Aglow in the Dark: The Revolutionary Science of Biofluorescence

Vincent Pieribone, David F. Gruber
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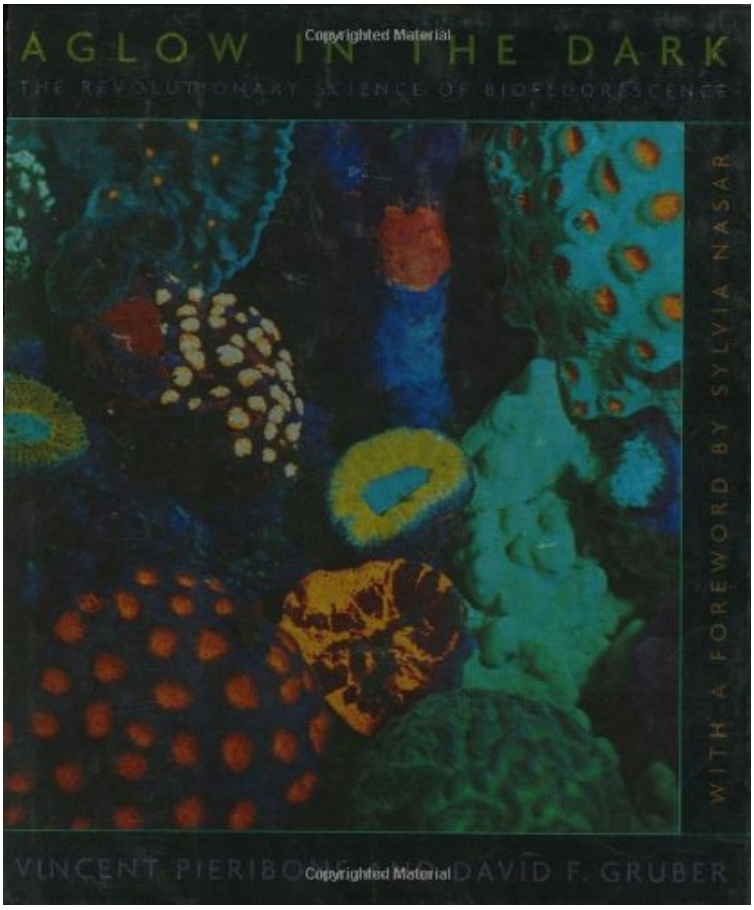

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Vincent Pieribone, David F. Gruber : Aglow in the Dark: The Revolutionary Science of Biofluorescence before purchasing it in order to gage whether or not it would be worth my time, and all praised Aglow in the Dark: The Revolutionary Science of Biofluorescence:

5 of 5 people found the following review helpful. Making real science available to everyoneBy S.T.Pieribone and Gruber report the science of green fluorescent proteins (GFP) in a way not usually encountered for science writing...that is leaving you wanting to know what happens next. From the first historical inquiries about glowing organisms to the marvelous, present day biotechnological uses of GFP, the authors narrate the life histories and trench work of the scientists primarily responsible for the discovery and scientific progression of fluorescent proteins in a very reader-inviting manner: with a lot of human interest, just enough science to allow you to know what they're talking about, and tons of oustanding pictures. Upon finishing the book, a reader may feel both entertained and an expert in fluorescent protein science at the same time!0 of 0 people found the following review helpful. They loved it! It's very lay-friendlyBy Midwest MusicianA scientist myself, I gave this as a gift to a non-scientist family member. They loved it! It's very lay-friendly, yet the writing is interesting enough for even a specialist to enjoy. There's a mix

of science and history, enough so that the book shouldn't lose too much relevance over time.0 of 0 people found the following review helpful. Five StarsBy ratheadfacesArrived sooner than promised and exactly as expected-thanks

In the early 1960s, in a small shack on the Washington coast, a young, self-educated Japanese scientist performed an experiment to determine what made a certain jellyfish glow. The substance he discovered, green fluorescent protein, would revolutionize molecular biology, transforming our study of everything from the AIDS virus to the workings of the brain. Aglow in the Dark follows the path that took this glowing compound from its inauspicious arrival on the scientific scene to its present-day eminence as one of the most groundbreaking discoveries of the twentieth century. The story unfolds in far-flung places, from the coral reefs of the Pacific Ocean, to the medical schools and marine stations of our leading universities, to a cold war-era research laboratory in Moscow. Traversing the globe and the decades, Aglow in the Dark conveys the human fascination with bioluminescence, or "living light," its little-known application in war, forensic science, and molecular biology, and how it led to the finding of green fluorescent protein. The book reveals a hidden world where light is manipulated by animals and humans and put to remarkable uses--unlocking the secrets of the human brain, conquering dreaded diseases, and perhaps someday linking minds and machines. The authors deftly lead the reader through a complex story at the interface of biology and physics--and into the realm of wonder on the frontiers of scientific endeavor.

