

PostgreSQL beyond Code

How Communities Sustain a
Global System

Who am I?

- Charis Charalampidi
- Business Intelligence Consultant and Analyst
- 11 years in Data Analytics, Operations Research, Digital Transformation, Business Process Engineering
- 12 years of self-taught programming
- 16 years studying Chinese language and culture
- PgGreece founder and co-organiser (Greece PostgreSQL Users Group)
- PgEU member - PgUS affiliated volunteer



Agenda

- Formation
- Neural Cosmos
- Postgres as a System
- A Journey in Time and Space
- The Galactic Core
- Quasars Made in China
- The Path to Legacy

A rare ecosystem, 40 yrs young

Decentralised

Self-governed

Self-maintained

Radically transparent

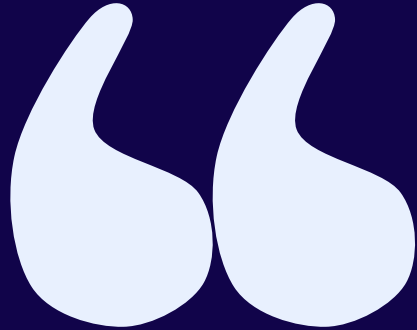
Radically inclusive

No company owns it or manages it.

The overall responsible body is the PostgreSQL Global Development Group.

Postgres as a Neural Cosmos

- **Communities as Brain Regions | Neural Networks**
- **Members as Nodes | Neurons**
- **Relationships as Connections | Synapses**
- **Social Code as Relational Protocol | Neurotransmitter**



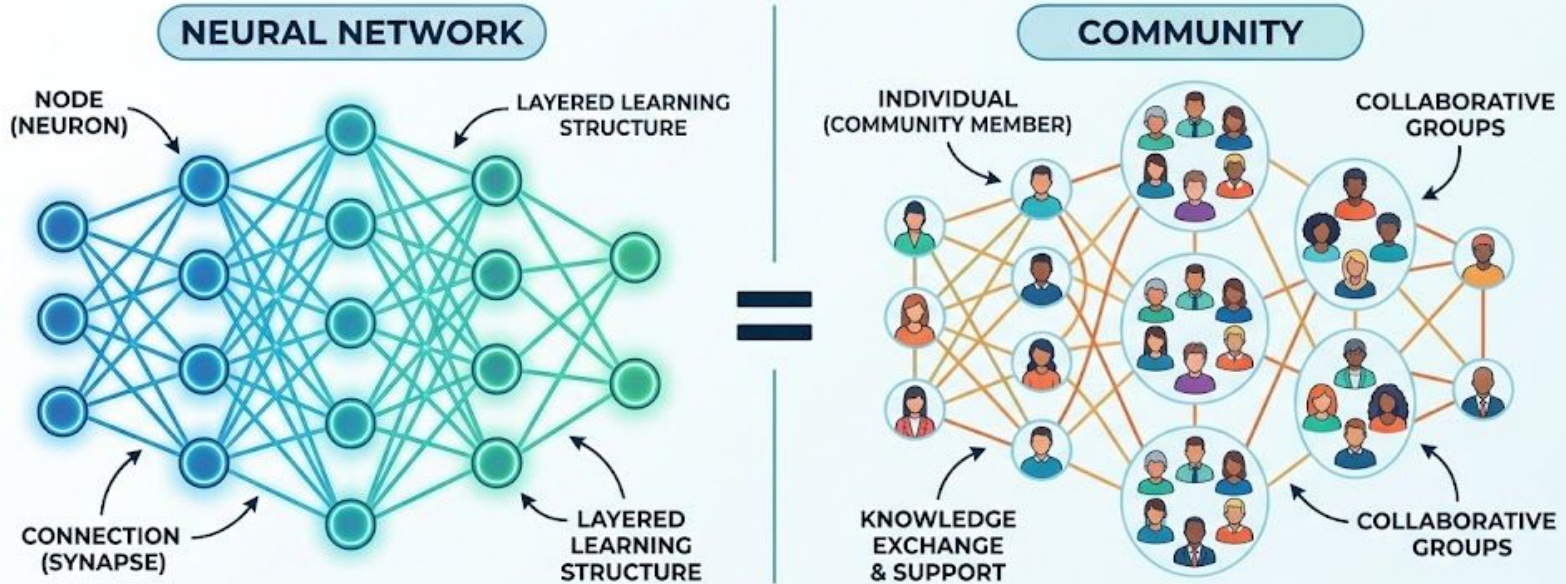
A brain without neurotransmitters is just a collection of quiet cells.

