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Speakers: Prince Osei

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Empowering Young Africans to Lead the Future of Science

Prince K. Osei, AIMS Ghana

September 24, 2025

PI @ 25

The question that changed my life's trajectory



- * My most disruptive question wasn't about quantum gravity.
- * How does one create an environment that enables young people to unleash their scientific potential?

- * My most valuable take away from PI was NOT a Theorem

Theorem

If H is factorisable then the covariant system $(D(H), H)$ viewed via Q as a covariant system $(D(H), \underline{H}^)$ is isomorphic to a twisting of its semidual $(H^{\text{cop}} \blacktriangleright \triangleleft H, H^*)$. Here we twist by $\chi = \mathcal{R}_{23}^{-1}$ and the isomorphism is given by $\theta : D(H) \rightarrow H^{\text{cop}} \blacktriangleright \triangleleft H$, where*

$$\theta(h \otimes a) = h_{(1)} Q^{-[2]} S h_{(2)} \otimes h_{(3)} \mathcal{R}^{[1]} \langle a, Q^{-[1]} \mathcal{R}^{[2]} \rangle$$

Moreover, $H^{\text{cop}} \blacktriangleright \triangleleft H$ has two quasitriangular structures given by

$$\mathcal{R}_{B_D} = (\text{id} \otimes S^{-1} \otimes \text{id} \otimes \text{id})(\mathcal{R}_{13}^{-1} \mathcal{R}_{23} \mathcal{R}_{13} \mathcal{R}_{14}^{-1} \mathcal{R}_{24}^{-1})$$

$$\mathcal{R}_{B_L} = (\text{id} \otimes S^{-1} \otimes \text{id} \otimes \text{id})(\mathcal{R}_{31} \mathcal{R}_{23} \mathcal{R}_{13} \mathcal{R}_{14}^{-1} \mathcal{R}_{24}^{-1})$$

Talent is
everywhere.
Opportunity is not





QUANTUM LEAP AFRICA

- * Data Science
- * AI
- * Quantum Science & Technology - Preparing Africa for the future of quantum Technology

Masters in Machine Intelligence

- * Launched in Rwanda in 2018 and Ghana in 2019
- * Strong mentorship component
- * Strong Foundational and Practical Components
- * Dissertation and or Internship Components
- * Taught by some of the works leading experts in the field
- * 250 Alumni



GOOGLE IN AFRICA

How Abigail Annkah is using AI to improve maps in Africa

Jan 06, 2022 · 4 min read



Letitia Obiri
Keyword Contributor

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Mathematical Sciences
GHANA**

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- ✦ 13 Skills Courses in year 1 + at least 6 Review Courses in year 2 + 6 Months Research
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Girls in mathematical Sciences Program



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- ✦ 40 students selected each year from over 1,000 applications
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Girls in mathematical Sciences Program



Girls in mathematical Sciences Program

★ 120 Alumni

★ 330 admitted in 2025



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Impact Stories



Contributions to Global initiatives on quantum technologies

- * World Economic Forum Global Council for the Future of Quantum Economy
- * Advisory Committee of Open Quantum Institute (OQI) at CERN
- * UNESCO Panels on Ethics of Quantum Technologies

A Chern-Simons approach to self-dual gravity in $(2 + 1)$ -dimensions and quantisation of Poisson structure

Prince K Osei^{1,2}

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²Quantum Leap Africa (QLA), AIMS Research & Innovation Centre, Kigali, Rwanda

Thank You!