A general reference: the course by J.L. Jacobsen and Y. Ikhlef https://www.phys.ens.psl.eu/~jacobsen/AIMES/AIMES-complete-lecture-notes.pdf

Roughly following the chronology of the lectures:

"On an algebraic approach to higher dimensional statistical mechanics by"
P.P. Martin and HS provides a good introduction to TL and its various generalizations. And plenty of useful references.

https://link.springer.com/article/10.1007/BF02097236 among which I recommend "The representation theory of the Temperley-Lieb algebras" by Westbury

https://link.springer.com/article/10.1007/BF02572380

• "Enlarged symmetry algebras of spin chains, loop models, and S-matrices" by N. Read and HS discusses the concepts of centralizer algebras and introduces the now dubbed "Read Saleur commutant algebras"

https://arxiv.org/abs/cond-mat/0701259

For a recent application see : "Bipartite Sachdev-Ye Models with Read-Saleur Symmetries"

https://arxiv.org/abs/2403.15270

- "Exact spectra of conformal supersymmetric nonlinear sigma models in two dimensions" by N. Read and HS discusses the boson/fermion representations of TL and the map onto (super) projective sigma models https://arxiv.org/abs/hep-th/0106124
- "Critical behavior of two-dimensional spin models and charge asymmetry in the Coulomb gas" by B. Nienhuis: the classic reference https://link.springer.com/article/10.1007/BF01009437
- For an introduction to CFT: "Conformal field theory on the plane" by S. Ribault

https://arxiv.org/abs/1406.4290

• For partition function of the loop models on a torus see "Relations between the Coulomb gas picture and conformal invariance of two-dimensional critical models" by P. di Francesco, JB Zuber and HS

https://link.springer.com/article/10.1007/BF01009954

 $\bullet$  For the relationship with Liouville "Three-point functions in c ;= 1 Liouville theory and conformal loop ensembles" by Y. Ikhlef, J. Jacobsen and HS

https://arxiv.org/abs/1509.03538

 $\bullet$  "Dense loops, supersymmetry, and Goldstone phases in two dimensions" by J. Jacobsen, N. Read and HS discusses the issue of spontaneous symmetry breaking in O(n) models

https://arxiv.org/abs/cond-mat/0205033

• "Universality classes of dense polymers and conformal sigma models" by C. Candu, J. Jacobsen, N. Read and HS discusses relationships with some models of string theory

https://arxiv.org/abs/0908.1081

• "Global symmetry and conformal bootstrap in the two-dimensional O(n) model" by L. Grans Samuelsson, R. Nivesvivat, J. Jacobsen, S. Ribault and HS discusses the Hilbert space of the CFT, the bootstrap and the four-point functions

https://arxiv.org/abs/2111.01106

## • Others:

"Subfactors and mathematical physics" by D. Evans and Y. Kawahigashi https://arxiv.org/pdf/2303.04459

"CFT and SLE and 2D Statistical mechanics" by S. Smirnov https://www.unige.ch/smirnov/slides/slides-cft-sle.pdf