

RIGA 2025
BUCHAREST, MAY 23-25, 2025



RIGA 2025
BUCHAREST, MAY 23-25, 2025



RIGA 2025
BUCHAREST, MAY 23-25, 2025



RIGA 2025
BUCHAREST, MAY 23-25, 2025



RIGA 2025
BUCHAREST, MAY 23-25, 2025



RIGA 2025
BUCHAREST, MAY 23-25, 2025



RIGA 2025
BUCHAREST, MAY 23-25, 2025



RIGA 2025
BUCHAREST, MAY 23-25, 2025



RIGA 2025

BUCHAREST, MAY 23-25, 2025



RIGA 2025
BUCHAREST, MAY 23-25, 2025



RIGA 2025
BUCHAREST, MAY 23-25, 2025



RIGA 2025

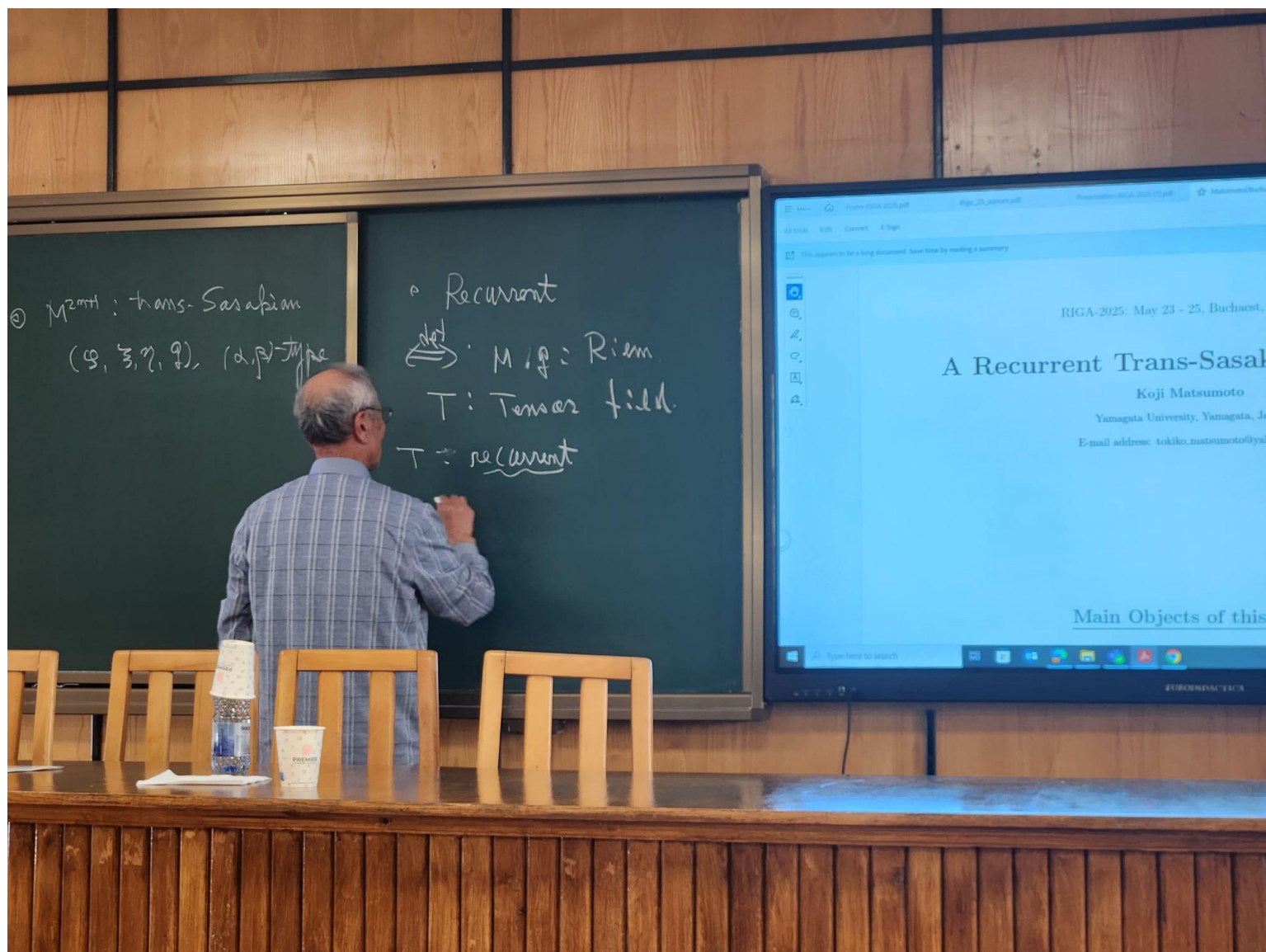
BUCHAREST, MAY 23-25, 2025



RIGA 2025
BUCHAREST, MAY 23-25, 2025



RIGA 2025
BUCHAREST, MAY 23-25, 2025



The image shows a lecture hall with a male lecturer standing next to a chalkboard. The chalkboard contains several mathematical derivations, including the definition of a vector field K and the calculation of its divergence. To the right of the lecturer is a large digital screen displaying a presentation slide. The slide is titled "Part 1 (anti-)torqued vector fields on hyperbolic space" and contains the following text:

Example in open subsets of hyperboloid model

Example

Let $\Phi: \mathbb{H}^m \rightarrow \mathbb{R}_1^{m+1}$, and let

$$M = \{x = (x_1, \dots, x_{m+1}) \in \mathbb{H}^m : x_1 x_{m+1} \neq 0, x_1 \neq x_{m+1}\}$$

Let also $f: M \rightarrow \mathbb{R}$, $f(x) = \frac{x_1}{x_{m+1}}$. Then,

$$V = e^f (P_0 + \langle P_0, \Phi \rangle \Phi), \quad P_0 = \sum_{i=2}^m a_i \partial_i, \quad a_i \in \mathbb{R},$$

is a torqued vector field, that is,

$$\nabla_X V = f(P_0, \Phi) X + \omega(X) V, \quad X \in \mathfrak{X}(M),$$

