VIPER
VIrtual Platform at ECT* and Related facilities

Gert Aarts (Swansea U.), Sonia Bacca (U. Mainz),
Gunnar Bali (U. Regensburg), Gilberto Colangelo (U. Bern),
Luigi Del Debbio (U. Edinburgh), Simon J. Hands (Liverpool U.),
Maria Paola Lombardo (INFN Firenze), Assumpta Parreño (U. Barcelona),
Barbara Pasquini (U. Pavia), Michael J. Peardon (Trinity C.),
Vittorio Somà (CEA-Saclay), Ubirajara van Kolck (ECT*) [lead]

Jessica Peruzzo, www.instagram.com/jessy.peruzzo/?hl=it

A new model for “live reviews” and training:
virtual access
to continuously updated sets of lectures on advanced topics
for the benefit of the hadron physics and nuclear communities

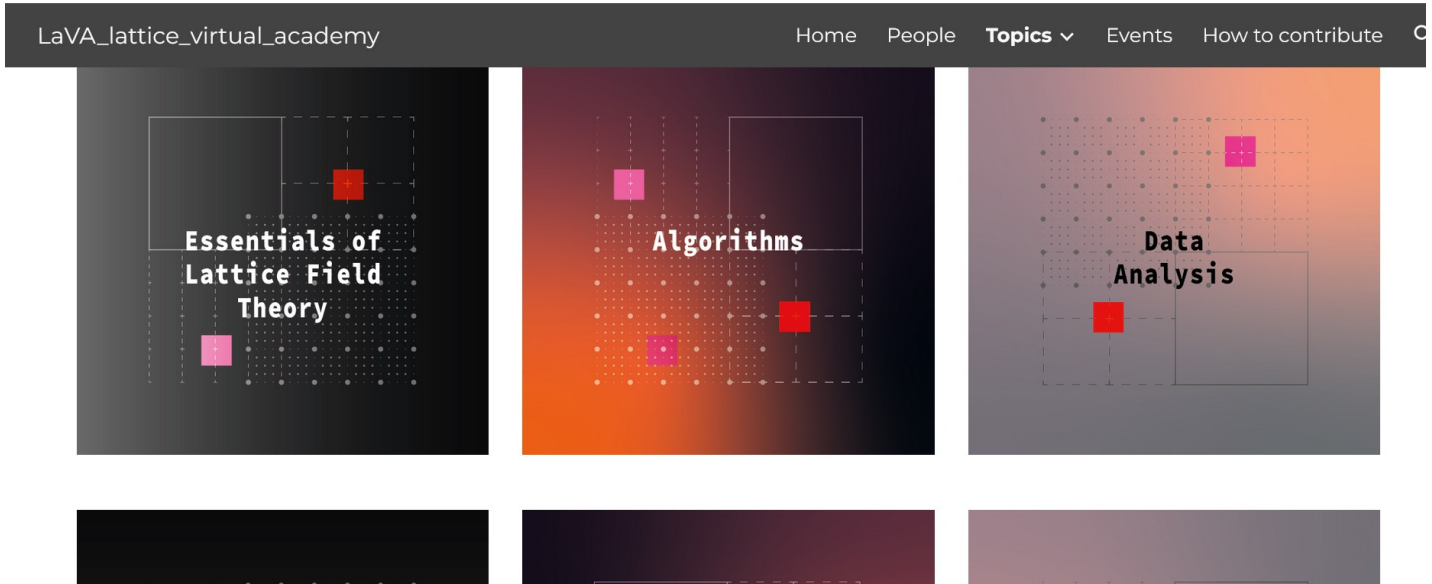
Goal: a new virtual platform
built on experience with LaVA

(Further expansion possible later)

LaVA

A virtual platform for advanced e-learning

in Lattice Field Theory



Steering Commitee

Sara Collins, University of Regensburg

Simon J. Hands, University of Liverpool

Frithjof Karsch, University of Bielefeld

Maria Paola Lombardo, INFN Firenze (Chair)

Michael J. Peardon, Trinity College, Dublin

with support from
former ECT* Director Gert Aarts

Virtual Platforms @ ECT*

capitalizing on advances
generated by transnational access

VIRTUAL PLATFORMS

ECT* offers virtual access to theoretical tools developed for the benefit of the nuclear physics and related communities.

LaVA – Lattice Virtual Academy

LaVA is a platform for an evolving collection of e-learning materials in the area of lattice field theory, a powerful computational method for nuclear and particle physics which is rapidly expanding to artificial intelligence and quantum computing. The platform is organized by topics (essentials, algorithms, etc.) and by level (beginners, advanced, experienced researcher) for easy access by users.

Access to the LaVA platform

ACTIVITIES@ECT*

- Workshops
- Doctoral Training Program
- TALENT SCHOOL
- Seminars and Colloquia
- Visiting Program
- Virtual Platforms
- ECT* Code of Conduct

https://www.ectstar.eu/virtual-platforms/

Proposal:
add EVA to LaVA
Effective field theory Virtual Academy

- Heavy Quark Effective Theory & Non-Relativistic QCD
- Soft Collinear Effective Theory
- Heavy Hadron Effective Theory & X-EFT
- Chiral Perturbation Theory & Chiral EFT
- Pionless and Halo/Cluster EFTs
- …

Fruits from the tree of knowledge,
garden of Villa Tambosi
Image courtesy of ECT*

✓ centered on hadronic physics

✓ complements LaVA smoothly (extrapolations: quark mass, volume, number of nucleons, …)

✓ connects to particle physics (SMEFT *etc.*) and nuclear physics (*ab initio* structure & reactions)

✓ [cf. Infra call]

Proposal strongly endorsed by ECT* Board,
joined by members with hadronic/EFT expertise

PIs

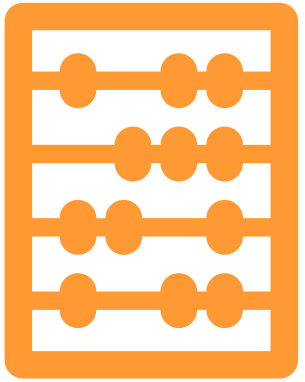
LaVA involvement

Gert Aarts
Gunnar Bali
Luigi Del Debbio
Simon Hands
Maria Paola Lombardo
Michael Peardon

ECT* Board/Directorate

Sonia Bacca
Gilberto Colangelo
Assumpta Parreño
Barbara Pasquini (Board Chair)
Vittorio Somà
Bira van Kolck (Director)

Budget: 40k€



per year:

- one in-person collaboration meeting @ ECT*, Edinburgh, …: PIs, potential lecturers, EFT experts
- occasional visit to ECT* for website development

▭ ~ 20 people for 5 days at 100€/day = 10k€

other contributions:

- ECT*: staff member for ~1h/week for logistics
- Edinburgh: up to 5k€ for a meeting

Thank you!