Errata: QFT and CMT

I am grateful to Ben Strekha for bringing the following to my attention.

Important errata in **boldface**

Chapter 1
page 6, equation (1.41) shouldn’t have a $T$ in the denominator
page 9, 3 lines below equation (1.58), $d = 3N - 1 \approx 3N \to d - 1 = 3N - 1 \approx 3N$
page 16, Equation (1.120)

$$\sum_i p_i dE_i = \sum_i \frac{dE_i}{dV} dV$$

(is currently missing a $dV$ in the numerator on the right hand side).

Chapter 2
page 23, equation (2.23) and (2.24) $dh \to \partial h$ and $d^2 h \to \partial^2 h$ in the denominators
page 24, equation (2.25):

$$E = -J \sum_{i=0}^{N-1} s_i s_{i+1}$$

(currently missing the $i = 0$ in the limit of the sum)
page 25, equation (2.28) the right hand side lower limit on sum: $t_i = \pm \to t_i = \pm 1$

Chapter 3
page 31, second line. $U(x, x': t) \to U(x, x'; t)$
page 32, equation (3.22) should have an index $n$ for the sum:

$$U(\tau) = \sum_n |n\rangle \langle n| e^{-\frac{1}{\hbar}E_n \tau}$$

page 37, equation (3.58).

$$\langle s_i \rangle = \langle 0|\sigma_3|0 \rangle = \langle s \rangle$$

page 38, in the sentence continuing after (3.60) $\exp(2K*) \to \exp(-2K*)$.

Chapter 5
page 57, equation (5.24) $\exp(-iS_c/\hbar) \to \exp(iS_c/\hbar)$.

Chapter 6
page 73, equation (6.2) drop the comma in $|\theta, \phi>$
page 89, equation (6.118) drop the vertical bar in $e^{-\beta H}|...$
page 90, equation (6.127) $\Psi(0)(\to (\Psi(0)$.

**page 92**, equation (6.142):

$$G(\omega_n) = -\frac{1}{\beta} \int_0^\beta e^{i\omega_n \tau} e^{-(\Omega_0 - \mu) \tau} (1 - n_F(\Omega_0 - \mu)) d\tau$$

(currently $d\tau$ is missing the integration measure $d\tau$).

**page 96**, equation (6.176)

$$\int_{-\infty}^{\infty} e^{-\frac{1}{2}mx^2 + Jx} dx = \sqrt{\frac{2\pi}{m}} \exp \left[ \frac{J^2}{2m} \right].$$
(currently is missing the integration measure $dx$)

Chapter 10

page 160, equation (10.18) is missing an ”=” sign after $\lim$

page 162 Eqn. 10.27, the right hand side should be $+ \frac{1}{2\pi} \ln |r - r'|$.

page 165, equation (10.36) $e^{\delta(s)} \rightarrow e^{\delta(s)}$

page 167, second to last paragraph before 10.2.3 $t_i = s_is_{i+1} \rightarrow t_i = s_is_{i+1}$.

Chapter 11

page 173 Eqn. 10.61 RHS should read $\sum g_\alpha \langle i|j\rangle j$.

page 190, equation (11.44), exponent on right hand side:

$K'(s_0s_1 + \ldots \rightarrow K'(s_1s_2 + \ldots$.

Chapter 12

page 205, equation (12.36) $3u_0 \rightarrow 4u_0$.

Chapter 13 page 226, equation (13.11) $S^*(\phi_f) \rightarrow S^*(\phi_f)$

page 226, equation (13.15) drop the comma after $\phi$

page 226, equations (13.17) and (13.18) $s \rightarrow s$.

page 230, equation (13.44) $u_0 \rightarrow \frac{u_0}{(2\pi)^2}$.

page 232, equation (13.53) $u_0 \rightarrow u_0$

page 235 before equation (13.76) ”the $u_0$ term in Eq. (13.66)” $\rightarrow”u_0$ term in (13.67)”.

page 237, equation (13.93) in the argument of $\phi'$, $0/s \rightarrow 0 \cdot s$.

page 240, equation (13.111) $t \rightarrow |t|$.

page 243, equation (13.134)

$$\frac{du_0}{dt} = (4 - d)u_0 + O(u_0^2) = u_0 + O(u_0^2)$$

page 249, equation (3.157), (13.161), (13.162): need $=$ sign after limits:

$u(t) \lim_{t \rightarrow \infty} = \frac{1}{bl}$

$r_0(l) \lim_{l \rightarrow \infty} = -\frac{a}{2bl}$

$u_0(l) \lim_{l \rightarrow \infty} = \frac{1}{bl}$

Chapter 14

page 259, right after equation (14.51) $l_0^2 \rightarrow \lambda_0^2$

page 260, equation (14.52) and a sentence between (14.52) and (14.53) $l_0^2 \rightarrow \lambda_0^2$.

page 260, after equation (14.53) $l_0^2 \rightarrow \lambda_0^2$

page 260, equation (14.54) $\lambda^2 \rightarrow -\lambda^2$

page 261, equation (14.60) $B(m_0^2 \rightarrow B(m_0\ldots \ldots$ and in the mini-paragraph following (14.60).

page 261, equation (14.61) and (14.62) $l_0^2 \rightarrow \lambda_0^2$

page 277, on (14.113), $d \rightarrow \partial$, in the next line $\partial \rightarrow d$

Chapter 15
page 287, equation (15.12) $\varepsilon_2 \rightarrow \varepsilon_2$.

page 292 In the RHS $\int_0^\pi \rightarrow \frac{1}{2\pi \delta(0)} \int_0^\pi$.

Chapter 16, page 306, last paragraph: “could” repeated

Chapter 17 page 321, equation ((17.11) $\exp(ix) \rightarrow \exp(-ix)$

page 332, equation (17.102)

\[ \cdots = \frac{1}{2} \left[ (\partial_\varphi)^2 + (\partial_x \phi)^2 \right], \]

(currently is missing a ”(“ on the x-derivative term.)

page 329, equation (17.76) $\phi^2_+ \rightarrow \phi_+^2(0)$. 

page 360 equation 18.168 $\delta \rightarrow \sqrt{\delta}$ within arctan.

page 360 LINE ABOVE equation 18.171: What if we start on the line $x = -y$?