

# Hari & Jenneffer Pulapaka

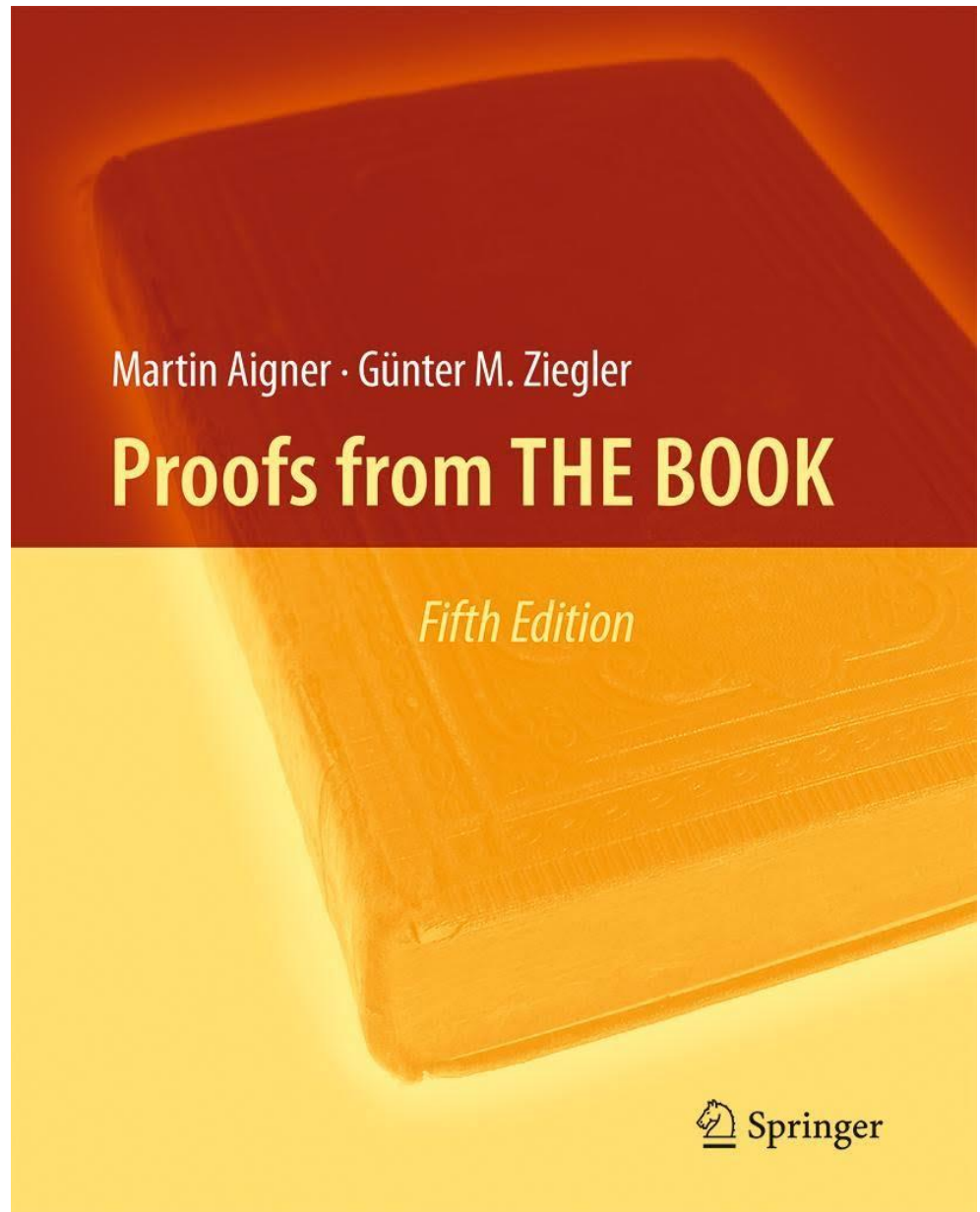
Creative Mathematics: Beyond the Academics

EMPOWERING YOUR  
**MATH**  
**SUPERHEROES**  
DEEPER LEARNING SYMPOSIUM



## Creative Mathematics

*Proofs from THE BOOK* is a book of mathematical proofs by [Martin Aigner](#) and [Günter M. Ziegler](#). The book is dedicated to the mathematician [Paul Erdős](#), who often referred to "The Book" in which God keeps the most elegant proof of each mathematical theorem. During a lecture in 1985, Erdős said, "You don't have to believe in God, but you should believe in The Book."



## Creative Minds

*Barbara McClintock and her crucially important work in cytology and genetics, which ultimately led to a revolution in the understanding of the human genome.*

*Mendel genetics noted in 1900, two years before McClintock was born. She entered Cornell in 1919, studying the chromosomes of the *Drosophila* fruit fly and corn, the only two species whose chromosomes were regularly studied at the time. McClintock discovered transposition genes, due to skepticism of her research and its implications, she stopped publishing her data in 1953. She was awarded the **Nobel Prize in Physiology or Medicine 1983, unshared.***



# “Beautiful”

- Beautiful Mathematics
- Beautiful Food

# “Perfect”

- Perfect Mathematics
- Perfect Food

# “Pairing”

- Pairing Medication
- Pairing Wines

# Creative (adjective)

*Relating to or involving the use of the imagination or original ideas to create something*

# “Creative”

- Creative Mathematics
- Creative Food



# “Creative”

- Creative Treatments
- Creative Pairing

# Fundamental Theorem of Calculus

Differentiating unique flavors is inverse to  
integrating additional ingredients

# Fundamental Theorem of Arithmetic

Every dish is a product of ingredients and steps, including repetitions. The final flavor is unique up to the order of steps and proportions of ingredients

# Optimizing the Flavours of Wine

Acid

Salt

Sweet

Fat

(Bitter)

# Fundamental Theorem of Linear Programming

Consider the problem of optimizing the flavour of food subject to the constraints of varying, but bounded palates. An optimal solution is the result of adding an extreme ingredient or lies along a balanced approach with optimal ingredients and techniques

# Cantor's Theorem

For any pantry of ingredients, the number of dishes possible is always greater than the number of ingredients in the pantry

# Cantor's Theorem

“If you know you are on the right track, if you have this inner knowledge, then nobody can turn you off... no matter what they say.”

- *Barbara McClintock*

“If you have knowledge , let others light their candles in it.”

- *Margaret Fuller*

# Thank You

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