### CV – Chen Davidovich

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| **Contact**         Chen Davidovich, University of Colorado at Boulder, 215 UCB, Chem Building, Boulder, CO, 80309-0215.Telephone: 303-492-8304, Fax: 303-492-5607E-mail address: chen.davidovich@colorado.edu**Academics*** **Since 2010:** Postdoctoral fellow, Howard Hughes Medical Institute, Chemistry and Biochemistry, University of Colorado at Boulder.
* **2004-2010:** Ph.D. (direct track), Chemistry, Weizmann Institute of Science, Israel.
* **2000 – 2004:** B.Sc., Biotechnology Engineering, Ben-Gurion University, Israel.

**Scientific Research*** **Since 2010:** Regulation of epigenetic silencing by long noncoding RNAs using structural biology and biochemical approaches, in the research group of [Dr. Thomas Cech](http://cechlab.colorado.edu/), Howard Hughes Medical Institute, Department of Chemistry and Biochemistry, University of Colorado at Boulder.
* **2004-2010:** Ribosome Structure and Function, under the supervision of [Dr. Ada Yonath](http://www.weizmann.ac.il/sb/faculty_pages/Yonath/home.html), The Departemnt of Structural Biology, Weizmann Institute of Science, Rehovot, Israel.
* **2002 – 2004:** Self Assembly of Peptides in the Air Water Interface, under the supervision of [Dr. Hanna Rapaport](http://fohs.bgu.ac.il/research/PersonalWebsite1Publications.aspx?id=ddMdiusj&c=1), The Department Biotechnology Engineering, Ben-Gurion University of the Negev, Israel.

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* **2011-2013:**The [Machiah](https://sites.google.com/) Foundation Fellowship.
* **2010-2011:** [Fulbright](http://www.cies.org/us_scholars/) postdoctoral fellow.
* **2010-2011:** [Rothschild](http://www.yadhanadiv.org.il/fellowship-prize/rothschild-fellowship) postdoctoral fellow.
* **2010:** [Ilan-Ramon](http://en.wikipedia.org/wiki/Ilan_Ramon) award for outstanding Fulbright fellow in exact sciences.
* **2010:**[Springer Theses Award](https://sites.google.com/) for outstanding Ph.D. research.
* **2009:** [Teva Prize](http://www.tau.ac.il/lifesci/isbmb/Teva_Prize.html) of the Israel Society for Biochemistry and Molecular Biology, for PhD student.
* **2007-2010:** [Adams fellow](http://www.academy.ac.il/english/asp/projects/projects_body.asp?project_id=44) of the Israel Academy of Sciences and Humanities.
* **2007:** [Ziva Berkovitch-Yellin Award](http://www.iucr.org/news/newsletter/volume-15/number-3/ica-annual-meeting) of the Israel Crystallographic Association, for graduate student.
* **2007:** Dean’s Prize of the Weizmann Institute of Sciences, for M.Sc. student.

**Skills**I am using multidisciplinary approaches, taken from the fields of Structural Biology, Molecular Biology, Biochemistry and Bioinformatics, in order to answer a given biological question.**Structural Biology:****X-ray Crystallography of Macromolecules:** Structure determination of ribosomal complexes. Extensive experience with high energy synchrotron radiation facilities for X-ray crystallography (APS, argonne, IL; ESRF, Grenoble, France; SLS, Villigen, Swiss). **Biochemistry and Molecular Biology:**Design and execution of quantitative and qualitative RNA/Protein binding assays. Chromatin Immunoprecipitation Sequencing (ChIP-Seq) and Whole Transcriptome Sequencing (RNA-seq), including cell culturing under various treatments, samples preparation and Next Generation Sequencing (NGS) data analysis. In-vitro study of ribosomal activity and inhibition. Construction and assay of various bacterial cell-free transcription-translation systems.**Bioinformatics:****Analysis of Next Generation Sequencing (NGS) data:** Design and programing of various versatile pipelines for NGS data analysis, including comparative analysis, using parallel and distributed computation (Torque/Maui) to utilize hundreds of processors in parallel. Analysis of ChIP-seq, RNA-seq, GRO-seq, CLIP-seq and RIP-seq data, using multiple packages (Bowtie, Tophat, Cuflinks, Bedtools, Samtools, MACS, MATLAB and R) and custom scripts (perl and MATLAB).**Computational structural analysis:** Comparative analysis of 3D structures of ribosomal complexes from several organisms in different functional states, including the design and construction of the required algorithms, codes and databases. Experience with computer programs for protein and nucleic acid structure determination, modeling, analysis and imaging.**General lab skills:**Protein expression and purification using various expression systems, as bacterial (*E. coli*), eukaryotic (insect cells/baculovirus system) and in-vitro (cell-free, both bacterial and eukaryotic systems). Expression and purification of multisubunit protein complexes. Site-specific fluorescence protein labeling. Cloning and site-directed mutagenesis. RNA design, transcription, purification, radiolabeling and biochemical characterization. Developing protocols for directed evolution of RNA. Construction and assay of various bacterial cell-free transcription-translation systems. In-vitro study of ribosomal activity and inhibition and.**Computation:****Operation systems:** Proficient in Windows and Linux, including experience in parallel and distributed computation (Torque/Maui).**Programming and data analysis:** Perl, Matlab®, R, Java, VB.**Graphics:** Adobe Photoshop. |