A community without a **Social Code** is just a collection of quiet developers.

The **Social Code** is the 'Chemical Logic' that turns a group of people into a **Sustaining Global System**.



A living organism, like your brain



SHARED PRINCIPLES: DECENTRALIZED STRUCTURE • CONNECTIVITY • INFORMATION EXCHANGE • COLLECTIVE PROGRESS

Just as artificial neurons connect and fire together to process complex data and learn, diverse individuals in a community connect and collaborate to share knowledge, **achieve collective goals**, and **grow**.

Community members and roles vary

- **Writer or/and Reviewer Code**
- **Extension Architect or/and Builder**
- **Language and Cultural Translator**
- **Blogger / Communicator**
- **Bug Hunter - Quality Tester**
- **Community Organiser**
- **Speaker (in conferences and events)**
- **Volunteer**
- **Mentor - Mentee**

PostgreSQL through the lens of Systemic Theory

Systemic Theory Attribute	PostgreSQL Ecosystem
Holism (Emergence)	The Global Project Identity
Homeostasis	Mailing Lists & Peer Review
Permeability	Radical Inclusivity & Access
Connectivity	Social Code & Guanxi (关系)
Information Symmetry	Radical Transparency
Resilience (Plasticity)	Decentralized Governance
Negentropy (Anti-Decay)	Generational Renewal & Cross-Pollination
Equifinality	Diverse Feature Development

The Whole > The Sum of Parts

- Synergies among individuals, user groups, countries and contexts
- High-frequency (negative) feedback loops = Reliability
- Distributed Governance + Decentralised Feedback = Homeostasis
- Radical Transparency = Information Symmetry
- Non-Linear Synergies = Network Value (Guanxi 关系)
- Inclusivity + Psychological Safety = Osmosis + Systemic Resilience
- Recognition of Contributors = Attribution + Energy Conservation

