



Pierre Binétry:
40 years of physics & friendship

- Pierre's early work
- Our work together: highlights
- Personal recollections

~ 1977: A young student from Paris appears in my CERN office and asks me to give him a “project” (?). Instead (erroneously) gave him a thesis problem (thèse de 3ième cycle) which he completed brilliantly and I took him as student for thèse d’État & he became the founding member of LAPP-TH



From inspirehep.net:

The Price of Natural Parity Conservation in the Neutral Current Sector

P.Binétry (Anncy, LAPP), M.K. Gaillard (CERN & Orsay),
Z. Kunszt (CERN). May 1978

- 3 papers on QCD jets @ order α_s with G. Girardi
- Summing Leading Logs in Thrust Distributions

Precursor to modern techniques

• Thesis paper:

★ Gauge and Renormalization Scheme Dependence in GUTs with Thomas Schucker

incorporation of mass effects into minimal subtraction renormalization scheme

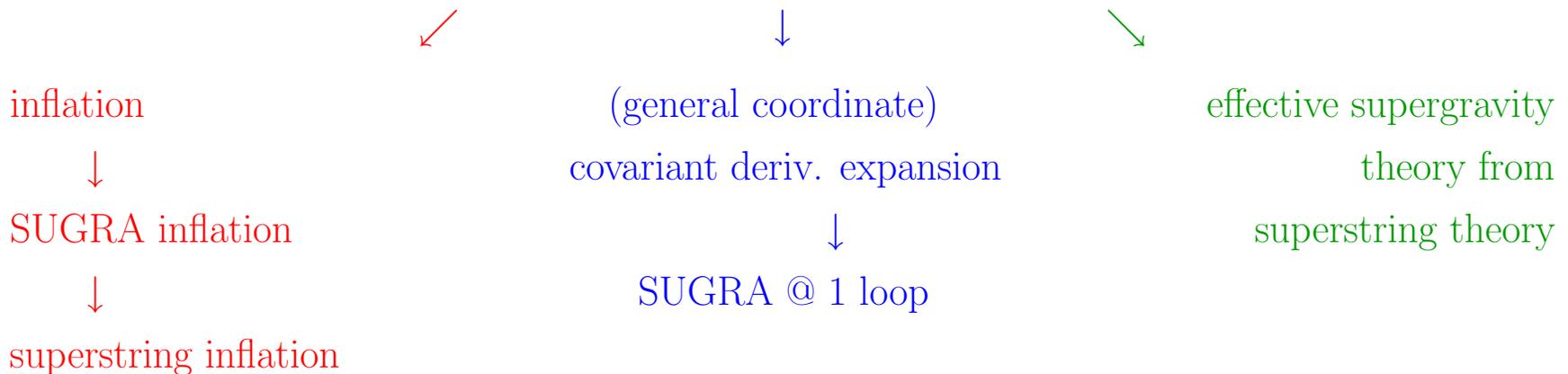
91 cites, independent of (but slightly scooped by) Steve Weinberg

+ 2 more papers applying these techniques

MK & Pierre: 20 papers (some with my students)

+ 4 more with my students

1984: Temperature Corrections in the Case of Derivative Interactions



EFFECTIVE SUPERGRAVITY THEORY FROM SUPERSTRING THEORY

★ First calculation of loop corrections to scalar potential Breit, Ovrut & Segré
+ 2 with S. Dawson & I. Hinchliffe “No-scale models”: no soft SUSY breaking terms @ 1 loop

★ Generalization of Veneziano-Yankielovicz gaugino condensate potential to SUGRA

Kähler superspace formalism of Pierre, Girardi, Grimm & Müller

Problem: Need to impose constraint on chiral superfield \sim condensate.

Solution: condensate \sim chiral projection of linear multiplet (Adamietz, PB, G & G)

Potential for linear multiplet?

★ Potential constructed with Tom Taylor Burgess, Derendinger, Quevedo & Quiros (SUSY only)

MK & P reformulated in Kähler superspace with 4-d Green-Schwarz term included

★ “Kähler stabilization” of the dilaton with Yi-Yen Wu

Casas

\Rightarrow viable model for SUSY breaking

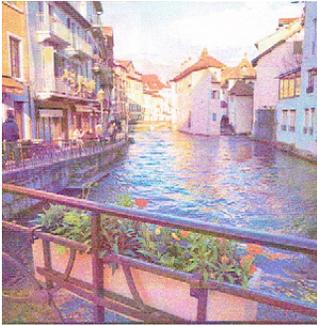
★ Soft supersymmetry breaking terms at 1 loop with Brent Nelson

revisiting and refining Brignole, Ibáñez & Muñoz

SOME MEMORIES

Mentoring Pierre in physics & alcohol

Commuting to Annecy with bushy hair of Pierre & François Martin blocking my view



Pierre's apartment in Annecy overlooking a canal 14 juillet (?)

Summer in Annecy old town

Pierre's apartment in Paris

Climbing up steps

Crawling into bed under the low ceiling

Books!

Aspen ~ 1995 (?)

Fresh croissants and Dr. Who for breakfast

Lulu

Many great dinners in Paris and Bay Area

Sally Mencimer



CERN theory group picnic 1978



Voici, avec un retard imputable au seul lauréat, la photographie de **Pierre Binétruy** à qui le prix de physique théorique Paul Langevin 1999 a été décerné : voir *Bulletin* n° 121.



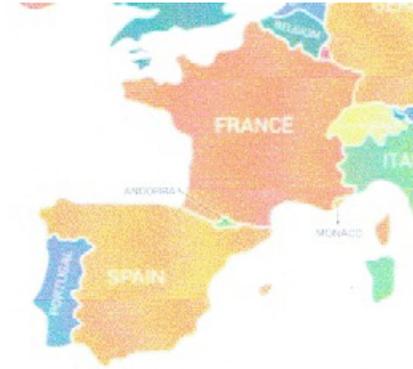
Bruno Zumino memorial conference CERN, April 28, 2015

RECENT YEARS



⇐ Pierre

Mary K ⇒



September 2016: Higgs Hunting

Back from Bay Area, Pierre visits MK in hospital.

Full of ideas for our collaboration on his next visit to Berkeley...

GRAVITY!

Prefaced many chapters with quotes from a wide range of literary sources

The undiscovered country from whose bourne,
No traveller returns, puzzles the will

WILLIAM SHAKESPEARE, *Hamlet* (1601)