From BooklistSelf-illuminating creatures have drawn curiosity since time immemorial, but only a few researchers have conducted experiments to discover the source of their glow. One Raphael Dubois determined in 1887 that it's a chemical reaction, the exact components of which eluded the best efforts of Princeton professor Edmund Newton Harvey. Enter the hero of the authors' story: Osamu Shimomura. A teenage survivor of the nuclear bombing of Nagasaki, he emerged from the ruins as a young biologist in the mid-1950s who had no strong idea of what to study. Handed bluish extract of sea flies by his boss, who added lapidary guidance--"We know nothing about this, just that it glows"--Shimomura solved the problem in a few years. Shimomura's eureka moment is well drawn by the authors, as is their explanation of the chemistry of the green fluorescent protein (GFP) Shimomura isolated. GFP has become a lucrative favorite of biotechnologists, who transformed the study of neural tissue by inventing GFP markers. Writing with warmth and optimism, Pieribone and Gruber will fascinate budding biochemistry students. Gilbert TaylorCopyright American Library Association. All rights reserved Self-illuminating creatures have drawn curiosity since time immemorial, but only a few researchers have conducted experiments to discover the source of their glow. One Raphal Dubois determined in 1887 that it's a chemical reaction, the exact components of which eluded the best efforts of Princeton professor Edmund Newton Harvey. Enter the hero of the authors' story: Osamu Shimomura. A teenage survivor of the nuclear bombing of Nagasaki, he emerged from the ruins as a young biologist in the mid-1950s who had no strong idea of what to study. Handed bluish extract of sea flies by his boss, who added lapidary guidance--'We know nothing about this, just that it glows'--Shimomura solved the problem in a few years. Shimomura's eureka moment is well drawn by the authors, as is their explanation of the chemistry of the green fluorescent protein (GFP) Shimomura isolated. GFP has become a lucrative favorite of biotechnologists, who transformed the study of neural tissue by inventing GFP markers. Writing with warmth and optimism, Pieribone and Gruber will fascinate budding biochemistry students. (Gilbert Taylor Booklist 2005-12-01)The last German submarine sunk in World War I was betrayed when it triggered the glow of microbes in the Mediterranean Sea. This phenomenon, which gives certain jellyfish their flickering luminescence and is characteristic of more than 90 percent of deep-sea creatures, is called biofluorescence. Pieribone and Gruber reveal the painstaking efforts of scientists to identify the mechanisms behind this mysterious light...Cellular-molecular biologist Pieribone and journalist Gruber detail how the groundbreaking discoveries of these and other researchers have had widespread implications in forensic science, molecular biology, and neuroscience. (Science News 2006-01-21)[A] well-narrated and beautifully illustrated book. It combines character studies of the people involved with a thoroughly researched story of the unlikely events that led to the main discoveries...The main narrative is riveting, and the authors capture the sometimes curious way that science progresses through an alternation of chance discoveries and systematic, goal-directed experiments. Students wondering whether they are cut out to become scientists ought to be encouraged by the diverse cast of characters involved in solving the mystery of bioluminescence...These are exciting times for biology, and this accessible and lively introduction conveys the sheer pleasure of discovery, as well as the enormous technological potential of fluorescent proteins. (Thomas G. Oertner Nature 2006-03-16)Aglow in the Dark chronicles this saga of discovery of bioluminescence as it entertainingly traces the history of human interaction with bioluminescence, and charts the development of green fluorescent protein (GEP) as one of the groundbreaking discoveries of the 20th century. The text is superbly written and gripping throughout. As an authoritative introduction to the science of fluorescent proteins, the book should be obligatory reading for every newcomer to biology...In portraying the activities of a unique creative community in a clear and animated fashion, Pieribone and Gruber convey the spirit of scientific endeavor perfectly: discovery is not just a goal, but an unpredictable process as dependent on intellectual genius as on creative inspiration and pure luck. The pivotal figures traced in the book are shown to have all worked in an uncertain, rapidly changing scientific terrain,

building on the work of others in ways they could hardly have anticipated. Pieribone and Gruber, however, leave no question of what the future of fluorescent protein technology holds. One has only to look at the current biological journals to realize that biofluorescence is revolutionary: use of fluorescent protein technology is now the order of the day. (Jennifer Lippincott-Schwartz Nature Cell Biology 2006-11-06) Green fluorescent protein has so much to offer the world of medicine and neurobiology that I would classify it among the top biological discoveries of the twentieth century. Pieribone and Gruber tell the GFP story well, in prose that is clearly written and engaging, an important consideration when traversing the number of years and fields that are needed to tell the history of GFP. Aglow in the Dark is very good read that seamlessly engages the reader in a series of culturally and scientifically disparate worlds--I particularly enjoyed the contrast between Shimomura's life in Japan during the war and Tsien's early life in New York. This is a pitch-perfect telling, one well worth the notice of the curious, intelligent reader, and I give it my ringing endorsement. (Adam P. Summers, University of California at Irvine, regular columnist for Natural History)