Curriculum Vitae

Komal Soni

Personal Information

Work address: Universität Bayreuth
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University Education

Technische Universität München, Munich, Germany
- PhD in Structural Biology, 2012-2017

Delhi Technological University (formerly Delhi College of Engineering), Delhi, India
- Masters of Technology in Bioinformatics, 2010-2012
- Grade: 8.4 CGPA, 2nd rank

Jaypee University of Information Technology (JUIT), Solan, India
- Bachelor of Technology in Bioinformatics, 2006-2010
- Grade: 9.4 CGPA, 2nd rank

Fellowships and awards

- Christiane Nüsslein-Volhard-Stiftung awarded by the CNV foundation (2024)
- Excellence strategy fellowship 'Expanding internationality 2020-2021' for research stay at Stanford University, California, USA (in collaboration with Prof. Dr. Rhiju Das)- cancelled due to COVID restrictions
- RNA travel award for RNA2020 conference, Vancouver, Canada- cancelled due to COVID
- RNA travel award for RNA2016 conference, Kyoto, Japan (Jun 28th-Jul 2nd, 2016)
- International Max Planck Research School for Molecular Life Sciences (IMPRS-LS) PhD fellowship (09/2012-12/2012)
- Khorana fellowship by Department of Biotechnology, Government of India and Indo-US Science and Technology Forum for summer research internship at University of Wisconsin-Madison, USA (2011)
- Academic excellence award for highest CGPA in M.Tech Bioinformatics for 2010-2011
- GATE fellowship for Masters' degree, Ministry of Human Resource Development, India (2010-2012)
- Selected as a summer intern to carry out a research project at Centre for Cellular and Molecular Biology (CCMB), Hyderabad in the field of Bioinformatics (2009)

Publications

1) **Soni K**, Jagtap PKA, Martínez-Lumbreras S, Bonnal S, Geerlof A, Stehle R, Simon B, Valcarcel J, Sattler M. Structural basis for specific RNA recognition by the alternative splicing factor RBM5. (2023). *Nature Communications*. 14(1): 4233.

2) **Soni K***, Sivadas A*, Horvath A, Dobrev N, Hayashi R, Kiss L, Simon B, Wild K, Sinning I, Fischer T. Mechanistic insights into RNA surveillance by the canonical poly(A) polymerase Pla1 of the MTREC complex. (2023). *Nature Communications.* 14(1): 772.

3) **Soni K**, Kempf G, Manalastas-Cantos K, Hendricks A, Flemming D, Guizetti J, Simon B, Frischknecht F, Svergun DI, Wild K, Sinning I. Structural analysis of the SRP Alu domain from Plasmodium falciparum reveals a non-canonical open conformation. (2021). *Communications Biology*. 4(1): 600.

4) Dobrev N, Ahmed YL, Sivadas A, **Soni K**, Fischer T, Sinning I. Red1 orchestrates MTREC submodules and binds the Mtl1 helicase arch domain via its zinc-finger domain. (2021). *Nature Communications*. 12(1):3456.

5) Jagtap PKA*, Kubelka T*, **Soni K**, Will CL, Garg D, Sippel C, Kapp TG, Potukuchi HK, Schorpp K, Hadian K, Kessler H, Lührmann R, Hausch H, Bach T, Sattler M. (2020). Identification of Phenothiazine Derivatives as UHM-Binding Inhibitors of Early Spliceosome Assembly. *Nature Communications.* 11(1):5621.

6) **Soni K**, Martínez-Lumbreras S, Sattler M. (2020). Conformational dynamics from ambiguous zinc coordination in the RanBP2-type zinc finger of RBM5. *Journal of Molecular Biology.* 432:4127-38.

7) Wild K*, Juaire KD*, **Soni K**, Shanmuganathan V, Hendricks A, Segnitz B, Beckmann R, Sinning I. (2019). Reconstitution of the human SRP system and quantitative and systematic analysis of its ribosome interactions. *Nucleic Acids Research*. 47:3184-96.

8) Mariappan A, **Soni K**, Schorpp K, Zhao F, Minakar A, Zheng X, Mandad S, Macheleidt I, Ramani A, Kubelka T, Dawidowski M, Golfmann K, Wason A, Yang C, Simons J, Schmalz HG, Hyman AA, Aneja R, Ullrich R, Urlaub H, Odenthal M, Büttner R, Li H, Sattler M, Hadian K, Gopalakrishnan J. (2019). Inhibition of CPAP-tubulin interaction prevents proliferation of centrosome-amplified cancer cells. *EMBO Journal*. 38, e99876.

9) Mourao A*, Bonnal S*, **Soni K***, Warner L*, Bordonne R, Valcarcel J, Sattler M. (2016). Structural basis for the recognition of spliceosomal SmN/B/B' proteins by the RBM5 OCRE domain in splicing regulation. *eLife*. *5*, e14707.

10) Zheng X*, Ramani A*, **Soni K**, Gottardo M, Zheng S, Ming Gooi L, Li W, Feng S, Mariappan A, Wason A, Widlund P, Pozniakovsky A, Poser I, Deng H, Ou G, Riparbelli M, Guiliano C, Hyman AA, Sattler M, Gopalakrishnan J, Li H. (2016). Molecular basis for CPAP-tubulin interaction in controlling centriolar and ciliary length. *Nature Communications*. 7:11874.

11) Naik PK, Dubey A, **Soni K**, Kumar R, Singh H. (2010). The binding modes and binding affinities of epipodophyllotoxin derivatives with human topoisomerase IIα. *Journal of Molecular Graphics* and Modelling. 29:546-64.

*Equal contribution

Patents

PCT/EP2016/080316 CPAP-Tubulin Module

Research experience

Biochemistry IV- Biophysical Chemistry, Universität Bayreuth, Germany
Akademischer Rätin with Prof. Dr. Janosch Hennig, since Jan 2024

- Structural characterization of the female Drosophila dosage compensation repressor complex using cryo-EM

Biochemie Zentrum, Heidelberg University, Germany
Postdoc with Prof. Dr. Irmgard Sinning, Dec 2017-Dec 2023
(including parental leave during Nov 2021-Dec 2022)

- Structural characterization of *P. falciparum* SRP Alu domain involved in co-translational protein targeting
- Molecular and structural insights into the role of exosome adaptor MTREC in lncRNA processing and degradation
- Cryo-EM of an MTREC associated complex recognizing and mediating discard of unspliced pre-mRNAs

Technische Universität München, Munich, Germany
Doctoral thesis with Prof. Dr. Michael Sattler, Sep 2012-Jul 2017

- Molecular recognition of splicing factors involved in alternative splicing regulation using an integrated approach of NMR, X-ray crystallography and SAXS
- Development of small molecule inhibitors of CPAP-tubulin interaction to prevent cancer cell proliferation

Delhi Technological University (formerly Delhi College of Engineering), Delhi, India
Master thesis Jan-Jun 2012 with Prof. Dr. B. Jayaram, Indian Institute of Technology, Delhi

- Development of a computational protocol for protein tertiary structure refinement

Summer Research Intern May-Aug 2011 with Prof. Dr. John Markley, University of Wisconsin-Madison, USA

- Characterization of interactions of bacterial CyaY with other macromolecules involved in the biogenesis of Fe-S Cluster using NMR

Jaypee University of Information Technology (JUIT), Solan, India
Bachelor thesis Aug 2009-June 2010 with Prof. Dr. Pradeep Kumar Naik

- Genetic characterization of *Rhodiola rosea* using gene specific SSR and CAPS molecular markers