② p-adic uniformization of Mumford curves

The seminar aim would be to explore the ~~follow~~ p-adic counterpart of the following situation.

Every compact curve X over $\mathbb{C}$ of genus $g \geq 2$ is expressed as a quotient $X \simeq \mathbb{H}/_{\pi_1(X) =: \Gamma}$ (upper half plane) with $\Gamma \subset SL_2(\mathbb{R})$ of a certain kind (e.g. can be presented with $2g$ generators and a single relation). Moreover every such curve is algebraic and its Jacobian $\mathrm{Jac}(X)$ is isomorphic to $\Gamma(X, \Omega^1_{X/\mathbb{C}})^\vee / H_1(X, \mathbb{Z})$ which can also be shown to be an abelian variety. (C)

In the p-adic world we have the following picture:
for a smooth projective curve X over a finite extension K of $\mathbb{Q}_p$ one can find a model over $\mathcal{O}_K$ and look at the special fiber.
After possibly base changing with a finite extension of K (we replace K with such extension if needed) we have the following two possibilities:

- the special fiber is smooth
- the special fiber has only ordinary double points as singularities

In the second case (the one we are interested in in the seminar) there exists an open $\Omega \subseteq \mathbb{P}^1(K)$ and a subgroup $\Gamma \subsetneq PGL_2(K)$ st (the rigid analytification of) X is isomorphic to $\Omega/_\Gamma$ (the quotient being taken also in the rigid analytic sense).
Moreovere every quotient of this type is the rigid analytification of some proper curve over a p-adic field. ~~Also~~ $\mathrm{Jac}(X)^{\text{analytic}}$ is a rigid analytic abelian variety.
If we work over $\mathbb{C}_p = \widehat{\overline{\mathbb{Q}}_p}$ (that contains all finite extensions of $\mathbb{Q}_p$) the analogy with (C) is even more enlightening, as the prototypical open $\Omega \subseteq \mathbb{P}^1(\mathbb{C}_p)$ is $\Omega = \mathbb{P}^1(\mathbb{C}_p) - \mathbb{P}^1(\mathbb{Q}_p)$, the "p-adic upper half plane".

Plan of the seminar:
- Review of some rigid analytic geometry (~~In~~ Tate's sense)
- Explore the setting described above

References: Gerritzen, Van der Put : Schottky Groups and Mumford curves
Lütkebohmert : Rigid geometry of curves and their Jacobians