

Institut Henri Poincaré  
11 rue Pierre et Marie Curie, 75231 Paris cedex 05  
**String Theory in Greater Paris**

**Rencontres Théoriciennes**  
**“Supergravité, théorie des cordes et théorie M”**

*Jeudi 8 Février 2024, 11:45*

**Edward Mazenc**

*ETH Zurich*

**Deriving the Simplest Gauge/String Duality**

*I will give an overview of my work with Rajesh Gopakumar on deriving the closed string dual to the simplest possible gauge theory, a Hermitian matrix integral. These matrix theories are studied in the conventional 't Hooft limit, i.e. they do not require any further double-scaling. I'll present and verify an explicit operator dictionary between matrix traces and vertex operators in the dual closed A- and B-model topological string worldsheet descriptions. I will discuss the more general idea of open-closed-open triality which allows us to establish this dictionary. Roughly, it shows there are two ways in which closed strings can be reconstructed from gauge-theory Feynman diagrams. We will then sketch how the tools of Strebel differentials and topological recursion reveal the underlying mechanics of this open/closed string correspondence. I'll close by embedding our results in the broader context of AdS/CFT.*

**Institut Henri Poincaré, salle 314, 3<sup>ème</sup> étage**

Retrouvez les activités de la communauté parisienne de théorie des cordes sur  
<http://string.lpthe.jussieu.fr>  
La liste de tous les séminaires en région parisienne est disponible sur  
<http://string.lpthe.jussieu.fr/semparis>

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