where $\omega(X) = X(f)$, $\langle \cdot, \cdot \rangle$ is the Lorentzian metric, and

$$\nabla_X^0 Y = \nabla_X Y + \langle X, Y \rangle \Phi$$

Let $\Phi: H^m \rightarrow \mathbb{R}_1^{m+1}$, and let

$$M = \{ \mathbf{x} = (x_1, \dots, x_{m+1}) \in \mathbf{H}^m : x_1 x_{m+1} \neq 0, x_1 \neq x_{m+1} \}$$

Let also $f : M \rightarrow \mathbb{R}$, $f(x) = \frac{x_1}{x_{m+1}}$. Then,

$$\mathcal{V} = e^f (P_0 + \langle P_0, \Phi \rangle \Phi), \quad P_0 = \sum_{i=2}^n a_i \partial_i, \quad a_i \in \mathbb{R}.$$

is a torqued vector field, that is,

$$\nabla_X \mathcal{V} = f(\rho_0, \Phi) X + \omega(X) \mathcal{V}, \quad X \in \mathfrak{X}(\mathbb{H}^m).$$

where $\omega(X) = X(f)$, $\langle \cdot, \cdot \rangle$ is the Lorentzian metric, and

$$\nabla_X^0 Y = \nabla_X Y + \langle X, Y \rangle \Phi$$

RIGA 2025

BUCHAREST, MAY 23-25, 2025



RIGA 2025

BUCHAREST, MAY 23-25, 2025



RIGA 2025
BUCHAREST, MAY 23-25, 2025



RIGA 2025

BUCHAREST, MAY 23-25, 2025



RIGA 2025
BUCHAREST, MAY 23-25, 2025



RIGA 2025
BUCHAREST, MAY 23-25, 2025



RIGA 2025
BUCHAREST, MAY 23-25, 2025



RIGA 2025
BUCHAREST, MAY 23-25, 2025



RIGA 2025

BUCHAREST, MAY 23-25, 2025



RIGA 2025
BUCHAREST, MAY 23-25, 2025



RIGA 2025
BUCHAREST, MAY 23-25, 2025



RIGA 2025
BUCHAREST, MAY 23-25, 2025



RIGA 2025
BUCHAREST, MAY 23-25, 2025



RIGA 2025
BUCHAREST, MAY 23-25, 2025



RIGA 2025
BUCHAREST, MAY 23-25, 2025



RIGA 2025

BUCHAREST, MAY 23-25, 2025



RIGA 2025
BUCHAREST, MAY 23-25, 2025



RIGA 2025
BUCHAREST, MAY 23-25, 2025



RIGA 2025
BUCHAREST, MAY 23-25, 2025



RIGA 2025
BUCHAREST, MAY 23-25, 2025

