On real locus configurations and V-systems

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The talk will be a review of the classification problem for the locus configurations and V-systems.

The locus configurations can be considered as generalisations of Coxeter root systems, which appeared in the theory of quantum integrable systems of Calogero-Moser type. The V-systems are certain systems of covectors, which appeared in relation with special solutions of the WDVV equation and determine the logarithmic Frobenius structures on the complement to the corresponding hyperplane arrangements.

I will explain what is currently known about the classification problems, including some conjectures in the real case.
The links with the theory of free hyperplane arrangements and Saito's flat coordinates will be discussed.

The talk will be largely based on the results found jointly with O.A. Chalykh and M.V. Feigin.