

# Academic Genealogy Tree: Felipe Cezar Salgado to the Scientific Revolution

## The Modern Era: High-Power Lasers and Plasma Physics

### *Felipe Salgado*

<b>Timeline:</b>	Completed PhD (Dr. rer. nat.) in <b>2023</b> .
<b>Institute:</b>	Friedrich Schiller University Jena.
<b>Supervisors:</b>	Matt Zepf.
<b>Main research:</b>	High-intensity laser-plasma interactions, laser-driven particle acceleration as laser wakefield acceleration. Strong-field quantum electrodynamics (SF-QED) experiments (e.g., E-320 at FACET-II and FOR2783 at CALA).
<b>Source:</b>	Felipe Cezar Salgado, <a href="#">Design of a single-particle detection system for strong-field QED experiments</a> , Dissertation, Friedrich-Schiller-Universität Jena (2023).

### *Matt Zepf*

<b>Timeline:</b>	Joined as a DPhil student in 1994; Completed PhD in <b>1997</b> .
<b>Institute:</b>	University of Oxford.
<b>Supervisor:</b>	Justin Wark.
<b>Main research:</b>	High-intensity laser-plasma interactions, laser-driven particle acceleration, and the generation of secondary radiation sources (X-rays, protons) from plasmas.
<b>Source:</b>	C. N. Danson <i>et al.</i> , <a href="#">A history of high-power laser research and development in the United Kingdom</a> , High Power Laser Sci. Eng. <b>9</b> , e18 (2021). ( <i>Notes Zepf as a DPhil student in Wark's group</i> ).

### *Justin Wark*

<b>Timeline:</b>	Began undergraduate studies in 1979 (tutored by Paul Ewart); completed PhD in <b>1985</b> (Imperial College); joined the department as a Royal Society URF in 1988.
<b>Institute:</b>	University of Oxford / Imperial College London.
<b>Undergraduate Tutor:</b>	Paul Ewart.
<b>PhD Supervisor:</b>	Joseph D.ilkenny.
<b>Main research:</b>	Warm dense matter, ultra-fast X-ray science, and shock-compressed matter diagnostics. Director of the Oxford Centre for High Energy Density Science (OxCHEDS).
<b>Source:</b>	C. N. Danson <i>et al.</i> , <a href="#">A history of high-power laser research and development in the United Kingdom</a> , High Power Laser Sci. Eng. <b>9</b> , e18 (2021).

*Joseph D. Kilkenny*

**Timeline:** Completed PhD in **1972**.

**Institute:** Imperial College London.

**PhD Supervisor:** Robert Latham.

**Main research:** Inertial confinement fusion (ICF) and high-speed plasma instrumentation (e.g., x-ray streak cameras). Program Leader for ICF at Lawrence Livermore National Laboratory (LLNL).

**Source:** Joseph D. Kilkenny, [Measurement of the ion energy in a theta pinch](#), Ph.D. Thesis, University of London (Imperial College) (1972). (*Explicitly notes Dr. R. Latham as his supervisor in the acknowledgements*).

*Robert Latham*

**Timeline:** Completed PhD in **1946** (Research Fellow at Queens' College 1945–1948).

**Institute:** University of Cambridge (Cavendish Laboratory) / Imperial College London.

**PhD Supervisor / Mentor:** George Paget Thomson. (*Note: Latham began his research at Cambridge, but his post-war academic and research lineage is mapped via Sir George Paget Thomson, who recruited him for early thermonuclear fusion research at Imperial College in 1948*).

**Main research:** Plasma physics, gas discharge, and early thermonuclear fusion research (Z-pinch). Worked on microwave radar valves during World War II.

**Source:** [Robert Latham](#), Physics Tree (Accessed 2026); and [Queens' College Record 1995](#), University of Cambridge.

## The Late 19th & Early 20th Century: Nuclear Physics and Electron Discovery

*George Paget Thomson*

**Timeline:** Nobel Prize in Physics in **1937** (for discovering wave properties of electron by diffraction); Professor of Physics at Imperial College London (1930–1952); Master of Corpus Christi College, Cambridge (1952–1962).

**Institute:** University of Cambridge (Cavendish Laboratory) / Imperial College London.

**Supervisor:** J. J. Thomson.

**Main research:** Discovered electron diffraction, worked on neutron physics, and chaired the MAUD Committee in WWII. Co-founded early thermonuclear fusion research at Imperial College.

