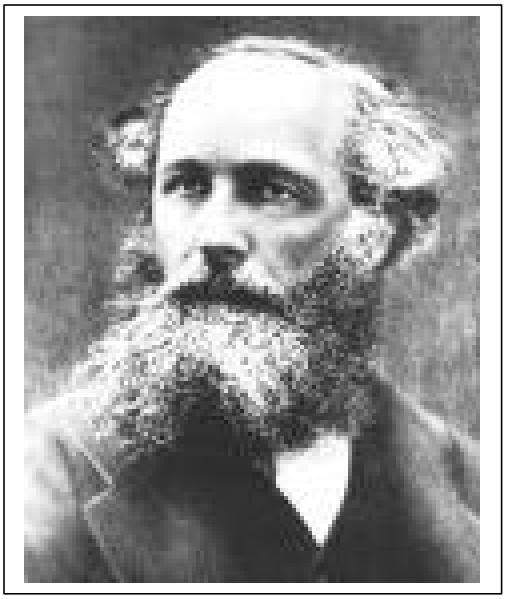
André Marie Ampère



James Clerk Maxwell

Two great guys – one great law!

$$\oint \mathbf{B} \cdot d\vec{\ell} = m_o I + m_o e_o \frac{d}{dt} f_E$$

The Ampère's Law Song

Refrain:

C Em F C F G
Mr. Ampère's magical, mystical, wonderful law!
G C G7 F C G7 C
Of Maxwell's equations, it is the longest and strangest of all!

C F G C
On the left side, he wrote circulation
C F G C
Of magnetic field, 'cause it was neat.
C F G C
On the right hand side of his equation --
C F G C
Mu-naught I – he thought it was complete.

(Refrain)

F C G C C7
Decades later, Maxwell saw disaster,
F C G C
Although he thought of Ampère as a saint --
F C G C C7
In between the plates of a capacitor
F C G C
The right side's zero, but the left side ain't!

C F G C
To fix this problem, he added to the right side
C F G C
Displacement current, a brand new quantity!
C F G C
It started mu-naught eps'lon-naught and ended by
C F G C
The time derivative of phi-sub-E.

(Refrain)

C F G C
And so to Maxwell the myst'ry was reveal-ed--
C F G C
He saw how light could move through empty space.
C F G C
The changing B-field made the changing E-field,
C F G C
And vice-a-versa, all at the perfect pace.

(Refrain)
p
Words & music by Walter Smith 4-6-01
Chords by Marian McKenzie