**Abstract:**

A zinc finger is a small peptide motif stabilised by a single zinc ion, best known for its capability to specifically bind a 3-nucleotide sequence of DNA, depending on the exact amino acids present in the DNA-binding positions. Zinc fingers are unique in their ability to freely link together and form longer tandem arrays, which can bind DNA targets of any length and sequence determined by the combination of individual fingers. These arrays can easily mutate and be rebuilt to change binding specificity, allowing great flexibility and helping zinc fingers to their widespread presence in numerous endogenous proteins of various functions. This property of zinc finger arrays also made them a suitable tool for the creation of custom DNA-binding domains for genetic engineering. This thesis provides an overview of the discovery, structure and function of these domains and then reviews and discusses selected naturally occurring mammalian zinc finger proteins and their properties, showcasing diverse uses zinc finger arrays have been adapted for throughout evolution. The history and future of zinc fingers in artificial proteins created for gene therapy and research are discussed as well.

**Keywords:** zinc finger, ZnF, KRAB, KZFP, CTCF, PRDM9, ZFN, mammals