nadebaum. CSIRO Pub., Australia. 664 p.

#### 2007

- Michael D Higgins and **Chandrasekharam, D.** 2007. Nature of subvolcanic magma chambers, Deccan Province, India: Evidence from quantitative textural analysis of Plagioclase megacrysts in the Giant Plagioclase Basalt. *J. Petrol.*, 48, 885-900.
- Chandrasekharam, D.** 2007. Geo-mythology of India. Geological Society, London, Special Publications, 273, 29-37.
- Chandrasekharam, D.** 2007. Pathway of Arsenic from water to food, West Bengal, India. In U. Aswathanarayana (Ed). "Food and water security: An integrated strategy for food security in the developing countries", Taylor and Francis Pub., London, 63-70.
- Chandrasekharam, D.**, Anita Joshi and Varun Chandrasekhar. 2007. Arsenic content in groundwater and soils of Ballia, Uttar Pradesh. *Proceed. 12<sup>th</sup> Water Rock Interaction* (Ed) Thomas D. Bullen and Yanxin Wang. Talylor and Francis Pub., London, 1021-1025.
- Chandrasekharam, D.** and Varun Chandrasekhar. 2007. Enhanced Geothermal Resources: Indian Scenario. *Geothermal Res. Council Trans.*, 31, 271-273.
- Stüben, D., Norra, S., Berner, Z., Kramar, U., Kiczka, M., Agarwala, P., **Chandrasekharam, D.**, Rout, R., 2007. Arsenic mobilisation in rice paddy soils irrigated with As-contaminated water: A synopsis of case studies from West-Bengal, India in: (Eds. Bullen, T.D., Wang, Y.), *Water-Rock Interaction*, Taylor & Francis Group, London, 1507-1511.

#### 2008

- Saji, S. and **Chandrasekharam, D.** 2008: High fluoride groundwater of karbi-Anglong distrect, Assam, NE India: source characterization *in "Groundwater for Sustainable Development: Problems, Perspectives and Challenges"* (Eds). P. Bhattacharya, A.L. Ramanathan, J. Bundschuh, **D. Chandrasekharam**, A.K Keshari and A. B Mukherjee. Taylor and Francis Pub. London.
- Chandrasekharam, D.** and Varun Chandrasekhar, 2008. Geothermal resources in India: Possibilities for direct use in the Himalayas in *Proceedings " UNU-GTP and TBLRREM-TBGMED Workshop for Decision Makers on Direct Heating Use of Geothermal Resources in Asia"*, Tianjin, China, 11-18 May, 2008" (ed) I.B.Fridleifsson, D.H.Holm, Wang Kun and Zhang Baiming (CD).
- Chandrasekhar, V. and **Chandrasekharam, D.** 2008. Enhanced geothermal resources in NE Deccan Province, India 2008. *Geothermal Res. Council Trans.*, 32, 71-75.

#### TEXT BOOK:

- D. Chandrasekharam** and J. Bundschuh 2008. "*Low Enthalpy Geothermal Resources for Power generation*" Taylor and Francis Pub., U.K. 169 pp.

## 2009.

- Chandrasekharam, D.** Alba P. Santo, A.P., Capaccioni, B., Vaselli, O., Alam, M.A., Manetti, P. and Tassi, F. 2009. Volcanological and Petrological Evolution of Barren Island (Andaman Sea, Indian Ocean). *J. Asian Earth Sci.*, 35, 469-487.
- Gloria, E.T., **Chandrasekharam, D.**, Ayonghe, S.N. and Thambidurai, P. 2009. Pollution characteristics of alluvial groundwater from springs and bore wells in semi-urban informal settlements of Douala, Cameroon, Western Africa. *Environ Earth Sci.*, DOI 10.1007/s12665-009-0342-8.
- Varun, C and **Chandrasekharam, D.** 2009. Geothermal Systems in India. *Geothermal. Res. Council Trans.*, 33, 607-610.

## 2010.

- Alam, M.A. and **Chandrasekharam, D.** 2010. Comment on "Thermoluminescence and optically stimulated luminescence signals from volcanic ash: History of volcanism in Barren Island, Andaman Sea" *Quat. Geochron.*, 5, 283-284.
- Farooq, S. H., **Chandrasekharam, D.**, Norra, S., Eiche, E., Berner, Z., Thambidurai, P. and Stüben, D. 2010. Temporal variations in arsenic concentration in the groundwater of Murshidabad District, West Bengal, India. *Environ. Earth Sci.*, DOI 10.1007/s12665-010-0516-4
- Farooq, S.H., **Chandrasekharam, D.**, Berner, Z., Norra, S., Stüben, D. 2010. Effect of traditional agricultural practices in mobilization of arsenic from sediments to groundwater in Bengal Delta. *Water Research*, doi: 10.1.1016/j.waters.201.05.057
- Singh, H.K. and **Chandrasekharam, D.** 2010. Evaluation of Tuwa geothermal system through water-rock interaction experiment. *Proceed. Water-Rock Interaction 13 (Eds. P. Birkle and Torres-Alvarado (eds) Taylor & Francis Group, London, ISBN 978-0-415-60426-0*
- Chandrasekharam, D.** and Chandrasekhar, V. 2010. Geothermal Energy Resources, India: Country Update. *Proceedings World Geothermal Congress 2010 Bali, Indonesia (CD)*
- Chandrasekharam, D.** and Chandrasekhar, V. 2010. Hot Dry Rock Potential in India: Future Road Map to Make India Energy Independent. *Proceedings World Geothermal Congress 2010 Bali, Indonesia (CD)*
- Chandrasekharam, D.** and Chandrasekhar, V. 2010. Can Geological Radioactive Waste Disposal Sites Be Used as EGS Sites? *Proceedings World Geothermal Congress 2010 Bali, Indonesia (CD)*
- Chandrasekhar, V. and **Chandrasekharam, D.** 2010. Energy Independence Through CDM Using Geothermal Resources: Indian Scenario. *Proceedings World Geothermal Congress 2010 Bali, Indonesia (CD)*
- Chandrasekharam, D.** and Varun Chandrasekhar, 2010. Geochemistry of Thermal Springs of Orissa, India. *Geother. Resources Council Trans.*, 34, 665-668.

## 2011

- Sen, G. and **Chandrasekharam, D.** 2011. Deccan Traps Flood Basalt Province: An Evaluation of the Thermochemical Plume Model. **Chapter 2** In "Topics in Petrology" (Eds) Jyotiskanar Ray, Gautam Sen and Biswajit Ghosh. Springer Pub. 29-53
- Pasvanoğlu S, **Chandrasekharam, D.** 2011. Hydrogeochemical and isotopic study of thermal and mineralized waters from the Nevşehir (Kozakli) area, Central Turkey. *J. Volcanol. Geotherm. Res.* 202, 241-250.

## 2012

- Farooq, S. H., **Chandrasekharam, D.**, Abbt-Braun, G., Berner, Z., Norra, S. and Stüben, D. 2012. DOC from traditional jute processing technique and its potential influence on arsenic contamination in Bengal Delta. *App. Geochem.*, 27, 292-303.
- Pooja, V.K., Sheth, H.C., Badrealam, S., Poonam, M., **Chandrasekharam, D.** and Trupti, G. 2012. Spherulitic pitchstones from the Deccan Traps, India: Petrochemistry and emplacement environments *Bull. Volcanol.*, 74, 559-577.
- Chandrasekharam, D.** and Varun, C. 2012. Clean Development Mechanism through Geothermal: Ethiopian Scenario. *Proceed. 4th African Rift Geothermal Conference, Nairobi, Kenya (CD)*.
- Omenda, P., Varun, C. and **Chandrasekharam, D.** 2012. High heat generating granites of Uganda and Tanzania: Possible EGS sources in Eastern Africa. *Proceed. 4th African Rift Geothermal Conference, Nairobi, Kenya (CD)*.
- Varun, C., **Chandrasekharam, D.**, Singh, H.K. and Das, S. 2012. Geologic setting of the Unkeshwar thermal springs, Eastern Deccan volcanic province, Maharashtra, India. *Trans. Geother. Res. Council.*, 36 (CD).
- Chandrasekharam, D.** 2012. Energy independence through CDM using geothermal resources: Indian scenario. (CD) 9th Biennial international conference & Exposition on Petroleum Geophysics, Hyderabad.
- Surya Prakash, L., Ray, D., Paropkari, A.L., Mudholkar, A.V., Satyanarayana, M., Sreenivas, B., **Chandrasekharam, D.**, Kota, D., Kamesh Raju, K.A., Kaisary, S., Balram, V. and Gurav, T. 2012. Distribution of REEs and yttrium among major geochemical phases of marine Fe-Mn-oxides: Comparative study between hydrogenous and hydrothermal deposits. *Chem. Geol.*, 312, 127-137.
- Norra, S., Berner, Z.A., Boie, I., Eiche, E., Kellermeier E.C., Kizcka, M., Kramar, U., Neidhardt, H., Agarwala, P., **Chandrasekharam, D.**, Rout, R., Guo, H., Tang, X., Lan, V.T.M., Trang, P.T.K., Viet, P.H., 2012. Arsenic from groundwater into soils, plants and the food chain: Complementary case studies from West Bengal, Inner Mongolia and the Red River Delta, Vietnam. *In: J.C. Ng, B.N. Noller, R. Naidu, J. Bundschuh, P. Bhattacharya, Understanding the Geological and Medical Interface of Arsenic*, 246-248, *Proceedings of the 4th International Congress on Arsenic in the Environment*, 22-27 July 2012, Cairns, Australia

## 2013

- Chandrasekharam, D.** and Varun, C. 2013. EGS and carbon mitigation strategies: Indian scenario. *J. Clean Energy Tech.*, 1, 38-41.
- Thambidurai, P., Chandrasekhar, A.K. and **Chandrasekharam, D.** 2013. Geochemical signature of arsenic contaminated groundwater in Baras valley-Assam and neighborhood, northeastern India. *Water-Rock Interaction 14 France* (accepted).
- Singh, B., Ranjith, P.G., **Chandrasekharam, D.**, Viète, D. and Hemant K Singh. 2013. Thermo-mechanical properties of Harcourt granite, Australia. *Proceed. International Conference on Applied Energy ICAE 2013*, Jul 1-4, 2013, Pretoria, South Africa Paper
- Hemant, K.S., **Chandrasekharam, D.**, Trupti, G., Vaselli, O. and Singh, B. 2013. Geothermal potential of Bakreswar (West Bengal) and Tantloi ( Jharkhand), India, thermal springs using geochemical signature. *Proceed. International Conference on Applied Energy ICAE 2013*, Jul 1-4, 2013, Pretoria, South Africa
- Hemant, H. K., Yadvendra, K., Banambar, S. and **Chandrasekhara, D.** 2013. High heat producing granites of East Deccan Craton (EDC) around Gugi, Karnataka and their possible influence on the evolution of Rajapur thermal springs, Deccan volcanic province (DVP), India. *Geothermics* (in press).
- Houssein, B., **Chandrasekharam, D.**, Varun, C. and Jalludin, M. 2013. Geochemistry of thermal springs around Lake Abhe Western Djibouti. *J. Sustainable Energy*, [dx.doi.org/10.1080/14786451.2013.813027](https://doi.org/10.1080/14786451.2013.813027).
- Nedaw, D., **Chandrasekharam, D.**, Gebreyohannes. T. 2013. High boron and sulphate groundwater in the Geba basin, Northern Ethiopia. *Internl. J. Earth Sci. Engineering*, 6, 8-13.

## 2014

- Chandrasekharam, D.** Lashin, A., Al Arifi, N. and Singh, H. 2014. Meeting future energy demand of Saudi Arabia through high heat generating granites. *Intern. J. Earth Sci. Engg.* 7, 1-14.
- Singh, H., Yadvendar, K., **Chandrasekharam, D.**, Trupti, G and Singh, B. 2014. High-heat-producing granites of East Dharwar Craton around Gugi, Karnataka, and their possible influence on the evolution of Rajapur thermal springs, Deccan Volcanic Province, India. *Geothermal Energy*, 2, 1-12.
- Chandrasekharam, D.**, Lashin, A. and Al Arifi, N. 2014. CO<sub>2</sub> mitigation strategy through geothermal energy, Saudi Arabia. *Renew. Sustain. Energy Rev.* 38, 154-163.
- Lashin, A., **Chandrasekharam, D.**, Al Arifi, N., Al Bassam, A. and Chandrasekhar, V. 2014. Geothermal energy resources of wadi Al-Lith, Saudi Arabia. *J. African Earth. Sci.* 97, 357-367.
- Hemant, H.K., Garg, G. C., **Chandrasekharam, D.**, Trupti G. and Singh, B. 2014. Physicochemical evolution of the thermal springs over the Siwana Ring Complex, Western Rajasthan, India. *Jour. Geol. Soc. India* ( in press).
- Mahendra, P. V., Portugal, E., Gangloff, S., Armienta, M.A., **Chandrasekharam, D.**, Sanchez, M., Renderos, R.E., Juanco, M. and van Geldern, R. 2014. Determination of Carbonic Species Concentration in Natural Waters: Results from a World-Wide Proficiency Test. *Geostandards and Geoanalytical Research*. doi: 10.1111/j.1751-908X.2014.00306.
- Borges, M.R., Sen, G., Hart, G.L., Wolff, J.A. and **Chandrasekharam, D.** 2014. Plagioclase as recorder of magma chamber processes in the Deccan Traps: Sr-isotope zoning and implications for Deccan eruptive event. *J. Asian Earth Sci.* 84, 95-101.
- Vazhacharickal, P.J., Predotova, M., **Chandrasekharam, D.**, Bhowmik, S. and Buerkert, A. 2014. Urban and peri-urban agricultural production along railway tracks: ca case study from the Mumbai Metropolitan region. *J. Agri. Rual Develop. Tropics and Subtropics.* 114, 145-157.
- Lashin, A., **Chandrasekharam, D.**, Al Arifi, N., Al Bassam, A. and Chandrasekhar, C. 2014. High heat generating granites of western Saudi Arabia. *GRC Trans.*, 38, 40-45.
- Chandrasekharam, D.**, Chandrasekhar, V., Garg, G. Singh, H. K. and Trupti, G. 2014. High heat generating granites of Siwana, Rajasthan. *GRC Trans.*, 38, 78-85.
- Farooq S. H. and **Chandrasekharam, D.** 2014. Surface Generated Organic Matter: An Important Driver for Arsenic Mobilization in Bengal Delta Plain in "*Arsenic distribution in Gangetic Plain*" (Eds.) H. Prommer, A. L. Ramanathan, A. Mukerjee and B. Nath. Springer, 179- 196; DOI 10.1007/978-3-319-16124-2\_12. .
- Thambidurai, P., **Chandrasekharam, D.** and Chandrasekhar, A.K. 2014. Hydrogeochemistry and groundwater quality in Champai, Mizoram, North Eastern India. *Inter. J. Earth Sci. Engg.* 7, 421-425.
- Chandrasekhar, A.K., **Chandrasekharam, D.**, Thambidurai, P. and Farooq, S.H. 2014. Arsenic Contamination in the Groundwater of Thoubal and Bishnupur District of Manipur, India. *Inter. J. Earth Sci. Engg.* 7, 35-40.
- Chandrasekharam, D.**, Lashin, A. and Al Arifi, N. 2014. The potential contribution of geothermal energy to electricity supply in Saudi Arabia. *International J. Sustainable Energy* <http://dx.doi.org/10.1080/14786451.2014.950966>



**BOOK:**

Alper Baba, Jochen Bundschuh, **D. Chandrasekharam**. 2014. Geothermal Systems and Energy Resources: Turkey and Greece. CRC Press. 336 p.

