In the quantum cascade laser, alternating semiconductor layers (red and gray) create quantum wells for electrons. As electrons (light blue streaks) cascade from well to well (left to right), they jump from a higher to a lower energy level, emitting light (yellow band).

The straight blue lines in the well regions represent the energy levels, and the bell-shaped curves, the probability distributions for occupation of that level. See page 553 and the news story on page 508. [Illustration: Keith D. Drake and Frank A. Antalec, AT&T Bell Labs]

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