





presents

# QED

By Peter Parnell

## CREATIVE TEAM

DIRECTOR	Caroline Stacey
DESIGNER	Kaoru Alfonso
STAGE MANAGER	Kim O'Connell
TECHNICIAN	Gillian Schwab
SET CONSTRUCTION	SUDZET – Brian Sudding
	Queanbeyan Engineering and Welding
	Gillian Schwab
	Erin Pugh
	Annette Marie
	Drew Rawlings

PRODUCTION MANAGER	Liz Mundell
ASSISTANT PRODUCTION MANAGER	Catherine Prosser



## CAST

John Muirhead	RICHARD FEYNMAN
Justine Campbell	MIRIAM FIELD
Gary France	SOUND DESIGN & PERCUSSIONIST

Gary France	VOICES
Kim O'Connell	
Caroline Stacey	
PJ Williams	

**PLACE** Feynman's office at Caltech

**TIME** Act One: A Saturday afternoon in June 1986

Act Two: That evening

**Running time** 2 hours 30 minutes including a 20-minute interval



World Premiere Produced by Centre Theatre Group/Mark Taper Forum of Los Angeles, Gordon Davidson Artistic Director/Producer. The play was subsequently produced in New

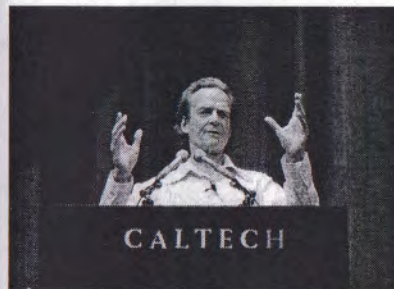
## WRITER PETER PARNELL

PETER PARNELL'S plays, including **Sorrows of Stephen**, **The Rise and Rise of Daniel Rocket**, **Romance Language**, **Hyde In Hollywood**, **Flaubert's Latest**, and **An Imaginary Life**, have been produced by the Public Theatre, Playwrights Horizons, the Mark Taper Forum, the Seattle Rep Theatre, the Old Globe, and Centre Stage in Baltimore, among others. His two-part stage adaptation of John Irving's **The Cider House Rules** won the American Theatre Critics Association Award, Ovation Awards, Joseph Jefferson Awards, and Drama League nominations, and was produced at the Seattle Rep, the Taper, Trinity Repertory, and the Atlantic Theatre Company in New York.

For television, he was a co-producer for **The West Wing** (NBC; two EMMY Award Citations, two Humanitas Awards), producer for **The Guardian** (CBS, GLAAD episode nomination), and **Inconceivable** (NBC). He has written television pilots for ABC and FOX. He has served on the Literary Award Committee in Playwriting for PEN, and been the recipient of Guggenheim, Ingram Merrill, NEA, and Fund for New American Plays grants. He has taught playwriting at Dartmouth and at the New School, and television writing in the Columbia University Film Division. His children's book, **And Tango Makes Three**, co-authored with Justin Richardson, was published by Simon & Schuster in 2005, and is an ALA Notable Book, a Henry Bergh Award Winner, and was nominated for a LAMBDA Literary Award as Best Children's Book of the Year.



Credit photo: John Muirhead as Richard Feynman  
Art Direction Kim O'Connell. Photographer Silas Brown



## BACKGROUND Richard Feynman – a snapshot

**What I Cannot Create, I Do Not Understand**  
(taken from Feynman's chalkboard after his death)

In 1999 Physics World polled scientists, asking them to rank the greatest physicists who ever lived. Richard Feynman came in seventh, behind Galileo. In his life he put together the puzzle of quantum

electrodynamics earning him the physics Nobel prize in 1965. Feynman was to many a kind of magician, who could bore a hole to the heart of any knotty problem such as the space shuttle Challenger disaster. But it was his combination of fun and intellect, his breadth of interest, his curiosity and love of life, that made Feynman perhaps the most magnetic physicist of the twentieth-century.

He was born in Far Rockaway, Queens, New York; his parents were Jewish and attended temple every Friday, although they were not orthodox in their practice of Judaism. The young Feynman was heavily influenced by his father Melville Feynman, who encouraged his children to identify not what they knew, but rather what they did not know through questioning. Feynman moved to Princeton from MIT as a graduate student where he secured some notoriety for his exceptional talents in mathematics and physics. Robert Wilson prodded him to join the Manhattan Project – the wartime US Army project at Los Alamos developing the atomic bomb. Feynman said he was persuaded to join this effort to help make sure that Nazi Germany did not build them first.