**2015**

**Chandrasekharam, D.**, Lashin, A., Al Arifi, N., Al Bassam, A., Ranjith, P. G., Varun, C and Singh, H.K. 2015. Geothermal energy resources of Jizan, SW Saudi Arabia. *J. African Earth Sci.*, 109, 55-67.

**Chandrasekharam, D.**, Lashin, A., Al Arifi, N., Al Bassam, A., El Alfy, M., Ranjith, P. G., Varun, C. and Singh, H.K. 2015. CO<sub>2</sub> emission and climate change mitigation using the enhanced geothermal system (EGS) based on the high radiogenic granites of the western Saudi Arabian shield. *J. African Earth Sci.* 112, 213-233..

Mahendra P.V, Portugal, E., Gangloff, S., Armienta, M.A. **Chandrasekharam, D.**, Sanchez, M., Renderos, R.E., Juanco, M. and Robert van Geldern, R.v. 2015. Determination of the Concentration of Carbonic Species in Natural Waters: Results from a World-Wide Proficiency Test. *Geostandards and Geoanalytical Research*, 39,233-255.

**Chandrasekharam, D** and Varun Chandrasekhar. 2015. Geothermal Energy Resources, India: Country Update. World Geothermal Congress 2015 Proceed. CD.

Singh, H.K. , **Chandrasekharam, D.**, Trupti G., Singh. B. 2015. Geochemical Characteristics of Bakreswar and Tantloi Geothermal Province, India. World Geothermal Congress 2015 Proceed. CD.

Trupti G, **Chandrasekharam, D.** and Singh, H.K. 2015. Trace Element and REE Concentrations in the Thermal Waters, West Coast Geothermal Province, India. World Geothermal Congress 2015 Proceed. CD.

**Chandrasekharam, D.**, Lashin, A., , Al Arifi, N. , Chandrasekhar, V. and Al Bassam, A. 2015. Clean Development Mechanism through Geothermal, Saudi Arabia. World Geothermal Congress 2015 Proceed. CD.

**Chandrasekharam, D.** Lashin, A., Al Arifi, N., Chandrasekhar, V. and Al Bassam, A. 2015. High Heat Generating Granites of Western Saudi Arabian Shield. World Geothermal Congress 2015 Proceed. CD.

Singh, B., Ranjith, R.G., Singh, H.K. and **Chandrasekharam, D.** 2015. Possible Enhanced Geothermal System Potential of High Heat Producing Radioactive Bundelkhand Granite. World Geothermal Congress 2015, Proceed CD.

Lashin, A., Arifi, N., **Chandrasekharam, D.**, Al Bassam, A., Rehman, S. and Pipan, M. 2015. Geothermal Energy Resources of Saudi Arabia: Country Update. World Geothermal Congress 2015, Proceed CD

Singh, H.K., **Chandrasekharam, D.**, Trupti G. and Singh, B. 2015. Geochemistry of Rajgir-Munger Metasedimentary Springs of Bihar, India. World Geothermal Congress 2015, Proceed CD.

Mahendra P.V, Portugal, E., Gangloff, S., Armienta, M.A. Chandrasekharam, D., Sanchez, M., Renderos, R.E., Juanco, M. and Robert van Geldern, R.v. 2015. Determination of the Concentration of Carbonic Species in Natural Waters: Results from a World-Wide Proficiency Test. World Geothermal Congress 2015, Proceed CD.

Chaudhuri, H., Sinha, B. and **Chandrasekharam, D.** 2015. Helium from Geothermal Sources. World Geothermal Congress 2015, Proceed CD.

Subba Rao, P.B.V., Radhakrishna, M., Haripriya, K., Someswara Rao, B. and **Chandrasekharam, D.** 2015. Magnetic Anomalies over the Andaman Islands and their geological significance. *J Earth Sys Sci* ( in press).

Singh, B., Ranjith P. G., **Chandrasekharam, D.** Viète, H. K. Singh, A. Lashin, N. Al Arifi. 2015. Thermo-mechanical properties of Bundelkhand Granite near Jhansi, India. *Geomecha. Geophy. Geoen. Geores* DOI 10.1007/s40948-015-0005-z.

**Chandrasekharam, D.**, Lashin, A., Al Arifi, N., and Al Bassam, A.A. and Varun, C. 2015. Evolution of geothermal systems around the Red Sea. *Environ. Earth Sci.* 73, 4215-4236.

Hemant K Singh., **Chandrasekharam, D.**, Vaselli, O., Trupti, G., Singh, B., Lashin, A. and Al Arafi, N. 2015. Physiochemical characteristics of Jharkhand and West Bengal thermal springs along SONATA mega lineament, India. *J. Earth Sys. Sci.* 124, 419-430.

Rathnaweera, T.D., Ranjith, P.G., Perera, M.S.A., Haque, A., Lashin, A., Al Arifi, N., **Chandrasekharam, D.**, Yang, S.Q., Xu, T., Wang, S.H. and Yasar, E. 2015. CO<sub>2</sub> induced mechanical behaviour of Hawkesbury sandstone in the Gosford basin: An experimental study. *Materials Science & Engineering: A*, 641, 123–137.

Takem, G.E., Kuitcha, D., Ako, A.A., Mafany, G.T., Takounjou-Forepe, A., Ndjama, J., Ntchancho, R., Ateba, B.H., **Chandrasekharam, D.** and Ayonghe, S.N. 2015. Acidification of shallow groundwater in the unconfined sandy aquifer of the city of Douala, Cameroon, Western Africa: implications for groundwater quality and use. DOI 10.1007/s12665-015-4681-3.

Chandrasekhar, V., **Chandrasekharam, D.**, Trupti, G. and Singh, H.K. 2015. Fluoride in Geothermal Waters, India. *Trans. Geothermal Res. Council*, 39, 1-4.

**Chandrasekharam, D.**, Lashin, A., Al Arafi, N., Varun, C. and Al Bassam, A. 2015. Climate Change Mitigation Strategy through Utilization of Geothermal Energy Resources from Western Arabian Shield, Saudi Arabia. *J. Climate Change*, 1, 129-134.

**Chandrasekharam, D.**, Lashin, A., Al Arifi, N., Al Bassam, A., El Alfy, M., Ranjith, P.G., Varun, C. and Singh, H.K. 2015. The potential of high heat generating granites as EGS source to generate power and reduce CO<sub>2</sub> emissions, western Arabian shield, Saudi Arabia. *J. African Earth Sci.*, 112, 213-233.

## 2016

- Radhakrishna, M., Subbarao, and **Chandrasekharam, D.** 2016. Magnetic anomalies over the Andaman Islands and their geological significance. *J. Earth Sys. Sci.*, 125, 359-368.
- Chandrasekharam, D.**, Lashin, A., Al Arifi, N., Al Bassam, A., Varun, C. and Singh, H.K. 2016. Geothermal energy potential of eastern desert region, Egypt *Environ. Earth Sci.* DOI 10.1007/s12665-016-5534-4.
- Chandrasekharam, D.**, Lashin, A., Al Arifi, N., Al Bassam, A. and Varun C. 2016. Desalination of seawater using geothermal energy to meet future fresh water demand of Saudi Arabia. *Water Res. Manage.* (in press).
- Kramar, U., Norra, S., Berner, Z., Kiczka, M. and **Chandrasekharam D.** 2016. On the distribution and speciation of arsenic in the soil-plant-1 system of a rice 2 field in West-Bengal, India: a  $\mu$ -synchrotron techniques based case study. *App. Geochem.* DOI: 10.1016/j.apgeochem.2015.11.006
- Trupti, G., Singh, H.K. and **Chandrasekharam, D.** 2016. Major and Trace element concentrations in the geothermal springs along the West coast of Maharashtra, India. *Arabian Jr. Geosci.* DOI 10.1007/s12517-015-2139-2
- Chandrasekharam, A. K. **Chandrasekharam, D.** and Farooq, S.H. 2016. Contamination and mobilization of Arsenic in the soil and groundwater and its influence on the irrigated crops, Manipur Valley, India. *Environ. Earth. Sci.* (2016) 75:142
- Farooq, S.H., Dhanachandra, W., **Chandrasekharam, D.**, Chandrasekhar, A.K., Norra, S., Berner, Z. and Stueben, D. 2016. A comparative study of arsenic accumulation in agriculture field in P. Bhattacharya, M. Vahter, J. Jarsjo, J. Kumpiene, A. Ahmad, C. Sparrenbom, G. Jacks, M.E. Donselaar, J. Bundschuh and R. Naidu (Eds) "Arsenic research and global sustainability" *Proceed. 6<sup>th</sup> International Congress on Arsenic in the environment (As 2016)* CRC Press, Chapter 151, 346-347, CRC.
- Chandrasekharam, D.**, Lashin, A., Al Arifi, N., Al Bassam, A. and Varun C. 2016. Desalination of seawater using geothermal energy to meet future fresh water demand of Saudi Arabia. *Water Res. Manage* DOI 10.1007/s11269-016-1419-2

## Books:

**Text Book:** **D. Chandrasekharam**, A. Lashin and N. Al Arifi. 2016. *Red Sea Geothermal Provinces.* CRC Press , 221p.

## 2017

### Book

J. Bundschuh, J. Piechocki, **D. Chandrasekharam** and G. Chen. 2017. *Geothermal, Wind and Solar Energy Applications in Agriculture and Aquaculture.* CRC Press 475p.

## 2018

- Chandrasekharam, D.**, Bankher, K., Najeeb, R. and Varun. C. 2018. Geothermal sourced desalination to mitigate food and water security in GCC and MENA countries. *Proceedings, 7th African Rift Geothermal Conference Kigali, Rwanda 31st October – 2nd November 2018*
- Chandrasekharam, D.**, Lashin, A., Al Arifi, N., Al-Bassam, A.M and Varun C. 2018. Geochemical evolution of geothermal fluids in the Sub-Saharan geothermal provinces. *J Asian Earth Sci.* 164, 292-306.
- Trupti Chandrasekhar, Minissale, A., Vasseli, O., **Chandrasekharam, D.**, Singh, H.K. 2018. Understanding the evolution of thermal fluids along the western continental margin of India using geochemical and boron isotope signatures. *Geothermics* 74, 197-209.
- Chandrasekharam, D.**, Lashin, A., Al Arifi, N., and Al-Bassam, A.M. 2018. Desalination of Seawater using Geothermal Energy for food and water security: Arab and Sub-Sahara countries. Chapter 4, 54p., *in* G. Gnaneswar (Etd). "Handbook on Sustainable Desalination Handbook – Process Design and Implementation Strategies" Elsevier Pub.
- Chandrasekharam, D., Lashin, A., Al Arifi, N., Al-Bassam, A.M. and Varun, C. 2018. Non-conventional water resources for food and water security: Case study- Egypt. *Water Res. Manage* (under review).
- Chandrasekharam, D.**, Lashin, A., Al Arifi, N., and Al-Bassam, A.M. 2018. Energy and Food security through desalination using geothermal energy: Eritrea. *Arabian Journal of Geosciences* 11:523 doi. 10.1007/s12517-018-3892-9.

Minissale, A., **Chandrasekharam, D.** and Fara, M.A. 2018. Desalination of Red Sea and Gulf of Aden seawater to mitigate fresh water crisis in Yemen Republic. Chapter 12 in N. Rasul and Stewart (eds). *Oceanographic and biological aspects of the Red Sea*. Springer. Doi: 10.1007/978-3-319-99417-8\_12

Singh, H.K. Aswini, T., Poonam, M., Sinha, S.K., **Chandrasekharam, D.** and Trupti, C. 2018. Geothermal energy potential of Tulsishyam thermal springs of Gujarat, India. *Arabian J Geosciences*. 10.1007/s12517-018-3501-y.

Avanthi, I., Ranjith, P.G., Tharaka, R., Samintha, P. and **Chandrasekharam, D.** 2018. An influence of thermally-induced micro-cracking under cooling treatments: Mechanical characteristics of Australian granite. *Energies* doi:10.3390/en11061338

Prem Jose Vazhacharickal., Trupti Gurav, and **D. Chandrasekharam.** 2018. Heavy metal signatures in urban and peri-urban agricultural soils across the Mumbai Metropolitan Region, India. *Nutrients Cycling in Agroecosystem*. 74, doi.org/10.1007/s10705-018-9966-y

**Chandrasekharam, D.** 2018. Water for the millions: Focus Saudi Arabia. *Water Energy Nexus*, 1, 142-144.

## 2019

**Chandrasekharam, D.**, Bankher, K. and Ranjith, P. 2019. High heat generating granites of Saudi Arabian shield: Prospect for CO<sub>2</sub> emissions reduction and climate mitigation, 289-299: in “*Deep Rock Mechanics: From Research to Engineering*” (eds) Xie Z and P Ranjith. Taylor & Francis Group, London, ISBN 978-1-138-48761-1289.

Farooq, S.H., **Chandrasekharam, D.**, Dhanachandra, W. and Ram, K. 2019. Relationship of arsenic accumulation with irrigation practices and crop type in agriculture soils of Bengal Delta, India. *Applied Water Science*, 9, 119-130. doi.org/10.1007/s13201-019-0904-1

**Chandrasekharam, D.**, Lashin, A., Al Arifi, N., and Al-Bassam, A.M. 2019. Securing food security of Djibouti through desalinated water using geothermal energy. *Energy, Sustainability and Society*. 9, 24-35. <https://doi.org/10.1186/s13705-019-0206-3>.

## 2020

Singh, H.K., Sinha, S.K. and **Chandrasekharam, D.** 2020. A preliminary investigation for the assessment of geothermal potential at Eastern Peninsular India. *Geomech. Geophys. Geo-energ. Geo-resour* doi./10.1007/s40948-019-00133-0

Singh, H.K., Sinha, S.K., Alam, M.A. and **Chandrasekharam, D.** 2020. Tracing the evolution of thermal springs in the Hazaribagh area of Eastern Peninsular India through hydrogeochemical and isotopic analyses. *Geothermics*, 85, 101817.