A Journey in Time and Space

How PgGreece was created



PgGreece

HOW ²⁰/₂₆
Hello Open-source World



Greece
PostgreSQL
USERS GROUP

2nd Meetup

Call for Proposals

Submit by **April 30th!**



The Galactic Core

A handful of people have global impact

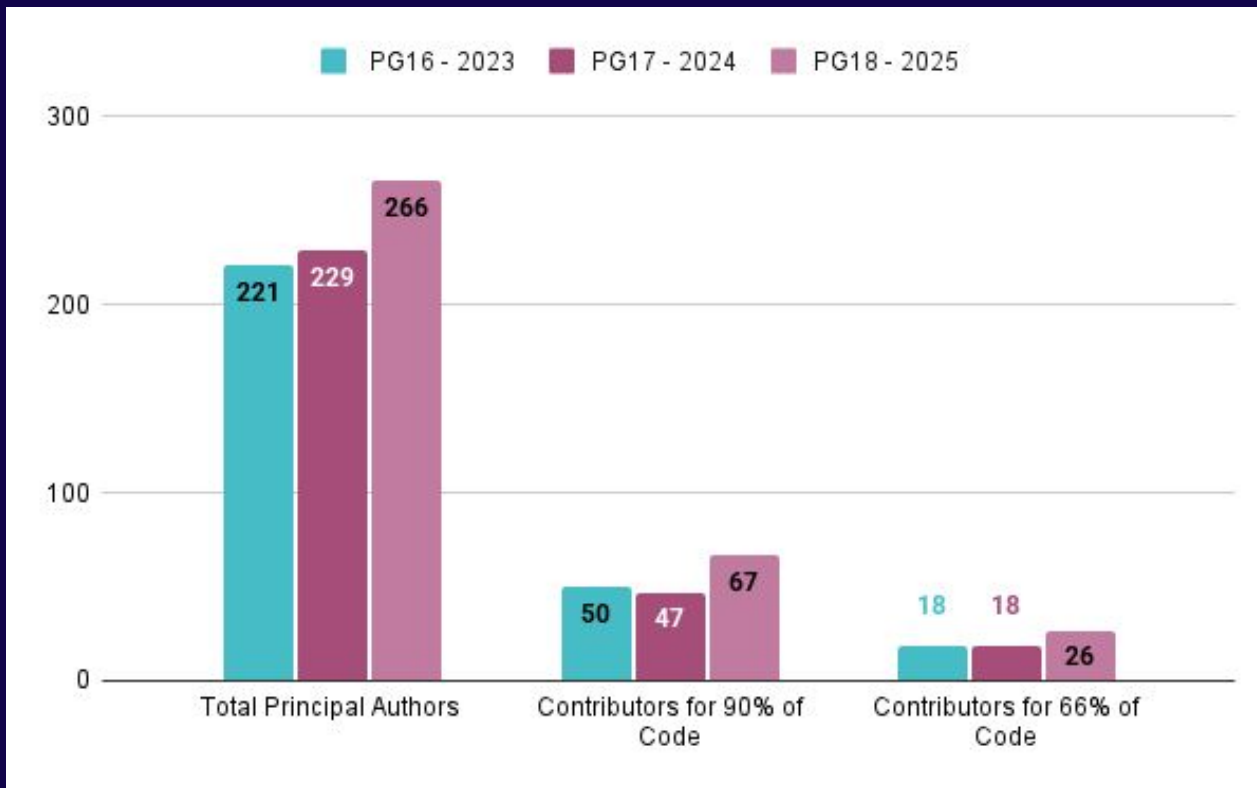
266

principal authors of **new**
lines of code in PG18

67

core contributors wrote **90%**
of the new lines of code in
PG18

The Persistent Pulse



Sources: <https://rhaas.blogspot.com/2026/01/who-contributed-to-postgresql.html>, <https://rhaas.blogspot.com/2024/01/who-contributed-to-postgresql.html>, <https://rhaas.blogspot.com/2025/01/who-contributed-to-postgresql.html>

Even the AI Revolution Runs on Postgres



OpenAI serves 800M users with a Single Primary.

They lean on the *Ecosystem* (PgBouncer, Replicas, Caching).

They chose Postgres because of its **Stability** and **Predictability**—traits honed by the global community.

One highly engaged individual can have global impact.

Quasars Made in China

Incredible Chinese Contributors I



Richard Guo (郭峰)

A top-tier contributor to the Query Planner & Optimizer. Known for converting complex LEFT JOINS to ANTI JOINS and expression transformations



Grant Zhou (周宝峰)

Founder of IvorySQL and the primary driver of this conference.. He is the "Human Infrastructure" connecting China to the global Core Team.



Zhang Mingli (张明礼)

Principal author of AQUMV (Answer Query Using Materialized Views) and intra-node Parallel Query execution. One of the first recognized from China



Cary Huang (黄品凯)

Security & Infrastructure: Deep work on Transparent Data Encryption (TDE), TLS improvements, and parallel worker debugging internals

Incredible Chinese Contributors II



Tender Wang (王腾)

Kernel Refactoring: Expert in partitioning logic and foreign key attachments. Co-authored significant planner optimizations for PG 19 (upcoming release)



Junwang Zhao (赵军旺)

Bridging Postgres with big data stacks (like Apache Iceberg) and contributing to planner and executor enhancements



Japin Li (李家平)

One of the most active reviewers and authors for logical replication and partitioning patches on the hackers list



Jian He (何建)

Prolific patch author focused on query planning and ensuring SQL standard compliance within the kernel

Incredible Chinese Contributors III



Chao (Evan) Li (厉超)

Pioneering robust primary-key-less logical replication (proposed enhancement) and hardening the kernel's structural DDL logic



Yong Li (李勇)

Deep kernel performance, locking mechanisms, and buffer management optimization



Zhijie Hou (侯志杰)

A leading architect of Logical Replication and Parallel Apply workers. 11th most active contributor to the latest Postgres 18 kernel.

The Path to Legacy

You can be an incredible contributor, too

Find an area you want to develop and match it to an area that you can contribute in the Postgres ecosystem.

Founding PgGreece is an example of what someone with will and skills can do, like anyone in this room.