**Source:** [George Paget Thomson Biography](#), Wikipedia (Accessed 2026); and [George Paget Thomson](#), Physics Tree (Accessed 2026).

*J. J. Thomson*

**Timeline:** M.A. awarded 1883; Nobel Prize in Physics in 1906.

**Institute:** University of Cambridge (Cavendish Laboratory).

**Supervisor:** Lord Rayleigh.

**Main research:** Discovered the electron and isotopes, and pioneered the mass spectrometer.

**Source:** [Joseph John Thomson](#), Mathematics Genealogy Project (Accessed 2026); and [J. J. Thomson](#), Physics Tree (Accessed 2026).

**The Cambridge Mathematical Coaches (18th & 19th Century)***Lord Rayleigh*

**Timeline:** M.A. awarded in **1868**; Nobel Prize in Physics in 1904.

**Institute:** University of Cambridge.

**Tutors:** Edward Routh, George Gabriel Stokes, and James Clerk Maxwell.

**Main research:** Formulated the theory of acoustic scattering ("Rayleigh scattering"), co-discovered Argon.

**Source:** [John William Strutt \(Lord Rayleigh\)](#), Mathematics Genealogy Project (Accessed 2026).

*Edward Routh*

**Timeline:** Graduated M.A. in **1857**.

**Institute:** University of Cambridge.

**Supervisors:** William Hopkins, Isaac Todhunter, and Augustus De Morgan.

**Main research:** Cambridge's greatest "Mathematical Coach". Formulated the Routh-Hurwitz theorem.

**Source:** [Edward John Routh](#), Mathematics Genealogy Project (Accessed 2026).

*George Gabriel Stokes*

**Timeline:** Graduated BA in **1841**.

**Institute:** University of Cambridge.

**Supervisor:** William Hopkins.

**Main research:** Co-formulated the Navier-Stokes equations governing fluid dynamics.

**Source:** [George Gabriel Stokes](#), Mathematics Genealogy Project (Accessed 2026).

*William Hopkins*

**Timeline:** Graduated M.A. in **1830**.

**Institute:** University of Cambridge.

**Supervisor:** Adam Sedgwick.

**Main research:** Famed "Senior-Wrangler Maker". Pioneer of physical geology.

**Source:** [William Hopkins](#), Mathematics Genealogy Project (Accessed 2026).

*Adam Sedgwick*

**Timeline:** Graduated M.A. in **1811**.

**Institute:** University of Cambridge.

**Supervisors:** Thomas Jones and John Dawson.

**Main research:** Founder of modern geology. Proposed the Cambrian and Devonian periods.

**Source:** [Adam Sedgwick](#), Mathematics Genealogy Project (Accessed 2026).

*Thomas Jones*

**Timeline:** Graduated M.A. in **1782** (B.A. in 1779).

**Institute:** University of Cambridge (Trinity College).

**Supervisor:** Thomas Postlethwaite.

**Main research:** Head Tutor at Trinity College, Cambridge. Famed for his lectures on mathematics and his influence on many Cambridge scholars including Adam Sedgwick.

**Source:** [Thomas Jones](#), Mathematics Genealogy Project (Accessed 2026).

*Thomas Postlethwaite*

**Timeline:** Graduated M.A. in **1756** (B.A. in 1753).

**Institute:** University of Cambridge (Trinity College).

**Supervisor:** Stephen Whisson.

**Main research:** Master of Trinity College, Cambridge.

**Source:** [Thomas Postlethwaite](#), Mathematics Genealogy Project (Accessed 2026).

*Stephen Whisson*

**Timeline:** Graduated M.A. in **1742** (B.A. in 1738).

**Institute:** University of Cambridge (Trinity College).

**Supervisor:** Walter Taylor.

**Main research:** Tutor and Senior Fellow at Trinity College, Cambridge. University Librarian.

**Source:** [Stephen Whisson](#), Mathematics Genealogy Project (Accessed 2026).

*Walter Taylor*

**Timeline:** Graduated M.A. in **1723**.

**Institute:** University of Cambridge (Trinity College).

**Supervisor:** Robert Smith.

**Main research:** Regius Professor of Greek and Tutor at Trinity College, Cambridge.

**Source:** [Walter Taylor](#), Mathematics Genealogy Project (Accessed 2026).

## The Enlightenment and Scientific Revolution (16th & 17th Century)

(Note: The sources in this section are mapped to the Mathematics Genealogy Project and MacTutor Archive)

*Robert Smith*

**Timeline:** Graduated M.A. in **1715** (B.A. in 1711).

**Institute:** University of Cambridge.

**Supervisor:** Roger Cotes.

**Main research:** Published *A Compleat System of Opticks* (1738). Succeeded Cotes as Plumian Professor. Founded the Smith's Prizes.