**Chandrasekharam, D.** and Ranjith Pathegama, G. 2020. CO<sub>2</sub> emissions from renewables: Solar pv, hydrothermal and EGS sources. *J. Geomecha. Geophys. Geoenergy Georesour*. [https://doi.org/10.1007/s40948-019-00135-y\(0123456789\)...volV\(0123458697\)...volV](https://doi.org/10.1007/s40948-019-00135-y(0123456789)...volV(0123458697)...volV)

Prusty, P., Farooq, S.H., Swain, D. and **Chandrasekharam, D.** 2020. Association of geomorphic features with groundwater quality and freshwater availability in coastal regions. *Intern. J. Environ. Sci. Tech.* <https://doi.org/10.1007/s13762-020-02706-z>

Chandrasekharam, A. K., Ghosh, A., Swati, S., Shakir, A., Singh, H.K., Trupti, C. and **Chandrasekharam, D.** 2020. Distribution, genesis and geochemical modeling of fluoride in the water of tribal area of Bijapur district, Chhattisgarh, central India *Groundwater for Sustainable Development* 11, 100403 (doi. org/10. 1016/j. gsd. 2020. 100403).

**Chandrasekharam, D.** and Varun C. 2020. Geothermal Energy Resources of India: Country Update. *Proceedings World Geothermal Congress 2020 Reykjavik, Iceland, April 26 – May 2, 2020*

Lashin A., **Chandrasekharam, D.**, Al Bassam, A., Al Arifi, N., Rehman, S. and Al Faifi, H. 2020. **A review of the Geothermal Resources of Saudi Arabia: 2015-2020.** *Proceedings World Geothermal Congress 2020 Reykjavik, Iceland, April 26 – May 2, 2020*

## 2021

**Chandrasekharam, D.** Geothermal energy for food and water security for Yemen: a review. *Arab J Geosci* **14**, 253 (2021). <https://scihub.se/https://doi.org/10.1007/s12517-021-06668-5>.

Koteswara Rao, D., Satish, R. and **Chandrasekharam, D.** 2021. Water and Food Nexus: Role of socio-economic status on water-food nexus in an urban agglomeration Hyderabad, India using consumption water footprint. *Water* **2021**, *13*, 637. <https://doi.org/10.3390/w13050637>

Shakir Ali, Shashank shekar, Trupti, C., Yadav, A.K., Arora, N.K., Kashyap, C.A., Prosun, B., Rai, S.P., Pande, P and **Chandrasekharam, D.** 2021. Influence of the water–sediment interaction on the major ions chemistry and fluoride pollution in groundwater of the Older Alluvial Plains of Delhi, India. *J. Earth Syst. Sci.* (2021) 130:98, <https://doi.org/10.1007/s12040-021-01585-3>.

## 2022

Baba, A. and **Chandrasekharam, D.** 2022. Geothermal Resources for sustainable development: Case study: Turkey. *Inter. J. Energy Res.* 1-18. DoI: 10.1002/er.7778.

**Chandrasekharam, D.** and Baba, A. 2022. Carbon dioxide emissions mitigation strategy through Enhanced Geothermal systems: western Anatolia, Turkey. *Environ. Earth Sci.* **81**, 235. Doi.org/10.1007/s12665-022-10345-5.

**Chandrasekharam, D.**, Sener, F., Recepoglu., Y.K., Isik, T., Demier M.M. and Baba, A. 2022. Lithium: An energy transition element, its role in the future energy demand and carbon emissions mitigation strategy. *Geothermics* (in press).

**Chandrasekharam, D.**, Baba, A., Alshaklish, W., Kashyap, C.A. and Tayfur, G. Water Resources Status of Yemen and Mitigation and Remediation Strategy: Review. *J. Arabian Geoci.* (review)

Singh, H.K., **Chandrasekharam, D.**, Minissale, A., Raju, N.J. and Baba, A. 2022. Geothermal potential of Manuguru geothermal field of Godavari valley, India. *Geothermics*, **105**, 1025-45. [Doi.org/10.1016/j.geothermics.2022.102545](https://doi.org/10.1016/j.geothermics.2022.102545)

**Chandrasekharam, D.**, Baba, A. and Ayzit, T. 2022. High radiogenic granites of western Anatolia for EGS: A review. In (Eds) **D. Chandrasekharam** and A. Baba. “EGS: the future energy road ahead” CRC Press , UK. (under publication. Expected date of release: Feb 2023).

**Chandrasekharam, D.**, Baba, A., Ayzit, A. and Singh, H.K. 2022. Geothermal potential of Kaymaz and Sivrihisar granites, Eskisehir region, western Anatolia. *Renewable Energy*, **196**, 870-882.

Ayzit, T., Chandrasekharam, D. and Baba, A. 2022. Hamit granitoid: A sustainable clean energy source for mitigating CO<sub>2</sub> emissions. Proceedings, European Geothermal Congress 2022, Berlin, Germany | 17-21 October 2022, [www.europeangeothermalcongress.eu](http://www.europeangeothermalcongress.eu).

## Book: 2022

**D. Chandrasekharam** and A. Baba. “EGS: the future energy road ahead” CRC Press , UK. (under publication. Expected date of release: Feb 2023).

**Chandrasekharam, D.** 2022. Enhanced geothermal systems (EGS) for UNSustainable development goals. *Discover Energy*. <https://doi.org/10.1007/s43937-022-00009-7>

Ayzit, T., **Chandrasekharam, D.**, Baba, A. (2022). Salihli Granitoid, Menderes Massif, Western Anatolia: A Sustainable Clean Energy Source for Mitigating CO<sub>2</sub> Emissions. In: Gökçekuş, H., Kassem, Y. (eds) *Climate Change, Natural Resources and Sustainable Environmental Management*. NRSEM 2021. Environmental Earth Sciences. Springer, Cham. <https://doi.org/10.1007/978-3-031-0437>

## 2023

## NATIONAL JOURNALS

### 1976:

**Chandrasekharam, D.** and Parthasarathy, A. 1976. Petrology of the Deccan Trap sequence around Manor, Maharashtra. Proceed. Paleovolcanicity, associated tectonism and metallogeny in India., Hyderabad, pp 56-66.

**Chandrasekharam, D.** and Parthasarathy, A. 1976. Geochemical and genetic characteristics of coastal and inland Deccan Trap volcanics. *ibid.* pp 76-84.

### 1977:

Viswanathan, S. and **Chandrasekharam, D.** 1977. Manor volcanics and the environment of Deccan Trap volcanism. *Recent Reser. Geol. Hindustan Pub. Corp., New Delhi*, 4, pp 187-195.

### 1980:

**Chandrasekharam, D.** and Basak, P. 1980. How far is your well from the cemetery? *J. Pub. Health Eng.* 4, pp 99-102.

**Chandrasekharam, D.** 1980. Chemical quality of open well waters from Trivandrum coastal belt. *Proceed. Water Res. of Southern States. Madurai Kamaraj Uni., Madurai.* pp 15-23.

**Chandrasekharam, D.** Bindumadhav, U. 1980. Exploration for groundwater in hard rocks-a hydrochemical approach. *Proceed. 6th National Convention for Explo. Geophysicists. Bangalore*, pp 17-26.

### 1981:

Viswanathan, S. and **Chandrasekharam, D.** 1981. Geochemical comparison of the Siberian and Deccan Traps. *Geol. Soc. India Memoir* 3, pp 460-471.

### 1982:

**Chandrasekharam, D.** 1982. Saltwater intrusion into the coastal aquifer, Kozhikode district, Kerala. *Proceed. Irrigated Farming in India, Shivaji Uni., Kolhapur.* pp 45-53.

### 1983:

**Chandrasekharam, D.** Bindumadhav, U. and Ushakumari, S. 1983. Geochemical characteristics of groundwater in hard rock aquifers. *Proceed. Assessment, Development and Management of Groundwater Resources., Central Groundwater Board, Ministry of Irrigation, New Delhi.* pp 317-333.

### 1984:

Chandrasekharam, D. 1984. Calcium enrichment in coastal wells, Kozhikode, Kerala. *Bull. Sci.* 1, pp 36-39.

### 1985:

**Chandrasekharam, D.** Parthasarathy, A. 1985. Tectonic aspects of Deccan Traps. *Geol. Sur. India, Sp. Pub.*, 14, pp 20-24.

Viswanathan, S. and **Chandrasekharam, D.** 1985. Dykes related to Deccan volcanism. *Geol. Survey India, Sp. Pub.*, 14, pp 91-107.

**Chandrasekharam, D.** Parthasarathy, A. and Subramaniam, S.K. 1985. Petrographic and petrochemical characteristics of the Deccan Trap volcanics and properties of soils around Khodala, Maharashtra. *Geol. Survey India, Sp. Pub.*, 14, pp 108-120.

**Chandrasekharam, D.** and Raghavan, V. 1985. A need for computer aided analysis of lineaments in regional groundwater exploration programme. *Proceed. IV Annual Convention. Asso. Hydrogeologists of India, Hissar.* pp 21-28.

**Chandrasekharam, D.** and Raghavan, V. 1985. Chemistry of groundwater in the Gunjani river basin of Pune, Maharashtra. *ibid.*, pp 32-37.

### 1988:

**Chandrasekharam, D.** and Ushakumari, S. 1988. Metal adsorption by laterites and clays: Experimental investigation on laterite-clay-water interaction. in "Role of Earth Sciences in Environment" (Ed) K.C.Sahu IIT - Bombay, pp 203-231.

**Chandrasekharam, D.** Ushakumari, S and Ahmad, A. 1988. Chemical characteristics of groundwater in laterites. *Hydrology. J.* 11, pp 1-8.

### 1989:

**Chandrasekharam, D.** 1989. Anomalous SO<sub>4</sub> - Cl groundwater in the coastal aquifer, Kerala. *Indian Acad. Sci.*, 98, pp 287-295

1993: **Chandrasekharam, D.** 1993. Application of XRD technique in water-rock interaction experiments. in "Applications of Analytical Instruments". (Eds.) B.S.Acharya and Rajeev, Allied . Pub., New Delhi, pp 121-126.

### 1994:

Subbarao, K.V., Navaneethkrishnan, P. and **Chandrasekharam, D.** 1994. Geomagnetic polarity change in the central Deccan Traps and its significance in regional correlation of Deccan basalts. *Geol. Soc. India Memoir*, 29, pp 81-92.

**1995:**

**Chandrasekharam, D.** 1995. Saltwater Intrusion in "Groundwater" (Chapter 6) (Ed) S.Pitchaiah, Scientific Pub., Jodhpur.

**Chandrasekharam, D.** 1995. Steam emanations due to seismic pumping, Killari, Maharashtra. Geol. Survey. India Sp. Pub. 27, pp 229-233.

**1996:**

**Chandrasekharam, D.,** Rao, V. G. and Jayaprakash, S. J. 1996. Geothermal Energy potential and direct use of Geothermal springs, Godavari valley, Andhra Pradesh, Geol. Sur. India, Sp. Pub., 45, pp 155-161.

**1997:**

Ramanathan, A. and **Chandrasekharam, D.** 1997. Geochemistry of Rajapur and Puttur thermal springs, west coast of India J. Geo. Soc. India, 49, pp 559-565.

Sheth, H. C., Duncan, R. A., **Chandrasekharam, D.** and Mahoney, J. J. 1997. Deccan Trap dioritic gabbros from the western Tapi - Satpura region. Curr. Sci., 72, pp 755-757.

**1998:**

Keshav, S., Sheth, H.C. and **Chandrasekharam, D.** 1998. Field geology, petrography and orthopyroxene clusters of the Dhule-Parola dike, Tapi valley, central Deccan basalts province. Curr. Sci., 74, pp 252-254.

**1999:**

Biju Mathew and **Chandrasekharam, D.** 1999. Trace element distribution and cobalt content in sulphide ores of Kalyadi, Karnataka. Curr. Sci. 77, pp 101-103.

Ramanathan, A. and **Chandrasekharam, D.** 1999. Watch--a Fortran 77 program for processing the analytical hydrochemical data. *In* Inland Water Resources, India (Eds) M.K. Durga Prasad and P. Sankara Pitchaiah, Discovery Publishing House, New Delhi.

**Chandrasekharam, D.** 1999. Salt water intrusion mechanism along the coastal aquifer, Malappuram district, Kerala. *In* Inland Water Resources, India (Eds) M.K. Durga Prasad and P. Sankara Pitchaiah, Discovery Publishing House, New Delhi.

**2000:**

**Chandrasekharam, D.** and Vinod, K. C. 2000. Clinopyroxenite xenoliths from the Deccan Traps of Kutch and Bombay. Curr. Sci. 78, 607-610

**2001:**

**Chandrasekharam, D.** Opportunities for small scale geothermal power projects in India. Indust. Prod. Finder, 29, 203-205.

**2002:**

**Chandrasekharam, D.** 2002. Private Power Projects: Journey through Darkness. Analyst, (Financial Magazine), VIII, 62-65.

**2003:**

**Chandrasekharam, D.** "Deccan Flood Basalts" *in* Indian Continental Lithosphere: Emerging Research Trends. (Eds) T.N.Mahadevan and B.R Arora and K.R Gupta. Geol Soc. India Memoir 53, 197-214.

**Chandrasekharam, D.,** Manetti, P., Vaselli, O., Capaccioni, B. and Alam, M.A. Cold Springs of the Barren Island, Andaman Sea, Indian Ocean, Curr. Sci., 86, 136-137.

**2004:**

**Chandrasekharam, D.,** Alam, M.A. and Minissale, A. 2004. Geothermal Potential of the Ladakh Region, NW Himalayas, India. *Proceedings- International Conference On Sustainable Habitat For Cold Climates: September 16-18, 2004, Leh, Ladakh, 108-113.*

Alam, M.A., **Chandrasekharam, D.,** Vaselli, O., Capaccioni, B., Manetti, P. and Santo, P.B. 2004. Petrology of the prehistoric lavas and dyke of the Barren Island, Andaman Sea, Indian Ocean. *Proc. Indian Acad. Sci. (Earth Planet. Sci.),* 113, 715-721.

**2005:**

Swaminathan, M. and **Chandrasekharam, D.** 2005. Soil-geomorphic relationship and the soil variability over a basaltic terrain- A case study along the West Coast of Maharashtra. Jr. Indian Soc. Coastal Agric. Res., 23, 6-12.

**2010**

Tripathi, R.P., Mathur, S.C., Mathur, S., Trupti, G. and Chandrasekharam, D. 2010. On the occurrence of stishovite in the Precambrian Siwana Volcanic Province, Western Rajasthan, India. Current Sci., 98, 30-32.

## **RESEARCH REPORTS (CLASSIFIED) SUBMITTED TO GOVT. KERALA, INDIA**

### **1980:**

Water quality of Inventoried wells, Trivandrum coast. CWRDM Report GW/BD 04/80. 40p.