If you are a university student,

- Find a mentor
- Join a local community
- Start your own Uni users group
- Translate material from EN to CN

If you are a professional,

- Find a mentee or two
- Speak at a meetup or conference
- Support a users group
- Write or review code

Common ways to contribute

Digitally

Join the [mailing lists](#)

Review code for new patches on [pg-hackers](#)

Write an extension / ecosystem project

Participate in the [CommitFest](#) (now closed for PG19, will open for PG20)

Post on [planet.postgresql.org](#)

Learn by reading the [wiki.postgresql.org](#)

Make suggestions for new functionalities, features

Materially

Provide a space for gatherings e.g. in the offices of the company you work for

Provide materials i.e. design a poster, print sth, recommend sb who can

Sponsor a meetup

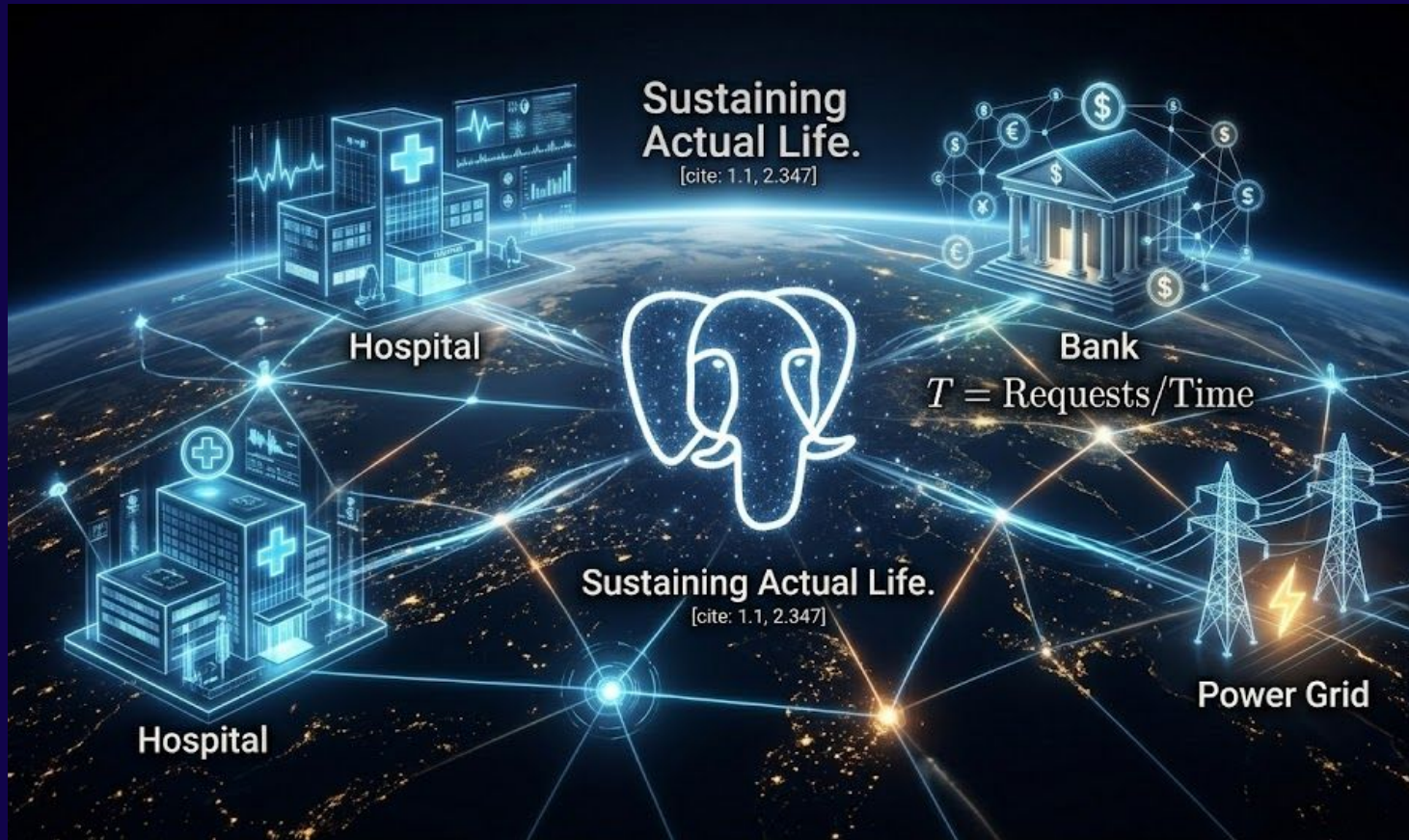
Word-of-Mouth

Share with friends, colleagues, fellow students

Physically

Host a [buildfarm animal](#)

Postgres affects us all, around the globe



对维系这个体系
的关系
怀有无限的感激
之情。

HOW ²⁰₂₆
Hello Open-source World

Thank you!