Feynman was regarded as one of the greatest *teachers* of physics ever. His principle was if a topic could not be explained in a first year lecture it was not fully understood yet. Clear thinking and clear presentation were fundamental prerequisites for his attention. His 3 volumes dubbed the 'red books' officially titled the *Feynman Lectures on Physics* are still best-sellers.

QED: The field itself is the study of the interaction of subatomic particles. The problem for scientists was the increasing difficulty of using existing formulas to explain, predict, or quantify what was being observed in the laboratory. It was Feynman who developed a series of particle interaction diagrams – the Feynman diagrams - that made it all understandable and predictions more accurate. Feynman also made significant contributions to the fields of superfluidity, radioactivity, nanotechnology, and the study of DNA. Feynman believed in the power of doubt. He believed it was a motivating source in science.

It is our responsibility as scientists, knowing the great progress which comes from a satisfactory philosophy of ignorance, the great progress which is the fruit of freedom of thought, to proclaim the value of this freedom; to teach how doubt is not to be feared but welcomed and discussed; and to demand this freedom as our duty to all coming generations.  
(Feynman, *What Do You Care What Other People Think?*)



**GARY FRANCE** (Sound Designer/Percussionist)

Gary is a native of Syracuse, New York, USA. He received his Bachelor of Music degree, Music Education, in 1979, from the Crane School of Music, SUNY Potsdam, and his Master of Music degree, Orchestral Performance / Jazz, in 1988 at the University of North Texas. While at UNT Gary became the first drummer/percussionist, in the fifty-year history of the program, to direct one of the prestigious Jazz Lab Bands. He is regularly employed by peak music bodies such as the Australian Youth Orchestra and the Australian National Academy of Music to tutor developing percussionists. Since 1998 Gary has coordinated and nurtured the Percussion program at the Australian National University. He is also the Lead Principal Investigator in the ANU New Media Laboratory (NML), a research team that explores the multifaceted relationships between acoustic instruments. Since 1998 Gary has coordinated and nurtured the Percussion program at the Australian National University. He is also the Lead Principal Investigator in the ANU New Media Laboratory (NML), a research team that explores the multifaceted relationships between acoustic instruments.

Gary has performed with: West Australian Symphony Orchestra, Nova Ensemble, West Australian Opera and Ballet Orchestras, Dallas Brass, Doddworth Saxhorn Ensemble, Australian Chamber Orchestra and the Canberra Symphony. Gary's list of recent world premiers include works by: Larry Sitsky, Sir Michael Tippett, Roger Smalley, Ross Edwards, Peter Sculthorpe, Robert Cucinotta, Edward Applebaum and Robert Casteels. As a jazz drummer Gary's list of other musical credits include: James Morrison, Richie Cole, Ricky May, Nat Adderley, Dale Barlow, Jim McNeeley, Urbie Green, Charlie Gabriel, John Clayton, Emily Remler, Peter Leutch, Phil Wilson, Clifford Jordon and numerous others.

As a clinician for Yamaha Musical Products, the Sabian Cymbal Company and Innovative Percussion Products he has toured internationally presenting Master Classes, concerts and workshops throughout the U.S., China, Australia and New Zealand. His own personal research in world music's has led him to India, Africa and South East Asia. These direct field studies support Gary in his role as director of the ANU "DRUMatiX". Under Gary's direction, the ANU percussion program hosted the first Australian National Marimba Camp in 2001 and the Australian National Percussion Symposium in October 2003.



**KIM O'CONNELL –Stage Manager**

Kim O'Connell is a Film Artist and Theatre Worker who has been involved in film and theatre since 1994, when engaged as resident cinematographer for RMIT Union Arts. Since then Kim has worked in film, TV and theatre, including time as Operations Manager of LINC TV (North Coast NSW community TV station), freelance Camera Operator and Unit Manager for Prime TV and Alchemy (SBS), Stage Manager and Chief Mechanist for theatre companies including NORPA, Bell Shakespeare Company and STC, and Director of large scale multimedia productions working with Youth @ Risk. Recent credits include: First Camera on **kNot @ Home** - Big hART's upcoming 8 part TV series on SBS, Director and Video Designer on Big hART satellite multimedia projects **ENCompass** and **Handle with Care** (Australian and NSW Parliament House), and Video Designer and Stage Manager for Jigsaw Theatre Co. on **VIN** (Canberra Theatre Centre), and **The Lost Thing** (the NGA, The Sydney Festival, Awesome Festival, Victorian Arts Centre).

Having recently returned from a round-the-world trip, Kim is working on video designs for AWGIE award winning writer/director Stephen House's **Appalling Behaviour in Paris**, Jigsaw Theatre's (in association with the NGA) **Emma's Dynasty**, and is transforming his own obsessive travel Blog into a vision and text installation **The Travelling Nobodies**.