Water quality of permanent observation wells, Trivandrum coast. CWRDM Report GW/BD 05/80. 48p.

Water quality of permanent observation wells, Kozhikode district. CWRDM Report GW/BD 09/80. 52p.

Water quality of permanent observation wells, Kozhikode coast. CWRDM Report GW/BD 10/80. 60p.

Water quality of permanent observation wells, Malappuram coast. CWRDM Report GW/BD 14/80. 30p.

A preliminary report on the groundwater investigation of an area around Vadanamkurissi, Palghat, Kerala., CWRDM Report GW/T 01/80. 15p.

Groundwater quality in the coastal unconfined aquifer of Trivandrum district. CWRDM Report GW/R 02/80. 25p.

Groundwater exploration in hard rocks- A hydrochemical approach. CWRDM Report GW/R 33/80. 10p.

### **1981:**

Calcium enrichment in open wells along Kozhikode coast. CWRDM Report GW/R 12/81. 8p.

Geochemistry of groundwater along Malappuram coastal aquifer. CWRDM Report GW/R 18/81. 50p.

A note on the geology of CWRDM (Centre for Water Resources Development and Management) campus, Kozhikode. CWRDM Report GW/R 19/81. 30p.

Geochemistry of groundwater in the unconfined aquifer along the coastal belt of Kozhikode. CWRDM Report GW/R 23/81. 35p.

Water quality of permanent observation wells, Malappuram coast. CWRDM Report GW/BD 22/81. 45p.

Water quality of permanent observation wells, Kozhikode coast. CWRDM Report GW/BD 24/81. 50p.

Water quality of permanent observation wells, Trivandrum coast. CWRDM Report GW/BD 26/81. 50p.

### **1982:**

Chemical diagrams for interpreting groundwater chemistry in hard rock aquifers. CWRDM Report W/R 20/82. 7p.

### **1983:**

Saltwater intrusion into coastal aquifer, Kozhikode, Kerala. CWRDM Report GW/R 40/83. 20p.

Saltwater intrusion mechanism along the coastal aquifers, Malappuram district, Kerala. CWRDM Report GW/R 80/83. 25p.

Geochemistry of groundwater in the unconfined aquifer along the coastal belt of Kozhikode, Kerala. CWRDM Report GW/R 23/83. 32p.

Chemistry of groundwater in a typical laterite midland region of Kerala. CWRDM Report GW/R 8/83. 105p.

Chemical characteristics of rain over Kozhikode, Kerala. CWRDM Report GW/R 71/83. 5p.

Atmospheric CO<sub>2</sub> and the chemistry of groundwater. CWRDM Report GW/R 59/83. 10p.

### **1984:**

Laterite -water interaction studies: Project Report CWRDM Report GW/R 95/84. 197p.

### **1986:**

Location of sites for digging dug wells under WREP in Chirayinkil Taluk, Trivandrum. CWRDM Report GW/R 154/86. 10p.

### **1987:**

Geochemistry of groundwater in laterites with special application to pollution control. Project Report. CWRDM Report GW/R 170/87. 200p.

## Appendix 5

### LIST OF SPONSORED FUNDED PROJECTS COMPLETED

- \* Sustainable exploitation of groundwater and cost-effective removal of arsenic from arsenic contaminated aquifers in China and India ( Collaborative project between **India and China; 2009-2012. Completed**)
- \* Crustal configuration and active tectonics of the Andaman arc-sea region based on analysis of geophysical data (**DST, 2008-2012. Completed**)
- \* Groundwater arsenic in the alluvial aquifers of Ganges-Brahmaputra Flood Plains of India (**Indo-Sweden bilateral project- 2007-2012 Completed**).
- \* Mapping the source regions of active Barren Island Volcano and structural configuration of the Andaman subduction zone in the NE Indian Ocean. (**National Integrated DST project: National Coordinator- 2007-2011**)
- \* Geothermal Energy Resources of India ( **Bilateral project between India and Italy: Sponsored by the Dept. Science and Tech., Govt. India and Ministry of Foreign affairs, Italy. -1996-2002**).
- \* Geothermal Energy Resources of Gujarat. (**Collaborative project between India and Italy: Sponsored by the Gujarat Energy Development Agency. 2001**)
- \* Flow stratigraphy of Northern Deccan Volcanic province based on field, geochemical, petrographic and paleomagnetic investigations. (**1997: Sponsored by Dept. Sci. Tech., Govt. India**).
- \* Flow stratigraphy of Central Deccan Volcanic province based on field, geochemical, petrographic and paleomagnetic investigations. (**1994: Sponsored by Dept. Sci. Tech., Govt. India**).
- \* Laterite-Water interaction Experimental investigation:- Evaluation of groundwater quality in laterite aquifers. (**1987: Sponsored by Sci. Tech. Govt. Kerala**).
- \* Geochemistry of Laterites with application to pollution control. (**1985: Sponsored by Sci. Tech., Govt. Kerala**).



## Appendix 6

### RESEARCH AND DEVELOPMENT/CONSULTANCY PROJECTS

1. Chemical methods to upgrade the quality of kaolinite for paper industry (Patent pending).
2. Zircon Opacifiers: Chemical methods to upgrade zircon sand (whitening) for paint industry (Patent pending)
3. Chemical methods to remove iron from talc (Patent pending)
4. Investigation on the causes of failure of "Gas Pipeline concrete" (International consultation project. ).
5. Investigation on the causes of failure of concrete: rehabilitation project- Killari earthquake (Govt. Maharashtra).
6. Investigation on the causes of failure of concrete - Inter. Airport (International Airport Authority.).
7. Investigation on the causes of failure of concrete - Oberoi Towers.
8. Assessment of concrete - mass housing project, Powai.
9. Investigation on the causes of failure of concrete - Chowa Chandan building, Bombay..
10. Testing of sand used for the construction of "Hot-Rolled Coil Project" (M/s Essar Gujarat Co. Ltd.).
11. Petrographic analyses and evaluation of physical and chemical properties of drill cores- Mulshi Dam Project (M/s Unicorn and Co.).
12. Chemical assessment of ceramic tiles (M/s Nitco Tiles Co.).
13. Evaluation of Sodium absorption capacity, chemical and physical properties of soils - Fly-over project, Thane creek, Bombay (M/s Land and coast P. Ltd.).
14. Evaluation of "Kota" slabs using chemical and physical parameters..
15. Estimation of asbestos fibres in water pipes and l/b ratio of the fibres and its relation to strength properties (M/s Govt. Maharashtra Water Supply Board.).
16. Alkali - silica reactivity of basalt aggregate (M/s Govt. Maharashtra.).
17. Cement content and grade of cement used in civil construction works (Bombay Municipal Corp.).
18. Groundwater quality assessment of bore well samples, Bombay island ( M/s Sandeep Housing society, Bombay.).
19. Location of groundwater potential zones for deep bore wells based on landsat images at Waghu and Kalamb, Pune district, Maharashtra. (M/s Groundwater Exploration Service, Maharashtra.).
20. Groundwater quality assessment of coastal dug wells (two), Bombay island (M/s groundwater Exploration Service, Maharashtra.).
21. Assessment of mica a for paint industry (M/s Ashok Dalmia Ltd., Bombay. ).
22. Estimate of cement content in concrete (M/s Do-Well Oil Plants Pvt. Ltd., Bombay. ).
23. Assessment of grade of limestone for railway platform construction (M/s City Industrial Develop. Corp, Maharashtra.).
24. Petrographic evaluation of basalt aggregate for industrial construction purpose (M/s L and T, Madras. ).
25. Environmental impact of gas pipeline from Dhabol to Goa. (M/s Enron Com.Ltd.)
26. Rock-water and liquid petroleum gas interaction (M/s RITES India Ltd.,).
27. Assessment of Kota limestone (M/s International Airports Authority of India)

28. Petrographic evaluation of aggregate for Pune-Mumbai high way construction (M/s Prakash Engineering and construction Co.)
29. Alkali-silica reactivity of aggregate (Ms Dhar Consultants)
30. Estimation of thickness of paint over concrete using petrographic technique (Ms Dhar Consultants)
31. Investigation of colour variation and black streaks in sandstones (L and T, Mumbai).
32. Investigation on landslides, Mumbra-Highway by pass (Mumbai, PWD).
33. Assessment of Industrial Pollution in groundwater, Sangamner district, Maharashtra (Govt. Maharashtra).
34. Assessment of physical and petrographic characteristics of basalt core samples- Bhandup- Malad water project (Mumbai Municipal Corp).
35. Development of cracks in Italian Marble tiles (Central Bank of India, Bombay).
36. Chemical composition of failed concrete slabs (CIDCO, Bombay).
37. Assessment of water quality for ceramic industry (HR Johson India Ltd., Mumbai).
38. XRD analysis of soap samples (Godrej India Ltd., Mumbai).
39. Chemical composition of admixtures and concrete ( Gammon India Ltd., Mumbai).
40. Chemical composition of red clay (Niranjana mines, Karnataka).
41. Evaluation of physical properties of basalt cores (Hindustan Construction Com., Mumbai).
42. Quality evaluation of ceramic tiles

## TEACHING PROFILE

### Courses offered:

The courses offered at M.Sc., M.Tech. and Ph.D. levels are: Igneous petrology; hydrogeochemistry; geothermics; global tectonics; mineralogy and crystal optics; marine mineral resources.

### Thesis Supervision

As a part of the course curriculum, M.Sc. and M.Tech., students have to work on a project, submit a thesis and defend it before a panel of external examiners. Grades are assigned to the project. The project has a field as well as laboratory components. The results of the projects are presented at conferences and/or published in journals. The choice of selecting a project rests with the students. I supervise thesis related to groundwater, igneous petrology, water-rock interaction and geothermal energy resources. M.Tech. projects are assigned keeping in mind the needs of various industries in this country. List of thesis supervised are listed in appendix 2 above.

### Course evaluation Scheme

The courses offered to the students are evaluated each semester by the students "under course evaluation" scheme. This is done mainly to get feed-back from the students regarding the course content, level of teaching, suggestions to improve the course content and methods of teaching. Based on the data, thus collected over a period of 3 to 4 years, the course structure is improved and new concepts are introduced. This scheme is followed for M.Sc. and M.Tech programmes. My over all rating is above 90%.

### Ph.D. Programme

As a part of partial fulfillment of the programme, the students submit a thesis and defend it before a panel of external examiners. I supervised thesis related to groundwater resources and geothermal resources evaluation and igneous petrology. List of Ph.D. thesis supervised are listed in appendix 2.

### Education Technology Programme

Under this programme, course modules are prepared on videotapes for the benefit of students registering under "self-study" programme. Some of the topics which are in demand by the students have been prepared by me and are listed below:

1. Determination of optical properties of minerals using 3 axes universal stage (45 minutes).
2. Saltwater intrusion in coastal aquifers: mechanism of intrusion and case histories from coastal laterite aquifer of Kerala (60 minutes).
3. Geochemical evolution of thermal springs, estimation of reservoir temperature using geochemical thermometers and geothermal energy assessment (90 minutes).

### New Course

There is a growing interest among the students to get in-depth knowledge in hydrogeochemistry and low temperature reactions between rocks and meteoric water. I formulated syllabi for two course (GS 530: Hydrogeochemistry; GS 630: Geothermics) along with my colleagues. These two courses are being offered to 2<sup>nd</sup> M.Sc and M.Tech. graduates.

### Low temperature experimental lab

To support the theory course, I have developed an experimental lab to conduct low temperature reactions at atmospheric pressure between rocks and water. A couple of my students have completed their thesis work using this facility and the data has been published.

### Administrative responsibilities ( details in Appendix 1)

Appointed as the Chair, Department of Earth Sciences, between 2000-2003. Duties includes administrative responsibilities, research and developmental activities of the department; development of interaction between the department and the industries and govt. agencies; development of staff and faculty structure of the department and curriculum development; infra structural development of the department.

Departmental Post Graduate Committee (DPGC) and Under graduate committee (DUGC) review various academic programmes and makes necessary changes in course content, keeping in view the recent developments in the field of earth sciences. The curricula are revised once in three years. Department Chair is the Convener of DPGC and DUGC..

### **Faculty Advisor**

It is mandatory for each faculty member to be faculty advisor for M.Sc., M.Tech. and Ph.D students. The duty of the faculty advisor is to guide the students in choosing appropriate courses, assess course load, help academically weak students to cope-up with load etc.

I was a faculty advisor for 5 years for M.Sc., M.Tech. and at present faculty advisor for Ph.D students.

### **Class room seminars**

Over the past several years I realized that the students' are not cultivating the habit of reading and understanding publications appearing in various journals. In order to overcome this problem, I assign a seminar topic relevant to the course (which needs extensive reference work) to students and hold discussions on the topic in the class and assign marks. I have been successful in this programme and these seminars are being appreciated by the students as well.

### **Undergraduate geology programme**

We offer first degree geology course to engineering graduates with an aim to strengthen the skills of those who will be involved in civil construction projects (buildings, dams, tunnels etc.). I offer this course depending on the teaching and research loads.

In summary, ~60% of my time is allotted to teaching, academic and administrative work and rest ~40% is devoted to research. This scheme is generally followed by all the faculty members of this Institute.

## **PUBLICATIONS FROM 1994 - TILL DATE**

### **1994:**

1. Subbarao, K.V., Navaneethakrishnan, P. and **Chandrasekharam, D.** Geomagnetic polarity change in the central Deccan Traps and its significance in regional correlation of Deccan basalts. *Geol. Soc. India Memoir*, 29, pp 81-92.
2. Subbarao, K.V., **Chandrasekharam, D.** and Navaneethakrishnan, P. Stratigraphy and structure of parts of the central Deccan basalt province: eruptive models. in "Volcanism" (Ed) K.V. Subbarao, Wiley Eastern Ltd., New Delhi, pp 331-332.

### **1995:**

3. **Chandrasekharam, D.** and Antu, M.C. Geochemistry of Tattapani thermal springs, Madhya Pradesh, India: Field and experimental investigations. *Geothermics*, 24, pp 553-559.
4. **Chandrasekharam, D.** Industrial applications of geothermal energy. *Industrial Products Finder*, 23, pp 223-225.
5. **Chandrasekharam, D.** A prehistoric view of the thermal springs of India. *Proced. World Geothermal Congress (Etds) E. Barbier, G. Frey, E. Iglesias and G. Palmason. Inter. Geothermal Asso.*, 1, pp 385-388.
6. **Chandrasekharam, D.** Steam emanations due to seismic pumping, Killari, Maharashtra. *Geol. Survey. India Sp. Pub.* 27, pp 229-233.

