

# Chetan S Tharkoti

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Citizenship: India

## Research interests

Algebraic Geometry, Arithmetic Geometry, Commutative Algebra

## Education

- 2021 – 2023 **Indian Institute of Science Education and Research Thiruvananthapuram**  
M.Sc Mathematics  
Guide: Dr. Viji Z Thomas  
CGPA: 7.61 (on the scale of 10)
- 2017 – 2020 **University Of Delhi**  
B.Sc Hons. Mathematics  
CGPA: 8.24 (on the scale of 10)
- 2017 **Kendriya Vidyalaya Pithoragarh**  
Class 12  
Percentage: 85.8%.
- 2015 **Kendriya Vidyalaya Pithoragarh**  
Class 10  
CGPA: 10 (on the scale of 10)

## Reading Projects

- Aug 2022 – April 2023 **Masters thesis: A theorem of Kunz and structure theorems for Complete local rings**  
Guide : Dr. Viji Z Thomas (IISER TVM).  
In the first part of the project I studied the Valuation rings, Completion of rings and modules from Matsumura and a Theorem by Kunz from Characteristic  $p$ -Techniques in Commutative Algebra and Algebraic Geometry the notes by Karen E Smith. In the second phase of the project I studied 0-smoothness, Separability over Rings, The module of Kähler differentials,  $I$ -smoothness of Rings and using those we studied the Structure theorems for complete local rings from Matsumura. DOI: [10.13140/RG.2.2.14554.11203](https://doi.org/10.13140/RG.2.2.14554.11203)
- July 2023 – Dec 2023 **Algebraic Geometry : Cohomology**  
Guide : Dr Sarbeswar Pal (IISER TVM)  
Derived functor, sheaf cohomology, cohomology of Noetherian Affine Scheme, Čech Cohomology, The cohomology of projective space (the first 5 sections of ch 3: cohomology of the book Algebraic Geometry by R. Hartshorne) after covering the basics in scheme theory.
- Jun 2024 – ongoing **Algebraic Geometry : Classification of algebraic vector bundles on a connected, smooth, projective algebraic curve  $X$  of genus  $g$**   
Guide : Dr Jyoti Dasgupta (IIT-ISM)  
Currently reading the first part of the book 'Lectures on Vector Bundles' by J. Le Potier

## Honors and scholarships

- 2024 CSIR-UGC NET  
*Qualified in category 3: eligible for Ph.D admissions in India .*
- 2015 Perfect grade  $A_1$  (KVS)  
*Scored 10 CGPA in class 10<sup>th</sup> and was given a award with 5000 Inr. Also got the certificate of merit .*
- 2015 KVS-Junior Mathematics Olympiad 2015 (KVS)  
Got all India rank(AIR) 31 and regional ranking 1 in the KVS-JMO 2015

## Workshops,talks and summer schools attended

02-07 Dec 2024	workshop on Dynamics: Complex, Arithmetic, and Ergodic (Kerala School of Mathematics)
23 - 27 Sep 2024	School on Hodge Theory and Shimura Varieties (The Essen Seminar for Algebraic Geometry and Arithmetic)
01-05 July 2024	LMS Invited Lectures 2024 (Imperial College London) - Online attendee Logs and Stacks in Birational Geometry and Moduli
26-30 Oct 2023	International conference on Class Groups of Number Fields and Related Topics-2023 (Kerala School of Mathematics )
2023	Frontier symposium in Mathematics (IISER TVM)
11-16 Jul 2022	NCMW - Maximal Cohen-Macaulay Modules (2022)- Online participant
30 May - 25 June 2022	NCM: Annual Foundation Schools (AFS)- I (IISER TVM)
2022	Frontier symposium in Mathematics (IISER TVM)
2019	Paper presentation Secured third position in the Paper presentation competition organised by Asankh-The Math society of SGND Khalsa College, DU.
Oct 2018	Science Academies' Lecture workshop on "Differential Equations and Applications"
Aug - Oct 2018	Successfully completed the NPTEL Online Certification Course 'Introduction to Abstract Group Theory'

## Self Readig Projects

'An introduction to Homological algebra' by Charle A. Weibel  
'Local Algebra' by J.P. Serre

## Extracurricular activities

Feb 2024 – present	Chegg Subject matter expert in advance math.
Aug 2018 – Apr 2019	Asankh-The mathematics society of SGND Khalsa college (Co-founder and core member) Co-founded the math club while I was doing my undergrad, organised some talks and Department fests throughout the year
Aug 2018 – Apr 2019	Cyber clan (General Secretary)
Aug 2017 – Apr 2018	Cyber clan- The IT club of SGND Khalsa college (Core Member) was the core member of the IT club during my B.Sc
Aug 2018 – Apr 2019	Udyamita - the e-cell of SGND Khalsa College (Core Member) was the core member of the entrepreneurship cell during my B.Sc
June 2012 – 2014	Took part in various Intra-School sports activities and represented my School in the regional level(KVS- Dehradun region) Athletics meet in 2012 and 2014
Nov 2012	Participated in Cluster level Math quiz competition representing my school.
2014	Was the Peer Educator for the academic session.
Nov 2014	Participated in 42 <sup>nd</sup> KVS (JNNSMEE-2015) Regional science, Mathematics and Environment Exhibition for Children- 2015

## Technical skills

Familiar with: Matlab, Mathematica, Java, MySQL, LaTeX