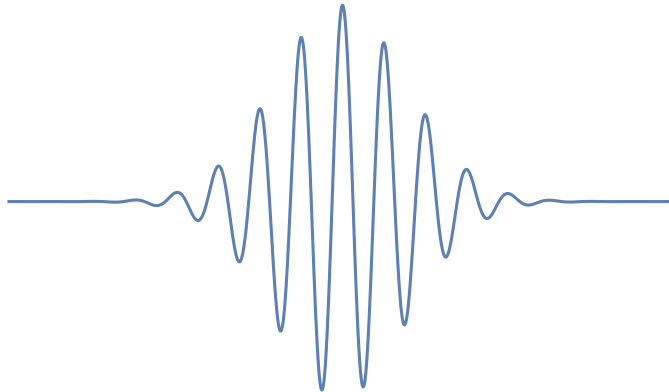


```

ClearAll["Global`*"]
ColorFun = Function[{x}, ColorData["DarkBands"][x]];
ColorFun = Function[{x}, ColorData["TemperatureMap"][x]];
Delta = 1;
xi = 0;
mx[x_] := -Tanh[x / Delta];
my[x_] := Sech[x / Delta] Cos[xi];
mz[x_] := Sech[x / Delta] Sin[xi];

F[x_] := Exp[-0.5 (x - 5) ^ 2] (Cos[10 x]) + 0.5;
Plot[F[x] * 0.1, {x, 0, 10}, PlotRange -> Full,
  ColorFunctionScaling -> False, Axes -> False, PlotRange -> Full]

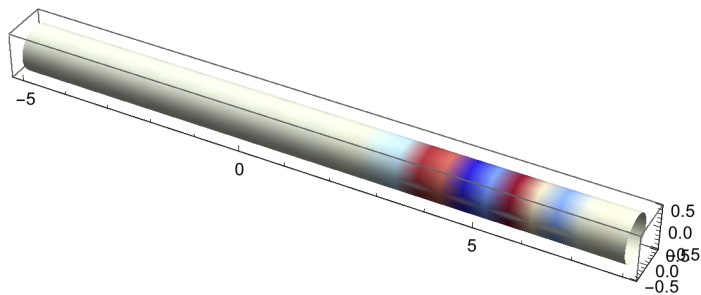
```



```

R = 0.5; cylinder = ParametricPlot3D[
  {x, R Cos[theta], R Sin[theta]}, {theta, -Pi, Pi}, {x, -5, 8}, Mesh -> None,
  ColorFunction -> Function[{x, y}, ColorData["ThermometerColors"][F[x]]],
  ColorFunctionScaling -> False]

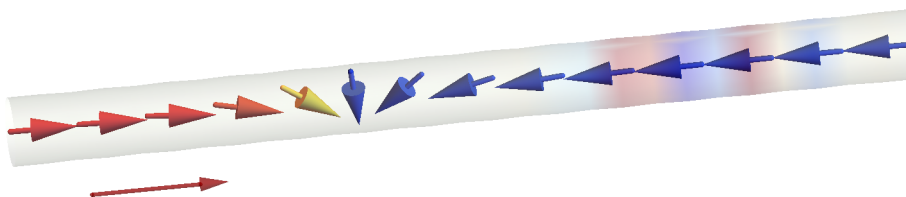
```



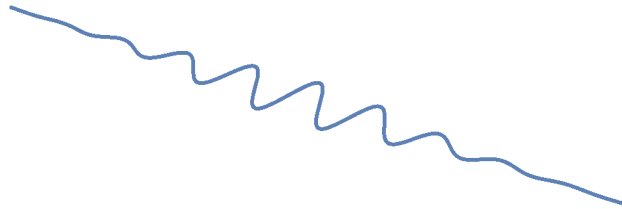
```

xs = Table[{ColorFun[mx[i]], Arrow[
  Tube[{ {i, -my[i] / 2, 0}, {i + mx[i], my[i] / 2, 0}}, 0.04]}], {i, -5, 8, 1}];
ys = Table[Style[xs[[i]], Antialiasing -> True], {i, 1, Length[xs]}];
fig1 = Graphics3D[{Arrowheads[0.05], xs},
  {Opacity[0.2], cylinder[[1]]}, {Opacity[0.5], Darker[Red], Arrowheads[0.03],
  Arrow[Tube[{ {-4, 1.3, 0}, {-2, 1.3, 0}}, 0.03]}]}, ImageSize -> 500,
  Axes -> False, Boxed -> False, ViewVector -> {{10, -80, -100}, {0, 0, 0}}]

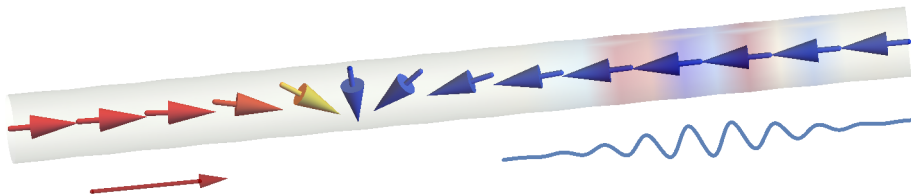
```



```
fig2 = ParametricPlot3D[{x, 1.3 + F[x] * .3, 0},  
  {x, 2, 8}, PlotRange → Full, Boxed → False, Axes → False]
```



```
fig = Show[fig1, fig2]
```



```
filename = FileNameJoin[{NotebookDirectory[], "dw_gaussian.pdf"}];  
Export[filename, fig, ImageResolution → 200];
```