### **1996:**

7. **Chandrasekharam, D.** and Jayaprakash, S. J. Geothermal Energy assessment : Bugga and Manuguru thermal springs, Godavari valley, Andhra Pradesh. *Geoth. Res. Bulletin*, 25, pp 19-21.
8. Anitha, V. P., Major, S., **Chandrasekharam, D.** and Bhatnagar, M. Deposition of Mo<sub>2</sub>N thinfilms by RF reactive magnetron sputtering. *Surface Coating Tech.*, 79, pp 50-54.
9. Yadav, S. K., Ron, N., **Chandrasekharam, D.**, Khilar, K. C., Suresh, A. K. and Nadkarni, V. M. Polyurias by interfacial polycondensation -preparation and properties. *Jour. Macro Mol. Sci. (Phy) B* 35, pp 807-827.
10. **Chandrasekharam, D.** Rao, V. G. and Jayaprakash, S. J. Geothermal Energy potential and direct use of Geothermal springs, Godavari valley, Andhra Pradesh, *Geol. Sur. India, Sp. Pub.*, 45, pp 155-161.

### **1997:**

11. Sheth, H. C. and **Chandrasekharam, D.** Plume-rift interaction in the Deccan volcanic province. *Phy. Earth. Planet. Inter.*, 99, pp 179-187.
12. Sheth, H. C. and **Chandrasekharam, D.** Early alkaline magmatism in the Deccan Traps: Implications for plume incubation and lithospheric rifting. *Phy. Earth. Planet. Inter.*, 104, pp 371-376.
13. Ramanathan, A. and **Chandrasekharam, D.** Geochemistry of Rajapur and Puttur thermal springs, west coast of India. *J. Geo. Soc. India*, 49, pp 559-565.
14. Sheth, H. C., Duncan, R. A., **Chandrasekharam, D.** and Mahoney, J. J. Deccan Trap dioritic gabbros from the western Tapi - Satpura region. *Curr. Sci.*, 72, pp 755-757.

### **1998:**

15. **Chandrasekharam, D.** and Prasad, S. R. Geothermal system in Tapi rift basin, Northern Deccan Province, India. 9th Water - Rock Interaction (Eds) G.B. Arehart and J.R. Hulston, A.A. Balkema, Pub. Co., The Netherlands, pp 667-670.
16. **Chandrasekharam, D.** Potential geothermal-HDR sites and prospects of geothermal energy in India. *Inter. Geother. Ass. Newsletter*, 30, 8-9.
17. **Chandrasekharam, D.** and Sheth, H. C. 1997. Significance of flow stratigraphy in deciphering erosional history of flood basalt province. IV International Conf. Geomorphology, Bologna, Italy (Abstract), 110.
18. Fara, M., **Chandrasekharam, D.** and Minissle, A. Hydrogeochemistry of Damt thermal springs, Yemen Republic, *Geothermics*, 28, 241-252.
19. Sheth, H. C., **Chandrasekharam, D.** and Kesav, S. Field geology, petrography and orthopyroxene clusters of the Dhule-Parola dike, Tapi valley, central Deccan basalts province. *Curr. Sci.*, 74, pp 252-254.
20. Sikder, A.K., Sarda, T., Misra, D. S., **Chandrasekharam, D.** and Selvam, P. Chemical vapour deposition of diamond on stainless steel: the effect of Ni-diamond composite coated buffer layer. *Diamond and Related Materials*, 7, 1010-1013.

### **1999:**

21. Sikder, A. K., Sharda, T., Misra, D. S., **Chandrasekharam, D.**, Velachamy, P., Minoura, H. and Selvam, P. Diamond deposition on Ni/Ni--diamond coated stainless steel substrate. *J. Mater. Res.*, 14, 1-5.
22. **Chandrasekharam, D.**, Mahoney, J. J., Sheth, H. C. and Duncan, R. A. Elemental and Nd-Sr-Pb isotope geochemistry of flows and dikes from the Tapi rift, Deccan flood basalt province, India. *J. Volcanol. Geother. Res.* 93, 111-124.
23. Biju Mathew and **Chandrasekharam, D.** Trace element distribution and cobalt content in sulphide ores of Kalyadi, Karnataka. *Curr. Sci.* 77, 1413-1416.
24. **Chandrasekharam, D.** A Prehistoric view of the Thermal Springs of India in "Stories from a Heated Earth" (Etds). R. Cataldi, S.F. Hodgson and J. Lund. Geothermal Resources Council Pub., California, 357-366.

**2000:**

25. **Chandrasekharam, D.** and Vinod, K. C. Clinopyroxenite xenoliths from the Deccan Traps of Kutch and Bombay. *Curr. Sci.* 78, 607-610.
26. Mahoney, J. J., Sheth, H. C., **Chandrasekharam, D.** and Peng, Z.E Geochemistry of flood basalts of the Toranmal section, Northern Deccan Traps, India: Implications for regional Deccan Stratigraphy. *Jour. Petrol.* 41, 1099-1120.
27. Minissale, A., Vaselli, O., **Chandrasekharam, D.**, Magro, G., Tassi, F. and Casiglia, A. Origin and evolution of " intracratonic" thermal fluids from central-western Peninsular India. *Earth. Planet. Sci. Lett.*, 181, 377-394.
28. **Chandrasekharam, D.**, Vaselli, O., Sheth, H.C. and Kesav, S. Petrogenetic significance of ferro-enstatite orthopyroxene in basaltic dikes from the Tapi rift, Deccan flood basalt province, India. *Earth. Planet. Sci. Lett.* 179, 469- 476.
29. Al-Kebsi, Y. A. and **Chandrasekharam, D.** Saltwater contamination in the coastal aquifer, Tihama plain, Wadi Surdud, Yemen Republic. *In "Groundwater 2000" Proceed. (Etds).* P.L.Bjerg, P.Engesgaard and T.D. Krom, A.A.Balkema Pub.Com. The Netherlands, pp 223-224.
30. **Chandrasekharam, D.**, Lekha, S. and Shah, S. Groundwater contamination due to salt-panning activity at Vasai-Palghar coastal zone, northern Mumbai, India. *In "Groundwater 2000" Proceed. (Etds).* P.L.Bjerg, P.Engesgaard and T.D. Krom, A.A.Balkema Pub.Com. The Netherlands, pp 233-234.
31. **Chandrasekharam, D.** Geothermal energy resources of India- Country update. *Proceedings, World Geothermal Congress 2000, (Etds)* E. Iglesias, D. Blackwell, T.Hunt, J.Lund, S.Tamanyu and K. Kimbara. pp- 133-145.

**2001:**

32. **Chandrasekharam, D.** Opportunities for small scale geothermal power projects in India. *Indust. Prod. Finder*, 29, 203-205.
33. **Chandrasekharam, D.** Julie Karmakar., Berner, Z. and Stueben, D. Arsenic contamination in groundwater, Murshidabad district, West Bengal. *Proceed. Water-Rock Interaction 10, (Ed. Cidu) A.A.Balkema, The Netherlands.* 1051-1058
34. **Chandrasekharam, D.** Use of Geothermal energy for food processing- Indian Status. *Quart. Bull., Geo-heat Centre, Oregon, U.S.A.* 22- 8-12.
35. **Chandrasekharam, D.** Helium extraction from thermal gases-Indian geothermal provinces. *Inter. Geother. Asso. News Letter*, June 2001.

**2002:****Book:**

36. "Geothermal Energy Resources for Developing Countries" Eds: **D.Chandrasekharam** and Jochen Bunschuh, AA Balkema Pub., The Netherlands. 412 p.(2002).

**2003:**

37. Minissale, A., **Chandrasekharam, D.**, Vaselli, O., Magro, G., Tassi, F., Passini, G.L. and Bhrambat, A. Geochemistry, geothermics and relationship to active tectonics of Gujarat and Rajasthan thermal discharges, India. *J. Vol.Geoher.Res.*, 127, 19-32.
38. Doris Stueben, Zsolt Berner, **Chandrasekharam, D.** and Julie Karmakar. Arsenic pollution in groundwater of West Bengal, India: Geochemical evidences for mobilization of As under reducing conditions. *App. Geochem*, 18, 1417-1434.
39. Hema T C., **Chandrasekharam, D.** and Jalihal, A. A. Fluoride contamination of groundwater in India- country update. *Proceedings-Symposium on Intensive use of Groundwater: Challenges and Opportunities (sinex) Valencia – Spain; 10 to 14 December 2002 (p102-110).*
40. Doris Stüben., Zsolt Berner, Wagner, F., Norra, S., Agarwala, P., **D. Chandrasekharam**, and Chatterjee, D. Arsenic contamination in groundwater: A worldwide calamity. (Abst-Extended). 7<sup>th</sup> Inter. Conf. Biogeochemistry of Trace Elements (ICOBTE), Uppsala, Sweden, June 15-19, 2003.
41. **Chandrasekharam, D.** "Deccan Flood Basalts" *in* Indian Continental Lithosphere: Emerging Research Trends. (Eds) T.N.Mahadevan and B.R Arora and K.R Gupta. *Geol Soc.India Memoir* 53, 197-214.
42. **Chandrasekharam, D.**, Manetti, P., Vaselli, O., Capaccioni, B. and Alam, M.A. Cold Springs of the Barren Island, Andaman Sea, Indian Ocean. *Curr. Sci.*, 86, 136-137.
43. **Chandrasekharam, D.** and M.A.Alam. Direct Utilization of Geothermal Energy Resources - NW Himalayas, India. *Geother. Resource Council Trans.*, 27, 81-83.
44. Al-Kebsi., Al-Aawah, M.A.H. and **Chandrasekharam, D.** Saltwater contamination in the coastal aquifer, Tihama plain, Wadi Surdud, Republic of Yemen. *Sana'a Univ. Faculty of Science Bull.*, 16, 111-123.

**2004:**

45. Sheth, H.C., Mahoney, J. J. and **Chandrasekharam, D.** Geochemical stratigraphy of Deccan flood basalts of the Bijasan Ghat section, Satpura range-India. *J. Asian Earth Sci.*, 23, 127-139.
46. **Chandrasekharam, D.**, Alam, M.A. and Minissale, A. 2004. Geothermal Potential of the Ladakh Region, NW Himalayas, India. *Proceedings- International Conference On Sustainable Habitat For Cold Climates: September 16-18, 2004, Leh, Ladakh, 108-113.*
47. Alam, M.A., **Chandrasekharam, D.**, Vaselli, O., Capaccioni, B., Manetti, P. and Santo, P.B. 2004. Petrology of the prehistoric lavas and dyke of the Barren Island, Andaman Sea, Indian Ocean. *Proc. Indian Acad. Sci. (Earth Planet. Sci.)*, 113, 715-721.
48. Hema Tiwari Chaturvedi and **Chandrasekharam, D.** 2004. Mobilization of F<sup>-</sup> from rocks and soils in to groundwater, Morel river basin, Rajasthan, India. *Proceed. 11<sup>th</sup> Water Rock Interaction (Ed) R.B.Wanty and R.R. Seal II, A.A. Balkema Pub.* 389-392.
49. Alam, M.A., **Chandrasekharam, D.** and Minissale, A. 2004. Geothermal potential of thermal waters of Manikaran, Himachal Pradesh, India. *Proceed. 11<sup>th</sup> Water Rock Interaction (Ed) R.B.Wanty and R.R. Seal II, A.A. Balkema Pub.* 327-331.

**2005:**

50. **Chandrasekharam, D.** 2005. Geothermal Energy Resources of India: Past and the Present. Proceedings World Geothermal Congress 2005, Antalya, Turkey, 24-29 April 2005, 5 pp.
51. **Chandrasekharam, D.,** Alam, M A. and Minissale, A. 2005. Thermal Discharges at Manikaran, Himachal Pradesh, India. Proceedings World Geothermal Congress 2005, Antalya, Turkey, 24-29 April 2005, 7 pp.
52. Norra, S., Berner, Z.A., Agarwala, P., Wagner, F., **Chandrasekharam, D.** and Stüben, D. 2005. Impact of irrigation with As rich groundwater on soil and crops: a geochemical case study in Maldah District, West Bengal App. Geochem. 20, 1890-1906.
53. Mukherjee, A.B., Bhattacharya, P., Jacks, G. Banerjee, D.M., Ramanathan, A.L., Mahanta, C. **Chandrasekharam, D.** & Naidu, R. (2005) "Groundwater Arsenic Contamination in India: Extent and severity". in: R. Naidu, E. Smith, G. Owens, P. Nadebaum, & P. Bhattacharya (Eds.) *Managing Arsenic in the Environment: From soil to human health.* CSIRO Publishing, Melbourne, Australia, 664 p.
54. Hema T Chaturvedi, **Chandrasekharam, D.** and Jalihal, A.A. Fluoride contamination of groundwater in India- country update *In "Groundwater Intensive Use"* 2005. (Eds). A. Sahuquillo, J. Capilla, L. Martínez-Cortina & X. Sánchez-Vila, Taylor and Francis Pub., p 237-245
55. Swaminathan, M. and **Chandrasekharam, D.** 2005. Soil-geomorphic relationship and the soil variability over a basaltic terrain- A case study along the West Coast of Maharashtra. *Jr. Indian Soc. Coastal Agric. Res.*, 23, 6-12.

**Book:**

56. *Natural Arsenic in Groundwater: Occurrences, Remediation and Management.* 2005. (Eds). J. Bundschuh, P. Bhattacharya and **D. Chandrasekharam,** Taylor & Francis Group Pub (A.A.Balkema pub), London, ISBN 04 1536 700 X, 339 p

**2006****Chapter in Book:**

57. Mukherjee, A.B., Bhattacharya, P., Jacks Gunnar, Banerjee, D.M., Ramanathan, A.L., Mahanta, C., **Chandrasekharam, D.** and Ravi Naidu. 2006. (Chapter 33) Groundwater Arsenic Contamination in India: Extent and Severity in *"Managing Arsenic In The Environment: From Soils to Human Health"* (eds). R. Naidu, E. Smith, G. Owens, P. Bhattacharya and P. Nadebaum. CSIRO Pub., Australia, 664 p.

**2007**

58. Saji, S. and **Chandrasekharam, D.** 2007: High fluoride groundwater of karbi-Anglong district, Assam, NE India: source characterization *in* "Groundwater for Sustainable Development: Problems, Perspectives and Challenges" (Eds). P. Bhattacharya, A.L. Ramanathan, J. Bundschuh, **D. Chandrasekharam,** A.K Keshari and A. B Mukherjee. Taylor and Francis Pub., (in press).
59. Michael D Higgins and **Chandrasekharam, D.** 2007. Nature of subvolcanic magma chambers, Deccan Province, India: Evidence from quantitative textural analysis of Plagioclase megacrysts in the Giant Plagioclase Basalt. *J. Petrol.*, 48, 885-900.
60. **Chandrasekharam, D.** 2007. Geo-mythology of India. Geological Society, London, Special Publications, 273, 29-37.
61. **Chandrasekharam, D.** 2007. Pathway of Arsenic from water to food, West Bengal, India. In U. Aswathanarayana (Ed). "Food and water security: An integrated strategy for food security in the developing countries", Taylor and Francis Pub., London, 63-70.
62. **Chandrasekharam, D.,** Anita Joshi and Varun Chandrasekhar. 2007. Arsenic content in groundwater and soils of Ballia, Uttar Pradesh. *Proceed. 12<sup>th</sup> Water Rock Interaction* (Ed) Thomas D. Bullen and Yanxin Wang. Taylor and Francis Pub., London, 1021-1025
63. **Chandrasekharam, D.** and Varun Chandrasekhar. 2007. Enhanced Geothermal Resources: Indian Scenario. *Geothermal Res. Council Trans.*, 31, 271-273.