**Source:** [Robert Smith](#), Mathematics Genealogy Project (Accessed 2026); and [Robert Smith Biography](#), Wikipedia (Accessed 2026).

*Roger Cotes*

**Timeline:** Graduated M.A. in **1706** (B.A. in 1702).

**Institute:** University of Cambridge.

**Supervisor:** Sir Isaac Newton.

**Main research:** Collaborated with Newton to edit the second edition of the *Principia*. First Plumian Professor.

**Source:** [Roger Cotes](#), Mathematics Genealogy Project (Accessed 2026); and [Roger Cotes Biography](#), MacTutor History of Mathematics Archive (Accessed 2026).

*Sir Isaac Newton*

**Timeline:** Graduated M.A. in **1668** (B.A. in 1665).

**Institute:** University of Cambridge.

**Supervisors/Tutors:** Isaac Barrow and Benjamin Pulleyn.

**Main research:** Formulated the laws of motion and universal gravitation. Lucasian Professor.

**Source:** [Isaac Newton](#), Mathematics Genealogy Project (Accessed 2026); and [Isaac Newton Biography](#), MacTutor History of Mathematics Archive (Accessed 2026).

*Isaac Barrow*

**Timeline:** Graduated M.A. in **1652** (B.A. in 1648).

**Institute:** University of Cambridge / Independent study in Italy.

**Mentor:** Vincenzo Viviani.

**Main research:** Pioneer of calculus. First to state the Fundamental Theorem of Calculus. First Lucasian Professor.

**Source:** [Isaac Barrow](#), Mathematics Genealogy Project (Accessed 2026); and [Isaac Barrow Biography](#), MacTutor History of Mathematics Archive (Accessed 2026).

**The Italian Renaissance***Vincenzo Viviani*

**Timeline:** Became a pupil to Galileo in **1639**.

**Institute:** Court of the Grand Duke of Tuscany.

**Supervisor:** Galileo Galilei.

**Main research:** First to accurately determine the speed of sound. Reconstructed Apollonius's lost work *De locis planis*. Served as Galileo's last pupil and biographer.

**Source:** [Vincenzo Viviani](#), Mathematics Genealogy Project (Accessed 2026); and [Vincenzo Viviani Biography](#), MacTutor History of Mathematics Archive (Accessed 2026).

*Galileo Galilei*

**Timeline:** Student starting in **1581**.

**Institute:** University of Pisa.

**Supervisor:** Ostilio Ricci.

**Main research:** Championed heliocentrism, discovered the four largest moons of Jupiter, formulated the basic law of falling bodies.

**Source:** [Galileo Galilei](#), Mathematics Genealogy Project (Accessed 2026); and [Galileo Galilei Biography](#), MacTutor History of Mathematics Archive (Accessed 2026).

*Ostilio Ricci*

**Timeline:** Court Mathematician in the late 1500s.

**Institute:** Court of Francesco I de' Medici.

**Supervisor:** Nicolò Tartaglia.

**Main research:** Mathematician and military engineer. Convinced Galileo's father to let him study mathematics.

**Source:** [Ostilio Ricci](#), Mathematics Genealogy Project (Accessed 2026); and [Ostilio Ricci Biography](#), Wikipedia (Accessed 2026).

***Nicolò Tartaglia***

<b>Timeline:</b>	Active throughout the early to mid-1500s (Died 1557).
<b>Institute:</b>	Venice / Verona.
<b>Main research:</b>	Discovered the general algebraic solution for cubic equations. Published the first Italian translations of Euclid and Archimedes.
<b>Source:</b>	<a href="#">Nicolo Tartaglia</a> , Mathematics Genealogy Project (Accessed 2026); and <a href="#">Nicolo Tartaglia Biography</a> , MacTutor History of Mathematics Archive (Accessed 2026).