**2008**

64. Saji, S. and **Chandrasekharam, D.** 2008: High fluoride groundwater of karbi-Anglong district, Assam, NE India: source characterization *in* "Groundwater for Sustainable Development: Problems, Perspectives and Challenges" (Eds). P. Bhattacharya, A.L. Ramanathan, J. Bundschuh, **D. Chandrasekharam,** A.K Keshari and A. B Mukherjee. Taylor and Francis Pub. London.
65. **Chandrasekharam, D.** and Varun Chandrasekhar, 2008. Geothermal resources in India: Possibilities for direct use in the Himalayas in Proceedings " UNU-GTP and TBLRREM-TBGMED Workshop for Decision Makers on Direct Heating Use of Geothermal Resources in Asia", Tianjin, China, 11-18 May, 2008" (ed) I.B.Fridleifsson, D.H.Holm, Wang Kun and Zhang Baiming (CD).

**66. Invited Lectures:**

" Low Enthalpy Geothermal Resources for Power Generation" invited lecture at the Workshop on "Geothermal energy: resources and technology for a sustainable development, Organized by International Centre for Science and high technology-United Nations Industrial Organization, Trieste, Italy, 10-12 Dec 2008 ( e-Learnig, [www.ics.trieste.it](http://www.ics.trieste.it)).

67. Chandrasekhar, V. and **Chandrasekharam, D.** 2008. Enhanced geothermal resources in NE Deccan Province, India 2008. *Geothermal Res. Council Trans*, 32, 71-75.

**TEXT BOOK:**

68. **D. Chandrasekharam** and J. Bundschuh 2008. " *Low Enthalpy Geothermal Resources for Power generation*" Taylor and Francis Pub., U.K. 169 pp.

## 2009:

69. **Chandrasekharam, D.** Alba P. Santo, A.P., Capaccioni, B., Vaselli, O., Alam, M.A., Manetti, P. and Tassi, F. 2009. Volcanological and Petrological Evolution of Barren Island (Andaman Sea, Indian Ocean). *J. Asian Earth Sci.* 35, 469- 487.
70. “**School in Geothermics**” at The Abdus Salam International Centre for Theoretical Physics, Trieste, Italy, 26 October- 7<sup>th</sup> November, 2009. ( e-Learning: [www.ics.trieste.it](http://www.ics.trieste.it))
71. Gloria, E T., **Chandrasekharam, D.**, Ayonghe, S.N. and Thambidurai, P. 2009. Pollution characteristics of alluvial groundwater from springs and bore wells in semi-urban informal settlements of Douala, Cameroon, Western Africa. *Environ Earth Sci*, DOI 10.1007/s12665-009-0342-8 (on line)
72. **Chandrasekharam, D.** and Chandrasekhar, C. 2009. Geothermal systems in India. *Geothermal Res. Council Trans.*, 33

## 2010

73. Tripathi, R.P., Mathur, S.C., Mathur, S., Trupti, G. and **Chandrasekharam, D.** 2010. On the occurrence of stishovite in the Precambrian Siwana Volcanic Province, Western Rajasthan, India. *Current Sci.*, 98, 30-32
74. Alam, M.A. and **Chandrasekharam, D.** 2010. Comment on “Thermoluminescence and optically stimulated luminescence signals from volcanic ash: History of volcanism in Barren Island, Andaman Sea” *Quat. Geochron.*, 5, 283–284
75. Farooq, S. H., **Chandrasekharam, D.**, Norra, S., Eiche, E., Berner, Z., Thambidurai, P. and Stüben, D. 2010. Temporal variations in arsenic concentration in the groundwater of Murshidabad District, West Bengal, India . *Environ. Earth Sci.*, DOI 10.1007/s12665-010-0516-4
76. Farooq, S.H., **Chandrasekharam, D.**, Berner, Z., Norra, S., Stüben, D. 2010. Effect of traditional agricultural practices in mobilization of arsenic from sediments to groundwater in Bengal Delta. *Water Research*, doi: 10.1.1016/j.waters.201.05.057
77. Singh, H.K. and **Chandrasekharam, D.** 2010. Evaluation of Tuwa geothermal system through water-rock interaction experiment. *Proceed. Water-Rock Interaction 13 (Eds. P. Birkle and Torres-Alvarado (eds) Taylor & Francis Group, London, ISBN 978-0-415-60426-0*
78. **Chandrasekharam, D.** and Chandrasekhar, V. 2010. Geothermal Energy Resources, India: Country Update. *Proceedings World Geothermal Congress 2010 Bali, Indonesia (CD)*
79. **Chandrasekharam, D.** and Chandrasekhar, V. 2010. Hot Dry Rock Potential in India: Future Road Map to Make India Energy Independent. *Proceedings World Geothermal Congress 2010 Bali, Indonesia (CD)*
80. **Chandrasekharam, D.** and Chandrasekhar, V. 2010. Can Geological Radioactive Waste Disposal Sites Be Used as EGS Sites? *Proceedings World Geothermal Congress 2010 Bali, Indonesia (CD)*
81. Chandrasekhar, V. and **Chandrasekharam, D.** 2010. Energy Independence Through CDM Using Geothermal Resources: Indian Scenario. *Proceedings World Geothermal Congress 2010 Bali, Indonesia (CD)*
82. **Chandrasekharam, D.** and Varun Chandrasekhar, 2010. Geochemistry of Thermal Springs of Orissa, India. *Geother. Resources Council Trans.*, 34, 665-668.

## 2011

83. Sen, G. and **Chandrasekharam, D.** 2011. Deccan Traps Flood Basalt Province: An Evaluation of the Thermochemical Plume Model. *Chapter 2 In “Topics in Petrology” (Eds) Jyotiskanar Ray, Gautam Sen and Biswajit Ghosh. Springer Pub. 29-53.*
84. Pasvanoğlu S, **Chandrasekharam, D.** (2011) Hydrogeochemical and isotopic study of thermal and mineralized waters from the Nevşehir (Kozakli) area, Central Turkey. *J. Volcanol. Geotherm. Res.* 202, 241-250.

## 2012

85. Farooq, S. H., **Chandrasekharam, D.**, Abbt-Braun, G., Berner, Z., Norra, S. and Stüben, D. 2012. DOC from traditional jute processing technique and its potential influence on arsenic contamination in Bengal Delta. *App. Geochem.*, 27, 292-303.
86. Pooja, V.K., Sheth, H.C., Badrealam, S, Poonam, M, **Chandrasekharam, D.** and Trupti, G. 2012. Spherulitic pitchstones from the Deccan Traps, India: Petrochemistry and emplacement environments *Bull. Volcanol*, 74, 559-577.
87. **Chandrasekharam, D.** and Varun, C. 2012. Clean Development Mechanism through Geothermal: Ethiopian Scenario.. *Proceed. 4th African Rift Geothermal Conference, Nairobi, Kenya (CD)*.
88. Omenda, P., Varun, C. and **Chandrasekharam, D.** 2012.. High heat generating granites of Uganda and Tanzania: Possible EGS sources in Eastern Africa. *Proceed. 4th African Rift Geothermal Conference, Nairobi, Kenya (CD)*.
89. Varun, C., **Chandrasekharam, D.**, Singh, H.K. and Das, S. 2012. Geologic setting of the Unkeshwar thermal springs, Eastern Deccan volcanic province, Maharashtra, India. *Trans. Geother. Res. Council.*, 36 (CD).
90. **Chandrasekharam, D.** 2012. Energy independence through CDM using geothermal resources: Indian scenario. (CD) 9th Biennial international conference & Exposition on Petroleum Geophysics, Hyderabad.
91. Surya Prakash, L., Ray, D., Paropkari, A.L., Mudholkar, A.V., Satyanarayana, M., Sreenivas, B., **Chandrasekharam, D.**, Kota, D., Kamesh Raju, K.A., Kaisary, S., Balram, V. and Gurav, T. 2012. Distribution of REEs and yttrium among major geochemical phases of marine Fe–Mn-oxides: Comparative study between hydrogenous and hydrothermal deposits. *Chem. Geol.*, 312, 127-137.

## 2013

91. **Chandrasekharam, D.** and Varun, C. 2013. EGS and carbon mitigation strategies: Indian scenario. *J. Clean Energy Tech.*, 1, 38-41.
92. Thambidurai, P., Chandrasekhar, A.K. and **Chandrasekharam, D.** 2013. Geochemical signature of arsenic contaminated groundwater in Baras valley-Assam and neighborhood, northeastern India. *Water-Rock Interaction 14 France (accepted)*.
93. Singh, H.K., Garg, G.C., **Chandrasekharam, D.**, Banambar Singh. and Trupti, G. 2013. Chemical evolution of Siwana thermal springs and high heat producing granite, Western Rajasthan, India. *Water-Rock International Symposium, France (in press)*.
94. Singh, B., Ranjith, P.G., **Chandrasekharam, D.**, Viète, D. and Hemant K Singh. 2013. Thermo-mechanical properties of Harcourt granite, Australia. *Applied Energy Geomech. Geophys. Geo-energ. Geo-resour.* DOI 10.1007/s40948-015-0005-z



95. Hemant, K.S., **Chandrasekharam, D.**, Trupti, G., Vaselli, O. and Singh, B. 2013. Geothermal potential of Bakreswar (West Bengal) and Tantloi ( Jharkhand), India, thermal springs using geochemical signature. *Applied Energy* ( in press).
96. Hemant, H. K., Yadendra, K., Banambar, S. and **Chandrasekhara, D.** 2013. High heat producing granites of East Deccan Craton (EDC) around Gugi, Karnataka and their possible influence on the evolution of Rajapur thermal springs, Deccan volcanic province (DVP), India. *Geothermics* (in press).
97. Houssein, B., **Chandrasekharam, D.**, Varun, C. and Jalludin, M. 2013. Geochemistry of thermal springs around Lake Abhe, Western Djibouti. *J. Sustainable Energy*, [dx.doi.org/10.1080/14786451.2013.813027](https://doi.org/10.1080/14786451.2013.813027).
98. Nedaw, D., **Chandrasekharam, D.**, Gebreyohannes. T. 2013. High boron and sulphate groundwater in the Geba basin, Northern Ethiopia. *Internl. J. Earth Engineering*, 6, 8-13.

## 2014

### Book:

99. B. Alpher, J. Bundschuh and **D. Chandrasekharam** 2014. *Geothermal systems and energy resources: Turkey and Greece*. CRC press, 350p.
100. **Chandrasekharam, D.** Lashin, A., Al Arifi, N. and Singh, H. 2014. Meeting future energy demand of Saudi Arabia through high heat generating granites. *Intern. J. Earth Sci. Engg.* 7, 1-14.
101. Singh, H., Yadendar, K., **Chandrasekharam, D.**, Trupti, G and Singh, B. 2014. High-heat-producing granites of East Dharwar Craton around Gugi, Karnataka, and their possible influence on the evolution of Rajapur thermal springs, Deccan Volcanic Province, India. *Geothermal Energy*, 2, 1-12.
102. **Chandrasekharam, D.**, Lashin, A. and Al Arifi, N. 2014. CO<sub>2</sub> mitigation strategy through geothermal energy, Saudi Arabia. *Renew. Sustain. Energy Rev.* 38, 154-163.
103. Lashin, A., **Chandrasekharam, D.**, Al Arifi, N., Al Bassam, A. and Chandrasekhar, V. 2014. Geothermal energy resources of wadi Al-Lith, Saudi Arabia. *J. African Earth. Sci.* 97, 357–367.
104. Hemant, H.K., Garg, G. C., **Chandrasekharam, D.**, Trupti G. and Singh, B. 2014. Physicochemical evolution of the thermal springs over the Siwana Ring Complex, Western Rajasthan, India. *Jour. Geol. Soc. India* 84, 668-674.
105. Mahendra, P. V., Portugal, E., Gangloff, S., Armienta, M.A., **Chandrasekharam, D.**, Sanchez, M., Renderos, R.E., Juanco, M. and van Geldern, R. 2014. Determination of Carbonic Species Concentration in Natural Waters: Results from a World-Wide Proficiency Test. *Geostandards and Geoanalytical Research*. doi: 10.1111/j.1751-908X.2014.00306.
106. Borges, M.R., Sen, G., Hart, G.L., Wolff, J.A. and **Chandrasekharam, D.** 2014. Plagioclase as recorder of magma chamber processes in the Deccan Traps: Sr-isotope zoning and implications for Deccan eruptive event. *J. Asian Earth Sci.* 84, 95–101.
107. Vazhacharickal, P.J., Predotova, M., **Chandrasekharam, D.**, Bhowmik, S. and Buerkert, A. 2014. Urban and peri-urban agricultural production along railway tracks: ca case study from the Mumbai Metropolitan region. *J. Agri. Rual Develop. Tropics and Subtropics.* 114, 145-157.
108. Lashin, A., **Chandrasekharam, D.**, Al Arifi, N., Al Bassam, A. and Chandrasekhar, C. 2014. High heat generating granites of western Saudi Arabia. *GRC Trans.*, 38, 40-45.
109. **Chandrasekharam, D.**, Chandrasekhar, V., Garg, G. Singh, H. K. and Trupti, G. 2014. High heat generating granites of Siwana, Rajasthan. *GRC Trans.*, 38, 78-85.
110. Farooq S. H. and **Chandrasekharam, D.** 2014. Surface Generated Organic Matter: An Important Driver for Arsenic Mobilization in Bengal Delta Plain Chapter 12; in "*Arsenic distribution in Gangetic Plain*" (Eds.) H. Prommer, A. L. Ramanathan, A. Mukerjee and B. Nath. Springer. 179- 196; DOI 10.1007/978-3-319-16124-2\_12.
111. **Chandrasekharam, D.**, Lashin, A. and Al Arifi, N. 2014. The potential contribution of geothermal energy to electricity supply in Saudi Arabia. *Inter. J. Sustainable Energy*. <http://dx.doi.org/10.1080/14786451.2014.950966>.
112. Thambidurai, P., **Chandrasekharam, D.** and Chandrasekhar, A.K. 2014. Hydrogeochemistry and groundwater quality in Champhai, Mizoram, North Eastern India. *Inter. J. Earth Sci. Engg.* 7, 421-425.
113. Chandrasekhar, A.K., **Chandrasekharam, D.**, Thambidurai, P. and Farooq, S.H. 2014. Arsenic Contamination in the Groundwater of Thoubal and Bishnupur District of Manipur, India. *Inter. J. Earth Sci. Engg.* 7, 35-40.
114. **Chandrasekharam, D.**, Lashin, A., Al Arifi, N., and Al Bassam, A.A. and Varun, C. 2014. Evolution of geothermal systems around the Red Sea. *Environ. Earth Sci.* DOI 10.1007/s12665-014-3710-y.
115. Hemant K Singh., **Chandrasekharam, D.**, Vaselli, O., Trupti, G., Singh, B., Lashin, A. and Al Arifi, N. 2014. Physicochemical characteristics of Jharkhand and West Bengal thermal springs along SONATA mega lineament, India. *J. Earth Sys. Sci.* 124, 419-430.
116. Chandrasekhar, V., Omenda, P. and **Chandrasekharam, D.** 2014. High heat generating granites of Tanzania. *Proceed. ArGeo C5 conference, Arusha, Tanzania- 29 Oct- 3 Nov. 2014.*

### Text Book

117. **D. Chandrasekharam, A.** Lashin and N. Al Arifi and A. Al Bassam. 2016. *Red Sea Geothermal Provinces*. CRC Press . 220 p.

2015.

118. **Chandrasekharam, D.**, Lashin, A., Al Arifi, N, Al Bassam, A., Ranjith, P. G., Varun, C and Singh, H.K.2015. Geothermal energy resources of Jizan, SW Saudi Arabia J. African Earth Sci 109, 55-67.
119. **Chandrasekharam, D.**, Lashin, A., Al Arifi, N., Al Bassam, A., El Alfy, M., Ranjith, P. G., Varun, C. and Singh, H.K. 2015. CO<sub>2</sub> emission and climate change mitigation using the enhanced geothermal system (EGS) based on the high radiogenic granites of the western Saudi Arabian shield. J. African Earth Sciences, 112, 213-233.
120. Mahendra P.V, Portugal, E., Gangloff, S., Armienta, M.A. **Chandrasekharam, D.**, Sanchez, M., Renderos, R.E., Juanco, M. and Robert van Geldern, R.v. 2015. Determination of the Concentration of Carbonic Species in Natural Waters: Results from a World-Wide Proficiency Test. Geostandards and Geoanalytical Research, 39,233-255.
121. **Chandrasekharam, D** and Varun Chandrasekhar. 2015. Geothermal Energy Resources, India: Country Update. World Geothermal Congress 2015 Proceed. CD.
122. Singh, H.K. , **Chandrasekharam, D.**, Trupti G., Singh. B. 2015. Geochemical Characteristics of Bakreswar and Tantloi Geothermal Province, India. World Geothermal Congress 2015 Proceed. CD.
123. Trupti G, **Chandrasekharam, D.** and Singh, H.K. 2015. Trace Element and REE Concentrations in the Thermal Waters, West Coast Geothermal Province, India. World Geothermal Congress 2015 Proceed. CD.
124. **Chandrasekharam, D.**, Lashin, A., , Al Arifi, N. , Chandrasekhar, V. and Al Bassam, A. 2015. Clean Development Mechanism through Geothermal, Saudi Arabia. World Geothermal Congress 2015 Proceed. CD.
125. **Chandrasekharam, D.** Lashin, A., Al Arifi, N., Chandrasekhar, V. and Al Bassam, A. 2015. High Heat Generating Granites of Western Saudi Arabian Shield. World Geothermal Congress 2015 Proceed. CD.
126. Singh, B., Ranjith, R.G., Singh, H.K. and **Chandrasekharam, D.** 2015. Possible Enhanced Geothermal System Potential of High Heat Producing Radioactive Bundelkhand Granite. World Geothermal Congress 2015, Proceed CD.
127. Lashin, A., Arifi, N., **Chandrasekharam, D.**, Al Bassam, A., Rehman, S. and Pipan, M. 2015. Geothermal Energy Resources of Saudi Arabia: Country Update. World Geothermal Congress 2015, Proceed CD.
128. Singh, H.K., **Chandrasekharam, D.**, Trupti G. and Singh, B. 2015. Geochemistry of Rajgir-Munger Metasedimentary Springs of Bihar, India. World Geothermal Congress 2015, Proceed CD.
129. Mahendra P.V, Portugal, E., Gangloff, S., Armienta, M.A. **Chandrasekharam, D.**, Sanchez, M., Renderos, R.E., Juanco, M. and Robert van Geldern, R.v. 2015. Determination of the Concentration of Carbonic Species in Natural Waters: Results from a World-Wide Proficiency Test. World Geothermal Congress 2015, Proceed CD.
130. Chaudhuri, H., Sinha, B. and Chandrasekharam, D.2015. Helium from Geothermal Sources. World Geothermal Congress 2015, Proceed CD.
131. Subba Rao, P.B.V., Radhakrishna, M., HariPriya, K., Someswara Rao, B. and **Chandrasekharam, D.** 2015. Magnetic Anomalies over the Andaman Islands and their geological significance. J Earth Sys Sci ( in press).
131. Singh, B., Ranjith P. G., **Chandrasekharam, D.** Vieta, H. K. Singh, A. Lashin, N. Al Arifi. 2015. Thermo-mechanical properties of Bundelkhand Granite near Jhansi, India. Geomecha. Geophy. Geoener. Geores. DOI 10.1007/s40948-015-0005-z.
132. Rathnaweera, T.D., Ranjith, P.G., Perera, M.S.A., Haque, A., Lashin, A., Al Arifi, N., **Chandrasekharam, D.**, Yang, S.Q., Xu, T., Wang, S.H. and Yasar, E. 2015. CO<sub>2</sub> induced mechanical behaviour of Hawkesbury sandstone in the Gosford basin: An experimental study. Materials Science & Engineering: A, 641, 123–137.
133. Takem, G.E., Kuitcha, D., Ako, A.A., Mafany, G.T., Takounjou-Forepe, A., Ndjama, J., Ntchancho, R., Ateba, B.H., **Chandrasekharam, D.** and Ayonghe, S.N. 2015. Acidification of shallow groundwater in the unconfined sandy aquifer of the city of Douala, Cameroon, Western Africa: implications for groundwater quality and use. DOI 10.1007/s12665-015-4681-3.
134. Farooq, S.H. and **Chandrasekharam, D.** Surface Generated Organic Matter: An Important Driver for Arsenic Mobilization in Bengal Delta Plain Chapter 12 in A.L. Ramanathan, S. Johnston, A. Mukherjee, B. Nath (Eds) " *Safe and Sustainable Use of Arsenic-Contaminated Aquifers in the Gangetic Plain*" Springer, 179-196.
135. **Chandrasekharam, D.**, Lashin, A., Al Araf, N., Varun, C. and Al Bassam, A. 2015. Climate Change Mitigation Strategy through Utilization of Geothermal Energy Resources from Western Arabian Shield, Saudi Arabia. J. Climate Change, 1, 129-134.
136. **Chandrasekharam, D.**, Lashin, A., Al Arifi, N., Al Bassam, A., El Alfy, M., Ranjith, P.G., Varun, C. and Singh, H.K. 2015. The potential of high heat generating granites as EGS source to generate power and reduce CO<sub>2</sub> emissions, western Arabian shield, Saudi Arabia. J. African Earth Sci., 112, 213-233.
138. Chandrasekhar, V., **Chandrasekharam, D.**, Trupti, G. and Singh, H.K.2015. Fluoride in Geothermal Waters, India. Trans. Geothermal Res. Council, 39, 1-4.

2016

Chandrasekharam, A. Lashin and N. Al Arifi and A. Al Bassam. 2016. Red Sea Geothermal Provinces. CRC Press . 220 p.

138. Radhakrishna, M., Subbarao, and **Chandrasekharam, D.** 2016. Magnetic anomalies over the Andaman Islands and their geological significance. J. Earth Sys. Sci., 125, 359-368.
139. **Chandrasekharam, D.** Lashin, A, Al Arifi, N, Al Bassam, A, Varun, C. and Singh, H.K. Geothermal energy potential of eastern desert region, Egypt Environ. Earth Sci . DOI 10.1007/s12665-016-5534-4
140. Kramar, U, Norra, S, Berner, Z, Kiczka, M. and **Chandrasekharam D.**. 2016. On the distribution and speciation of arsenic in the soil-plant-1 system of a rice 2 field in West-Bengal, India: a  $\mu$ -synchrotron techniques based case study. App. Geochem DOI: 10.1016/j.apgeochem.2015.11.006

140. Trupti, G., Singh, H.K. and **Chandrasekharam, D.** 2016. Major and Trace element concentrations in the geothermal springs along the West coast of Maharashtra, India. *Arabian Jr. Geosci.* DOI 10.1007/s12517-015-2139-2.
141. Chandrasekharam, A. K. **Chandrasekharam, D.** and Farooq, S.H. 2016. Contamination and mobilization of Arsenic in the soil and groundwater and its influence on the irrigated crops, Manipur Valley, India. *Environ. Earth. Sci.*. *Environ Earth Sci* (2016) 75:142
141. **Chandrasekharam, D.**, Lashin, A., Al Arifi, N., Al Bassam, A. and Varun C. 2016. Desalination of seawater using geothermal energy to meet future fresh water demand of Saudi Arabia. *Water Res. Manage.* DOI 10.1007/s11269-016-1419-2 .
142. Farooq, S.H., Dhanachandra, W., **Chandrasekharam, D.**, Chandrasekharam, A.K., Norra, S., Berner, Z. and Stueben, D. 2016. A comparative study of arsenic accumulation in agriculture field in P. Bhattacharya, M. Vahter, J. Jarsjo, J. Kumpiene, A. Ahmad, C. Sparrenbom, G. Jacks, M.E. Donselaar, J. Bundschuh and R. Naidu (Edts) “Arsenic research and global sustainability” Proceed. 6<sup>th</sup> International Congress on Arsenic in the environment (As 2016) CRC Press, Chapter 151, 346-347, CRC.
143. Singh, H.K., Chandrasekharam, D., Trupti, G., Mohite, P., Singh, B., Varun, C and Sinha, S.K. 2016. Potential geothermal resources of India: A Review. *Curr Sustainable Renewable Energy Reports*, DOI 10.1007/s40518-016-0054-0

2017

Book

143. J. Bundschuh, J. Piechocki, **D. Chandrasekharam** and G. Chen. 2017. *Geothermal, Wind and Solar Energy Applications in Agriculture and Aquaculture.* CRC Press 475p.

2018

144. **Chandrasekharam, D.**, Lashin, A., Al Arifi, N., Al-Bassam, A.M and Varun C. 2018. Geochemical evolution of geothermal fluids in the Sub-Saharan geothermal provinces. *J Asian Earth* 164, 292-306).
145. Trupti Chandrasekharam, Minissale, A., Vasseli, O., **Chandrasekharam, D.**, Singh, H.K. 2018. Understanding the evolution of thermal fluids along the western continental margin of India using geochemical and boron isotope signatures. *Geothermics* 74 (2018) 197-209
146. **Chandrasekharam, D.**, Lashin, A., Al Arifi, N., and Al-Bassam, A.M. 2018. Desalination of Seawater using Geothermal Energy for food and water security: Arab and Sub-Sahara countries. Chapter 4, 54p., in G. Gnaneswar (Etd). “Handbook on Sustainable Desalination Handbook – Process Design and Implementation Strategies” Elsevier Pub., 590p.
146. **Chandrasekharam, D.**, Lashin, A., Al Arifi, N., and Al-Bassam, A.M. 2018. Energy and Food security through desalination using geothermal energy: Eritrea. *Arabian Journal of Geosciences* 11:523 doi. 10.1007/s12517-018-3892-9.
147. Singh, H.K. Aswini, T., Poonam, M., Sinha, S.K., **Chandrasekharam, D.** and Trupti, C. 2018. Geothermal energy potential of Tulshiyam thermal springs of Gujarat, India. *Arabian J Geosciences.* 10.1007/s12517-018-3501-y
148. Avanthi, I., Ranjith, P.G., Tharaka, R., Samintha, P. and Chandrasekharam, D. 2018. An influence of thermally-induced micro-cracking under cooling treatments: Mechanical characteristics of Australian granite. *Energies* doi:10.3390/en11061338.
149. Syed Hilal Farooq, Pintu Prusty, Raj Kumar Singh, Subhajit Sen and **Dornadula Chandrasekharam.** 2018. Fluoride contamination of groundwater and its seasonal variability in parts of Purulia district, West Bengal, India. *Arabian J Geosci.* 11:709 <https://doi.org/10.1007/s12517-018-4062-9>
150. Prem Jose Vazhacharickal., Trupti Gurav, and **D. Chandrasekharam.** 2018. Heavy metal signatures in urban and peri-urban agricultural soils across the Mumbai Metropolitan Region, India. *Nutrients Cyling in Agroecosystem.* 74, doi.org/10.1007/s10705-018-9966-y
151. **Chandrasekharam, D.** 2018. Water for the millions: Focus Saudi Arabia. *Water Energy Nexus*, 1, 142-144.

2019

152. Minissale, A., **Chandrasekharam, D.** and Fara, M.A. 2019. Desalination of Red Sea and Gulf of Aden seawater to mitigate fresh water crisis in Yemen Republic. Chapter 12 in N. Rasul and Stewart (eds). *Oceanographic and biological aspects of the Red Sea.* Springer. Doi: 10.1007/978-3-319-99417-8\_12
153. **Chandrasekharam, D.**, Bankher, K. and Ranjith, P. 2019. High heat generating granites of Saudi Arabian shield: Prospect for CO<sub>2</sub> emissions reduction and climate mitigation, 289-299: in “*Deep Rock Mechanics: From Research to Engineering*” (eds) Xie Z and P Ranjith. *Taylor & Francis Group, London, ISBN 978-1-138-48761-1*289.
154. **Chandrasekharam, D.**, Lashin, A., Al Arifi, N., and Al-Bassam, A.M. 2019. Securing food security of Djibouti through desalinated water using geothermal energy. *Energy, Sustainability and Society.* 9, 24-35. doi.org/10.1186/s13705-019-0206-3
155. Farooq, S.H., **Chandrasekharam, D.**, Dhanachandra, W. and Ram, K. 2019. Relationship of arsenic accumulation with irrigation practices and crop type in agriculture soils of Bengal Delta, India. *Applied Water Science*, 9, 119-130. doi.org/10.1007/s13201-019-0904-1
156. **Chandrasekharam, D.**, Lashin, A., Al Arifi, N., Al-Bassam, A.M. and Varun, C. 2019. Geothermal energy for sustainable water resources management. *Intern. J. Green Energy.* doi.org/10.1080/15435075.2019.1685998

157. Ali, S., Shekhar, S., Trupti, C., Yadav, A.K., Arora, N. K., Azad Kashyap, C., Bhattacharya, P., Rai, S.P., Pandey, P. and **Chandrasekharam, D.** 2019 Influence of the water sediment interaction on the major ions chemistry and fluoride pollution in groundwater of the Older Alluvium Plains of Delhi, India. *Chemosphere*.

158. Koteswara Rao, D. and **Chandrasekharam, D.** 2019. Quantifying the water footprint of an urban agglomeration in developing economy. *Sustainable cities and society*, 50, 101686.

2020

159. Singh, H.K., Sinha, S.K. and **Chandrasekharam, D.** 2020. A preliminary investigation for the assessment of geothermal potential at Eastern Peninsular India. *Geomech. Geophys. Geo-energ. Geo-resour* doi./10.1007/s40948-019-00133- 0

160. Singh, H.K., Sinha, S.K., Alam, M.A. and **Chandrasekharam, D.** 2020. Tracing the evolution of thermal springs in the Hazaribagh area of Eastern Peninsular India through hydrogeochemical and isotopic analyses. *Geothermics*, 85, 101817.

161. **Chandrasekharam, D.** and Ranjith Pathegama, G. 2020. CO<sub>2</sub> emissions from renewables: Solar pv, hydrothermal and EGS sources. *J. Geomech. Geophys. Geoenergy Georesour.* [https://doi.org/10.1007/s40948-019-00135-y\(0123456789\(\).-volV\(0123458697\(\).-volV](https://doi.org/10.1007/s40948-019-00135-y(0123456789().-volV(0123458697().-volV)

162. Prusty, P., Farooq, S.H., Swain, D. and **Chandrasekharam, D.** 2020. Association of geomorphic features with groundwater quality and freshwater availability in coastal regions. *Intern. J. Environ. Sci. Tech.* <https://doi.org/10.1007/s13762-020-02706-z>

163. Chandrasekharam, A. K., Ghosh, A., Swati, S., Shakir, A., Singh, H.K., Trupti, C. and **Chandrasekharam, D.** 2020. Distribution, genesis and geochemical modeling of fluoride in the water of tribal area of Bijapur district, Chhattisgarh, central India Groundwater for Sustainable Development 11, 100403 (doi. org/10. 1016/j. gsd. 2020. 100403).

164. **Chandrasekharam, D.** and Varun C. 2020. Geothermal Energy Resources of India: Country Update. *Proceedings World Geothermal Congress 2020 Reykjavik, Iceland, April 26 – May 2, 2020*

165. Lashin A., **Chandrasekharam, D.**, Al Bassam, A., Al Arifi, N., Rehman, S. and Al Faifi, H. 2020. **A review of the Geothermal Resources of Saudi Arabia: 2015-2020.** *Proceedings World Geothermal Congress 2020 Reykjavik, Iceland, April 26 – May 2, 2020*

2021

166. **Chandrasekharam, D.** 2021. Geothermal energy for food and water security for Yemen: a review. *Arab J Geosci* **14**, 253. <https://sci-hub.se/https://doi.org/10.1007/s12517-021-06668-5>.

167. Koteswara Rao, D., Satish, R. and **Chandrasekharam, D.** 2021. Water and Food Nexus: Role of socio-economic status on water-food nexus in an urban agglomeration Hyderabad, India using consumption water footprint. *Water* **2021**, *13*, 637. <https://doi.org/10.3390/w13050637>.

168. Shakir Ali, Shashank shekar, Trupti, C., Yadav, A.K., Arora, N.K., Kashyap, C.A., Prosun, B., Rai, S.P., Pande, P and **Chandrasekharam, D.** 2021. Influence of the water–sediment interaction on the major ions chemistry and fluoride pollution in groundwater of the Older Alluvial Plains of Delhi, India. *J. Earth Syst. Sci.* (2021) 130:98, <https://doi.org/10.1007/s12040-021-01585-3>.

169. **Chandrasekharam, D.** and Baba, A. 2021. High heat generating granites of Kestanbol: Future Enhanced Geothermal System (EGS) province in Western Anatolia, in “Geothermal Energy for sustainable development” Eds. Chandrasekharam and A. Baba, *Turkish J. Earth Sciences*, 30, 1032-1044. doi:10.3906/yer-2106-16.

170. Baba, Alper and Chandrasekharam, D. 2021. Guest Editors, Special Issue on “Geothermal Energy for sustainable development” *Turkish Journal of Earth Sciences*, 30.

171. Ayzit, T., **Chandrasekharam, D.** and Baba, A. 2021. Salihli granitoid, Menderes Massif, Western Anatolia: A sustainable clean energy source for mitigating CO<sub>2</sub> emissions. *Proceed. 5th International conference on Natural Resources and Sustainable environmental management*, 8 12 Nov 2021 Near East University, Cyprus.

172. Chandrasekharam, D. 2021. Desalination of Seawater Using Geothermal Energy for Food and Water Security: GCC and Sub-Sahara Countries. *Proceed. World Geothermal Congress, 2020+1 Iceland June 2021.* CD

173. **Chandrasekharam, D.**, Shashidhar, T. and Gowtham, R., 2021. High Heat Generating Granites of Hyderabad, India. *Proceed. World Geothermal Congress, 2020+1 Iceland June 2021.* CD.

174. Singh, H.K., Mahato, B., **Chandrasekharam, D.** and Sinha, S. 2021. Hydrogeochemistry of Thermal and Cold Springs of Pranhita-Godavari Basin, India. *Proceed. World Geothermal Congress, 2020+1 Iceland June 2021.* CD.

175. Trupti, C., **Chandrasekharam, D.**, Varun, C. 2021. Evaluation of the Economic Feasibility of Geothermal Resources Along the Western Continental Margin of India. *Proceed. World Geothermal Congress, 2020+1 Iceland June 2021.* CD.

2022

176. Baba, A. and **Chandrasekharam, D.** 2022. Geothermal Resources for sustainable development: Case study: Turkey. *Inter. J. Energy Res.* 1-18. DoI: 10.1002/er.7778.
177. **Chandrasekharam, D.** and Baba, A. 2022. Carbon dioxide emissions mitigation strategy through Enhanced Geothermal systems: western Anatolia, Turkey. *Environ. Earth Sci.* 81, 235. Doi.org/10.1007/s12665-022-10345-5.
178. **Chandrasekharam, D.**, Sener, F., Recepoglu., Y.K., Isik, T., Demier M.M. and Baba, A. 2022. Lithium: An energy transition element, its role in the future energy demand and carbon emissions mitigation strategy. *Geothermics* (in press).
179. **Chandrasekharam, D.**, Baba, A., Alshaklish, W., Kashyap, C.A. and Tayfur, G. Water Resources Status of Yemen and Mitigation and Remediation Strategy: Review. *J. Arabian Geoci.* (review)
- 180 Singh, H.K., **Chandrasekharam, D.**, Minissale, A., Raju, N.J. and Baba, A. 2022. Geothermal potential of Manuguru geothermal field of Godavari valley, India. *Geothermics*, 105, 1025-45. [Doi.org/10.1016/j.geothermics.2022.102545](https://doi.org/10.1016/j.geothermics.2022.102545)
181. **Chandrasekharam, D.**, Baba, A., Ayzit, A. and Singh, H.K. 2022. Geothermal potential of Kaymaz and Sivrihisar granites, Eskisehir region, western Anatolia. *Renewable Energy*, 196, 870-882. [doi.org/10.1016/j.renene.2022.07.035](https://doi.org/10.1016/j.renene.2022.07.035)
182. Ayzit, T., Chandrasekharam, D. and Baba, A. 2022. Hamit granitoid: A sustainable clean energy source for mitigating CO<sub>2</sub> emissions. *Proceedings, European Geothermal Congress 2022, Berlin, Germany | 17-21 October 2022, www.europeangeothermalcongress.eu.*
183. **Chandrasekharam, D.** 2022. Enhanced geothermal systems (EGS) for UNSustainable development goals. *Discover Energy.* <https://doi.org/10.1007/s43937-022-00009-7>
184. Ayzit, T., **Chandrasekharam, D.**, Baba, A. (2022). Salihli Granitoid, Menderes Massif, Western Anatolia: A Sustainable Clean Energy Source for Mitigating CO<sub>2</sub> Emissions. In: Gökçekuş, H., Kassem, Y. (eds) *Climate Change, Natural Resources and Sustainable Environmental Management. NRSEM 2021. Environmental Earth Sciences.* Springer, Cham. <https://doi.org/10.1007/978-3-031-0437>

2023

185. **Book: D. Chandrasekharam** and A. Baba. "EGS: the future energy road ahead" CRC Press , UK. 224p. 2023.
186. **Chandrasekharam, D.**, Baba, A. and Ayzit, T. 2023. High radiogenic granites of western Anatolia for EGS: A review. Chapter 3, In (Eds) **D. Chandrasekharam** and A. Baba. "EGS: the future energy road ahead" CRC Press , UK.224p.
187. Subba Rao, P. B. V., Vijaya Kumar, P.V., **Chandrasekharam, D.**, Deshmukh. V. and Singh, A.K. 2023. Magnetotelluric investigations over geothermal provinces of India: An overview. *Turkish Jr. Earth Sci.* ) 32: 149-162 doi:10.55730/1300-0985.1835.
188. Isik,T., Baba, A., **Chandrasekharam, D.** and Demir, M.M. 2023. A brief overview on geothermal scaling. *Bull., Mineral Res. Explo. MTA, Turkiye* (in press)
189. **Chandrasekharam, D.**, Mrityunjay Singh and Baba, A. 2023. Sahinkalesi massif, a resurgent dome and super-hot EGS province: Hasandag stratovolcanic province, Central Anatolia (Renewable Energy- under review).
190. Chandrasekhar, V.. and **Chandrasekharam, D.** 2023. Red Sea geothermal belt: Potential clean energy source to power NEOM and nearby countries Chapter 9 *in* (Ed) N. Rasul and I. Stewart. *Rifting and Sediments in the Red Sea and Arabian Gulf regions*, CRC Press, UK, 356p.
191. Vazhacharickal, P.J., Trupti, C. and **Chandrasekharam, D.** 2023. Perils of irrigated agriculture in urban environment: case study from the Mumbai Metropolitan Region (MMR), India. *Environ. Earth. Sci.*, (under review).
192. Singh, M., Ayzit, T., Chandrasekharam, d. and Baba, A. 2023. A sustainable clean energy source for mitigating CO<sub>2</sub> emissions: Numerical simulation of Hamit granitoid, Central Anatolian Massif *Renewable Energy* (under Review).
193. **Chandraekharam, D.** 2023. Innovative technology to harness geothermal energy from active ridge flanks and oceanic islands: Advantage for the oil industries to bring energy transition. Chapter 11, In "Hydrocarbon geoscience and energy issues" (Etd) Soumyajit Mukherjee. Springer, 14-54.

194. **Chaandrasekharam, D.** 2023. Geothermal Power Corridor- connecting the Middle East Countries. Bull. Mineral Res. and Explor (MTA) (in press)

195. Sener, M. F., **Chandrasekharam, D.** and Baba, A. 2023. Determining the potential of high heat generating granites as EGS source to generate power, Central Anatolian Crystalline Complex, Turkey. Renew. Energy. (under review)

**D Chandrasekharam**  
TUBITAK Professor, IYTE, Rtd. Professor, Dept. Earth Sciences, IITB, Mumbai/Visiting Prof IIT  
Verified email at iitb.ac.in - [Homepage](#)  
Geothermal energy Groundwater pollution igneous petrology volcanology

TITLE	CITED BY	YEAR
Perils of irrigated agriculture in urban environment: case study from the Mumbai Metropolitan Region (MMR), India PU Vezhachanckal, T Chandrasekhar, D Chandrasekharam	2023	2023
Magnetotelluric investigations over geothermal provinces of India: an overview PBV SUBBARAO, PVV KUMAR, D CHANDRASEKHARAM, ... Turkish Journal of Earth Sciences 32 (2), 149-162	2023	2023
Geothermal potential of Manuguru geothermal field of Godavari valley, India HK Singh, D Chandrasekharam, A Minissale, NJ Raju, A Baba Geothermics 105, 102545	1	2022
Geothermal resources for sustainable development: A case study A Baba, D Chandrasekharam International Journal of Energy Research 46 (14), 20501-20518	11	2022
Geothermal potential of granites: case study-Kaymaz and Sivrihisar (Eskisehir region) Western Anatolia D Chandrasekharam, A Baba, T Ayzit, HK Singh Renewable Energy 196, 870-882	3	2022
Enhanced geothermal systems (EGS) for UN sustainable development goals D Chandrasekharam Discover Energy 2 (1), 4		2022
Carbon dioxide emissions mitigation strategy through enhanced geothermal systems: western Anatolia, Turkey	9	2022

**Cited by**

	All	Since 2018
Citations	4265	1959
h-index	31	22
i10-index	86	56

Bar chart showing citations from 2016 to 2023. The y-axis ranges from 0 to 500. The x-axis shows years from 2016 to 2023. The bars show a general upward trend in citations over the period.

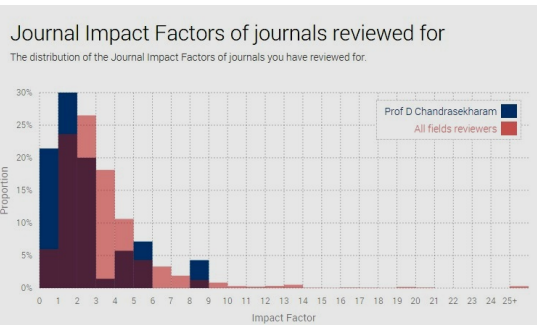
**Public access**

not available	available
6 articles	12 articles

Based on funding mandates

**Co-authors**

Hemant Kumar Singh  
Dr. D.S. Kolhari Post-Doctoral F...



## Publons Peer Review Awards 2018

Publons, in accordance with the recommendation of the Managing Director, hereby recognize

*Prof D Chandrasekharam*

For placing in the top 1% of reviewers in  
Geosciences  
 on Publons' global reviewer database, determined by the number of peer review reports performed during the 2017 - 2018 Award year.





Publons' peer review awards honor the elite contributors to scholarly peer review and editorial pursuits internationally. Recipients have demonstrated an outstanding expert commitment to protecting the integrity and accuracy of published research in their field.

Dr. A.R.H. Preston, CEO, Publons.com



**Top Peer Reviewer 2019**  
Powered by Publons

presented to

**Prof D Chandrasekharam**

For placing in the top 1% of reviewers in Geosciences on Publons global reviewer database, determined by the number of peer review reports performed during the 2018-19 award year.

The Top Peer Reviewer Award is part of the Global Peer Review Awards – honoring the elite contributors to scholarly peer review and editorial results internationally.

My Publons statistics



